

THE LEGAL QUANDARY IN THE QUEST FOR RECOGNITION OF CRYPTOCURRENCIES AS LEGAL TENDER IN KENYA

by Phyllis Kamau

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**THE LEGAL QUANDARY IN THE QUEST FOR RECOGNITION OF
CRYPTOCURRENCIES AS LEGAL TENDER IN KENYA**

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REGISTRATION NO: G62/74853/2014

**A Thesis Submitted to the School of Law in Partial Fulfillment of the ⁶⁵Requirements
for the Award of Master of Laws Degree (LLM) of the University of Nairobi**

November, 2020

DECLARATION

I, **Phyllis Wangui Kamau**, do hereby declare that this is my original work and any references made to the works of others have been properly acknowledged. This work has not been submitted to any other university, college or institution for the award of any other degree.

Signed..... Date.....

Phyllis Wangui Kamau

G62/74853/14

Supervisor's Approval

This Dissertation has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

To my parents who labored to give me a good education- Mr. James Kamau Njoroge and Mrs. Mary Wambui Kamau. I love you eternally.

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⁶
Proceeds of Crime and Anti-Money Laundering Act (PCAMILA)

Royal Canadian Mint Act

The Capital Markets ¹³ Act

The Central Bank of Kenya Act

⁶
The National Payment System Act, No. 39 of 2011

The Payment Services Act of Japan

²⁵
The Proceeds of Crime and Anti-Money Laundering Act

VAT Act of Germany

LIST OF ABBREVIATIONS

AML	Anti-Money Laundering
ATM	Automated Teller Machine
BAK	Blockchain Association of Kenya,
CBDC	Central Bank Digital Currency
CBK	Central Bank of Kenya
CEO	Chief Executive Officer
CFTC	Commodity Futures Trading Commission
CMA	Capital Markets Authority
CRA	Canada Revenue Agency
DAF	Digital Asset Framework
DLTs	Distributed Ledger Technologies
EBA	European Banking Authority
E-Money	Electronic Money
FATF	Financial Action Task Force
FinCEN	Financial Crimes Enforcement Network
FSA	Financial Services Agency
FSC	Financial Consumer Agency
GSMA	Global System for Mobile Communications
ICOs	Initial Coin Offerings
ICT	Information Communication Technology

IRS	Internal Revenue Service
KBA	Kenya Bankers Association
KEPSS	Kenya Electronic Payment and Settlement System
NPSA	National Payment System Act
PCAMILA	Proceeds of Crime and Anti-Money Laundering Act
POW	Proof-of-Work
PSP	Payments Service Providers
RTGS	Real Time Gross Settlement
SARB	South African Reserve Bank
SEC	Securities and Exchange Commission
STOs	Security Token Offerings
SWIFT	Society for Worldwide Interbank Financial Telecommunications
US	United States
USD	United States Dollars
VASPs	Virtual Asset Service Providers
VAT	Value Added Tax
VCs	Virtual Currencies

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ABSTRACT

Cryptocurrencies have been around now for over 10 years and over this period there has been increasing interests by both scholars, governments and consumers to understand the technology, its application and regulatory concerns. At the heart of this conversation is on operation of cryptocurrencies as legal tender and their regulation thereof. Globally the initial reaction by countries was to issue precautionary statements and Kenya followed suit in 2015. Since then, the Central Bank has not reviewed its position and this paper sought to investigate if there are other regulatory approaches Kenya may adopt to provide legal safeguards for consumers. This is crucial as there is evidence of growing use and application of cryptocurrencies as money. This Study thus revisits the very foundation of cryptocurrencies and seeks to explore their understanding within the current theoretical and regulatory framework of fiat currencies. The study further seeks to draw best practices from countries that have gone beyond precautionary statements This study further reviews current financial services sector regulatory frameworks in Kenya with a view of drawing proposals for regulating cryptocurrencies within the current frameworks. The study has undertaken case studies of South Africa, China and Japan to draw conclusion on Kenya's future regulatory responses. The summary of the study is the non-recognition of cryptocurrencies as legal tender is not fatal to cryptocurrencies operating in the financial systems; cryptocurrencies do not have the full attributes of money and the approach is to study the various user cases and provide framework to mitigate risks associated with the user cases. Further, there is no need for a *sui generis* regulation for cryptocurrencies; cryptocurrencies being a new financial sector innovation need to be provided for under current financial sector regulations particularly through amendments which would take into

account the user cases and provide a risk based, technology neutral phased approach to mitigate the risks on the technology. Globally and in leading jurisdictions, Central Banks are also moving towards development of Central Bank Digital Currencies. Kenya can thus adopt reforms in the financial sector regulatory framework to provide for this financial sector innovation while joining other countries to develop CBDC's and a global coherent framework for cryptocurrencies.

OPERATIONAL DEFINITION OF TERMS

- Bitcoin:** Is “a purely peer-to-peer version of electronic cash which allows online payments to be sent directly from one party to another without going through a financial institution”.¹ Nakamoto developed Bitcoin to be an efficient electronic transaction platform that would be applied by the world of e-commerce transactions to speed up and lower the cost of electronic transaction **without the need of a trusted third party intermediary.**² Bitcoin operates exclusively in the internet and is a **payment system that does not rely on a central authority to control the supply of currency in its system**³. Under the Blockchain technology; bitcoins derive their value exclusively from the public⁴.
- Blockchain:** Technology can be described **as a data structure that holds transactional records while ensuring security, transparency, and decentralization. The Blockchain follows each transaction ‘block’ to ensure there is no double spending. The transaction in the system is broken into blocks of transactions linked to the previous block forming what is referred to as Blockchain.**⁵
- Convertible Cryptocurrencies:** are also known as open cryptocurrencies because they are exchangeable for fiat currencies.⁶ Examples include Bitcoin, Ripple, Dogecoin and Litecoin. Ethereum, Litecoin, Namecoin and Swiftcoin.⁷

¹Satoshi Nakamoto, ‘Bitcoin: A peer-to-peer Electronic Cash System’ <https://bitcoin.org/bitcoin.pdf> Accessed on 8th of August 2019.

² Ibid

³ Ibid

⁴See Zimmerman discuss the causes of price volatility in bitcoins including speculation by buyers and the **architecture of the blockchain technology that causes delay building up a speculative bubble**

⁵ Tara Mandjee, ‘Bitcoin its Legal Classification and its Regulatory Framework’ *Journal of Business and Securities Law*, 15 (2) 157 <https://digitalcommons.law.msu.edu/jbsl/vol15/iss2/4> accessed on 8th August 2019.

⁶ Ibid

⁷ Ibid

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Crypto-assets: is a type of private asset that depend primarily on cryptography and distributed ledger technology as part of their perceived or inherent value including payment/exchange-type tokens (for example, the so-called virtual currencies (VCs)), investment-type tokens, and tokens applied to access a good or service (so-called 'utility' tokens).⁸

Cryptocurrency: is an electronic coin which is backed by a decentralized technology known as Blockchain and uses cryptographic functions with inherent encryption⁹. It is an unregulated digital (or virtual) currency designed to work as a medium of exchange that uses strong cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of values.¹⁰ It does not exist in physical form and is usually issued and controlled by its developers, and used and accepted among the members of a specific virtual community.¹¹ Cryptocurrencies are divided into two prevalent types namely: convertible and non-convertible cryptocurrency.¹²

Cryptography: The Blockchain system relies on an encryption technology of cryptography which ensures each transaction is signed by a private key which Satoshi referred to as digital signatures which ensures the integrity of the system.¹³

⁸ European Banking Authority, 'Report on Crypto Assets with advice for the European Commission', (2019) <https://eba.europa.eu/documents/10180/2545547/EBA+Report+on+crypto+assets.pdf> Accessed on 3rd October 2019.

⁹ Ibid.

¹⁰ Jorrit Zwijnenburg, Matthew de Queljoe, and Isabelle Ynesta, ' How to deal with Bitcoin and other cryptocurrencies in the System of National Accounts,' 5th November 2018 [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF\(2018\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF(2018)1&docLanguage=En) accessed on 12th August 2019

¹¹ Ibid

¹² Financial Action Task Force Report, 'Virtual Currencies - Key Definitions and Potential AML/CFT Risks' 2014 <https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf>

¹³ Ibid.

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Digital Asset Framework: is the criteria which a cryptocurrency must meet in order to be listed on an exchange.¹⁴

Digital Currency: is a money balance recorded electronically on a stored-value card or other devices.

Digital Signature: they ensure a user has two key codes; a private and a public key that ensure the Blockchain is able to prevent fraud and double spending.

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Distributed Ledger Technology (DLT): Is a digital system for recording the transaction of assets in which the transactions and their details are recorded in multiple places at the same time. Unlike traditional databases, distributed ledgers have no central data store or administration functionality.

Fiat Currencies: are in the nature of notes and coins issued by Central Banks in each jurisdiction designated as legal tenders in those countries and that is what is accepted by other states as money.¹⁵

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Legal Tender: is a medium of payment recognized by a legal system to be valid for meeting a financial obligation.

Mining: is a process where independent developers in the system can, through a complex mathematical calculations and complex mining algorithms, create bitcoin transactions and verify the legitimacy of such transactions.¹⁶

¹⁴ Jake Frankenfield, Digital Asset Framework, Cryptocurrency Strategy & Education (2018) <https://www.investopedia.com/terms/d/digital-asset-framework.asp> accessed on 10th October 2019.

¹⁵ European Parliament, Virtual Currencies and Central Banks Monetary Policy: Challenges ahead, Monetary dialogue (2018), [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&ved=2ahUKEwjU1Jzs2JzIAhVSyhoKHYIZDD4QFjANegQIBRAB&url=http%3A%2F%2Fwww.europarl.europa.eu%2FRegData%2Fetudes%2FIDAN%2F2018%2F619009%2FIPOL_IDA\(2018\)619009_EN.pdf&usg=AOvVaw0ucK-aoYato73HklirSTQG](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&ved=2ahUKEwjU1Jzs2JzIAhVSyhoKHYIZDD4QFjANegQIBRAB&url=http%3A%2F%2Fwww.europarl.europa.eu%2FRegData%2Fetudes%2FIDAN%2F2018%2F619009%2FIPOL_IDA(2018)619009_EN.pdf&usg=AOvVaw0ucK-aoYato73HklirSTQG) accessed on 23rd September 2019.

¹⁶ Aleksander Berentsen and Fabian Schär, 'A Short Introduction to the World of Cryptocurrencies Federal Reserve Bank of St. Louis Review, First Quarter 2018, (2018) <https://files.stlouisfed.org/files/htdocs/publications/review/2018/01/10/a-short-introduction-to-the-world-of-cryptocurrencies.pdf> , accessed on 23rd August 2019.

Non-convertible cryptocurrencies: also referred to as closed cryptocurrencies or unidirectional cryptocurrencies are those that cannot be used as a means of universal exchange.¹⁷

Public Ledger: Is central to blockchain system as it contains the record of all transaction occurring in the system.¹⁸

⁹ Virtual Currencies: is a digital representation of value that is neither issued by a central bank or public authority, nor necessarily attached to a fiat currency (legal tender) but is used by natural or legal persons as a means of exchange and can be transferred, stored or traded electronically.¹⁹

¹⁷ *ibid*

¹⁸ *Ibid.*

¹⁹ *Ibid*

INTRODUCTION

1.1 Background to the Study

The world is changing fast; digital innovations, technologies that change the way we live have become the realities of the 21st Century. Cryptocurrency is one of such technologies, which has introduced a new paradigm shift that continues to threaten and disrupt the legal nature of currencies globally. Crypto currencies first began to gain popularity in 2008 during the period of the collapse of financial institutions, which period witnessed the near collapse of the financial systems and banks²⁰.

The financial crisis of 2008 resulted in a systematic collapse of banks and led to a decline in confidence and trust in banks, central authorities and governments. The collapse was attributed to exposure to subprime assets, poor regulatory oversight and poor monetary policies by central banks and global imbalances, which lead to a near collapse of the banking system in the US that subsequently caused a ripple effect globally. The collapse, which began in the US, started in the mortgage lending market, which led to unforeseen losses from asset-backed financial instruments and collapse of huge banks such as the Lehman Brothers.

The failure of these assets and the near collapse of the global financial system led to the thinking that technological backed financial assets could be created to deal with the inadequacies and failures witnessed during this collapse²¹. Many economists felt that there was need for an alternative financial system that did not rely on a central regulator and which democratized and decentralized the financial system. It was within this background that the founder of crypto currency Satoshi Nakamoto released his acclaimed work in which he introduced the concept of cryptocurrencies, billed as a decentralized financial

²⁰ Arthur R Boss, 'Cryptocurrencies and Regulation; The best practices for regulating cryptocurrencies within the EU' (6th July 2018) <https://openaccess.leidenuniv.nl/bitstream/handle/1887/64833/MA%20Thesis%20%20Arthur%20Bos.pdf?sequence=1> accessed on 10th September 2019.

²¹ Ouarda Merrouche and Erlend Nier, 'What Caused the Global Financial Crisis? —Evidence on the Drivers of Financial Imbalances 1999–2007' IMF Working Paper (2010) <https://www.imf.org/external/pubs/ft/wp/2010/wp10265.pdf> accessed on 17th September 2019.

system that was hailed as peer to peer system that could potentially change how we know financial systems and legal tender.²² The idea that a financial system could be managed without the influence of a central authority, in the hands of a full-proof technological innovation that would create trust as opposed to banks and governments gained momentum as a possibility that could replace or even mitigate the challenges posed by the traditional financial system based on banks and governments.

Technological innovations are creating a change in today's regulatory environment, posing significant challenges for regulators who strive to maintain a balance between fostering innovation, protecting consumers, and addressing the potential unintended consequences of technology applications.²³ It is an era where emerging technologies such as Blockchain and distributed ledger technology, machine learning, the Internet of Things (IoT), big data analytics, and artificial intelligence (AI) are disrupting traditional business models and creating new ways for consumers to interact.²⁴ In the wake of these developments, countries are faced with a major challenge on how best to ensure fair markets, protect citizens and enforce regulations, while allowing these new technologies and businesses to flourish.²⁵ Considering the rapid rate at which emerging technologies are progressing and new business models evolving, it is imperative that regulations applied today are frequently revisited in order to stay relevant.²⁶ The rapid and dynamic technological advancement in today's environment has challenged the old assumption that regulations can be crafted slowly and deliberately, and then remain in place, unchanged, for long periods of time.²⁷ This is not possible in today's world. Hence, as emerging technologies drive new business and service models, governments must move with speed to create, modify, and enforce

²² Christian Partanen, 'The viability of cryptocurrency in relation to the response of financial institutions and governments, (2018) https://www.theseus.fi/bitstream/handle/10024/152122/Christian_Partanen_Bachelors_Thesis.pdf?sequence=1&isAllowed=y accessed on 10th September 2019.

²³ William D. Eggers, Mike Turley, and Pankaj Kishnani, *The Future of Regulation: Principles for Regulating Emerging Technologies* [2019], Deloitte, from <https://www2.deloitte.com/us/en/insights/industry/public-sector/future-of-regulation/regulating-emerging-technology.html> accessed on 21st September, 2019

²⁴ Ibid

²⁵ Ibid.

²⁶ Hagemann, Ryan and Huddleston, Jennifer and Thierer, Adam D., 'Soft Law for Hard Problems: The Governance of Emerging Technologies in an Uncertain Future' (, 2018) Colorado Technology Law Journal , Available at SSRN: <https://ssrn.com/abstract=3118539> accessed on 21st September, 2019.

²⁷ Ibid

regulations which ³ protect citizens and ensure fair markets while letting innovation and businesses flourish.

The present environment portends a situation where regulation should follow technology fast enough in order to protect citizens from adverse effects of technology and innovation. Governments and their ³ agencies are challenged with creating or modifying these regulations, communicating them to the public and enforcing them.²⁸ Emerging technologies present ³ a host of challenges to traditional regulatory models, ranging from coordination problems to regulatory silos to the sheer volume of outdated rules.²⁹ Existing regulatory structures are often slow to adapt to changing societal and economic circumstances, and regulatory agencies generally are risk-averse.³⁰ Rapid adaptation to emerging technology, therefore, poses significant hurdles to regulators.³¹ In 2020 just like in 2008, the global crisis such as COVID-19 affecting the ability of people to move has presented a new set of challenge in the financial system and is accelerating innovation and pushing for more research on the viability of cryptocurrencies to solve present day challenges ⁵ faced by consumers. According to the Bank of International Settlement 2020 report on ⁵ Central bank digital currencies: foundational principles and core features³², to evolve, more than ever before Central Banks are investigating the benefits and drawbacks of digital currencies to the public and to review the model applicable for central bank digital currency (CBDC).³³

Since the invention of Bitcoins in 2008, there has been growth of not only the Bitcoin crypto but also an increase of other cryptocurrencies globally. As at August 2018, total cryptocurrencies are estimated to be over one thousand nine hundred (1,900) valued at United States Dollars, Two Hundred and Eighty Billion (USD 280 Billion) and traded in

²⁸ Ibid note 26

²⁹ Ibid noted 26

³⁰ Ibid note 23

³¹ ⁵ Ibid

³² Bank for ⁵ International Settlement, *Central Bank Digital Currencies: Foundational Principles and Core Features* (Report No. 1 in a series of collaborations from a group of central banks 2020) <https://www.bis.org/publ/othp33.pdf> accessed on 10/16/2020

³³ Ibid

over Nine Thousand Four Hundred and Twenty Two Exchanges worldwide.³⁴ The Bitcoin continues to lead with an estimated forty five percent (45%) of the market share and market capitalization of United States Dollars One Hundred and Fifty One Billion (USD 151 Billion).

Table 1:1 Top Four Cryptocurrencies by Market Capitalization³⁵

Coin	Price in USD	Market Cap in US Billion
Bitcoin	8,402	151
Etherium	184	19
Bitcoin Cash (BTC)	226.84	4
Litecoin	56.72	3.5

With the proliferation of the cryptocurrencies globally, different countries began to interrogate cryptocurrencies to understand the impact on the financial systems and critically examine if they can replace fiat currencies. Various countries have responded with various regulatory approaches such as prohibition, classification of cryptocurrencies as assets or private money and others have gone on to create a regulatory framework that addresses the risks of cryptocurrencies. Whereas, fiat currencies derive their legality in law, many governments have failed to recognize cryptocurrencies as legal tender creating challenges for cryptocurrencies³⁶.

³⁴ David W Perkins, 'Cryptocurrency: The Economics of Money and Selected Policy Issues' Congressional Research Service Report, (7th December 2018) <https://fas.org/sgp/crs/misc/R45427.pdf> accessed on 12th September 2019

³⁵ Information obtained from the website <https://coinmarketcap.com/> also see Shailak Jani, 'The Growth of Cryptocurrencies in India; Its challenges and potential impact on Legislation' (2018) published on Research Gate

https://www.researchgate.net/publication/324770908_The_Growth_of_Cryptocurrency_in_India_Its_Challenges_Potential_Impacts_on_Legislation accessed on 12th September 2019.

³⁶ Christopher P. Buttigieg, Christos Efthymiopoulos, Abigail Attard & Samantha Cuyle, 'Anti-money laundering Regulation of Crypto Assets in Europe's smallest member state' (18th September 2019) <https://www.tandfonline.com/doi/full/10.1080/17521440.2019.1663996> accessed on 19th September 2019.

Many countries have been hesitant to recognize cryptocurrencies as legal tenders or means of payment due to what they term as challenges posed by cryptocurrencies such as money laundering, conduit for criminal activities, price volatility, fraud, and cybercrimes³⁷. The recent price volatility of bitcoins, one of the leading cryptocurrencies has dampened the optimism of technology scholars on the viability and scalability of cryptocurrencies to replace fiat currencies raising the question of whether cryptocurrencies are just a passing fade or an actual technology that could replace or even improve the financial system³⁸. At the heart of the debate on whether cryptocurrencies can replace fiat currencies or be recognized as currencies is whether they can play the role of money in the economy and create the stability, trust and means of payment that is the essence of success of money today.³⁹ This forms part of the discourse in the present study.

In Africa, the use of cryptocurrencies has been welcomed especially in economies with extremely high inflation rates such as Somalia, Sudan, South Sudan and Zimbabwe.⁴⁰ Bitcoin is the leading cryptocurrency in Africa with Botswana, Ghana, Kenya, Nigeria, South Africa, Uganda and Zimbabwe leading in the number of bitcoin transactions.⁴¹ The growth of Bitcoins in Africa is not only being driven by inflation but also by mobile and

³⁷ Nicholas A Plasarras, 'Regulating Digital Currencies; Bringing Bitcoins under the reach of the IMF' (2013) Vol 13 Chicago Journal of International Law <https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1407&context=cjil> accessed on 12th September 2019.

³⁸ Peter Zimmerman, 'Blockchain Structure and Cryptocurrencies prices' <https://www.researchgate.net/publication/332969913> accessed on 12 October 2019. The write analysis the cause of price volatility in Bitcoins and argues price volatility is caused by competition between speculative and transactional users caused by the very architecture of the Blockchain technology which causes a time delay between the transfer of ownership of cryptocurrency between parties and the time it takes for the transaction to be added to the Blockchain. Volatility has been heavily attributed to speculation but the author argues the architecture of the Blockchain is also contribution to volatility in addition to speculation. The author further points out that speculation raises the value of the Bitcoin and makes it unlikely to be used as medium of exchange or even as a means of payment.

³⁹ Bank of International Settlement Annual Economic Report 'Cryptocurrencies: looking beyond the hype' (2018) Chapter IV <https://www.bis.org/publ/arpdf/ar2018e5.pdf> accessed on 22nd September 2019.

⁴⁰ Pavithra Rao, 'Africa could be the next frontier for cryptocurrency', (2018) <https://www.un.org/africarenewal/magazine/april-2018-july-2018/africa-could-be-next-frontier-cryptocurrency> accessed on 12th October 2019.

⁴¹ Ibid

broadband penetration estimated at Four Hundred and Fifty Six Million mobile subscribers in Sub-Saharan Africa according to a report published by the GSMA.⁴²

In Kenya, the Central Bank of Kenya (CBK) issued a notice⁴³ in December 2015, with effect cautioning Kenyans against the use of ‘unregulated digital currency’ that is not issued or guaranteed by any government or Central Bank. The CBK cautioned that Bitcoin, a form of crypto-currency is not legal tender in Kenya, has inherent risks associated in trading with it, no protection exists in case of any risks and further cannot be used as legal tender or for remittance service as it is outside regulation⁴⁴. In issuing the warning, CBK only provided a precautionary safeguard but no robust mechanisms to protect consumers against the risks of using cryptocurrencies.

Despite this approach by the CBK, there is growing evidence that use of crypto currencies such as Bitcoins is growing and gaining momentum in Kenya⁴⁵. As a result, the present study joins other stakeholders who are questioning whether the prohibitory or cautionary regulatory approach taken by the Central Bank of Kenya is tenable going into the future⁴⁶. The Capital Markets Authority (CMA) is weighing in and is open to adopting cryptocurrencies exchanges.⁴⁷ This study holds that there has been lack of proper interrogation of the current financial system and the possibility of integration with the Blockchain technology. Perhaps the biggest setback for acceptance of cryptocurrencies is due to its decentralized nature and the lack of understanding by industry players on how such a

⁴²GSMA Intelligence, *The Mobil Economy; Sub-Saharan Africa* (GSMA Intelligence, 2019) <https://www.gsmainelligence.com/research/?file=36b5ca079193fa82332d09063d3595b5&download> accessed on 12th October 2019.

⁴³ Central Bank of Kenya, ‘Caution to the public on virtual currencies such as Bitcoins in Kenya’ (2015) https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf accessed on 10 October 2019.

⁴⁴ Ibid note 14

⁴⁵Mary-Ann Russon, ‘Crypto-currencies gaining popularity in Kenya’ (22nd February 2019) <https://www.bbc.com/news/business-47307575> accessed on 22nd September 2019.

⁴⁶Brian Ngugi, ‘Virtual Cash Splits Kenya Regulators’ (2nd May 2017) Daily Nation, <http://www.nation.co.ke/business/Virtual-cash-splits-Kenya-regulators/996-3910904-153vr4s/index.html> accessed on 12th September, 2019.

⁴⁷Abel Muhatia , ‘Regulators now mull adopting virtual currencies like bitcoins’ , (18th October 2017) The Star https://www.the-star.co.ke/news/2017/10/18/regulators-now-mull-adopting-virtual-currencies-like-bitcoins_c1654444 Accessed on 24th September, 2019).

technology can fit into the centralized money and banking systems⁴⁸. This is why decentralization of money needs to be further interrogated to establish whether it can function based on the concept of peer-to-peer system as proposed by Yochai Benkler.⁴⁹In addition, there is growing evidence that the use of cryptocurrencies is still growing albeit at a slow pace considered as not material enough to warrant intervention by various countries thus the *laissez-faire* approach by some jurisdictions⁵⁰. However, despite this approach, cryptocurrencies continue to invoke interests by both consumers and regulators and there is a general view that technology may evolve and cryptocurrencies may have a potentially huge impact in the future. Due to this, there is growing need for scholars to interrogate the evolving nature of cryptocurrencies and their impact on financial transactions.

This research explores and delves into an analysis with the aim of presenting current and evolving models of regulation of cryptocurrencies, which may influence Kenya's approach. Kenya like many other African countries has chosen a "wait and see" approach through the cautionary statement. However, Kenya being the silicon savanna and being reputed as being a leader in technological innovation must interrogate evolving practices and look towards adopting a proportionate regulatory environment and a balance of the State Theory of Money in order to arrive at a legal framework that would recognize cryptocurrencies and afford protection for consumers against risks. This research therefore sought to test the various theories on money, evaluate them against the recognition of cryptocurrencies as money in other jurisdictions, and seek to develop a model for regulation of cryptocurrencies.

⁴⁸ Primavera De Filippi and Benjamin Loveluck, 'The Invisible Politics of Bitcoin: governance crisis of a decentralised infrastructure. (September 2015) Internet Policy Review, DOI <https://policyreview.info/articles/analysis/invisible-politics-bitcoin-governance-crisis-decentralised-infrastructure> accessed on 10th October 2019.

⁴⁹ Benkler Yochai, 'Freedom in the Commons, (2003) 52 Duke Law Journal 1245 and also Benkler Yochai, 'The Wealth of Nations: How Social Production transforms Markets and Freedoms', (2006) http://www.benkler.org/Benkler_Wealth_Of_Networks_Chapter_11.pdf accessed on 14th September 2019.

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The current regulatory approach by Central Bank of Kenya is not sufficient to deal with the emerging challenges of crypto-currencies as legal tender in Kenya. From the foregoing, it is therefore important to keenly address the lacuna in regulation of cryptocurrency, review the existing financial sector regulatory framework, and borrow best practices from other jurisdictions with the goal of developing proposals for reforms that could provide for recognition of cryptocurrencies ¹³ by the Central Bank of Kenya.

1.2 Statement of the Problem

The Central Bank of Kenya in 2015 declined to recognize cryptocurrencies as legal tender in Kenya and issued a precautionary statement warning Kenyans of their use and stating that cryptocurrencies in Kenya are outside regulatory ambit and control⁵¹. Despite the prohibition, there is evidence that the use of crypto currencies both globally and in Kenya is growing⁵². Facebook recently announced the release of its own crypto-currency referred to as Libra Blockchain⁵³ and Kenyans are already receptive to it⁵⁴. Therefore, the current approach by CBK does not provide any guidance or mechanisms to address any risks or any future benefits that may accrue from the development of cryptocurrencies. Further, the lack of a regulatory framework in Kenya has created additional bottlenecks and risks to the use of cryptocurrencies including price volatility, cyber security concerns and security vulnerability.⁵⁵

The risks inherent with crypto currencies are major and a lack of regulations means many risks such as money laundering, hacking, cyber-security, and fraud will go unabated⁵⁶.

⁵¹ Central Bank of Kenya, 'Caution to the Public on Virtual Currencies such as Bitcoin', (Dec. 2015), https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf, archived at <https://perma.cc/EE4P-UZ57>

⁵² Ibid note 47.

⁵³ The Libra Blockchain, <https://files.static-nzz.ch/2019/6/18/9b721442-c11d-4b56-89b9-dd03f3a7c8e1.pdf> accessed on 20th July 2019.

⁵⁴ Dominic Omondi 'Facebook gets its first enthusiast in Kenya' (23rd June 2019) Standard Digital, <https://www.standardmedia.co.ke/business/article/2001331029/facebook-s-digital-currency-gets-its-first-enthusiast-in-kenya> accessed on 20th September 2019.

⁵⁵ Mwangi Edwin Njuguna, 'Adoption of Bitcoin in Kenya: a case study Bitpesa' (October 2014), at page 10 http://erepository.uonbi.ac.ke/bitstream/handle/11295/74669/Mwangi_Adoption%20of%20Bitcoin%20in%20Kenya%2C%20a%20case%20study%20of%20Bitpesa.pdf?sequence=4&isAllowed=y accessed on 17th September 2019.

⁵⁶ Caroline Swinton, 'A Critical Analysis of the Risks Associated With Crypto-Currencies', (2015) (Thesis for Masters of Law University of Dundee) at page 33

Further, virtual currencies pose various inherent risks to consumers and as such, lack of regulation results in restrictions of protection afforded to consumers.⁵⁷ Lack of regulations also means that the development, risks and contribution of crypto currencies cannot be assessed or realized fully. In addition, other central banks globally are considering the idea of creating a central bank backed cryptocurrency⁵⁸ and as such, there is need explore the potential of a balanced regulatory model that will mitigate the risks while allowing Kenyans to explore the benefits of cryptocurrencies both to the government and to consumers in Kenya.

Globally, some countries are moving towards adopting or creating regulatory frameworks in order to explore and take advantage of the innovation in crypto-currencies. Kenya being a leading innovation hub must also seek to explore regulatory frameworks for recognition of cryptocurrencies as legal tender as opposed to the wait and see approach that is inhibiting innovation of this technology due to the lack of protection from the law on the use and application of cryptocurrencies. This is a good reason to warrant a study to explore the possibilities of regulating the sector instead of the cautionary approaches currently being employed by the CBK. Further, the lack of a comprehensive regulatory framework of crypto currencies as currency has meant that many of the risks associated with cryptocurrencies are not mitigated and consumer protection measures for the cryptocurrency are non-existent in Kenya.

The study will contribute to the body of knowledge on cryptocurrencies and to further demystify the technology while seeking to find a regulatory balance that can further innovation and assist Kenya to reap the benefits of innovation. Other scholars may also use

http://discovery.dundee.ac.uk/portal/files/7638835/An_Analysis_of_Crypto_Currencies_21_December_2015_Final_.pdf. Accessed on 10th October 2019.

⁵⁷ Γκόγκος Νίκος, Σαββόπουλος Δημήτριος, Σιάτρας Γεώργιος, Φουστερης Πέτρος, Παπαναστασίου Βασίλειος, Ξαφέλης Γεώργιος, 'Social And Legal Aspects Of Cryptocurrencies Project of the course: Social and Legal Aspects of Technology', <http://siatras.com/Social%20and%20Legal%20Aspects%20of%20Cryptocurrencies.pdf> accessed on 10th October 2019.

⁵⁸ World Economic Forum, 'Central Banks and Distributed Ledger: How are Central Banks Exploring Blockchain Today?' (March 2019) https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=2ahUKEwjP36rJvIAhUs1eAKHTleBTkQFjAAegQIAhAC&url=http%3A%2F%2Fwww3.weforum.org%2Fdocs%2FWEF_Central_Bank_Activity_in_Blockchain_DLT.pdf&usg=AOvVaw1zd4mkX1vOj0r1bLHRJZ6e accessed 10 October 2019

the present study *findings, recommendations and suggestions for further research* to conduct further research to improve the subject area. The upshot being that Kenya needs to move from a prohibitory and cautionary regulatory approach towards a risk and market based regulatory model for recognition of cryptocurrencies as legal tender.

1.3 Objectives of the Research

1.3.1 Overall Objective

The aim of this study was to critically examine the legal quandary in the quest for recognition of cryptocurrencies as legal tender in Kenya. This study sought to address the lacuna in regulation of cryptocurrency and to review the existing regulatory framework and make recommendations on a regulatory model for recognition ¹³ by the Central Bank of Kenya of cryptocurrencies as legal tender. As stated above Kenya like many other countries moved swiftly to issue a public cautionary statement against the use of cryptocurrencies and as such the recognition, viability and nature of cryptocurrencies in Kenya has not been explored within a supportive regulatory regime stifling the possible benefits of this innovation in our monetary system. The study thus explored the current legal nature of money as is currently defined in theory and under Kenyan law vis-a-vis the nature of cryptocurrencies with the objective of finding a nexus and developing a road map for Kenya's future regulatory framework towards recognition of cryptocurrency as legal tender.

1.3.2 Specific Objectives

The following research objectives would facilitate the achievement of the aim of the study

- a) To review the legal and institutional framework of financial system in Kenya and to establish the extent to which the present legal framework accommodates cryptocurrency transactions.
- b) To investigate the different models of regulation in countries where cryptocurrencies have been recognized as currency in their financial regulations and the nature of the regulatory frameworks in place.

- c) To recommend the regulatory approach that Kenya may adopt in recognition of crypto-currencies as currency in Kenya as the country seeks to move from a precautionary approach to a more proportionate approach.

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1.4 Research Questions

The study sought to answer the following research questions:

- a) What is the current legal and institutional framework of currency in the financial system in Kenya?
- b) Which are some of the different models of regulation in countries where cryptocurrencies have been recognized in the financial sector as legal tender? What is the nature of the regulatory frameworks in place in those countries?
- c) What is the best regulatory approach Kenya needs to adopt in order to recognize cryptocurrencies as legal tender in Kenya?

1.5 Theoretical Framework

To understand the jurisprudential basis of cryptocurrencies, this study explores two major theories namely: the State Theory of Money and Keynes Monetary Theories.

1.5.1 State Theory of Money

George Friedrich Knapp the proponent of the State Theory of Money⁵⁹ carried out extensive research on state theory of money in which his fundamental proposition was that the power of the state is fundamental in the legal nature of money. The paramount argument in the State Theory of Money is that it is the act of the state that fixes the value of money, the validity of money and the means of payment⁶⁰. Money is a creature of law hence legal tenders require recognition, acceptance and regulation by the state authorities. Knapp

⁵⁹ George Friedrich Knapp and James Bonar, 'The State Theory of Money ' (2013) Vol 34No 3 Journal of Political Economy 404-406 https://www.jstor.org/stable/1820597?readnow=1&refreqid=excelsior%3A52dc395b480efee5cd181cf5b2aff623&seq=1#page_scan_tab_contents accessed on 4th October 2019

⁶⁰ GSMA Intelligence, 'The Mobile Economy; Sub-Saharan Africa (2019) GSMA Intelligence,' <https://www.gsmainelligence.com/research/?file=36b5ca079193fa82332d09063d3595b5&download> accessed on 12th October 2019.

further advanced the Chartalist Theory of money and waged war against the Metalist, 'Orthodox', or sometimes-referred to as classical theorist who tried to deduce the monetary system without the idea of the state.⁶¹

The Metalist espoused the argument that money is a medium of exchange that derived its value from precious metals specifically gold and what was referred as the "gold standard".⁶²The Metalist classical theory emphasized the function of money as a medium of exchange and the aim of a monetary system was to make the medium of exchange for goods and services to be carried out more efficiently than the traditional barter trade⁶³. However, the Metalist theorists faced great opposition from the Chartalist theorists who not only saw the function of money as being more than a medium of exchange but also further advanced the central role of the State and State Authorities in definition and value of money.

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The Chartalist approach and the State theory of money emphasized money as a creature of the law and established the basis for legal tender laws that require only State currency recognized as legal tender.⁶⁴The acceptance by States of legal tender as a legal tender forms the basis of the global financial market that today anchors our financial model. Legal Tender is those notes, coins, and bank notes, which meet statutory requirement⁶⁵. Legal tender must therefore be accepted by States as legal tender and must be regulated by the various Central Banks in the various countries globally to be regarded as legal tender whether in its tangible or intangible form.

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⁶¹ L. Randall Wray, 'From the State Theory of Money to Modern Money Theory: An Alternative to Economic Orthodoxy' (2014) Levy Economics Institute, at pp 4 http://www.levyinstitute.org/pubs/wp_792.pdf accessed on 4th October 2019.

⁶² Fred Mosely, Marxis, 'Theory of Money: Modern Appraisals', (2018) Palgrave Macmillan. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=7&cad=rja&uact=8&ved=2ahUKEwJH84D-5ZzIAhVHhRoKHYQhCCoQFjAGegQIBxAC&url=http%3A%2F%2Fioakimoglou.netfirms.com%2Fpage1%2Fasets%2FMarx%2520on%2520Money.pdf&usg=AOvVaw0w099jGrRa-uOY33KLw4KR> accessed on 5th October 2019.

⁶³ Ludwig Von Mises "The Theory Of Money And Credit" (1953) Yale University Press, New Edition , at page 20 https://mises.org/sites/default/files/The%20Theory%20of%20Money%20and%20Credit_3.pdf accessed on 4th September 2019.

⁶⁴ Ibid note 60

⁶⁵ Mark Hapgood, 'Paget's Law of Banking', (Butterworth's Law, 13th Edition, 2006), pp 356.

Alistair observed that the form of legal tender has evolved to include intangible electronic form.⁶⁶ Alastair in emphasizing the evolution of money explains that money has been dematerialized largely becoming intangible in the electronic form.⁶⁷ Keynes work was forward looking and formed the basis of the Modern Money Theory especially on the emphasis that money could take any form including commodity, fiat or managed or representative money.⁶⁸ Keynes is one of the strong proponents of the Chartalist approach advanced by Knapp.

The present study agrees with the Chartalist theorists only to the extent that the ⁴⁹function of money is more than just a medium of exchange. However, with innovations such as ³¹cryptocurrencies running on blockchain technology, the idea of a central role of the state and state authorities ^{in defining} and maintaining the value of money may be untenable. The very reason for the advent of cryptocurrencies and the blockchain technology was to remove the central role of government and government agencies in the control and management of money.

This study further differs with the Chartalist approach and the ²²State theory of money, which emphasizes ⁵⁸money as a creature of the law and the argument that only state currency can be ⁴³recognized as legal tender. The fact that Bitcoin, a non-state currency, has gain considerable global acceptance and use ²⁶as a medium of exchange and store of value lends credence to an alternative view that non-state currency can be ²⁶recognized as legal tender, which is ^{the gist of the} present study. Money should not be a creation of law as propounded by the Chartalist Theory of money, but law should be there to support the harmonious workings and delivery of the monetary system. This is the basis of the present thesis that, countries such as Kenya should enact comprehensive regulatory framework of crypto

⁶⁶ Aleksander Berentsen and Fabian Schär, 'A Short Introduction to the World of Cryptocurrencies', (2018) ³⁶Federal Reserve Bank of St. Louis Review, First Quarter 2018 <https://files.stlouisfed.org/files/htdocs/publications/review/2018/01/10/a-short-introduction-to-the-world-of-cryptocurrencies.pdf>, accessed on 23rd August 2019.

⁶⁷ Benjamin Joana, 'Dematerialization of Securities' in Alastair Hudson (ed), Modern financial techniques, derivatives and law (Kluwer International 2000) at page 61

⁶⁸ David W Perkins, 'Cryptocurrency: The Economics of Money and Selected Policy Issues' Congressional Research Service Report, (7th December 2018) <https://fas.org/sgp/crs/misc/R45427.pdf> accessed on 12th September 2019

currencies as legal tender so that many of the risks associated with cryptocurrencies can be mitigated and consumer protection measures for the cryptocurrency are properly addressed.

1.5.2 Keynes Monetary Theories

In Keynes Treatise of Legal tender,⁶⁹ the Keynesian model views and brings into central focus the role of banks and specifically the state through central banks in controlling the supply of legal tender.⁷⁰ Keynes was the proponent of de-linking the gold standard from money in India and the subsequent adoption of the delinking in Britain, France and US leading to the collapse of the gold standard.⁷¹ Keynes advanced the theory of management of monetary policy and financial system stating that the economy of a country depended on a low bank rate and encouraged governments to lower their bank rates to improve the economy.⁷²

Keynes work cemented the current financial system where management of exchange of money and monetary policy was domesticated and subservient to government. The central banks took a central role in domesticating monetary policies and regulating currency based on credit and debt and the banking system in order to reduce the rate of interest and improve domestic economies. These theories by Keynes present a challenge to cryptocurrencies as crypto architecture does not depend on central banks but on the DLT or blockchain technology and as such how monetary policy would be regulated under cryptocurrencies is not clear to central banks. Central Banks have continued to maintain this approach and to be very critical and skeptical of cryptocurrencies and the closest many countries have globally indicated to accepting crypto currencies is through issuing central banks backed cryptocurrencies.⁷³

Proponents of fiat currency argue that it is still effective and accepted and in some jurisdictions such as Australia, they posit that their currency is still strong, reliable, has

⁶⁹ John Maynard Keynes, 'The General Theory of Employment, Interest and Money', (The University of Adelaide, 2003) <http://etext.library.adelaide.edu.au/k/k44g/k44g.html> accessed on 30th September, 2019.

⁷⁰ Ibid note 41.

⁷¹ Geoff Tilly, 'Keynes's Monetary Theory of Interest', (Bank of International Settlement Papers No 65) https://www.bis.org/publ/bppdf/bispap65c_rh.pdf accessed on 12th October 2019.

⁷² Ibid note 69

⁷³ Morten Bech and Rodney Garratt, 'Central Bank Cryptocurrencies', (Bank of International Settlement Quarterly Review, 2017), https://www.bis.org/publ/qrpdf/r_qt1709f.pdf accessed on 12th October 2019.

low-inflation, is a store of value, and the payments industry continues to work with the efficiency, functionality and resilience and as such there is no need for a new type of currency or financial system.⁷⁴ However, in contrast, in countries with weak volatile currencies such as such as Zimbabwe, Somalia, and Burundi among others a systemic failure of financial systems, monetary policies and weak currencies, can cryptocurrencies be the answer?⁷⁵ Due to the central role technology can play in pushing financial inclusion in Africa, reducing poverty and distributing wealth, it may be important for African countries to seriously consider the viability of cryptocurrencies for their economies and not rely only on the direction European countries are taking towards cryptocurrencies as they have more stable and strong currencies.

Under the Keynesian theories, money thus plays a bigger role over and above its uses such as a medium of exchange, store of value or measure of value but as a dependent of a countries' economic, fiscal health. Further, the Keynesian model views legal tender not just as a medium of exchange but a tool of production, a medium of foreign exchange and the anchor of our global capitalistic financial market. Cryptocurrencies are thus found to be deficient of this fundamental role of money and are not regarded as scalable enough and acceptable enough globally to be used as a measure of countries' economies and fiscal policies. Countries that have been hesitant to provide regulation of cryptocurrencies have cited the lack of scalability and the declining use of cryptocurrencies as a reason not to provide regulatory measures and to conclude that cryptocurrencies have no regulatory impact to the current mentor system.⁷⁶ However, the Metallist theorists faced great opposition from the Chartalist theorists who not only saw the function of money as being more than a medium of exchange but also further advanced the central role of the State and State Authorities in definition and value of money.

⁷⁴ Cameron Dark, David Emery, June Ma and Clare Noone, 'Cryptocurrencies Ten Years on', (June 2019) Reserve Bank of Australia Bulletin, <https://www.rba.gov.au/publications/bulletin/2019/jun/cryptocurrency-ten-years-on.html> accessed on 12th October 2019.

⁷⁵ Ibid note 11 where Rao discussed the viability of cryptocurrencies in countries such as Zimbabwe which have high levels of inflation.

⁷⁶ Library of Congress, Regulation of Cryptocurrency: China, (2018) <https://www.loc.gov/law/help/cryptocurrency/china.php> accessed on 12th October 2019 .

The Chartalist approach and the State theory of money emphasized money as a creature of the law and established the basis for legal tender laws that require only State currency recognized as legal tender.⁷⁷ The acceptance by States of legal tender as a legal tender forms the basis of the global financial market that today anchors our financial model. Legal Tender is those notes, coins, and bank notes, which meet statutory requirement⁷⁸. Legal tender must therefore be accepted by States as legal tender and must be regulated by the various Central Banks in the various countries globally to be regarded as legal tender whether in its tangible or intangible form.

Alistair observed that the form of legal tender has evolved to include intangible electronic form.⁷⁹ Alastair in emphasizing the evolution of money explains that money has been dematerialized largely becoming intangible in the electronic form.⁸⁰ Keynes work was forward looking and formed the basis of the Modern Money Theory especially on the emphasis that money could take any form including commodity, fiat or managed or representative money.⁸¹ Keynes is one of the strong proponents of the Chartalist approach advanced by Knapp.

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⁷⁷ Ibid note 60

⁷⁸ Mark Hapgood, 'Paget's Law of Banking', (Bentley's Law, 13th Edition, 2006), pp 356.

⁷⁹ Aleksander Berentsen and Fabian Schär, 'A Short Introduction to the World of Cryptocurrencies Federal Reserve Bank of St. Louis Review, First Quarter 2018, (2018) <https://files.stlouisfed.org/files/htdocs/publications/review/2018/01/10/a-short-introduction-to-the-world-of-cryptocurrencies.pdf>, accessed on 23rd August 2019.

⁸⁰ Benjamin, "Dematerialization of Securities" in Hudson (ed), Modern financial techniques, derivatives and law (Kluwer International 2000) at page 61

⁸¹ David W Perkins, 'Cryptocurrency: The Economics of Money and Selected Policy Issues' Congressional Research Service Report, (7th December 2018) <https://fas.org/sgp/crs/misc/R45427.pdf> accessed on 12th September 2019

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In Keynes Treatises of Legal tender,⁸² the Keynesian model views and brings into central focus the role of banks and specifically the state through central banks in controlling the supply of legal tender.⁸³ Keynes was the proponent of de-linking the gold standard from money in India

1.5.3. Conclusion

Cryptocurrencies' architecture and role centrally focuses on creating efficiency in the payment system including removing the role of central banks intermediaries to approve transaction and thus create an efficient, fast global payment, exchange system. However, ³¹ from the state theory of money and the Keynesian monetary theories, it is clear currency has a greater role for economies and therefore cryptocurrencies must demonstrate the ability to play a bigger role for countries' economies to be considered as money. This study explores the legal quandary in the quest for recognition of crypto currencies in the monetary ecosystem as legal tenders. These theories are critical in the understanding and acceptance of cryptocurrencies as legal tenders. They attempt to examine what is generally considered acceptable for use as money in the global financial system. With such analysis, the viability of cryptocurrencies as legal tenders has been assessed based on current

⁸² John Maynard Keynes, 'The General Theory of Employment, Interest and Money', (The University of Adelaide, 2003) <http://etext.library.adelaide.edu.au/k/k44g/k44g.html> accessed on 30th September, 2019.

⁸³ Ibid .

existing legal framework on money and the financial system. The theoretical review has to some extent painted a picture of cryptocurrencies presenting a challenge with their nature, which depends on distributed cryptographic protocols, rather than physical material and a centralized authority. However, proponents of a free monetary system devoid of state and state agencies' control have put a case for cryptocurrencies to be recognized as legal tender.⁸⁴

This study looks at these theoretical schools of thought especially the conflict between state control of money and the decentralized, self-independent cryptocurrency system and tries to answer the question whether cryptocurrencies present a new framework of money from the current jurisprudential frameworks that underline fiat currencies. The key objective of this study was to fill the regulatory gap currently existing due to the non-recognition of cryptocurrencies as legal tender and make proposals for adoption by Kenya.

1.6 Literature Review

Cryptocurrencies have particularly over the last five years attracted attention from both scholars and regulators on various aspects of the innovation and as such exploring this topic to find a regulatory framework, establish gaps in current studies while mulling with the ideas of proposing a new *sui generis* set of regulatory frameworks or having cryptocurrencies fit within current regulatory frameworks in the financial sector has been a nexus that this study has sought to fill.

At the global level, there is a dearth of materials, newspaper articles, studies, research, reports and scholarly works that have been written on the nature of cryptocurrencies, the regulatory interventions and proposals for regulations. International global regulators have sought to demystify this technology as it became clear that the market was responding to cryptocurrencies and its use in everyday financial transactions whether ⁵³ as a means of payment, medium of exchange, security or asset.

⁷² However, and key to this study as stated above in the theoretical underpinning on this study, money is a creature of the law and of states; therefore, states and to this extent domestic

⁸⁴ Peter M. Kraft, Nicolás Della Penna, Alex "Sandy" Pentland, 'An Experimental Study of Cryptocurrency Market Dynamics', (2018), <https://arxiv.org/pdf/1801.05831.pdf> accessed on 14th September 2019.

responses to regulation of anything currency is fundamental towards building a global acceptance of currency. States give money the legal life and give power to other states to recognize that currency and engage in foreign exchange thus making an instrument a medium of exchange and without this fundamental concept, anything purporting to be currency fails. As further stated above in the background and as it was noted from the report of ⁴⁸ Library of Congress Report on the Regulation of Cryptocurrencies around the World⁸⁵ the majority of states have moved to issuing precautionary, prohibitory or outright banning statements against cryptocurrencies.

This regulatory approach has had a negative effect of cryptocurrencies especially in its use as a medium of exchange and according to research by Peter Zimmermann,⁸⁶ the prohibition has inhibited the ⁷¹ use of cryptocurrencies as a medium of exchange and driven consumers towards speculative behaviors driving the volatility of the cryptocurrency prices and effectively making it difficult for cryptocurrencies to be ²² used as a medium of exchange. The prohibitory ²² approach has also meant that the risks associated with use of cryptocurrencies in the financial system for example even as a means of payment is not cushioned and as such, the market for instance merchants that would want to minimize their risks have continued to decline the use of cryptocurrencies.⁸⁷

The gaps thus created by domestic responses have further contributed to the current challenge and market responses to crypto-currencies and the changing usage and application of crypto-currencies. As further noted above, Kenya is one of the leading

²⁰ ⁸⁵The Law Library of Congress, Global Legal Research Center: Regulation of cryptocurrency around the world, June 2018 issue pg 10 <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed on 12th October 2019

⁸⁶ Peter Zimmerman, 'Blockchain Structure and Cryptocurrencies prices' <https://www.researchgate.net/publication/332969913> accessed on 12 October 2019 The write analysis the cause of price volatility in Bitcoins and argues price volatility is caused by competition between speculative and transactional users caused by the very architecture of the Blockchain technology ⁷³ which causes a time delay between the transfer of ownership of cryptocurrency between parties and the ⁷³ time it takes for the transaction to be added to the Blockchain. Volatility has been heavily attributed to speculation but the author argues the architecture of the Blockchain is also contribution to volatility in addition to speculation. The author further points out that speculation raises the value of the Bitcoin and makes it unlikely to be used as medium of exchange or even as a means of payment.

⁸⁷ Ibid note 165. Only three of the top 500 e-commerce merchants accepts bitcoins and this number is falling noting the inability of a currency to be used as a means of payment coupled with the speculative bubble reduces the viability of cryptocurrencies.

markets where cryptocurrencies are used; however like what has been witnessed in other countries the continued precautionary effect has left cryptocurrencies without any regulatory framework exposing consumers to inherent risks.⁸⁸

As this report in Chapter four will reveal, the countries that have moved to create regulatory frameworks such as Japan, South Africa and China provide a basis of comparative analysis and applying the results of the study towards proposing a regulatory framework for Kenya.

Nkarichia Dennis Mugambi⁸⁹ in his work in this area covered the broad conceptual and theoretical frameworks that may inform regulators to intervene such as public interest theory but did not delve into the very core of the subject as to why regulators will not intervene and that is as regards the recognition of cryptocurrencies as money. The core issue as to why regulators have failed to intervene is in their view cryptocurrencies' distributed ledger technologies does oust the role of central banks. Therefore, at the core of an attempt to regulatory response is to reconcile the nature of cryptocurrencies as money or as means of payment and to begin incorporating them in current legislation. Investigation into regulatory models for countries which have legislated has shown those countries have sought to critically examine cryptocurrencies and fit them within existing legislation while stretching the interpretation to recognize cryptocurrencies as assets or means of payments. This study therefore seeks to fill this gap and to settle the legal platitude of cryptocurrencies as money and set the motion for recognition and regulatory framework in Kenya. Therefore, while his study proposes development of a *sui-generis* set of regulation, this study sought to exploring the gap in current regulation and having cryptocurrencies adopted in the current regulatory frameworks.

⁸⁸ Jorrit Zwijnenburg, Matthew de Queljoe, and Isabelle Ynesta, ' How to deal with Bitcoin and other cryptocurrencies in the System of National Accounts,' 5th November 2018 [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF\(2018\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF(2018)1&docLanguage=En) accessed on 12th August 2019

⁸⁹Nkarichia Dennis Mugambi, 'A framework for the regulation of Blockchain Technology in the Financial Sector', (2018) Masters Thesis submitted to the University of Nairobi http://erepository.uonbi.ac.ke/bitstream/handle/11295/104542/Nkarichia_A%20Framework%20For%20The%20Regulation%20Of%20Blockchain%20Technology%20In%20The%20Financial%20Services%20Sector.pdf?sequence=1&isAllowed=y accessed on 8th August 2019.

Gikay in his study on regulation contends to this position in arguing that cryptocurrencies should be recognized under the existing payment legal frameworks that the impediment for cryptocurrencies is the failure of the European Union to recognize cryptocurrencies as legal tender.⁹⁰ Domestic countries are responsible for recognition of instruments as currency or legal tender and the failure to do this, leads towards a global gap. Gabrielle Patrick and Anurag Bana of The International Bar Association (IBA) Legal Policy & Research Unit Legal Paper research on Rule of Law Versus Rule of Code: A Blockchain-Driven Legal World explores Bitcoin cryptocurrency specific regulatory frameworks.⁹¹The Law Library of Congress research on the regulation of cryptocurrency in selected jurisdictions⁹² presents a summary of the cryptocurrency regulatory regimes and polices from different jurisdictions around the world. The study covers in depth matters relating to the legality of cryptocurrency markets from the point of legal recognition. The study is based on fourteen jurisdictions around the world and the countries that have enacted laws to permit and regulate the operation of cryptocurrency markets include Australia, Belarus, Canada, Gibraltar, Japan, Jersey and Switzerland. The study does not however cover the legal quandary in recognition of cryptocurrency in Africa and more specifically Kenya hence conducting this research paper.

The Journal of Risk and Financial Management published the article titled Regulation of the Crypto-Economy: Managing Risks, Challenges, and Regulatory Uncertainty⁹³ where

⁹⁰ Dr Gikay Asress, 'Regulating Decentralized Cryptocurrencies Under Payment Services Law: Lessons from the European Union' [2018] 9(1) Case Western Reserve; Journal of Law, Technology and the Internet <https://scholarlycommons.law.case.edu/jolti/vol9/iss1/1> accessed on 12th October 2019

⁹¹ Gabrielle Patrick and Anurag Bana, IBA Legal Policy & Research Unit, 'Rule of Law Versus Rule of Code: A Blockchain-Driven Legal world' [November 2017] <file:///C:/Users/pkamau/AppData/Local/Microsoft/Windows/INetCache/IE/K9BL96XA/Blockchain-driven-world.pdf> accessed on 2/6/2020

⁹² The Law Library of Congress, 'Regulation of Cryptocurrency in Selected Jurisdictions' 2018 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=10&cad=rja&uact=8&ved=2ahUKEwjNjI-e_uLoAhUZ7eAKHUpLDFkQFjAJegQIAxAB&url=https%3A%2F%2Fwww.loc.gov%2Flaw%2Fhelp%2Fcryptocurrency%2Fregulation-of-cryptocurrency.pdf&usq=AOvVaw3YO7vB-r7CvzysNvQJtgCm accessed on 12th April 2020

⁹³ Douglas j. Sofia J and Anshuu P 'Regulation of the Crypto-Economy: Managing Risks, Challenges, and Regulatory Uncertainty' 2019 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=11&cad=rja&uact=8&ved=2ahUKEwjNjI-e_uLoAhUZ7eAKHUpLDFkQFjAJegQIARAB&url=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F331111111

the authors examine the dilemma of regulatory uncertainty of cryptocurrency. The article investigates the international regulatory trends and highlights key issues in select jurisdictions like Canada, India, Norway and Sweden where crypto currencies are permitted for usage, and even subject to taxation, but it is still not considered as legal tender. This study on the other hand focuses on the recognition of cryptocurrency as legal tender in Kenya.

David Geral, Irene Muthoni and Brain Kalule⁹⁴ examine the regulatory frameworks in cryptocurrency in South Africa, Uganda and Kenya. Irene Muthoni observes that in Kenya cryptocurrencies are not licensed, not considered as assets under the law and neither are they recognized as legal tender. This is anchored in the warning issued by the Central Bank of Kenya (CBK) in December 2015 warning the public against the use of cryptocurrencies due to perceived volatility and lack of specific regulation. Notwithstanding the public warning by the CBK, there is no legislation in Kenya prohibiting the use of cryptocurrencies; however, courts cannot enforce contracts premised on cryptocurrency as consideration since they are not legal tenders.

This study therefore sought to review the existing literature on regulation and recognition of cryptocurrencies and to fill the gap in domestic approaches by taking current international trends on regulation of cryptocurrency of other markets where regulation has been introduced and benchmarking towards creating a more comprehensive global approach and make recommendations to solve the current legal quandary in the quest for recognition of cryptocurrency in Kenya.

[2F326195399 Cryptocurrencies legal regulation&usg=AOvVaw0J845ba_B9Md_pE1IAfozF](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&cad=rja&uact=8&ved=2ahUKEwjNjl-e_uLoAhUZ7eAKHUpLDFkQFjANegQIBhAB&url=https%3A%2F%2Fwww.bowmanslaw.com%2Fwp-content%2Fuploads%2F2018%2F09%2FUnscrambling-Blockchain_Session-1_Regulatory-Frameworks.pdf&usg=AOvVaw0J845ba_B9Md_pE1IAfozF) Accessed on 12th April 2020

⁹⁴ David G. Irene M and Brian K. 'Unscrambling Blockchain: Regulatory Frameworks in Cryptocurrency' (2018) [Bowmans
https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&cad=rja&uact=8&ved=2ahUKEwjNjl-e_uLoAhUZ7eAKHUpLDFkQFjANegQIBhAB&url=https%3A%2F%2Fwww.bowmanslaw.com%2Fwp-content%2Fuploads%2F2018%2F09%2FUnscrambling-Blockchain_Session-1_Regulatory-Frameworks.pdf&usg=AOvVaw12mkf2EuDQbjzCZ1djinLXx](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&cad=rja&uact=8&ved=2ahUKEwjNjl-e_uLoAhUZ7eAKHUpLDFkQFjANegQIBhAB&url=https%3A%2F%2Fwww.bowmanslaw.com%2Fwp-content%2Fuploads%2F2018%2F09%2FUnscrambling-Blockchain_Session-1_Regulatory-Frameworks.pdf&usg=AOvVaw12mkf2EuDQbjzCZ1djinLXx) Accessed on 12th April 2020

1.7 Research Methodology

1.7.0 Introduction

This chapter enumerates the methodology that was applied to carry out this study including the type of research, the research design, and ethical considerations.

1.7.1 Type of Research

This study was a doctrinal legal research aimed at finding a solution to the challenge posed by unregulated and non-recognition of cryptocurrencies in Kenya. The research was aimed at gathering data to test the theoretical framework of money in order to find proposals for regulation and recognition of cryptocurrencies in the country. It is hoped that the recommendations of this study can be applied by policy makers to inform their regulatory decisions on cryptocurrencies in Kenya.

1.7.2 The Research Design

This study was designed as a case study. This study sampled cases of regulatory approaches in selected jurisdictions. The purpose of the case study was to answer the key questions of the research and to come up with research findings that meet the study objectives.

The research was designed to collect data through a case study and sampling of the case studies was required, as the study could not comprehensively cover all countries globally although the key objective was to arrive at a global view. Therefore, the study needed to employ practical sampling techniques to ensure the study findings would represent a global view and arrive at valid and reliable findings for the research. The sampling of the countries was done through biased sampling or non-probability sampling method as the focus of the study was on in-depth information on how the different jurisdictions have responded to cryptocurrencies. The countries sampled were selected across two key regions being Africa (South Africa) and Asia (China and Japan).⁹⁵

⁹⁵ See report published in 2019 showing the leading countries in cryptocurrencies trading <https://www.marketwatch.com/story/this-country-leads-the-world-in-crypto-trading-and-it-isnt-the-one-you-think-2019-01-17>

1.7.3 Ethical Consideration

All the necessary conditions for conducting an academic research were met and information gathered during this study is for the sole purpose of the present research and shall not be used for any other purpose whatsoever. This includes information that could reasonably be identified as classified/sensitive information and shall only be used to promote this research to the extent that is allowed by law as prescribed.

1.8 Chapter Breakdown

The following is a breakdown of the chapters in the research dissertation:

1.8.1 Chapter One: Introduction

Chapter one provides background information, statement of the problem, objectives of the research (overall objective and specific objectives), research questions, significance of the study and the research methodology applied in conducting the study. The study is doctrinal in nature and it was mainly based on secondary sources including books, journal articles, published scholarly and research materials, government reports, studies and policy guidelines, case laws and internet materials. This study undertook a comparative analysis of various jurisdictions in order to draw a lesson for Kenya.

1.8.2 Chapter Two: The Nature, Mechanisms and Historical Development of Cryptocurrency

Chapter two examines critically the nature, mechanisms and problem of definition of cryptocurrencies as compared to the regulatory framework for fiat legal currencies in order to provide an understanding of the problem and objective of the study. This chapter also provides an elaborate historical development of cryptocurrencies.

1.8.3 Chapter Three: Regulatory Framework Governing Financial Services Sector in Kenya

A brief introduction is provided at the beginning of the chapter. The Constitution and various other Acts of Parliament regulating the financial services sector in the country have

been presented in this chapter. At the end of the chapter, a brief conclusion is provided summarising the findings of the chapter.

1.8.4 Chapter Four: Regulation of Cryptocurrencies: The Case of Other Jurisdictions

Chapter four provides a brief introduction, a comparison and differentiation of cryptocurrencies and fiat currencies, case studies of cryptocurrencies regulation in different jurisdictions and what Kenya's best regulatory response should be. The case study delved into the challenges various countries have encountered in the regulation of cryptocurrencies as currency and the various regulatory frameworks adopted by those countries. This chapter explores whether cryptocurrencies can be recognized as currency and whether regulation can address risks posed by cryptocurrencies if legalized as currency. A brief conclusion is also provided at the end of the chapter summarising the main points established in the chapter.

1.8.5 Chapter Five: Observations, Conclusion and Recommendations

Chapter five provides a brief introduction at the beginning. The chapter further makes observations about the study findings and concludes based on the observations. The chapter also makes recommendations based on the study conclusions. Finally, a brief concluding statement is made at the end of the chapter.

CHAPTER TWO

THE NATURE, MECHANISMS AND THE AND HISTORICAL DEVELOPMENT OF CRYPTOCURRENCY

2.0 Introduction

The chapter examines critically the nature, mechanisms and problem of definition of cryptocurrencies as compared to the regulatory framework for fiat legal currencies in order to provide an understanding of the problem and objective of the study. This chapter also provides an elaborate historical development of cryptocurrencies.

2.1 The Nature, Mechanism and Definitions of Cryptocurrency

Cryptocurrency is an electronic coin, which is backed by a decentralized technology known as Blockchain and uses cryptographic functions with inherent encryption⁹⁶. Is an unregulated digital (or virtual) currency designed to work as a medium of exchange that uses strong cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of values.⁹⁷ It does not exist in physical form and is usually issued and controlled by its developers, and used and accepted among the members of a specific virtual community.⁹⁸ Cryptocurrencies are divided into two prevalent types namely: convertible and non-convertible cryptocurrency.⁹⁹ Convertible Cryptocurrencies are also known as open cryptocurrencies because they are exchangeable for fiat currencies.¹⁰⁰ Examples include Bitcoin, Ripple, Dogecoin, Litecoin, Ethereum, Litecoin, Namecoin and Swiftcoin. On the other hand, Non-convertible cryptocurrencies also referred to as closed cryptocurrencies or unidirectional cryptocurrencies are those that

⁹⁶ Ibid.

⁹⁷ Jorrit Zwijnenburg, Matthew de Queljoe, and Isabelle Ynesta, 'How to deal with Bitcoin and other cryptocurrencies in the System of National Accounts,' 5th November 2018 [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF\(2018\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF(2018)1&docLanguage=En) accessed on 12th August 2019

⁹⁸ See Jorrit, Matthew & Isabelle (2018)

⁹⁹ Financial Action Task Force Report, 'Virtual Currencies - Key Definitions and Potential AML/CFT Risks' (2014) <https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf>

¹⁰⁰ Ibid

¹² cannot be used as a means of universal exchange. Closed cryptocurrencies have many setbacks since they are digitally scarce and illiquid as there is no way to create them unlike open cryptocurrencies, which can be mined.

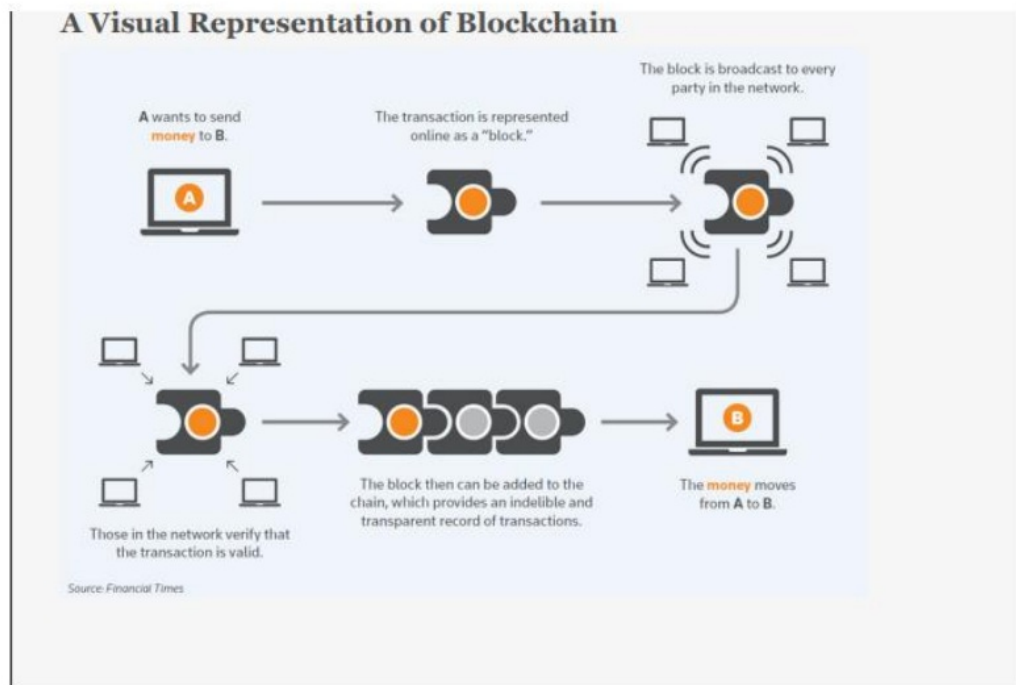
Blockchain technology can be described ⁵⁵ as a data structure that holds transactional records while ensuring security, transparency, and decentralization.¹⁰¹ The Blockchain follows ⁸ each transaction ‘block’ to ensure there is no double spending and the transaction in the system is broken into blocks of transactions linked to the previous block forming what is referred to as Blockchain.¹⁰² Figure 2.1 shows a visual representation of the Blockchain technology as provided by Allan Goodman Michael Partridge.¹⁰³

Figure 2.1: Showing Blockchain Technology

¹⁰¹ Tara Mandjee, ‘Bitcoin its Legal Classification and its Regulatory Framework’ Journal of Business and Securities Law, 15 (2) 157 <https://digitalcommons.law.msu.edu/jbsl/vol15/iss2/4> accessed on 8th August 2019.

¹⁰² See Tara Mandjee [2019].

¹⁰³ Allan Goodman Michael Partridge, ‘Cryptocurrency in Canada’ , 2018 Practical Law Canada Practice Note w-013-8891 <https://www.goodmans.ca/files/file/docs/Cryptocurrency%20in%20Canada%20published%2005%2022%2018.pdf> accessed on 12th October 2019



The Blockchain infrastructure is the backbone of cryptocurrency network. Cryptocurrency is an electronic coin, which is backed by a decentralized technology known as Blockchain and uses cryptographic functions with inherent encryption¹⁰⁴. It is an unregulated digital (or virtual) currency designed to work as a medium of exchange that uses strong cryptography to secure financial transactions, control the creation of additional units, and verify the transfer of values.¹⁰⁵ It does not exist in physical form and is usually issued and controlled by its developers, and used and accepted among the members of a specific virtual community.¹⁰⁶

¹⁰⁴ Ibid.

¹⁰⁵ Jorrit Zwijnenburg, Matthew de Queljoe, and Isabelle Ynesta, 'How to deal with Bitcoin and other cryptocurrencies in the System of National Accounts,' 5th November 2018 [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF\(2018\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=COM/SDD/DAF(2018)1&docLanguage=En) accessed on 12th August 2019

¹⁰⁶ See Jorrit, Matthew & Isabelle (2018)

The terminology used to describe cryptocurrencies varies across various jurisdictions and some of the definitions include: virtual currencies (Europe),² digital currency (Argentina, Thailand, and Australia), virtual commodity (Canada, China, Taiwan), crypto-token (Germany), payment token (Switzerland), cyber currency (Italy and Lebanon), electronic currency (Colombia and Lebanon), and virtual asset (Honduras and Mexico)¹⁰⁷. However, virtual currencies have a wider meaning and the European Banking Authority has sought to distinguish between virtual currencies and what they term as “crypto-assets”.¹⁰⁸ The EBA⁹ defines ‘virtual currencies’ as a digital representation of value that is neither issued by a central bank or public authority, nor necessarily attached to a fiat currency (legal tender) but is used by natural or legal persons as a means of exchange and can be transferred, stored or traded electronically.¹⁰⁹

The EBA¹¹ further defines crypto-assets a type of private asset that depend primarily on cryptography and distributed ledger technology as part of their perceived or inherent value⁵¹ including payment/exchange-type tokens (for example, the so-called virtual currencies (VCs)), investment-type tokens, and tokens applied to access a good or service (so-called ‘utility’ tokens).¹¹⁰ The underlying definition of cryptocurrencies is thus those virtual currencies (VC’s) that use¹¹ distributed ledger technology (Blockchain) as part of their inherent nature.

It should be noted, that while various terminologies may be used, the definition of cryptocurrencies whether defined by any other terminology lies in the nature of an electronic coin, which is backed by a decentralized technology known as Blockchain, and uses cryptographic functions with inherent encryption¹¹¹. Any other electronic note, coin, or currency, which is not backed by Blockchain features, is not a cryptocurrency and may

¹⁰⁷ Regulation of Cryptocurrency Around the World, The Law Library of Congress, Global Legal Research Center June 2018 <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed on 3rd October 2019.

¹⁰⁸ European Banking Authority, ‘Report on Crypto Assets with advice for the European Commission’, (2019) <https://eba.europa.eu/documents/10180/2545547/EBA+Report+on+crypto+assets.pdf> Accessed on 3rd October 2019.

¹⁰⁹ The EBA [2019]

¹¹⁰ The EBA [2019]

¹¹¹ Allan Goodman Michael Partridge, ‘Cryptocurrency in Canada’ , (2018) Practical Law Canada Practice Note w-013-8891

be said to refer to other electronic payments systems, digital currencies, or virtual currencies.¹¹² Cryptocurrencies can therefore be defined as special type or a sub-category of digital or virtual currencies.¹¹³

⁵² Cryptocurrencies are divided into two prevalent types namely: convertible and non-convertible cryptocurrency.¹¹⁴ Convertible cryptocurrencies are also known as open cryptocurrencies because they are exchangeable for fiat currencies.¹² Fiat currency can be converted to a cryptocurrency, which is stored or exchanged for goods and services and even re-exchanged for fiat currencies at the current exchange rate. Examples include Bitcoin, Ripple, Dogecoin and Litecoin. Non-convertible cryptocurrencies also referred to as closed cryptocurrencies or unidirectional cryptocurrencies are those that cannot be used as a means of universal exchange.¹² They are limited to having value in the virtual sphere where they are traded.¹¹⁷ However, this study only considers the convertible cryptocurrencies.

Globally, there are six prominent cryptocurrencies namely: Bitcoin (BTC), Litecoin (LTC), Ethereum (ETH), Ripple (XRP), Bitcoin Cash and Ethereum Classic.¹¹⁸ Of the six cryptocurrencies, Bitcoin is the most widely used and accounts for about 40 percent of all cryptocurrency coins.¹¹⁹ The developer of Bitcoin Satoshi Nakamoto describes Bitcoin as a computer software or application that is supported by a network of computers around the world running the bitcoin software that runs the Bitcoin protocol, which operates under the Blockchain technology.⁸ Instead of relying on a central authority to 'secure' or

¹¹² Kiel Institute for the World Economy, 'Virtual Currencies', (2018) Monetary Dialogue, http://www.europarl.europa.eu/cmsdata/149902/KIEL_FINAL%20publication.pdf , accessed on 3rd October 2019.

¹¹³ Ibid.

¹¹⁴ Financial Action Task Force Report, 'Virtual Currencies - Key Definitions and Potential AML/CFT Risks' 2014 <https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf>

¹¹⁵ Ibid

¹¹⁶ Ibid

¹¹⁷ Ibid

¹¹⁸ Prableen Bajpai, the 6 Most Important Cryptocurrencies (Cryptocurrency Strategy and Education), June 2019, accessed on 14th September 2019 from <https://www.investopedia.com/tech/most-important-cryptocurrencies-other-than-bitcoin/>

¹¹⁹ Prableen Bajpai [June 2019]

¹²⁰ Satoshi Nakamoto, 'Bitcoin: A peer-to-peer Electronic Cash System' <https://bitcoin.org/bitcoin.pdf> , 8th of August 2019

‘authenticate’ payments or ‘control the supply of currency’, the bitcoin technology relies on a bitcoin protocol, ⁶² proof-of-work and the economics of bitcoin “mining,” to create a decentralized system of payment which keeps a record of its transaction in public ledgers¹²¹.

A block is created through ‘mining’ which is a process where independent developers in the system can, through a complex mathematical calculations and complex mining algorithms, create bitcoin transactions and verify the legitimacy of such transactions.¹²² Since the blockchain depends on independent software developers to mine new coins, it has been termed as a peer-to-peer network operated by individual users.¹²³ The mining process is a point of departure between cryptocurrencies and fiat currencies. While new fiat currencies are printed and issued by government authorized central authorities, cryptocurrencies’ new coins are issued through the mining process.¹²⁴

The number of bitcoins is also not infinite and is set at a maximum of twenty one million coins due to developer parameters.¹²⁵ This limitation of number mirrors the traditional metal money system based on precious metals.¹²⁶ Unlike the fiat currencies that derive their value from a central authority which control supply, demand, monetary policies and inflation which gives fiat currency their value, under the Blockchain technology, bitcoins derive their value exclusively from the public¹²⁷.

¹²¹Nermin Hajdarbegovic, ‘Blockchain Technology Explained: Powering Bitcoin’ <https://www.toptal.com/bitcoin/blockchain-technology-powering-bitcoin> accessed on 8th of August 2019.

¹²² Aleksander Berentsen and Fabian Schär, ‘A Short Introduction to the World of Cryptocurrencies Federal Reserve Bank of St. Louis Review, First Quarter 2018, (2018) <https://files.stlouisfed.org/files/htdocs/publications/review/2018/01/10/a-short-introduction-to-the-world-of-cryptocurrencies.pdf>, accessed on 23rd August 2019.

¹²³ Ibid.

¹²⁴ What are Cryptocurrency Miners? How does Cryptocurrency Mining work? <https://www.ethos.io/what-are-miners-cryptocurrency-mining>, accessed on 8th of August 2019.

¹²⁵ ‘How Many Bitcoins Are There now in Circulation?’, <https://www.buybitcoinworldwide.com/how-many-bitcoins-are-there/> accessed on 3rd October 2019. The article states that as at 1st of September 2019, 17,911,325 coins have already been mined leaving only 3,088,675.0 about 15% to be mined.

¹²⁶ Ibid note 113.

¹²⁷ Supra note 5. Where Zimmerman discussed the causes of price volatility in bitcoins including speculation by buyers and the architecture of the blockchain technology that causes delay building up a speculative bubble

The Bitcoin network provides a tamper-proof data structure and a shared public ledger open to all to view transactions in the network. The concept of the public ledger is central to this system as it contains the record of all transaction occurring in the system.¹²⁸ This role of the public ledger open to all is expected to create trust of a central authority found in traditional financial systems.¹²⁹ Bitcoin through the public ledger Blockchain technology became the first digital currency to solve the challenge of double spending.¹³⁰

The Blockchain system further relies on an encryption technology of cryptography, which ensures each transaction is signed by a private key, which Satoshi referred to as digital signatures, which ensures the integrity of the system.¹³¹ The digital signatures in the system are significant as they ensure a user has two key codes; a private and a public key that ensure the Blockchain is able to prevent fraud and double spending. Blockchain and bitcoins are thus billed as a secure system that could do away with the need of central banks, or government intermediaries or third parties whose role is to ensure integrity in the financial system. The technology presents a trust possibility of technology replacing the role of governments in controlling currency and the financial system.

The decentralized Blockchain infrastructure which is free from a trusted central authority is at the core of the bitcoin architecture and one of the key factors that differentiates them from legal tenders that are issued and controlled by a trusted central authority. However, the public and private key codes are not linked to any user's identity which is a feature that makes blockchain anonymous and the anonymous nature has continued to raise concerns of the system being used for criminal activities such as money laundering, support of proceeds of crime and criminal activities.¹³²

It is also notable that EBA definition has widened the definition from cryptocurrencies to crypto-assets to steer away from referring to cryptocurrencies as money but as commodity or an asset, which is intended at moving the use of cryptocurrencies from money to an asset. However, this only complicates the problem and does not resolve the fundamental

¹²⁸ Ibid note 106.

¹²⁹ Ibid.

¹³⁰ Ibid note 108.

¹³¹ Ibid.

¹³² Aleksander Berentsen and Fabian Schär (2018).

usage or purpose of cryptocurrencies as a currency, which is slowly, but steadily rising globally. This is where law is required to act as an instrument of control to regulate the operations of Blockchain technology and to ensure the technology is not used for money laundering, support of proceeds of crime and criminal activities.

2.2 The Regulatory Framework for Legal Tender

In order to understand the tension in the recognition of cryptocurrencies as legal tenders in Kenya, it is imperative that one understands the legal nature, jurisprudential theory and regulation of legal tender. According to Alastair Hudson, money has been transformed from being only notes and coins to being an amount of value ascribed to an intangible form held in electronic records or in payment systems.¹³³ While the physical and intangible nature of money continues to evolve, the nature of what is money has according to Alastair continued to revolve within three principles developed by Aristotle.¹³⁴

The three principles are that legal tender is a medium of exchange, a measure of value and a store of value.¹³⁵ As a medium of exchange, money is a means of payment for goods and services; as a measure of value means money can be used to express value in bank records or through market-to-market models for valuing financial instruments and foreign exchange.¹³⁶ Money as a store of value means that money in itself can be saved and can hoard value in itself.¹³⁷

Even before the days of Aristotle, the nature of money evolved both in form and in substance. The earliest form of money in Africa and Asia was the Cowry Shell, which was in use for over 4000 years in Africa, South Asia, East Asia and Oceania.¹³⁸ Other parts of the world have also used precious metals as money. The evolution of money continued and money as we know it today, and as is widely accepted around the globe, is in the form of coins and banknotes. This is however not to mean that it is the only form of money. The

¹³³ Alastair Hudson, *The Law of Finance*, (Sweet and Maxwell, Vol. 1, 2009), pp 39.

¹³⁴ Aristotle, *The Politics*, Translated and with an introduction by Carnes Lord. (University of Chicago Press, 1984) Chapter 9.

¹³⁵ Ibid

¹³⁶ Alastair Hudson, *The Law of Finance*, (Sweet and Maxwell, Vol. 1, 2009).

¹³⁷ Ibid

¹³⁸ Harari Y N, *Sapiens: A brief history of humankind* (1st edn, Harper 2015) 197-198.

wide acceptance and use of coins and banknotes may be attributed to the fact that it enables people to compare quickly and easily the value of different commodities, easily exchange one thing for another and to store wealth conveniently.¹³⁹

While the form of money evolved so was the substance. Karl Max considered money to be an independent form of capital.¹⁴⁰ J.M Keynes emphasized the importance of “money-of-account” over money being only a medium of exchange. Keynes acknowledges the role of the banking system in controlling the availability of money in the banking system.¹⁴¹ The Keynesian system enumerated the role of states through Central Banks to avail the supply of money in the economy through a system of lending to banks or sales of government bonds.¹⁴² According to Keynesian model, it is the lending policies in banks that stabilize economies.¹⁴³ This control of supply is believed to control inflation and manage fiscal and economic factors in a country and is a key role of central banks in modern states.¹⁴⁴

Mann however developed what is considered today the modern definition of the legal nature of money where he states that “... the quality of money is to be attributed to all chattels which, issued by the authority of the law and determined with reference to a unit of account are meant to serve as universal means of exchange in the State of issue”.¹⁴⁵ In the early days, anything used as a medium of exchange could be money but with evolution, money became only that which is issued by authority of law as a means of exchange as propounded by Mann. The intervention of the state developed the term “legal tender” to define money, as money became a creature of the law.¹⁴⁶

Today, and in view of Mann’s theory, the majority of currencies are known as “fiat” currencies, which are currencies that are neither inherently valuable nor redeemable for a commodity but, instead, are issued and backed by some central authority.¹⁴⁷ The value of

¹³⁹ Ibid.

¹⁴⁰ Ibid.

¹⁴¹ Ibid.

¹⁴² Ibid.

¹⁴³ Ibid.

¹⁴⁴ Ibid.

¹⁴⁵ Geoff Mann, *The General Theory of Employment, Interest and Money, A Reader’s Companion* (2017).

¹⁴⁶ Ibid.

¹⁴⁷ Ibid.

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such currencies is derived from the trust placed in the central authority by the users of the currency.¹⁴⁸ Fiat currencies are in the nature of notes and coins issued by Central Banks in each jurisdiction designated as legal tenders in those countries and that is what is accepted by other states as money.¹⁴⁹ Payments can only be made by use of legal tender.¹⁵⁰

Fiat currencies are most effective and are cheaper when used by people within close proximity.¹⁵¹ Where transactions are between people who are continents apart, fiat currency may be slow, risky, and costly.¹⁵² With the development of the internet and the need for faster, secure payments, the internet revolutionized money and brought the concept of electronic payments, debit and credit cards payments and such other means.¹⁵³ As technology has evolved so has been the evolution of different modes of electronic, mobile and internet payments mechanisms. However though the means of payment has changed, the sanction of the state to control legal tender, means of payments and the financial instruments has remained a central towering key factor.¹⁵⁴

The evolving nature of payments has led to the development of payment legislations to regulate transfer of money, remittances, payment systems, forex and foreign exchange services. Each country has continued to recognize their national currencies and to only recognize legal tenders defined in other countries leading to a global financial system

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¹⁴⁸ Jonathan B. Turpin, Bitcoin: The Economic Case for a Global Virtual Currency Operating in an Unexplored Legal Framework, *Indiana Journal of Global Legal Studies*, Vol. 21 (1), (2014) <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=13&cad=rja&uact=8&ved=2ahUKEwiao8P41pzIAhUK8hoKHxIhBgCQFjAMegQIAxAC&url=https%3A%2F%2Fwww.repository.law.indiana.edu%2Fcgi%2Fviewcontent.cgi%3Farticle%3D1557%26context%3Dijgls&usg=AOvVaw0odPqe7CTniHWo-hv4CEpz> accessed on 10th October 2019.

¹⁴⁹ European Parliament, *Virtual Currencies and Central Banks Monetary Policy: Challenges ahead, Monetary dialogue*, (2018), [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&ved=2ahUKEWjU1Jzs2JzIAhVShoKHYIZDD4QFjANegQIBRAB&url=http%3A%2F%2Fwww.europarl.europa.eu%2FRegData%2Fetudes%2FIDAN%2F2018%2F619009%2FIPOL_IDA\(2018\)619009_EN.pdf&usg=AOvVaw0ucK-aoYato73HklirSTQG](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=14&ved=2ahUKEWjU1Jzs2JzIAhVShoKHYIZDD4QFjANegQIBRAB&url=http%3A%2F%2Fwww.europarl.europa.eu%2FRegData%2Fetudes%2FIDAN%2F2018%2F619009%2FIPOL_IDA(2018)619009_EN.pdf&usg=AOvVaw0ucK-aoYato73HklirSTQG) accessed on 23rd September 2019.

¹⁵⁰ Ibid.

¹⁵¹ Hudson A, *The Law of Finance*, (Sweet and Maxwell, Vol. 1, 2009).

¹⁵² Ibid

¹⁵³ Ibid

¹⁵⁴ Hyman P. Minsky, *Financial Instability Revisited: The economics of Disaster*, Fraser, (2018) https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=12&cad=rja&uact=8&ved=2ahUKEwjpsKI45ziAhWGylUKHV0LBPkQFjALegQIBBAC&url=https%3A%2F%2Ffraser.stlouisfed.org%2Ffiles%2Fdocs%2Fhistorical%2Ffederal%2520reserve%2520history%2Fdiscountmech%2Ffininst_minsky.pdf&usg=AOvVaw3gGA80HxEELZlZ9tcwp accessed on 26th September 2019.

which depends on state recognition of legal tenders.¹⁵⁵ This means that if something is not legalized by a state as a legal tender or a means of payment, other states will not recognize the same. This has been the dilemma faced by cryptocurrencies with most jurisdictions declining to recognize them as legal tenders.

2.3 Historical Development of Cryptocurrencies

The first evidence of what today is described as cryptocurrencies developed between the years nineteen ninety six and nineteen ninety eight with the first major work being the B-money concept created in the year 1998 by Wei Dai a computer engineer¹⁵⁶ on the mailing list Cyberpunk.¹⁵⁷ The idea of Wei Dai was a new form of currency that used encryption to control inflation and transaction instead of a centralized authority¹⁵⁸. Other leading persons credited with the initial ideas of cryptocurrencies include Nick Szabo (who created BitGold, Hal Finney, economist Milton Friedman and eventually Satoshi Nakamoto¹⁵⁹.

Friedman was credited with initial theoretical thoughts on cryptocurrencies, espoused in a 1996 discussion about the difficulty of taxing internet transactions and the role the internet would play in reducing government's role. Friedman theorized a reliable "e-cash" system¹⁶⁰, which would be a future system that would enable people to transfer money from person A to person B without person A knowing person B and vice versa, completing transactions in the internet¹⁶¹. Friedman is credited with describing what would today be

¹⁵⁵ Ibid noted 109, Greenwalt contrasts the dilemma of cryptocurrencies and fiat currencies and the central role governments play in recognition of legal tender

¹⁵⁶ Jerry Brito and Andrea Castillo, 'Bitcoin : A primer for Policy Makers' Mercatus Centre, George Mason University , 3 (2013), <https://www.mercatus.org/publication/bitcoin-primer-policymakers> accessed on 6th of September 2019.

¹⁵⁷ Negurita Octav, 'Bitcoin - between Legal and Financial Performance ' [2014] 6(1) Academic journal article; Contemporary Readings in Law and Social Justice 243, <https://www.questia.com/library/journal/1P3-3389870531/bitcoin-between-legal-and-financial-performance> , Accessed 12th September 2019.

¹⁵⁸ Sean Greenwalt 'Bitcoin: The Conflicting Currency' (2016) 4 (1) Lincoln Memorial University Law Review 83 <https://digitalcommons.lmunet.edu/cgi/viewcontent.cgi?article=1068&context=lmulrev> accessed on 8th of September 2019.

¹⁵⁹ Vlad Costea, 'Did Milton Friedman Predict Bitcoin and Cryptocurrencies?' (Crypto Globe, 29th, April) <https://www.cryptoglobe.com/latest/2018/04/did-milton-friedman-predict-bitcoin-and-cryptocurrencies/> accessed on 8th of October 2019.

¹⁶⁰ Karlyn Bowman and Joseph Kosten, 'From the archives: Milton Friedman and Bitcoin?' <http://www.aei.org/publication/from-the-archives-milton-friedman-and-bitcoin/> accessed on 8th of October 2019.

¹⁶¹ Ibid note 184

called the Blockchain technology on which cryptocurrencies infrastructure is built including the core nature of cryptocurrencies.

It was not until the year 2008 to 2009 that the most successful form of cryptocurrency in the name of Bitcoin was developed first by the registration of a domain name 'bitcoin' in the year 2008 and thereafter in October of 2008 by the publication of an article titled "Bitcoin: A peer-to-peer Electronic Cash System". The details of the author of the work named Satoshi Nakamoto the designer and developer of Bitcoin remains mysterious and is unknown to date¹⁶² including details of whether he was a real person or a pseudo name but nevertheless Nakamoto continued to develop the bitcoin concept up to the year 2010¹⁶³.

Nakamoto continued to advance the theoretical ideas of Wei Dei on the concept of a completely new currency not backed by any government or redeemable for any commodity, which could be moved anonymously across borders, without the control of any government.¹⁶⁴ In 2009, the Bitcoin trade network commenced by the issue of the first Bitcoins and by the emergence of the first client interested in buying.¹⁶⁵ By 2011 to 2012, the challenges of cryptocurrencies began to emerge with the first major adopters of bitcoin being the "dark web" or black market such as Silk Road.¹⁶⁶ Around this period there began to emerge evidence of hacking and fraud, which began to record the challenges of the cryptocurrency system¹⁶⁷. Despite these challenges, other cryptocurrencies began to emerge such as Ethereum, Litecoin, Namecoin and Swiftcoin.¹⁶⁸

¹⁶² Rosemary Bigmore, 'A decade of cryptocurrency: from bitcoin to mining chips' <https://www.telegraph.co.uk/technology/digital-money/the-history-of-cryptocurrency/> accessed on 8th of September 2019.

¹⁶³ Ibid

¹⁶⁴ Jonathan B. Turpin, 'Bitcoin; The Economic Case for a Global, Virtual Currency Operating in an Unexplored Legal Framework' 21 *Indiana Journal of Global Legal Studies* 335 (2014) <https://www.repository.law.indiana.edu/ijgls/vol21/iss1/13/> accessed on 23rd September 2019.

¹⁶⁵ Ibid note 73.

¹⁶⁶ Mohammed Najib Mahmood Imam, 'The History of Bitcoin' https://www.researchgate.net/publication/332705840_The_history_of_Bitcoin_pdf Accessed on 23rd of September 2019.

¹⁶⁷ Ibid.

¹⁶⁸ Ibid.

By the year ⁸ 2013, the value of Bitcoin had grown exponentially by more than 6000 percent and had achieved a market capitalization of over United States Dollars Eight Billion (USD. 8 Billion).¹⁶⁹ Bitcoin experienced an upward surge due to its popularity and reached a market value of United States Dollars Twenty Billion (USD. 20 Billion) by March 2017 and currently stands at a market capitalization of about USD. 21 Billion.¹⁷⁰ As the upsurge of bitcoin increased, policy makers across the world began to take note and to respond. Countries such as China and Thailand moved to ban and declare cryptocurrencies illegal with China prohibiting financial institutions from using bitcoins¹⁷¹.

Other countries such as Germany and Canada, and the USA adopted a more balanced approach with Germany refusing to recognize cryptocurrencies as official currency but classifying cryptocurrencies as financial instruments under unit of account under Section 1(11) of the German Banking Act ⁸² paving the way for a future framework to tax bitcoin-based transactions.¹⁷² The Germany authorities issued guidelines on cryptocurrencies to the effect that cryptocurrencies could be accepted as substitute currency that could be used in payments within private legal agreements as opposed to fiat currencies that are regulated under public law regulation.¹⁷³ Canada on its part has been receptive to the uses of cryptocurrencies and in 2013, the first bitcoin ATM was launched in Canada¹⁷⁴.

By 2014, the world began to experience mainstream uses of cryptocurrencies including as a means of payment, as security and asset but this was closely followed with continued

¹⁶⁹ Katten Muchin Roseman, 'Bitcoin; Current US Regulatory Developments', 26th November, 2013 <https://katten.com/bitcoin-current-us-regulatory-developments-1> accessed on 23rd September 2019.

¹⁷⁰ Ibid note 9.

¹⁷¹ Lefan Gong and Lupin Yu, 'Blockchain and Cryptocurrency Regulation , China 2019' (2019) Global Legal Insights <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/china> accessed on 3rd October 2019. In the article the authors state that Bitcoin has not been recognized as fiat currency by the People Republic of China (PRC) as the People Bank of China (PBOC), issued a circular in the year 2013 refusing to recognize bitcoins as currency on the basis that they are not backed by any monetary authority and reinstated their position in a further circular in the year 2017, stating that bitcoins are not fiat currency and any use of them in ICO's constitutes illegal activities.

¹⁷² Ibid.

¹⁷³ Dennis Kunchske and Stefan Henkelmann , 'Blockchain and Cryptocurrencies Regulation in Germany 2019', (2019) <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/germany>. Accessed on 10th October 2019.

¹⁷⁴ Per Lijas, World's First Bitcoin ATM Launched in Canada: Latest Move Toward Mainstream use of Virtual Currency, Time, (2013) <http://business.time.com/2013/10/30/worlds-first-bitcoin-atm-launched-in-canada/> Accessed on 10th September 2019.

precautionary statements and in some instances such as China, the complete non-recognition of cryptocurrencies as currency. In 2014, Microsoft allowed users to buy games with the currency while trading exchanges such as Mt Gox in Japan had merged and ended up filing for bankruptcy presenting early evidence of the vulnerability and risk of the cryptocurrency financial system.¹⁷⁵

By 2015, new and equally strong cryptocurrencies such as etherium and coinbase emerged.¹⁷⁶ Evidence of fraud , money laundering and the ‘dark web’ continue to hamper the cryptocurrencies financial system in addition to lack of regulation leading to price volatility, collapse of cryptocurrencies exchanges with Bitstamp a European cryptocurrency being a victim of security breach and hacking.¹⁷⁷ By the year 2016, use of bitcoins in the financial sector had begun to gain growing momentum and acceptance in mainstream transactions in several countries with challenges of price volatility and pressure of regulation continuing to mount. By 2017, Japan had accepted bitcoin as means of payment but not a legal tender and Norway accepted to integrate cryptocurrencies as an investment and payment system.¹⁷⁸

Countries began to swiftly respond through regulation to control the use and application of cryptocurrencies to protect consumers. Several countries that accepted to legalize cryptocurrencies such as Switzerland, Germany, Japan and Norway either legalized cryptocurrencies as assets and or payment system.¹⁷⁹ This approach set the pace for growth

¹⁷⁵ Bishr Tabbaa, The Mt. Gox Hack – What’s in your Bitcoin Wallet? Medium, (2018) <https://medium.com/dataseries/the-rise-and-fall-of-mt-gox-whats-in-your-bitcoin-wallet-bd5eb4106f4e> accessed on 8th September 2019.

¹⁷⁶ What is the difference between Bitcoin and Ethereum? *Economictimes.com*, (2017), <https://economictimes.indiatimes.com/markets/stocks/news/what-is-the-difference-between-bitcoin-and-ethereum/articleshow/62171361.cms> accessed on 7th October 2019.

¹⁷⁷ Michael S Sackheim and Nathan a Howell, The Virtual Currency Regulation Review, Law Business Research Limited, (2018). https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=13&cad=rja&uact=8&ved=2ahUKEwiPr6DY35zIAhUvylUKHb_MBUYQFjAMegQIBRAC&url=https%3A%2F%2Fthelawreviews.co.uk%2Fdigital_assets%2F61360db-b49e-4d17-83f0-eba976d0804c%2FThe-Virtual-Currency-Regulation-Review---Edition-1.pdf%3Ffbclid%3DIwAR2FmJE_wiR00icCX74ikohJaTBZBDF9n6x8GcHgKhZcz3nVXilSTTzpEUA&usg=AOvVaw14W5Obf991AcMyLHmPzko accessed on 23rd September 2019.

¹⁷⁸ Global Legal Research Directorate Regulation of Cryptocurrency Around the World, (2019), <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed on 15 October 2019.

¹⁷⁹ *Ibid.*

of cryptocurrencies exchanges with countries such as Switzerland legalizing cryptocurrency exchanges.¹⁸⁰ Switzerland in particular became one of the first countries to enact regulations, which was accommodative to cryptocurrencies with the town of Zug in Switzerland introducing Bitcoin as a way of paying county fees.¹⁸¹

Globally by 2018, major systemic challenges continued to be experienced including price volatility. In the year 2018, the price of Bitcoin was reported to have dropped by 98%.¹⁸² In November 2018, the Bitcoin cash hard fork described as “crypto civil war” occurred which led to the split of Bitcoin into two separate entities namely Bitcoin ABC and Bitcoin SV.¹⁸³ This was due to long-standing developers’ disagreement about how bitcoins should operate and what purpose they should serve.¹⁸⁴ The Bitcoin cash hard fork led to the tumbling of the price of Bitcoin to its lowest in 2018.¹⁸⁵

Other serious systemic issues continued to be experienced including the case in Canada in 2018 where a Canadian cryptocurrency exchange QuadrigaCX Chief Executive Officer (CEO), Gerald Cotten, died in December 2018 without leaving any means for anyone to access the passwords where the exchange’s crypto assets holding the exchange’s funds were stored.¹⁸⁶ QuadrigaCX still owes its customers roughly United States Dollars One Hundred and Ninety Million (USD. 190 million) in both cryptocurrency and fiat, further illustrating the risks associated with non-regulation and lack of regulatory protection for consumers¹⁸⁷.

¹⁸⁰ ‘Cryptocurrency Regulations in Switzerland’ <https://complyadvantage.com/knowledgebase/cryptocurrency-regulations/cryptocurrency-regulations-switzerland/> accessed 8th of August 2019.

¹⁸¹Omkar Godbole, ‘Bitcoin Price Volatility is Down 98% Year-on-Year’ (2019) <https://www.coindesk.com/bitcoin-price-volatility-is-down-98-year-on-year> accessed on 8th of August 2019.

¹⁸²Omkar Godbole (2019).

¹⁸³ Zeping Huang, ‘Bitcoin cash “hard fork”: everything you need to know about the latest cryptocurrency civil war’, (2018), <https://www.scmp.com/tech/blockchain/article/2173389/bitcoin-cash-hard-fork-everything-you-need-know-about-latest> accessed on 8th of August 2019.

¹⁸⁴ Ibid Zeping Huang (2018).

¹⁸⁵ Ibid

¹⁸⁶ Yogita Khatri, ‘Canada Proposes Regulatory Framework for Cryptocurrency Exchanges’, (2019), <https://www.coindesk.com/canada-proposes-regulatory-framework-for-cryptocurrency-exchanges>, 8th of August 2019.

¹⁸⁷ Yogita Khatri, ‘Canada Proposes Regulatory Framework for Cryptocurrency Exchanges’, (2019), <https://www.coindesk.com/canada-proposes-regulatory-framework-for-cryptocurrency-exchanges>, 8th of August 2019.

Locally, it was in 2015 that Kenya despite its reputation as a leading silicon savanna responded by declaring cryptocurrencies illegal¹⁸⁸. As discussed above in the State Theory of money the role of the Central Bank is central in the legal recognition of cryptocurrencies as money. Without a regulatory framework from the Central Bank, cryptocurrencies even though having the nature of money cannot become legal tender. Due to this, the concept of Central Bank Digital Currencies (CBDC) has gained traction.

2.3.1 Central Bank Digital Currencies

The Bank of England in the year 2015 was among the first central banks globally to publish official work on central bank digital currencies discussing the future of money and the future of monetary policy¹⁸⁹. In the said paper, Andre Holden of the Bank of England examines the link between central bank money and the monetary policy and the value of using cryptocurrencies technologies to bring technological advantages that can improve the role of the central bank in regulating monetary policy.¹⁹⁰ The paper puts into focus the Keynes theoretical framework, advance in this research paper, placing the key role the central bank plays in controlling monetary policy by controlling the rate of inflation and interest rates. The paper argues that current monetary policy base on fiat currency creates an inability to set negative interest rates in money and has forced countries to use unconventional measures such as Quantitative Easing (QE) – buying assets and crediting banks' accounts at the central bank, hindering effectiveness in the on monetary policy and creating a challenges referred to as the Zero Liability Bound.¹⁹¹

This concept of the Central Bank Digital Currencies has since grown from the ideas set further by the Bank of England and have continued to gain traction globally. The Bank of International Settlements has been tracking developments of the CBDC globally. In a

¹⁸⁸ Ibid note 211.

¹⁸⁹ Andrew G Haldane, Chief Economist, Bank of England 'How Low Can You Go?', (2015) <https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/how-low-can-you-can-go.pdf?la=en&hash=93EDF79B04880BB0CA393854FB4C4F6A0EDAB4CC> accessed on 10th October 2020

¹⁹⁰ Ibid

¹⁹¹ Ibid at page 3

report the BIS published in January 2019¹⁹², CBDCs are defined as digital form of central bank money different from physical cash or central bank reserve/settlement accounts. Based on four key properties of money; issuer (central bank or not); form (digital or physical); accessibility (wide or restricted) and technology (token based), the BIS has classified CBDCs into two broad categories: general purpose and wholesale¹⁹³.

The General Purpose CBDC is described as, “account-based” or “token based” being an account at the central bank for the general public and having a component of digital cash issued by the central bank for the general public¹⁹⁴. The “wholesale”, “token- or value-based” variant, is a restricted-access digital token for wholesale settlements (example interbank payments, or securities settlement)¹⁹⁵. Central Banks globally have taken either of these two approaches. According to the said BIS report, the motivation for central banks to develop CBDCs is to create safety and efficiency in payments.¹⁹⁶ It therefore can be deduced that, the ability for cryptocurrencies to create safety and efficiency in payments, will accelerate or motivate the recognition of cryptocurrencies by central banks.

In the year 2020 and as a result of the digitization wave by countries due to COVID 19, four leading central banks; Bank of England, Bank of Japan, Bank of Canada, Swiss National Bank and the European Central Bank came together under the BIS to create foundational and core principles of CBDC’s¹⁹⁷. The principles developed under the said report are that:

- i. a central bank should not compromise monetary or financial stability by issuing a CBDC;
- ii. a CBDC would need to coexist with and complement existing forms of money; and

¹⁹² Christian Barontini and Henry Holden, BIS Papers No 101, ‘Proceeding with caution – a survey on central bank digital currency’ (2019) <https://www.bis.org/publ/bppdf/bispap101.pdf> accessed on 25/10/2020 at page 1

¹⁹³ Ibid note 218

¹⁹⁴ Ibid note 218 at page 2

¹⁹⁵ Ibid

¹⁹⁶ Ibid page 8

¹⁹⁷ BIS Report (No 1 In a series of collaborations from a group of central banks) ‘Central Bank digital currencies: foundational principles and core features’ <file:///C:/Users/pkamau/Documents/Kenya/othp33.pdf> accessed on 25/10/2020

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iii. a CBDC should promote innovation and efficiency¹⁹⁸.

Emphasizing the growing jurisprudence of cryptocurrencies being used as a means of payment, the report further describes CBDCs as a digital payment instrument, denominated in the national unit of account that is a direct liability of the central bank¹⁹⁹. The digital payment instrument is a “general purpose” instrument available to the general public and not restricted “wholesale” financial market payment²⁰⁰. To enable central banks to issue CBDCs as payment instruments, it would require collaboration with ecosystem providers such as payment service providers and financial institutions to distribute the instrument.²⁰¹ The current focus and motivation for CBDCs remains the use of cryptocurrencies to improve the security and efficiency of payments and payments services. The CBDCs are also seen as key in protecting and safeguarding monetary sovereignty²⁰²; a central threat of the decentralized system of the traditional or private led cryptocurrencies.

In Kenya, the Ministry of Information, Communication and Technology published a report in 2019 on Blockchain Technology and Artificial Intelligence and the said report highly recommends the adoption of CBDC’s in Kenya referring to CBDCs as a form of “digital currency “under “government regulation”.”²⁰³ The synopsis of Kenya’s approach will be covered hereafter in the next chapter.

In conclusion, the above statistics show that cryptocurrency and in specific Bitcoin has been widely accepted and can’t be ignored. This historical background elicits the questions as to what is driving the growth of cryptocurrencies despite the cold feet by regulators. In attempting to answer this question, this study focused on Bitcoin as it has been the most successful cryptocurrency. The next part in this chapter enumerates the nature of Bitcoin and compares the same to current legal framework for legal tender. The paper will also

¹⁹⁸ Ibid at page 3

¹⁹⁹ Ibid

²⁰⁰ Ibid

²⁰¹ Ibid

²⁰² Ibid at page 8

²⁰³ Kenya’s Ministry of Information, Communication and Technology, *Taskforce Report on Blockchain Technology and Artificial Intelligence*, <http://www.ict.go.ke/blockchain.pdf> accessed on 18th September 2019

review the growing jurisprudence by regulators to push for their own regulated CBDCs as an answer to the legal recognition of cryptocurrencies.

2.4 Conclusion

The intersection between law, technology, and the use of law to regulate the operations of technology to protect citizens from adverse effects of technology. It was also established that technology and innovation is growing so fast that policy and regulation if not properly addressed will continue to lag behind and expose the citizenry to negative impacts of technological advancement. Hence, there is need to regulate cryptocurrency operations to protect industry players from fraudsters, cybercrime, money laundering and other forms of negative influence.

This chapter therefore sought to provide a background for the understanding of the nature of crypto currencies, their historical development and how they intersect with the legal nature of fiat money, as we understand it today. The study concludes that, while cryptocurrencies may have characteristics of money or currency, they have failed to get government recognition as legal tender thus presenting challenges of use of cryptocurrencies as money. It is evident ⁷² that the State Theory of Money, where money is only recognized as currency if the state backs it as currency, has presented a challenge of recognition with the very nature of cryptocurrencies being a distributed ledger technology backed currency that does not need a government intervention. This chapter has also deduced that Central Banks are defaulting to CBDCs backed cryptocurrencies as the approach towards legal recognition of cryptocurrencies as legal tenders in their jurisdictions.

Despite the lack of formal recognition or acceptance in Kenya by the government and the courts, Kenyans have not shied away from the use of cryptocurrency. Kenya has been listed among the top five countries that have the most Bitcoin holders in the world alongside Russia, with the highest being Turkey, South Africa and Nigeria. It is thus a high time Kenya explores proposals for creating a regulatory framework for the operation of cryptocurrencies as money so that the risks posed are mitigated and the opportunities for cryptocurrencies are realized.

The next chapter reviewed the current existing regulatory framework for money and other financial services laws to examine how cryptocurrencies may be regulated by Kenya under its existing regulatory frameworks.

CHAPTER THREE

REGULATORY FRAMEWORK GOVERNING FINANCIAL SERVICES SECTOR IN KENYA

3.0 Introduction

The aim of this chapter is to critically examine the legal framework, which regulates the financial services in Kenya and in particular look at the laws, which govern the country's legal tender. In order to achieve this aim, this chapter reviews the provisions of the Constitution of Kenya (2010) and other supportive legislations (statutes).

3.1 The Constitution of Kenya

Kenya in line with global practice strictly regulates currency under the law. The Constitution of Kenya 2010 under Article 231(1) established the Central Bank of Kenya, which is responsible for monetary policy, promoting price stability and issuing currency.²⁰⁴ Article 231(4) provides that notes and coins issued by the Central Bank of Kenya may bear images that depict the symbol of Kenya but shall not bear the portrait of any individual.²⁰⁵ Therefore the role of CBK in issuing currency and banknotes is provided for in the Constitution giving CBK a hierarchical absolute power to determine the currency and to issue notes and coins in Kenya.

The effect of this is that only currency issued by CBK is considered legal tender in Kenya. So central is the question of currency in Kenya, that Clause 10 of the Fourth Schedule of the Constitution on distribution of functions between the National and County Government designate monetary policy and currency as a function of the National Government. Therefore, currency in Kenya is regulated and controlled by the National Government through the CBK. Therefore the Central Bank of Kenya is at the center of controlling what is currency and for cryptocurrencies to be considered currency, the Central Bank must as a matter of constitutionality recognize, sanction and grant it legal life-without which the cryptocurrencies lack the legitimacy test set out in the state theory of money.

²⁰⁴ Constitution of Kenya 2010, Article 231(1)

²⁰⁵ Constitution of Kenya 2010, Article 231 (4)

In many jurisdictions, cryptocurrencies are viewed as assets. In Kenya, the right to protection of property is provided under Article 40 of the Constitution. Article 40 provides that every person's right to acquire and own property; of any description and in any part of Kenya, either individually or in association with others. Article 40(5) goes further to provide that the State shall support, promote, and protect the Intellectual Property rights of the people of Kenya. It may be argued that cryptocurrency is a form of Intellectual Property thus subject to the protection by the State. This protection under Article 40 was relied upon by Bitpesa a Kenyan based Blockchain digital foreign exchange and payment platform geared towards 'frontier markets' while moving the court to grant it interlocutory injunctions.²⁰⁶

3.2 The Central Bank of Kenya Act

The Central Bank of Kenya Act in its preamble provides that it is an Act of Parliament to establish the Central Bank of Kenya, to provide for the operation thereof, and to establish the currency of Kenya²⁰⁷. The Act describes currency as the currency of Kenya or foreign currency²⁰⁸ and currency of Kenya as bank notes and coins issued by the CBK and any right to receive such bank notes or coins in respect of any credit or balance at a bank or financial institution located within or outside Kenya.²⁰⁹ Foreign currency means bank notes or coins, which are or have at any one time been legal tender in any territory outside Kenya and any right to receive such bank notes or coins in respect of any credit or a balance at a bank either within or outside Kenya.²¹⁰

As deduced from the above definitions, it is clear that for anything to be accepted as currency in Kenya it has to be; accepted as such by the CBK in Kenya or a foreign jurisdiction. Cryptocurrencies do not possess any of the attributes that have been provided for in the above definitions. The Central Bank of Kenya has declined to recognize cryptocurrencies as currency under these provisions and powers it already has under the

²⁰⁶*Lipisha Consortium Limited and Another vs Safaricom Limited* (2015) KLR <http://kenyalaw.org/caselaw/cases/view/117270/> accessed on 8th of September 2019

²⁰⁷ The Central Bank of Kenya Act CAP 491.

²⁰⁸ The Central Bank of Kenya Act CAP 491.

²⁰⁹ *Ibid.*

²¹⁰ *Ibid.*

law, excluding cryptocurrencies from the required regulatory recognition. Section 4 of the CBK Act re-enforces the role of the CBK in formulating monetary policy and Section 4A enumerates the further roles of CBK including the role of formulating and implementing foreign exchange policy, holding and managing foreign exchange reserves and formulating and implementing to promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems and to issue bank notes and coins²¹¹. Section 22 of the CBK Act then provides the power of the CBK to issue bank notes and coins and thus settles as trite law in Kenya that currency is that which is issued, sanctioned and regulated by the CBK.

The CBK is the main regulator of the financial sector, which includes the financial technology businesses. However, cryptocurrencies present a challenge, as the coins are not issued by the CBK neither are they licensed as a payment system or foreign exchange or a security under the CMA. Section 20 of the CBK Act draws a similarity of the Kenyan Shilling and the Cryptocurrencies in that the external value of the currency of Kenya is determined by the market just like cryptocurrencies. As is in the case in Germany, the CBK Act under Section 21 in defining the use of the Kenyan currency provides that all monetary obligations or transactions entered into or made in Kenya shall be deemed to be expressed and recorded, and shall be settled, in Kenya currency unless otherwise provided for by law or agreed upon between the parties.²¹²

It is this last part “*unless otherwise provided for by law or agreed upon between the parties*” that has been used in Germany to provide for a classification of cryptocurrencies to be used in private transactions. Therefore, while cryptocurrencies do not possess all qualities of legal tender as described in the CBK Act, it is possible for CBK to classify cryptocurrencies under Section 21 and have cryptocurrencies legally applied as currency in private transactions as is the case of Germany. However, the CBK has not pronounced itself as such and cryptocurrencies have no legal *standi* in Kenya.

It is in the exercise of this power to issue currencies and legal tenders that CBK pronounced itself in issuing a public warning to members of the public cautioning the public against

²¹¹ The Central Bank of Kenya Act CAP 491.

²¹² Ibid Section 21

the use of Bitcoin, terming it a form of un-regulated digital currency that is not issued or guaranteed by any government or central bank.²¹³ The notice went ahead to advise the Public to desist from transacting in Bitcoin and similar products.²¹⁴ It gave its reasons for the caution as: Bitcoin's nature of being untraceable makes it susceptible to use by criminals in money laundering and financing terrorism, lack of legal redress where consumers lose their money, and potential loss as a result of the high volatility in value of cryptocurrencies.²¹⁵ The Central Bank, further cautioned all financial institutions against dealing in virtual currencies or transacting with entities that are engaged in virtual currencies.²¹⁶ Financial institutions are expressly advised not to open accounts for any person dealing in virtual currencies such as Bitcoin.²¹⁷ Failure to comply with this directive will lead to appropriate remedial action from the Central Bank.²¹⁸

The public warning by CBK came against a backdrop of a court case *Petition 512 of 2015 Lipisha Consortium Limited and Bitpesa Limited vs Safaricom Limited* where Bitpesa and Lipisha Consortium being companies in Kenya which were at the time engaging in the business of accepting bitcoin from various countries of the world and exchanging it for local African currencies including but not limited to the Kenyan shilling, sued Safaricom Limited after the latter refused to allow bitcoins transfer through its regulated M-Pesa Money remittance platform. The Petitioners pleaded that, *inter alia* the Respondent, a Limited Company in the Telco and money remittance services- M-Pesa, had suspended the services it had been offering to the first Petitioner and by extension the counter-services which were being offered by the first Petitioner to third parties including the second Petitioner without notice.

In its submissions, the Respondent submitted that the decision was informed by the public notice issued by the Central Bank of Kenya, which prohibited financial institutions from

²¹³Central Bank of Kenya, 'Caution to the Public on Virtual Currencies such as Bitcoin', (Dec. 2015), https://www.centralbank.go.ke/images/docs/media/Public_Notice_on_virtual_currencies_such_as_Bitcoin.pdf, archived at <https://perma.cc/EE4P-UZ57>.

²¹⁴ Ibid
²¹⁵ Ibid
²¹⁶ Ibid
²¹⁷ Ibid
²¹⁸ Ibid.

dealing with any form of Cryptocurrency. It contended that the second Petitioner was therefore conducting an illegal business. By rendering its M-Pesa services to the first Petitioner, who further provided these services to the second Petitioner, the Respondent argued that it amounted to the contravention of the regulations set out by the Central Bank Kenya. Its provision of M-Pesa services to the Petitioner would therefore jeopardize its relationship with the CBK and risk the revocation of its license.

While delivering his ruling, Justice Onguto held that, from the description of the business, the second Petitioner was in the money remittance business, which required approval and subsequent licensing from the CBK. He held that the Respondent was justified in crying foul that the second Petitioner had not obtained any approval from CBK. He further held that the Respondent was justified in ensuring that its own license was not ultimately questioned or put in jeopardy for so long as the CBK had failed or neglected to put to rest the Respondent's fears.

He ruled in favor of the Respondent, stating that the Respondent had only suspended its services to the Petitioners pending its compliance. This decision meant that there are no formal gateways for cryptocurrency payment services via either mobile money or banks. The Court's decision seemed to uphold the position of the CBK, and subsequently, Safaricom that, cryptocurrencies are not legal tender and are thus not recognized in Kenya. This court case has not been appealed and no other matter has been canvassed in Kenyan courts and as such this authority stands in support of the non-recognition of cryptocurrencies in Kenya.

3.3 The National Payment System Act

National payment system is central to a country's economic development as it determines the system of circulation of money, support commerce and financial transactions.²¹⁹ Central Banks in various countries regulate and control payments including formulation

²¹⁹ Geoffrey Muiruri , 'The Relationship between National Payment and Economic Development in Kenya', 2015, Master's Thesis for the Award of Master in Business Administration http://erepository.uonbi.ac.ke/bitstream/handle/11295/94483/Muiruri_The%20Relationship%20Betwee%20National%20Payment%20Systems%20and%20the%20Economic%20Growth%20in%20Kenya.pdf?sequence=3 Accessed on 10th October, 2019.

and implementation of policies that best promote the establishment, regulation and supervision of efficient, effective payment, clearing and settlement systems²²⁰ In Kenya, the Central Bank of Kenya plays a central role in payments through the provisions of the National Payment System Act.²²¹ A payment system under the NPS Act refers to a system or arrangement that enables payments to be effected between a payer and a beneficiary or facilitates the circulation of money and includes any instruments and procedures that relate to the system.²²²

The Central Bank plays a fundamental role in payments not only in licensing and regulating payment systems and payment system providers but also in facilitating settlements including owning and managing the Kenya Electronic Payment and Settlement System (KEPSS), a Real Time Gross Settlement (RTGS) system and supervision of the Nairobi Automated Clearing House on behalf of Kenya Bankers Association (KBA). The Central Bank in doing so plays the role of a trusted third party that ensures integrity, and trust in the financial system and prevents systemic risks a role which is played by technology in the Blockchain cryptocurrency model.

Therefore, while cryptocurrencies can and do play a role in facilitating payments, they have to satisfy the provisions of the NPS Act to be licensed under the said Act. Section 3 of the NPS provides that a system can be designated as a payment system under the Act if in the opinion of CBK the payment system poses no systemic risks, the designation is necessary to protect the interest of the public and if the designation is in the interest of protecting the integrity of the payment system.²²³ The question that is yet to be tested is whether cryptocurrencies meets the threshold set by Section 3 of the NPS to warrant designation as a payment system. If so then a payment system that relies in the cryptocurrency technology would have to satisfy this requirement to bring the cryptocurrency payment system under regulation in Kenya.

²²⁰ The Central Bank of Kenya Act CAP 491.

²²¹ National Payment System Act, 2011.

²²² Ibid.

²²³ National Payment System Act, 2011 Section 3.

It should be noted that while the CBK Act uses the terms currency and legal tender, the NPS Act uses the term money. This definition of money as opposed to legal tender is key as payments in effect are made through payment instruments, which may not be legal tenders in the form of notes, and coins, which the NPS Act defines as any instrument whether tangible, or intangible that enables one to obtain money, goods or services. Since payments are effected in both electronic and non-electronic means, payment instruments can be tangible in the nature of notes and coins or intangible being a denomination in electronic means.

Cryptocurrencies present a unique evolution in that they are intangible payment instrument that derive their value, supply and circulation from its own technology separate from the Central Bank of Kenya. This is the fundamental difference that differentiates it from other payment instruments. All other payment instruments including mobile wallets, app based payment platforms do not create a new currency rather it is an electronic intangible value of a legal tender or fiat currency. The question that arises then is whether cryptocurrencies system being a faster, cheaper and efficient system poses such systemic risks or public interest concerns or risk to the integrity of the payment systems in Kenya as to warrant regulation. This thesis attempts to answer this question in a quest to propose a regulatory framework for cryptocurrencies within the currency regulation in Kenya.

3.4 The Proceeds of Crime and Anti-Money Laundering Act (PCAMLA)

The PCAMLA was enacted in the year 2011 to provide for the offence of money laundering and to introduce measures to combat it. It provides for a mechanism for reporting suspicious transactions by reporting institutions under the Act and mechanism for the recovery of proceeds of crime. The Act seeks to bring under its ambit wide institutions over and above financial institutions to ensure that every person who in one way or another interacts with monetary instruments as defined under the Act has an obligation to put mechanisms to prevent money laundering and report suspicion transaction. Cryptocurrency transactions are financial transactions and due to their anonymous nature have a high risk of being used to move proceeds of crime or money laundering. They therefore form transactions, which can be brought under the ambit of PCAMLA.

Since the enactment of PCAMLA in 2011, the Financial Reporting Centre (FRC) has continued to seek amendment to the Act and Regulations to widen the net of reporting institutions and transactions covered under the Act. The PCAMLA Regulations of 2013 provides a wider interpretation of money that could be extended to cryptocurrencies. Under the Regulations, ¹⁷ money or value transfer services means a financial service that involves the acceptance of cash, cheques, other monetary instruments or other stores of value in one location and the payment of a corresponding sum in cash or other form to a beneficiary in another location by means of a communication, message, transfer, or through a clearing network to which the money or value transfer services provider belongs. The meaning of “other stores of value” could be interpreted to mean crypto-assets or cryptocurrencies and can easily bring the transactions involving cryptocurrencies under the ambit of PCAMLA.

¹³ 3.5 The Capital Markets Act

The CMA Act is the principle Act that creates the CMA whose role is to regulate capital markets in Kenya. Cryptocurrencies are traded as securities and there is evidence of cryptocurrency exchanges in Kenya. The CMA in line with CBK’s precautionary statement also proceeded in January 2019²²⁴ to issue a caution to the public warning them against unlicensed Initial Coin Offering exchanges. CMA warned against trading through a company referred to as Wiseman Talent Ventures and warned members of the public from engaging in unregulated activities not approved by the CMA. The CMA further cautioned members of the public against the risk and volatility of unregulated digital currencies which has led to substantial losses by investors citing the depreciation of the price of cryptocurrencies such of Bitcoin which had a price of US\$19,783 and had fallen to US\$3,810, Litecoin fell from US\$366 to US\$30 and Ethereum had fallen from US\$ 1,400 in January 2018 and to US\$130.

It is clear from this statements that despite CMA’s support for innovation, it has not shown much enthusiasm in introducing regulations for licensing cryptocurrencies, ICO’s or

²²⁴ See the CMA Statement at https://www.cma.or.ke/index.php?option=com_content&view=article&id=509:cma-warns-against-kenicoin-initial-coin-offering-and-trading&catid=12:press-center&Itemid=207 , accessed on 12th September 2019.

issuing any guidelines on public crypto exchanges and trading in crypto-assets comparative to the regulatory approaches in other markets such as Canada. For instance, CMA in 2018 in support of innovation in the capital markets introduced a regulatory framework for sandbox to which investors in crypto trading may take advantage and apply to test their innovations. However, to date no crypto-trading company has been approved under the CMA Sandbox framework. This demonstrates the CMA, just in the same breath as CBK, is not keen to recognize any financial transactions of cryptocurrencies including as assets.

3.6 Taskforce Report on Blockchain and Artificial Intelligence

In March 2018, the Government of Kenya commissioned an eleven-member taskforce to look into Blockchain and artificial intelligence²²⁵. This move was appreciated and applauded by many, as it was one of the positive indicators that the government had initiated efforts towards the understanding of cryptocurrencies and possibly provide legal backing. The Taskforce appreciated Kenya's role in leading the African continent towards the adoption of cryptocurrency despite the lack of any form of regulatory framework. It recommended the development of Digital Asset Framework (DAF), as a strategy to protect consumers. A ⁴⁴ Digital Asset Framework is the criteria which a cryptocurrency must meet in order to be listed on an exchange.²²⁶

The report further recommended the use of Digital Asset Framework for the minimization/reduction of National Debt. The report uses Venezuela as the case study, where in a bid to supplement its failing bolivafuerte currency, the Venezuelan government in February 2018 launched a cryptocurrency ¹⁶ backed by the country's oil and mineral reserves.²²⁷ Worthy to note is that, this was a desperate move as it was facing U.S sanctions and facing difficulties in accessing international financing. The report generally welcomes and recommends for the adoption of cryptocurrency and the Blockchain technology. It goes further to provide how the same may be used to achieve the Big Four Agenda and Vision 2030. It recommends that the current institutional and legislative framework may be used

²²⁵ Ibid note 229

²²⁶ Jake Frankenfield, 'Digital Asset Framework, Cryptocurrency Strategy & Education', (2018) <https://www.investopedia.com/terms/d/digital-asset-framework.asp> accessed on 10th October 2019.

²²⁷ Ibid note 164

to regulate cryptocurrencies. In doing so, it recognizes the various forms of cryptocurrencies in Kenya like Bitpesa, Banglapesa, and the role they continue to play where they are in use. The report further calls for regulation of digital currencies to enable this technology and mitigate systemic risks such anti-money laundering, KYC, prevention of crimes and consumer protection safeguards. As stated above in chapter two above, the report highly recommends the adoption of CBDC's in Kenya referring to CBDCs as a form of "digital currency "under "government regulation . The report concludes that prohibition is not the way to go and encourages the Central Bank of Kenya to go beyond prohibition and embrace CBDCs and Cryptocurrencies.²²⁸

On 23 May 2018, Central Bank of Kenya announced that it was working with Central Banks from around the world to evaluate risks in adoption and best mitigation measures while dealing with cryptocurrencies.²²⁹ In doing so, the Central Bank is seen to be moving with caution away from its earlier position in 2015, where it prohibited financial institutions from dealing in Bitcoins while cautioning the public against it. The Taskforce on Blockchain and Artificial Intelligence also stated that during a June 2018 meeting, the G20 agreed to consider a unified regulatory scheme for cryptocurrency and encourages the Central Bank to adopt the decisions of the BIS, G20 and the World Bank on the regulation of cryptocurrencies.²³⁰

3.7 Conclusion

It is clear from this chapter that Kenya has comprehensive legal frameworks that govern the financial sector and the legal basis for currencies. The Constitution and the CBK Act makes it clear that currency is that which is issued by the CBK. While Central Bank has

²²⁸ Ibid at page 80

²²⁹ Central Bank of Kenya, 'Bank Supervision Annual Report', (2017) https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&cad=rja&uact=8&ved=2ahUKEwj74vKZlJzIAhWuyoUKHTQbAiAQFjAAegQIARAC&url=https%3A%2F%2Fwww.centralbank.go.ke%2Fuploads%2Fbanking_sector_annual_reports%2F873911276_2017%2520Annual%2520Report.pdf&usg=AOvVaw0wCDQxBN88WJjeo-Q_Mt5O accessed on 10th October 2019.

²³⁰ Kevin Helms, 'G20 Countries Start Implementing Unified Crypto Standards' (Bitcon.com, 28th May) <https://news.bitcoin.com/g20-countries-implementing-unified-cryptocurrency-standards/> accessed 10 October 2019.

not moved to recognize or give legal effect to cryptocurrencies, this study sought to study the approaches of other countries and provide proposals on how cryptocurrencies can be recognised under existing legal provisions in Kenya. The next chapter sought to provide comparative case studies of the approaches of other countries in modelling existing legislations to recognize cryptocurrencies in their financial system laws.

CHAPTER FOUR

REGULATION OF CRYPTOCURRENCIES: LESSONS FROM OTHER JURISDICTIONS

4.0 Introduction

This chapter examines the reception and regulation of cryptocurrencies by specific selected jurisdictions. In doing so, it focuses on a comparative study, looking at different states that have recognized cryptocurrencies, how they treat cryptocurrencies, the challenges that cryptocurrencies pose and the relevant laws, policies and regulations in place which attempts to combat these challenges. For purposes of comparison, the study also looked at one jurisdiction, which has completely banned cryptocurrencies while examining its reasons for so doing. The flow of the analysis starts at the international level and then to a regional level. Based on the study findings, an attempt was made to conclude on some best practices from these jurisdictions while at the same time come up with a ready remedy to address the shortcomings from the different jurisdictions.

² While the various forms of what are broadly known as “cryptocurrencies” are similar in that they are primarily based on the same type of decentralized technology known as blockchain technology with inherent encryption, the terminology used to describe them varies greatly from one jurisdiction to another. Some of the terms used by countries to reference cryptocurrency include digital currency (Argentina, Thailand, and Australia), virtual commodity (Canada, China, Taiwan), crypto-token (Germany), payment token (Switzerland), cyber currency (Italy and Lebanon), electronic currency (Colombia and Lebanon), and virtual asset (Honduras and Mexico).²³¹

The emergence and gradual growth of cryptocurrencies around the world has not only attracted the attention of the public who seek to invest in them but that of the various financial regulators too. As discussed in the previous chapters, the general and most common reaction to the fast growing cryptocurrencies was warnings by various Central

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²³¹ The Law Library of Congress, ‘Global Legal Research Center: Regulation of cryptocurrency around the world’, (2018) issue pg 10 <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed on 12th October 2019

Banks of respective countries. The warnings were informed by the high risks associated with investing in cryptocurrencies.² Some of the countries surveyed went beyond simply warning the public and have expanded their laws on money laundering, counterterrorism, and organized crimes to include cryptocurrency markets, and require banks and other financial institutions that facilitate such markets to conduct all the due diligence requirements imposed under such laws. This chapter sought to answer the next two research objectives. On the first part, the chapter covers the limitations of cryptocurrency that differentiate them from fiat currencies and focuses on the challenges of scalability, volatility and security. The second part seeks to answer the second question on legality of cryptocurrencies and covers the case studies of model of regulations in Japan, China and South Africa. The last part covers global approaches and analyses the possible regulatory proposals for Kenya.

4.1 Comparison and Differentiation of Cryptocurrencies and Fiat Currencies

The comparison and differentiation⁶² between cryptocurrencies and fiat currencies is at the heart of the recognition of cryptocurrencies in the financial system. This is primarily so because currently the global financial system is a fiat currency based system and any currency that seeks to replace fiat must in essence create more efficiencies than fiat.²³² This study sought to focus on four thematic areas: scalability, volatility, security and trust to provide an answer to this important question of the present study.

4.1.1 The Challenge of Scalability in Cryptocurrencies Architecture

At the heart of cryptocurrencies model to displace fiat transactions and intermediaries was the promise that the blockchain technology would offer a faster, efficient and less costly system of payment that would not need intermediaries or third party to approve the transactions and that the peer to peer network would make the blockchain the currency of the future with the ability to replace fiat. However, ten years on and one of the clear limitation bedeviling VC's based on DLT's is the issue of scalability.

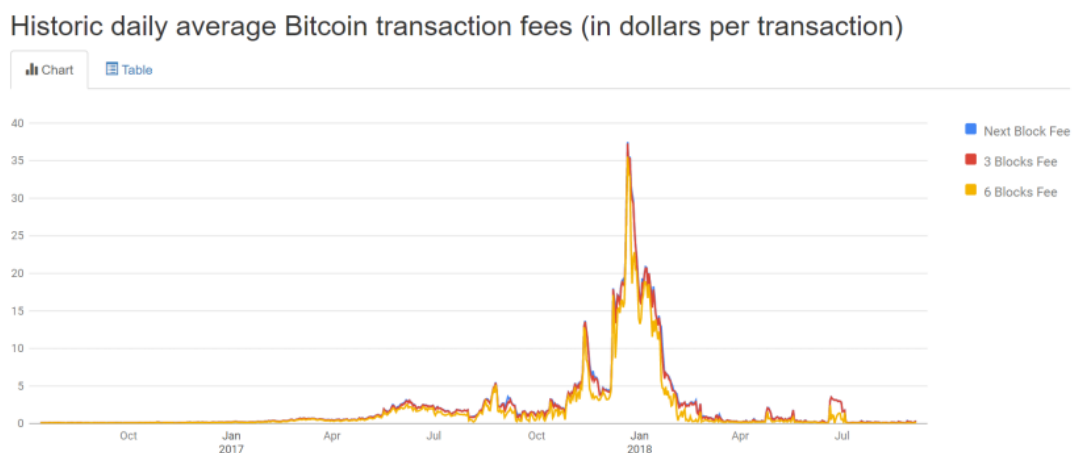
²⁰

²³² The Law Library of Congress, Global Legal Research Center: Regulation of cryptocurrency around the world, June 2018 issue pg 10 <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed on 12th October 2019

(a) Limitation of Scalability due to Time of Processing Transactions

⁴⁷ Scalability is defined as the capacity for a system or network to grow in size and manage increased demand²³³. The challenge with Bitcoin is that there is limitation on the amount of transactions that can be processed based on a number of structural challenges of the DLT architecture. The first challenge on scalability for Bitcoin, is that block chains ³³ have a limit on the amount of information that they can contain and thus limit the amount of transactions validated in any individual block and restricts the system to fewer than 10 transactions per second.²³⁴ The need to process transactions within the shortest speed possible is at the heart of a forward-looking efficient payment system. Cryptocurrencies have not been able to compete and for instance, Visa a global payment gateway processes 24,000 transactions per second while Bitcoin processes on average seven transactions per second.²³⁵ The increased time of processing transactions has continued to increase the transaction fees for processing bitcoin transactions as ⁷ can be seen in the table below.

Figure 4.1²³⁶ Table Showing Transaction Fees



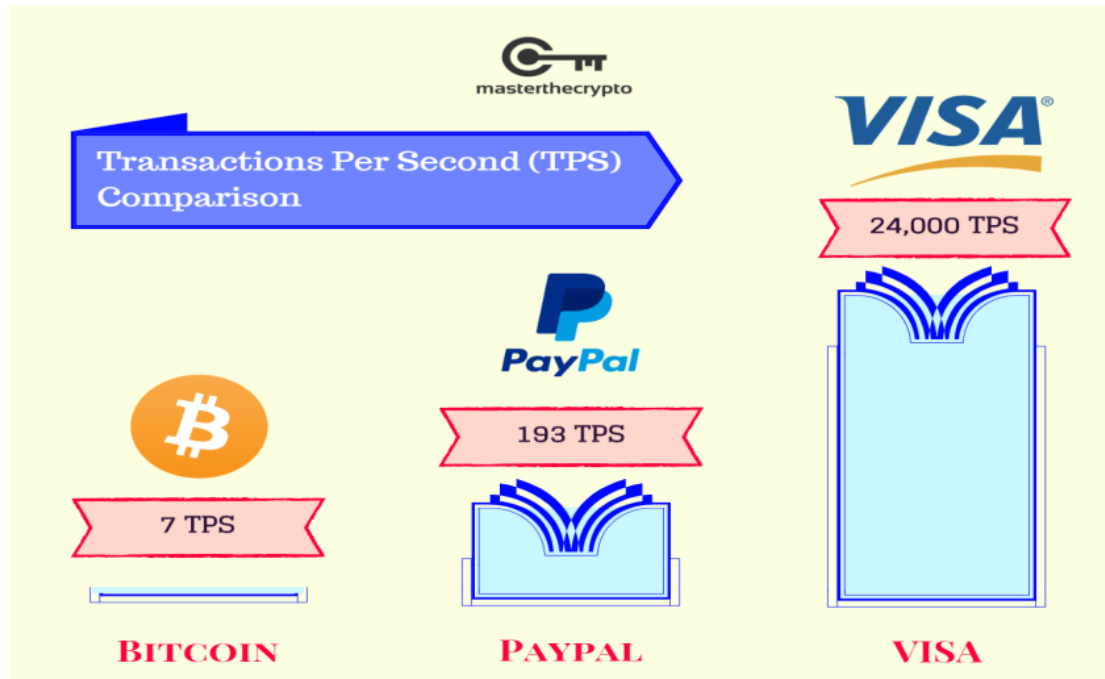
²³³ Aziz, 'Guide to Blockchain Scalability: Bitcoin Scalability Problem And Effects' <https://masterthecrypto.com/blockchain-scalability-bitcoin-scalability-problem-effects/> accessed on 15th September 2019

²³⁴ Ibid note 173 ²⁴

²³⁵ Kenny Li, 'The Blockchain Scalability Problem & the Race for Visa-Like Transaction Speed' October 14th 2019 <https://hackernoon.com/the-blockchain-scalability-problem-the-race-for-visa-like-transaction-speed-5cce48f9d44>

²³⁶ Ibid. The Table is part of the article

Figure 4.2²³⁷ Showing Transaction per Second Comparison



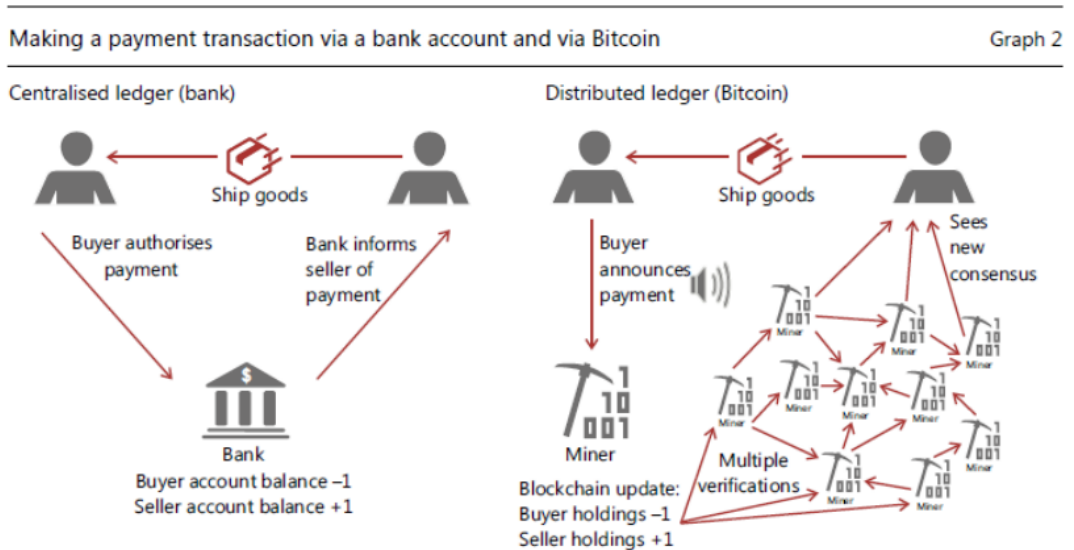
(b) Limitation of Scalability due to Proof of Work and Mining process

The second challenge on scalability and speed is as regards the proof of work concept of the block chain. The proof of work in cryptocurrencies is such that instead of a bank centrally processing transactions, a chain of publicly shared blockchains record, approve and create new transactions.²³⁸ However, the proof of work where a transaction cannot be final unless someone confirms it in the block delays cryptocurrency transaction to about ten minutes making the transactions slow and inefficient. Below is an illustration comparing blockchain and bank transactions.

²³⁷Kenny Li, 'The Blockchain Scalability Problem & the Race for Visa-Like Transaction Speed' October 14th 2019 <https://hackernoon.com/the-blockchain-scalability-problem-the-race-for-visa-like-transaction-speed-5cce48f9d44>

²³⁸ Raphael Auer, 'Beyond the dooms day economics of "proof of work" in Cryptocurrencies.' January 2019 BIS Working Papers No 765 <https://www.bis.org/publ/work765.pdf>

Figure 4.3²³⁹ Comparison of Payment between Bank and Bitcoins



A buyer purchases a good from the seller, who initiates shipment upon perceived confirmation of the payment. If the payment takes place via bank accounts (left-hand panel) the buyer sends the payment instruction to the bank, which adjusts account balances by debiting the amount paid from the buyer's account and crediting it to the seller's account. The bank then confirms payment to the seller. In contrast, if payment takes place via Bitcoin (right-hand panel), the buyer first publicly announces a payment instruction stating that the bitcoin holdings of the buyer are reduced by one, while those of the seller are increased by one. After a delay, a so-called miner includes this payment information in a new block of transactions, which is added to the blockchain. The updated blockchain is subsequently shared with other miners and users, each verifying that the newly added payment instruction is authorised by the buyer and is not a double-spending attempt. Finally, the seller observes that the blockchain including the payment instruction emerges as the one used by the entire network of miners and users.

33 Mining is another limitation because a transaction begins by miners competing to solve computationally intensive cryptographic puzzle that, when solved, verifies a new block of transactions.²⁴⁰ Reaching consensus in a decentralized system is fundamental and the Proof-of-Work (POW) consensus mechanism in block chains, requiring miners to solve complex mathematical problems consumes a lot of energy, is expensive as miners need to be paid miners fees and is time wasting making the overall cost of transactions expensive.²⁴¹ It uses a huge amount of computational and electrical resources. There have been efforts to surmount these challenges by changing the blockchain protocols, using blocks more

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²³⁹ Raphael Auer, 'Beyond the dooms day economics of "proof of work" in Cryptocurrencies,' January 2019 BIS Working Papers No 765 <https://www.bis.org/publ/work765.pdf>
²⁴⁰ Ibid.
²⁴¹ Ibid.

efficiently and/or increasing block sizes.²⁴² Lastly blockchain have been invented in such a way that unlike fiat currencies, bitcoins are finite in the sense that there is a set maximum of Twenty One Million (Kshs. 21,000,000.00) of bitcoin that can be mined.²⁴³

4.1.2 The Challenge of Price Volatility

Price volatility is another major challenge to cryptocurrency as compared to fiat money. One of the most important factors for ²⁶currency to be used as a medium of exchange is that its ²⁶value must be stable to enable people to use it as a medium of exchange. It would be difficult to use a currency whose value keeps changing and its value is unpredictable, such is the case of bitcoins. As regards both fiat currencies and cryptocurrencies, their value is both determined by the market, however while fiat currencies are subject to inflation, cryptocurrencies are deflationary.²⁴⁴ The price of Bitcoins began to go high from the year 2013 to 2017 mainly due to market demand and speculation. Below is a figure illustrating this growth.²⁴⁵

Figure 4.4²⁴⁶ Bitcoin Price Increase from the Year 2017 to 2018

²⁴²Kyle Croman, Christian Decker, Ittay Eyal, Adem Efe Gencer, 'On Scaling Decentralized Blockchains' A position paper <https://tik-old.ee.ethz.ch/file//74bc987e6ab4a8478c04950616612f69/main.pdf> accessed on 13th October 2019

²⁴³ Ibid

²⁴⁴ Ibid

²⁴⁵ Ghysels Eric, 'Long- and Short-Term Cryptocurrency Volatility Components: A GARCH-MIDAS Analysis 2017 https://www.researchgate.net/publication/325087169_Long-_and_Short-Term_Cryptocurrency_Volatility_Components_A_GARCH-MIDAS_Analysis/citation/download Accessed on 12th October 2019

²⁴⁶ Ibid

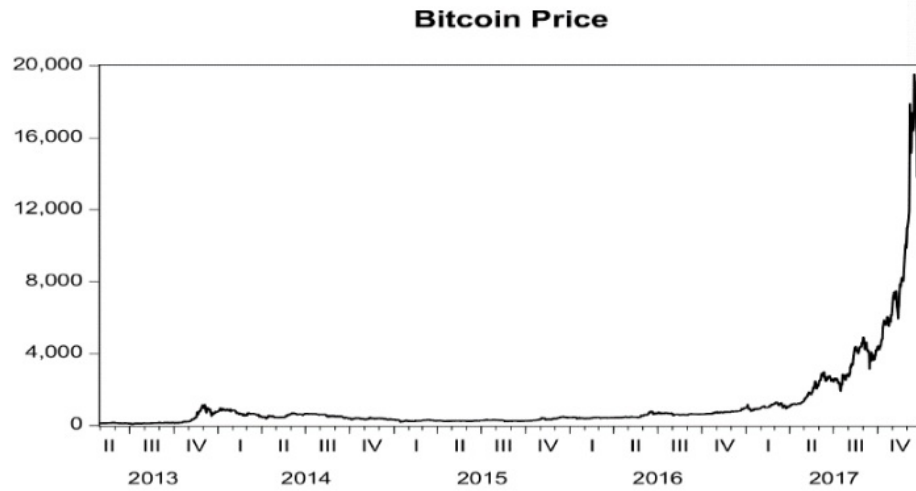
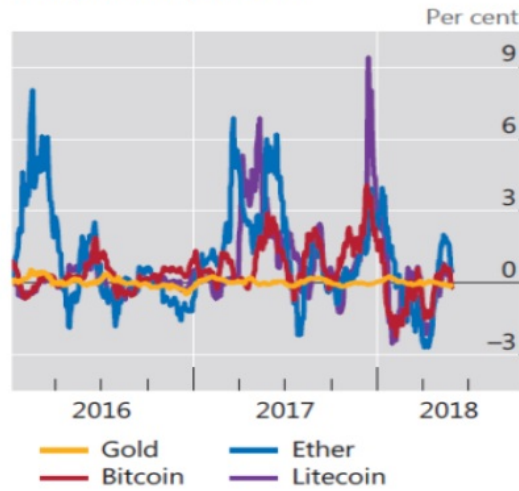
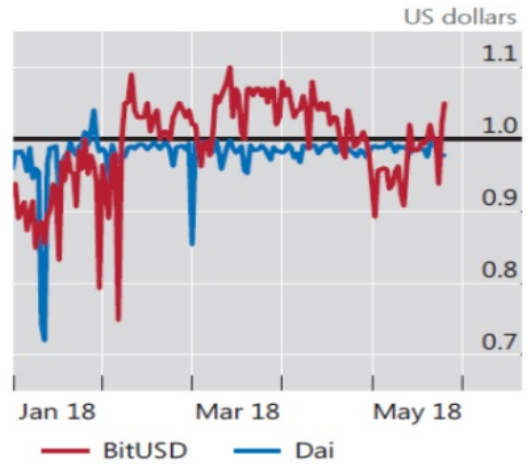


Figure 4.5²⁴⁷ Price Volatility and Fluctuation

Major cryptocurrencies are comparatively volatile¹



“Stable coins” fluctuate in value²

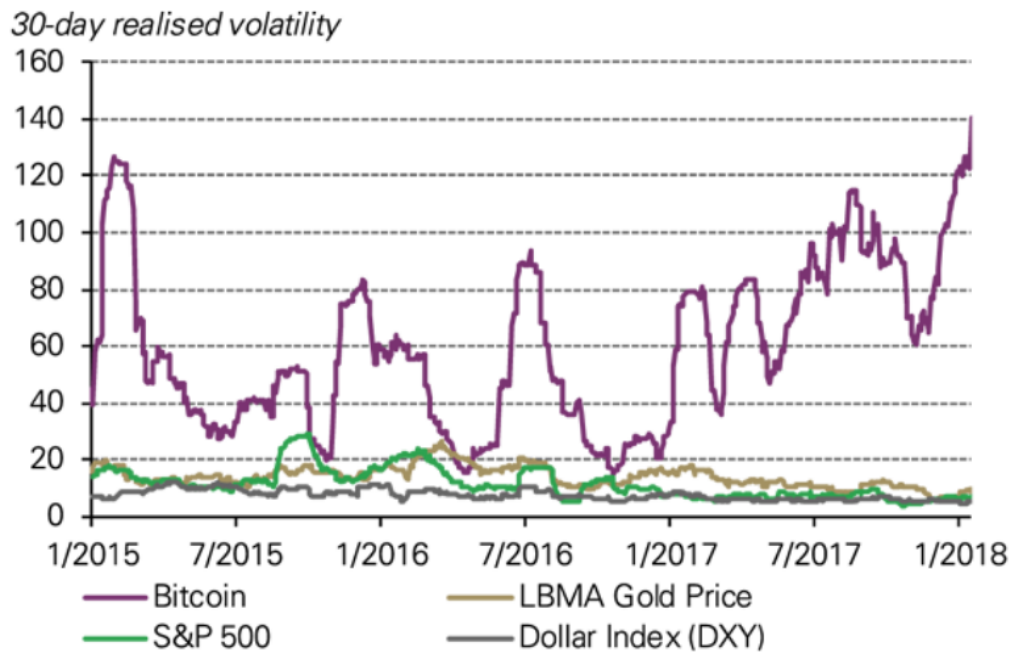


¹PHOTO: The BIS says cryptocurrency prices are volatile, even those marketed as stable and linked to the US dollar. (Supplied: BIS)

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²⁴⁷ Michael Janda, ‘Cryptocurrencies like bitcoin cannot replace money, says Bank for International Settlements’ <https://www.abc.net.au/news/2018-06-18/cryptocurrencies-cannot-replace-money-bis/9879448> accessed on 12th October 2019

Figure 4.6²⁴⁸ Price Volatility of Bitcoin as compared to the Dollar



*As of 19 January 2018

Source: Bloomberg, World Gold Council

Due to the evidence of high value and price volatility, cryptocurrencies lack the stability needed in a financial system for a currency to be used as a medium of exchange and there is growing evidence that this price volatility has led to a decline of the use of cryptocurrencies as a medium of exchange and has largely now remained as a speculative asset.²⁴⁹ This has made economies with stable and strong currencies such as the United States, Australia, and Germany hesitant in the adoption of cryptocurrencies. As stated earlier in this study, Friedman has cited the prohibition on use of cryptocurrencies, proof of work concept that causes delay and approval of transactions and speculation as key factors that are driving price volatility.²⁵⁰

²⁴⁸Cryptocurrencies are no substitute for gold, <https://www.gold.org/goldhub/research/cryptocurrencies-are-no-substitute-gold> accessed on 15th October 2019

²⁴⁹ Ibid note 257

²⁵⁰ Ibid

4.1.3 The Challenge of Security and Money Laundering in Cryptocurrencies

The first challenge that causes security issues in cryptocurrencies is because of the anonymous nature of cryptocurrency blockchain technology. The anonymous nature of cryptocurrencies transaction is built on the public and private transactions keys, which are used in every signature to prevent fraud and double spending.²⁵¹ The public keys are not linked to anyone's identity making bitcoin transactions anonymous. This anonymity has been cited as the key reason the cryptocurrency transactions have been used to support fraud, cybercrime, money laundering and terrorism.

Anonymity averts cryptocurrency transactions from being examined, allowing irregular transactions to take place outside the regulatory perimeter. Some critics of cryptocurrency have labelled it as "tomorrow's tax havens".²⁵² Anonymity has been identified as a primary issue in relation to tax evasion. However, when a tax authority does not know which user enters into a taxable transaction due to anonymity, it can neither identify nor sanction this tax evasion therefore cryptocurrency provides a suitable means for tax evaders²⁵³. Cryptocurrency lacks the status of legal tender in all jurisdictions globally however tax obligations accrues notwithstanding the medium used. Even as critics and opponents of cryptocurrency label it as "a mere façade", "a bubble yet to burst" or "a fad", some governments of the world's wealthiest and powerful nations perceive a serious threat to their tax revenues.²⁵⁴

The ingrained battle against money laundering and terrorism funding is a key priority of the international community. These illegal activities are carried out at the international level hence national measures are not sufficient to combat them. The recommendations of the Financial Action Task Force ("FATF") of 1990²⁵⁵ and revised from time to time are the foundation of the international framework for fighting money laundering and terrorist

²⁵¹ Ibid note 259

²⁵² T. Mandjee, "Bitcoin, its Legal Classification and its Regulatory Framework", 15 j. Bus. & Sec. L. 157,2 2016, <http://digitalcommons.law.msu.edu/jbs/vol15/iss2/> accessed on 12th October 2019

²⁵³ Ibid

²⁵⁴ See: <https://www.cnn.com/crypto-international-tax-evasion/> accessed on 12th October 2019

²⁵⁵ The FATF, 'Forty Recommendations of The Financial Action Task Force On Money Laundering,' (1990)<https://www.fatfgafi.org/media/fatf/documents/recommendations/pdfs/FATF%20Recommendations%201990.pdf>

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financing since they have been recognized by 180 countries and are recognized globally as setting out the international standards.

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Cryptocurrencies have been subject of inquiry following apprehensions that they are avenues for illegal activities. In the 2015 Europol report²⁵⁶, bitcoin alone featured in high profile investigations involving payments between criminals, and was used in over 40% of illicit transactions in the European Union. This therefore implies that terrorists and criminals would use cryptocurrencies for illicit transactions given they offer similar benefits of trust and credibility.

However, anonymity and use of cryptocurrency platforms for money laundering and terrorism are areas where the intervention of regulation would be key to prevent, punish and deter illegal activities in the system and has been cited strongly as one of the areas where regulation is needed.²⁵⁷ In the case of *United States v Ulbright*, in the Southern District of New York, the defendant sought to challenge money laundering charges brought against him on the basis that Bitcoins were not monetary instruments that could form the basis of financial transactions.²⁵⁸ The defendant further cited an IRS notice that had clearly stated that they would treat VC's as assets and not currencies for tax purposes. The Court in disagreeing with him held that Bitcoins do fall within the definition of financial transactions which includes all movement of funds. The Court held that Bitcoins can be used to pay for things and as a medium of exchange.

4.1.4 The Challenge of Trust and Decentralization

One of the key fundamental concept for the cryptocurrencies model is that they system is able to build trust, operate independently and to eliminate the need for a trusted third party including central banks through decentralization.²⁵⁹ Satoshi Nakamoto in a bid to get

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²⁵⁶ European Union Terrorism Situation and Trend Report 2015, <https://www.europol.europa.eu/activities-services/main-reports/european-union-terrorism-situation-and-trend-report-2015> accessed on 23rd July 2019

²⁵⁷ Ibid

²⁵⁸ *United States V. Ulbright*, 2014 U.S Dist. LEXIS93093, AT 1-2 (S.D.N.Y July 2014)

²⁵⁹ Rebecca M. Bratspies, 'Cryptocurrency and the Myth of the Trustless Transactions', 2018 Michigan Technology Law Review Vol 25 Issue
<https://repository.law.umich.edu/cgi/viewcontent.cgi?article=1242&context=mttlr> accessed on 23rd July 2019

support for his ideas when approval for government and central banks was at their lowest following the aftermath of the 2008 financial crisis, built Bitcoin to be a system of encryption that could allow global payments from person to person without the need of any intermediaries or central banks backed by a self-authenticating infrastructure²⁶⁰

Bratspies on the other hand opines that the fiat financial system is built on trust ; trust to governments, banks and the law and the plummeting trust in these institutions and the promise that cryptocurrency can be independent of this institutions has been the cause of the rise of cryptocurrencies²⁶¹ However, as Bratspies notes, it is the very essence of the lack of regulation and governments that has bedeviled cryptocurrency making them susceptible to fraud, crime and to threaten the trust system that it intends to resolve.²⁶²

Governments do play a key role ⁷ in the financial sector and in currency. The fact that currency is a creature of law accords users of currency legal protection including in the event of disputes. This aligns with the State Theory of Money where the gold standard was replaced by fiat currency²⁶³It is clear from the challenges facing cryptocurrencies that it is almost impossible in modern times today to build a financial system outside the control of governments.

The promise of trust in technology espoused by the cryptocurrency model has turned out to be far from the truth. The system itself is faced with various challenges including the inability to resolve disputes between miners in cases where they fail to agree on a protocol or in instances where the miners themselves hack the system²⁶⁴. Another myth that has turned untrue is that for cryptocurrencies to operate, they do require intermediaries and the system cannot function independently from person to person without some intermediaries

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²⁶⁰ Ibid

²⁶¹ Ibid

²⁶² Ibid

²⁶³ Ibid

²⁶⁴ In 2017, the developers of bitcoin faced a challenge that processing transactions was taking too long. They proposed software changes to improve speed of transactions however there was no consensus of all members of the bitcoin network leading to a split of the Bitcoin blockchain into two blockchain a process termed as "A fork" leading to the creating of a new cryptocurrency called Bitcoin Cash (BCH). Today Bitcoin is split between the original Bitcoin (BTC) and BTH See Craig R. Ben and Kachovec Joseph, 'Bitcoins Decentralized Decision Structure' 2019 Economic Commentary , Reserve Federal Bank of Cleveland file:///C:/Users/USER/Downloads/ec%20201912%20(1).pdf

and gateways.²⁶⁵ While blockchain to a large extent does eliminate the need for trusted third parties to authenticate transactions and creates a trustless process, there is still need for intermediaries to deliver the solutions such as exchanges, payment integrators and such players and thus call for the need for regulation.

Therefore, while the system has built a level of trust, it does not achieve fully the need to eliminate trust in governments and regulators and the lack of regulation has contributed to some of the challenges facing cryptocurrencies. There is therefore clearly a central need for law in money regulation and it is a fallacy to imagine a world where currency would operate outside government intervention. Such a world as we have seen is bedeviled by many challenges of recognition and lack of law to deal with challenges of the financial system.

The next chapter looks at the regulatory approaches taken by different countries to resolve some of the challenges of cryptocurrencies in an attempt to provide solution to DLT's. Cryptocurrencies just like fiat currencies require legal recognition to operate as currencies. The law and the state is central to the recognition of currencies in the financial system.

4.2 Cryptocurrencies Regulation in Different Selected Jurisdictions

4.2.1 Introduction

It is clear from the theoretical underpinnings of Keynes and the State Theory of Money, that the law, states and banks are central to the legal nature of money. Even though the society may accept a thing as money, the failure of governments to offer legal protection limits the use, trust and application of anything outside government protections. Scalability and acceptability of anything not recognized, as money becomes a conundrum that is currently the quagmire cryptocurrency, though well meaning, is facing globally. Regulatory recognition for cryptocurrency and the role of central banks is therefore not an option as deduced from the earlier chapters in this study. As noted above the earlier

²⁶⁵ Immaculate Dadiso Motsi-Omoijiade , ' Financial Intermediaries in Cryptocurrency Markets- Regulation, Gaps and Bridges', 2018 Handbook of Blockchain, Digital Finance, and Inclusion, Volume 1 page 2017 to 233 <https://www.sciencedirect.com/science/article/pii/B9780128104415000099> accessed on 12th October 2019

approach by central banks to issue precautionary guidelines has not worked positively to impact the cryptocurrency innovation and in this section, the study examine the approach by jurisdictions and their respective regulatory approaches to cryptocurrencies.

4.2.2 Approach of Japan to Cryptocurrency Regulations

4.2.2.1. Rationale for choosing Japan

Japan has set itself apart globally as the leader in cryptocurrency regulations being the first country in 2017 to establish national regulations for cryptocurrencies.²⁶⁶ Japan being one of the leading countries in technology and innovation, has gone a step further to provide for cryptocurrencies in its laws and other countries such as Cambodia have sought its services in the creation of forms of cryptocurrencies²⁶⁷.

4.2.2.2. Prevailing regulatory climate

Japan regulates cryptocurrencies under their payment regulations. The Payment Services Act of Japan defines cryptocurrencies as virtual currencies which are property value that can be used as payment for the purchase or rental of goods or provision of services by unspecified persons and property value that can be purchased from or sold to unspecified persons, and that is transferable via an electronic data processing system; or property value that can be mutually exchangeable for the above property value with unspecified persons and is transferable via an electronic data processing system²⁶⁸.

²⁶⁶ Takahiko Wada, 'Japan to lead development of SWIFT network for cryptocurrency: source', (2018) <https://www.reuters.com/article/us-japan-cryptocurrency/japan-to-lead-development-of-swift-network-for-cryptocurrency-source-idUSKCN1UD06U> accessed on 18th September 2019

²⁶⁷ The National Bank of Cambodia (NBC) "signed an agreement with a Japanese firm to develop a blockchain-based project for its own internal use, which would track interbank lending and transactions in April 2017 see Robin Spiess, 'Uncertainty over future of cryptocurrencies in Cambodia', 09 March 2018 <https://www.phnompenhpost.com/business/uncertainty-over-future-cryptocurrencies-cambodia> accessed on 18th September 2019

²⁶⁸ Japan Payment Services Act, Act No. 59 of 2009 <http://www.japaneselawtranslation.go.jp/law/detail/?id=3078&vm=02&re=02> accessed on 18th September 2019

From the above definition, it can be deduced that, Japan has taken into consideration the very nature of cryptocurrencies to the extent that they are transferred electronically, and the parties in the transactions are anonymous. The Act under Section 63 limits cryptocurrencies to property values that are stored electronically on electronic devices; and excludes currency and currency -denominated assets.²⁶⁹ The Act further provides that, for one to operate the cryptocurrency exchange business, the business operator must register with a competent local Finance Bureau.²⁷⁰ These are efforts to seek transparency in the cryptocurrency that has been termed as high risk on both the participating individuals and the jurisdictions. Japan also allows foreign companies that have been incorporated under their respective laws to carry out crypto-business in the country and provides that an operator that runs a foreign cryptocurrency exchange business must have a representative who is resident in Japan, and an office in Japan.²⁷¹

This ensures that the Government of Japan and its Ministry of Finance keeps track of offshore cryptocurrency businesses. Further, the Act stipulates that business operators are required to keep proper books that are subject to inspection and audit by an independent and certified public accountant.²⁷² All crypto exchange records are submitted annually to the Financial Services Agency.²⁷³ This is a measure to curb money laundering and financial crimes that may be used in the crypto-business. Unlike many jurisdictions that issued warnings against the use and trade in cryptocurrency, Japan has put in such laws to address and mitigate the risks that come with cryptocurrency.

The Payment Services Act creates the Financial Services Agency (FSA). The Agency acts as the regulator and has oversight authority in relation to cryptocurrency exchange in Japan. It derives its powers from the Cabinet in charge of National Finance matters which delegates its powers to the agency to specifically deal with cryptocurrency transactions. The agency's duties range from inspection and giving recommendations where improvement is needed.²⁷⁴ The Act under Section 63-17 further provides that the Agency

²⁶⁹Ibid at Section 62 of the Payment Services Act

²⁷⁰ Ibid at Section 63 of the Payment Services Act

²⁷¹ Ibid at Section 63 (5) of the Payment Services Act

²⁷²Ibid at Section 63(11) of the Payment Services Act.

²⁷³ Ibid at Section 63(14) of the Payment Services Act

²⁷⁴ Ibid Section 63 (15) of the Payment Service Act

may rescind the registration of a cryptocurrency exchange business or suspend its business for up to six months in cases where; the exchange business loses one of the requirements for registration; it turns out that the exchange business made the registration illegally; or the exchange business violates the Payment Services Act or orders based on the Act.²⁷⁵

Under the Prevention of Transfer of Criminal Proceeds Regulations, cryptocurrency requires exchange businesses to check the identities of customers who open accounts, keep transaction records, and notify authorities when a suspicious transaction is recognized.²⁷⁶The National Tax Agency provides that profits realized from the exchange of cryptocurrency are considered miscellaneous income as opposed to Capital Gains Tax. These proceeds are therefore added to the other forms of income except Capital Gains Tax before being taxed in accordance with the Income Tax Law.

Japan has therefore not taken a balanced approach but a risk based approach, where it has assessed the risks of cryptocurrencies and proceeded to enact comprehensive laws that mitigate against risks, protect consumers while proving investors with parameters of legitimizing their business of cryptocurrencies.

4.2.2.3 Impact of Japan's regulatory approach

The benefits for Japan's regulatory approach are evident- the Japanese yen is for instance the second traded currency against the bitcoin after the United States Dollar accounting for 23% of global bitcoin transactions.²⁷⁷ Japan is pushing the imagination of cryptocurrency innovation and new trends include Japan's government push to include cryptocurrencies in global SWIFT transactions²⁷⁸ and regulatory amendments to provide for crypto assets and crypto assets derivatives and Security Token Offerings (STOs).²⁷⁹

²⁷⁵ Ibid

²⁷⁶ The Law Library of Congress, Global Legal Research Center: Regulation of cryptocurrency around the world, (2018) pp 112.

²⁷⁷ Parker Emily, 'Japan Will Be More Crypto Friendly Than the US' — An Exclusive Interview with Monex CEO Oki Matsumoto', August 28, 2019 <https://www.longhash.com/news/japans-retail-crypto-investors-are-cowboys-an-exclusive-interview-with-monex-ceo-oki-matsumoto> accessed on 18th September 2019

²⁷⁸ Ibid note 265

²⁷⁹ Ibid note 266

Japan Financial Services Agencies reported that by 2018, Japan had Three Million Five Hundred active cryptocurrency traders signaling investor confidence in light of regulation.²⁸⁰ Cybercrimes remain the biggest threat to Japan's cryptocurrency industry and the regulator has also shown agility to investigate cases of hacking of cryptocurrency exchanges, signaling regulatory responses to cyber security, an action lacking in many unregulated jurisdictions.²⁸¹ With rising cases of cybercrimes, Japan's regulators continue to improve their capacity in dealing with cybercrimes.²⁸² Regulation has forced licensed cryptocurrencies regulation to form an association in a bid to set standards for self-regulation, a much needed regulatory approach in the financial services market.²⁸³

Due to its advance in technology and regulation of cryptocurrencies, Japan is among the leading countries globally that is developing a CBDC and is part of the countries that developed key principles of CBDCs under the BIS²⁸⁴ On the 9th of October 2020, Japan published a paper setting out its approach to CBDCS²⁸⁵ In the said paper Japan will seek to introduce a "general purpose" CBDC which will operate as a payment instrument alongside cash and also develop a payments and settlement system suitable for digital systems²⁸⁶. The CBDC will not replace fiat money (the yen) but will supplement it.²⁸⁷

4.2.3 Approach of China to Cryptocurrency Regulations

4.2.3.1 Rationale for choosing China

Since the invention of and introduction of cryptocurrency in the financial markets in different countries, China has taken a series of regulatory measures to crack down and particularly ban activities related to cryptocurrency due to the financial risks associated with cryptocurrencies. China is currently the leading country in the development of

²⁸⁰ Smith Brian, 'Japan reveals cryptocurrency market statistics, highlights 3.5 million active traders', <https://www.coininsider.com/japan-cryptocurrency-market-statistics/> accessed on 18th September 2019

²⁸¹ Ibid

²⁸² Ibid

²⁸³ Ibid

²⁸⁴ Ibid note

²⁸⁵ Bank of Japan 'The Release of 'The Bank of Japan's Approach to Central Bank Digital Currency' (2020) https://www.boj.or.jp/en/announcements/release_2020/rel201009e.htm/ accessed on 5th November 2020

²⁸⁶ Ibid

²⁸⁷ Ibid

CBDC's; it is additionally a global player and shaping development of technology and innovations.

4.2.3.2 Prevailing regulatory climate

The People's Republic of China began research on digital currencies referred to as "digital fiat currencies" in the year 2014 and to date continues the research and testing to date.²⁸⁸ China has taken a prohibitory approach and has not authorized any digital fiat currency in China or any digital asset-trading platform.²⁸⁹

On 4th September, 2017, seven government agencies of China, namely the People's Bank of China ("PBOC"), the Central Cybersecurity and Information Technology Lead Group of Communist Party of China, the Ministry of Industry and Information Technology, the State Administration for Industry and Commerce, China Banking Regulatory Commission, China Security Regulatory Commission and China Insurance Regulatory Commission, together gave the "Notice with respect to Prevention of Risks of Token Offering and Financing" (the "Notice"). The Notice banned all Initial Coin Offering (ICO) in China and requested that any associations or people who had recently acquired ICO to make plans, for example, return of token assets to investors to secure investor rights.

Unlike the other jurisdictions, which have in one way or the other accepted the use of cryptocurrency, China has outrightly banned the use of what is termed as un-sovereign or private cryptocurrency and interestingly its claimed that the ban has in fact fueled the growth of cryptocurrency trading in China²⁹⁰. However, China in unprecedented move is seen as 'banning' private cryptocurrencies in a bid to create its own sovereign cryptocurrencies (a government backed CBDC) and is working very hard to release its first

²⁸⁸ "Announcement on Fraudulent Issuing and Promoting Digital Fiat Currency in the Name of PBC" published on 13th November 2019 <http://www.pbc.gov.cn/en/3688110/3688181/3921119/index.html> accessed on 5/11/2020

²⁸⁹ Ibid

²⁹⁰ Olga Khramova, 'Controversial Crypto Coin's Rise Fueled by China Trading Ban' 15th October 2019 <https://www.bloomberg.com/news/articles/2019-10-15/china-trading-ban-is-fueling-rise-of-controversial-crypto-coin> accessed on 16th October 2019

government backed ‘sovereign’ cryptocurrency.²⁹¹ Therefore, in China there exists a classification of two types of currencies; sovereign and non-sovereign or private²⁹².

The Chinese financial regulators have issued several guidelines which have acted as the policy on cryptocurrencies declaring private cryptocurrencies as not legal tender and prohibiting the use of cryptocurrency within its jurisdiction which is seen as a move to enable the Chinese regulator develop a central CBDC for the general public.²⁹³ The government of China also restricts its citizens to hold and invest in cryptocurrency in other jurisdictions that allow and provide for the same.²⁹⁴

In August 2020, China began aggressive plans to test and rollout their CBDC announcing major expansion and testing in key cities in China.²⁹⁵ The characteristic of China’s CBDC appears to mirror Japan’s “general purpose” currency. In China, the CBDC is expected to be a token-based currency where transactions occur instantaneously without the need for a bank or other intermediary and are secured by robust encryption and tracked on an indelible digital ledger similar to block chain technology; referred to as “the digital Yuan”.²⁹⁶

China also refers to cryptocurrencies as “digital fiat currencies” which is seen as a move to create a digital version of the national currency the Yuan that is expected to rival the dollar.²⁹⁷

²⁹¹ Lefan Gong & Luping Yu, ‘Blockchain & Cryptocurrency Regulation 2019’, at page 261 https://www.acc.com/sites/default/files/resources/vl/membersonly/Article/1489775_1.pdf accessed on 12th October 2019

²⁹² Ibid note 272

²⁹³ The Law Library of Congress, Global Legal Research Center: Regulation of cryptocurrency around the world, June 2018 issue pg 92 <https://www.loc.gov/law/help/cryptocurrency/world-survey.php#china> accessed on 12th October 2019

²⁹⁴ Ibid

²⁹⁵ Chris Devonshire-Ellis and Dorcas Wong “When Can I Buy, Use, and Trade China’s Digital Yuan? August 20, 2020, <https://www.china-briefing.com/news/when-can-i-buy-use-and-trade-chinas-digital-yuan/>

²⁹⁶ Robert Murray “Understanding China’s Digital Yuan” published on 22nd September 2020 <https://www.fpri.org/article/2020/09/understanding-chinas-digital-yuan/#:~:text=%20Understanding%20China%E2%80%99s%20Digital%20Yuan%20%201%20Facebook%2C,China%E2%80%99s%20effort%20to%20establish%20the%20yuan...%20More%20> accessed on 5th November 2020

²⁹⁷ Ibid

4.2.3.3 Impact of China's regulatory approach

The official regulatory position in China is prohibition of private cryptocurrencies and promotion of efforts to research and test a government backed and issued cryptocurrency signaling the first attempt at nationalizing cryptocurrencies.²⁹⁸ In November 2019, the People's Bank of China issued a further warning reinforcing this position.²⁹⁹ Despite these ban, warnings and prohibitions the cryptocurrencies, Chinese nationals have not slowed down in use of cryptocurrencies, with it being reported that between 2019 and 2020 cryptocurrencies worth United States Dollars Fifty Billion were moved from China to the USA to escape the regulatory pressure in China.³⁰⁰ China has also seen the rise of a new stable coin "Tether" a stable coin cryptocurrency allegedly pegged against the dollar.³⁰¹

The approach of China to support the testing and development of a sovereign government backed form of CBDC, has positioned as one of the leading countries in the development of CBDC's and regulation of digital currencies and is seen as catalyst for the global development of CBDC's.³⁰²

4.2.4 Approach of South Africa to Cryptocurrency Regulations

4.2.4.1 Rationale for choosing South Africa

South Africa is rated as one of the leading countries for cryptocurrency markets in Africa³⁰³ ahead of Nigeria, Kenya, Ghana and Uganda, which are considered the dominant markets for financial technology invention in Africa.³⁰⁴ South Africa is also a country in Africa where Kenya can borrow lessons in regards to the development of regulations.

²⁹⁸ Ibid

²⁹⁹ Ibid note 356

³⁰⁰ Saloni Sardana "Chinese citizens moved \$50 billion of cryptocurrency out of the country in the past year to skirt foreign currency rules, a report says" published on 21st August 2020 <https://markets.businessinsider.com/currencies/news/chinese-people-moved-50bn-crypto-12-us-china-trade-row-2020-8-1029523675> accessed on 5/11/2020

³⁰¹ Ibid

³⁰² Ibid note 364

³⁰³ Olivier Acuna, South Africa tops the list of cryptocurrency ownership among global internet users', 15th August 2019 <https://hackernoon.com/south-africa-tops-the-list-of-cryptocurrency-ownership-among-global-internet-users-bxazr30ti> accessed on 12th October 2019

³⁰⁴ Maria Fernandez Vidal, 'Mapping Africa's Latest Innovations in Digital Finance' (CGAP, 2019) <<http://www.cgap.org/blog/mapping-africas-latest-innovations-digital-finance>> accessed 16 September 2019.

4.2.4.2 Prevailing regulatory climate

Despite the growth and adoption of cryptocurrencies, the South African Reserve Bank (SARB) maintains that it does not regulate crypto assets previously referred to as virtual currencies, citing a 2014 position paper it issued stating its position on cryptocurrencies.³⁰⁵ Additionally, the National Treasury (alongside the South African Reserve Bank (SARB), the Financial Services Board (FSB), the South African Revenue Service (SARS), and the Financial Intelligence Centre (FIC)) issued a statement warning the public concerning the transactions and investments in crypto assets, at the time referred to as Virtual Currency (VC) among other things, the statement noted that;

“The Bank does not oversee, supervise or regulate the VC landscape, systems or intermediaries for effectiveness, soundness, integrity or robustness. Consequently, any and all activities related to the acquisition, trading or use of VCs (particularly Decentralised Convertible Virtual Currencies (DCVCs)) are performed at the end-user’s sole and independent risk and have no recourse to the Bank.”³⁰⁶

In December 2014, the SARB, which is the central banking institution for South Africa through its National Payments System Department, published a position paper highlighting various risks associated with cryptocurrencies particularly risks relating to price volatility, consumer risk, money-laundering and terrorist financing and financial stability³⁰⁷. SARB still maintains that the 2014 position paper remain relevant and current.

South Africa established an intergovernmental Fintech Working Group (IFWG) in 2016 comprising of representatives from the National Treasury, the Financial Sector Conduct

³⁰⁵ See the website of the South African Reserve Bank <https://www.resbank.co.za/RegulationAndSupervision/FinancialSurveillanceAndExchangeControl/FAQs/Pages/VirtualCurrenciesCryptocurrencies.aspx>

³⁰⁷ [https://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem\(NPS\)/Legal/Documents/Position%20Paper/Virtual%20Currencies%20Position%20Paper%20%20Final_02of2014.pdf](https://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Documents/Position%20Paper/Virtual%20Currencies%20Position%20Paper%20%20Final_02of2014.pdf)

Authority (FSCA) the SARB and the Financial Intelligence Center (FIC).³⁰⁸ Its purpose is to develop a uniform understanding between regulators and policy makers of financial technology (FinTech) developments together with the policy and regulatory implications for the financial sector and economy.

In 2018, the Crypto Assets Regulatory Working Group composed of the members of SARS and IFWG was established to specifically review South Africa's position on crypto assets.³⁰⁹ The group published a consultation paper (the Consultation Paper) in 2019 that focused on the purchasing and selling of crypto assets and paying for goods and services using crypto assets as currency for making payments³¹⁰. The consultation paper provides an overview of the regulatory and market risks and benefits associated with the emerging crypto assets industry and has even provided the industry with an outline of the potential regulatory framework for the country's crypto assets industry. The paper recommends thirty proposals to address the key operational, market and consumer risks identified by the regulators to enable South Africa to participate safely in the global cryptocurrency market.

South Africa has taken the position of looking at cryptocurrencies, or virtual currencies as "crypto assets".³¹¹ The IFWG paper defines Crypto Assets as *a digital representation of value that is not issued by a central bank, but is traded, transferred and stored electronically by natural and legal persons for the purpose of payment, investment and other forms of utility, and applies cryptography techniques in the underlying technology*.³¹² The South African model is a hybrid definition encompassing different uses of digital currencies as means of payment, as a security or store of value, as a medium of exchange.³¹³

³⁰⁸ Crypto Assets Regulatory Working Group, 'Consultation Paper on Policy Proposals for Crypto Assets', (Jan. 2019), http://www.treasury.gov.za/comm_media/press/2019/CAR_WG_Consultation_paper_on_crypto_assets_final.pdf, archived at <https://perma.cc/E2M9-BRLB>.

³⁰⁹ Press Release, South Africa Revenue Services, SARS's Stance on the Tax Treatment of Cryptocurrencies (Apr. 6, 2018), <http://www.sars.gov.za/Media/MediaReleases/Pages/6-April-2018---SARS-stance-on-the-tax-treatment-of-cryptocurrencies-.aspx>, archived at <https://perma.cc/2ET9-V3KX>; South Africa, in Law Library of Congress, Regulation of Cryptocurrency around the World 92 (June 2018), <https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf>, archived at <https://perma.cc/8Q6M-TPYW>.

³¹⁰ IFWG Crypto Assets Regulatory Group, 'Position Paper on Crypto Assets' (2019) https://www.ifwg.co.za/wp-content/uploads/IFWG_CAR_WG-Position_Paper_on_Crypto_Assets.pdf

³¹¹ Ibid at page 3 see foot note number 1

³¹² Ibid at page 9

³¹³ Ibid at page 10

The IFWG has also recognized the role of crypto-assets being a means of payment as they were originally designed by Satoshi.³¹⁴

The IFWG has also taken a very effective approach in studying crypto-assets as they have assessed each user case applied by their citizens and developed regulatory models to mitigate the risks associated with each user cases³¹⁵ The user cases of crypto assets identifies by IFWG include:

1. The trading of Crypto-Assets- buying and selling of crypto-assets as a speculative commodity , trading and conversion of crypto-assets for fiat currencies , trading and conversation of crypto assets into other crypto-assets.³¹⁶
2. Medium of Exchange- Crypto-Assets can be used as a medium of exchange to facilitate transactions for goods and services;
3. Means of Payment- Crypto- Assets can be used as a means of payment, which is where Crypto-Assets are used as means of P2P payments without the use of a financial intermediary as was developed and designed by Satoshi. The IFWG notes that without a regulatory framework, South Africans have been engaging in payments and even remittance transactions with crypto-assets based on willing customer willing merchant. The IFWG also acknowledges that some payments intermediaries can use Crypto-Assets as a medium of exchange when carrying out their services;³¹⁷
4. Unit of Account- the IFWG challenges this user case and observes that the value of Crypto-Assets are still tied to the value of fiat currencies and as such crypto-assets are yet to be identifies as units of account.

The paper also identifies that citizens can access crypto-assets through trading platforms, asset vending machines and bilateral transactions.³¹⁸ Having specifically identifies the user cases, the IFWG recommends adoption of a risk based regulatory model, which would provide for regulatory safeguard for each user case. This model identifies the user case,

³¹⁴ Ibid

³¹⁵ Ibid

³¹⁶ Ibid

³¹⁷ Ibid

³¹⁸ Ibid

lists down the risks associated with the user case, and provides a technology neutral, and risk based approach to mitigate those risks.

The risk approach is similar to the approach taken in this Chapter where we begin by identifying the risks associated with cryptocurrencies. The IFWG identifies the risks in this chapter including , price volatility, speculation, scalability, money laundering and terrorism financing challenges, lack of a trusted central sovereign intermediary (leading to unregulated and fragmented payment systems) , consumer protection (including fraud, market conduct risk and cybersecurity), undefined legal and regulatory framework as well as market efficiency and integrity risks.³¹⁹

The Paper acknowledges that in the attempt to regulate crypto-assets at national level, regulators must take cognizance of the fact that crypto-assets are “global” in nature and the lack of a coherent global regulatory approach towards cryptocurrencies could weaken national efforts leading to regulatory arbitrage that could challenge the effectiveness of national regulatory efforts.³²⁰ The IFWG therefore calls for a coherent global approach and therefore the report adopted by BIS would be a welcome move by South Africa.³²¹ The IFWG recommends adoption of a risk based unified, technology neutral and phased principled approach. The IFWG also recommends that regulation should address the following key areas:

1. safety and efficiency of the financial system and financial institutions;
2. consumer and investor protection,
3. minimize regulatory arbitrage;
4. Oversight ²³ exchange control policy and regulations;
5. Regulate against illegitimate cross-border financial flows, money laundering and terrorism financing;
6. Regulate against tax evasion and tax avoidance;
7. Support Financial inclusion³²²

³¹⁹ Ibid page 16

³²⁰ Ibid page 22

³²¹ Ibid note 223

³²² Ibid at page 22

The IFWG recommends that crypto-assets are new financial innovations that should be provided under the current financial sector regulatory framework. To this end, the IFWG recommends amendment of existing policy, regulatory and legislative framework to provide for a framework to mitigate the risks. To this end, the paper recommends amendments through the ²³ Conduct of Financial Institutions Bill 2020 and the Financial Markets Review.³²³

¹⁶ Additionally, a draft Taxation Laws Amendment Bill (“TLAB”) has been published and proposes various amendments to the Income Tax and the Value Added Tax, which seek to clarify the existing provisions dealing with crypto assets in the South African tax regime. ³⁷ From income tax perspective, crypto assets are to be treated as financial instruments for income tax purposes, and from a VAT approach, the issue, collection, acquisition, buying or selling of any crypto asset is to be treated as a financial service.

4.2.4.3 Impact of South Africa’s regulatory approach

South Africa while adopting a precautionary approach just like Kenya has gone beyond this approach to invest in research to identify user cases and areas of regulation for cryptocurrencies. This approach indicates a favorable approach as South Africa is reported as the leading cryptocurrency market in Africa³²⁴ In the same report Kenya is ranked fifth behind Nigeria and Ghana.³²⁵

The South African Reserve Bank has set up a working group including players from the industry to cooperatively create a regulatory structure for cryptocurrency. Current indications are that regulation will probably be centered on the institutions involved as opposed to regulating cryptocurrency itself.³²⁶

Once the report of the IFWG is fully adopted by Treasury and SARB, South Africa could see phased amendments of the current regulatory framework in South Africa to provide for

³²³ Ibid at page 23

³²⁴ Team Luno “Research Summary: The State of Crypto in Africa “ published on 7th July 2020 <https://www.luno.com/blog/en/post/research-the-state-of-crypto-in-africa> accessed on 9/9/2020

³²⁵ Ibid

³²⁶ <https://www.iol.co.za/personal-finance/my-money/why-cryptocurrency-is-particularly-hot-in-south-africa-35077134> Accessed on 16th September 2020

the different user cases of crypto-assets and a balanced risk based regulatory framework to prevent risks and exploit the benefits of crypto-assets in South Africa.

4.2.5 Global Approaches to Cryptocurrency Regulations

As noted in the theoretical approach for this study, money is a creature of states and therefore domestic approaches to recognition of money are key. However, there has been some attempts at global level to set standards just as in the case of institutions like the Bank of International Settlement. The United States of America through the Financial Action Task Force (FATF) has signaled its intention to develop international standards for cryptocurrency-based services to combat anti-money laundering.³²⁷ Global standards are key to setting best practices in the financial sector and one of the recommendations from FAFT as a best practice is virtual asset service providers (VASPs) to obtain licenses with effecting systems for monitoring and compliance.³²⁸ The setting of such standards will be a welcome move, as it would push for adopting of best practice global standards into domestic laws and help guide countries on best practice in cryptocurrency regulations.

On a global level, it can be noted that the definition of cryptocurrency has shifted from currency to assets.³²⁹ The European Central Bank defines crypto assets as a new set of assets recorded in digital form and enabled by the use of cryptography and do not fulfill the function of money.³³⁰ This further confirms that globally, states are still hesitant to recognize crypto currency as money but are ready to provide them with some form of recognition for the role they play in the financial system whether as a digital value, a security, a unit of account or a means of payment but not legal tender. One of the other key global trend noted, is the move towards central banks' backed cryptocurrencies like in the

³²⁷Christopher Murrer and Dean Joffe, ' Global Cryptocurrency Regulation Standards expected in June', <https://www.bizcommunity.com/Article/196/364/192033.html> accessed on 12th October 2019

³²⁸Christopher Murrer and Dean Joffe, ' Global Cryptocurrency Regulation Standards expected in June', <https://www.bizcommunity.com/Article/196/364/192033.html> accessed on 12th October 2019

³²⁹ It is noted that in several jurisdictions such as France, Italy, the European Union, South Africa the reference has changed to crypto as signaling the expanded role of investment and security that cryptocurrencies have taken. See the European Central Bank ECB Crypto-Assets Task Force, 'Crypto-Assets: Implications for financial stability, monetary policy, and payments and market infrastructures' No 223 / May 2019 <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op223~3ce14e986c.en.pdf>

³³⁰ Ibid

case of China.³³¹ The position paper drafted by BIS in 2020 setting out key principles for CBDC is a move in the right direction intended at harmonizing the adoption of CBDC's by Central Banks globally.³³²

4.3 What Should Kenya's Best Regulatory Response towards Recognition of Cryptocurrency as Legal Tender Be?

As earlier discussed in this thesis, Kenya has adopted a precautionary approach and has not moved to enact any specific regulations to provide for cryptocurrencies. From the analysis above, it is clear that while countries have not recognized cryptocurrencies as legal tender, they have gone ahead to recognize the other models or functions cryptocurrencies interplay in the financial system whether as assets, securities or means of conveying value for payments. Indeed the gap currently in Kenya was noted in the report in the taskforce instituted by the Ministry of ICT in Kenya.³³³ The said report emphasized the role of government in enacting supportive regulations and government as a user of technology to drive adaptability.³³⁴

Kenya as we have reviewed above and as can be deduced from other countries which have enacted legislations for cryptocurrencies can extend current regulatory framework to provide for cryptocurrencies. This model does not have, as we have seen from current trends in Germany, Japan, Canada and Mexico, to recognise cryptocurrencies as legal tender. The non-recognition of cryptocurrencies as money does not have to be a regulatory death bed. There are other spheres within the financial regulatory prism that cryptocurrencies can interplay. According to Patrick Njoroge the Chairman of the Blockchain Association of Kenya, CBK can exploit the National Payments Act to licence blockchain or cryptocurrency backed payment systems such as Bitpesa.³³⁵ There is for instance no reason why, like leading jurisdictions like Germany, Canada, Japan and the

³³¹ Ibid

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³³³ Ibid note 349

³³⁴ Ibid

³³⁵ Patrick Njoroge, 'Opinion; How the Central Bank Of Kenya Plans To Regulate Bitcoin & Cryptocurrencies', 2018 <https://bak.or.ke/blockchain-regulations-kenya/> accessed on 12th October 2019

European Union, Kenya cannot bring cryptocurrency transactions under the ambit of anti-money laundering regulations.

The other gap is because of failure of regulation, Ponzi schemes intended to dissuade Kenyans to invest their money are on the rise and such Kenyans have no recourse.³³⁶ Kenya can further move to licence exchanges and other cryptocurrency intermediaries and payment system providers to bring them under regulation and therefore impose standards that could prevent fraud, cybercrime and anti-money laundering and better provide regulatory protection to investors. The benefits of regulations far much outweigh the lack of regulations.

4.4 Conclusion

This chapter sought to review the financial regulatory framework in Kenya, current challenges of cryptocurrencies and regulatory models adopted by different countries within the limits of trade in cryptocurrencies. From the study, it is evidenced that there are regulatory interventions that can be put in place to address cryptocurrencies risks and consumer protections. It can be deduced from the case study of Japan that whereas cryptocurrencies have not achieved full recognition as currency, that does not hinder the provision of regulatory protection for other functions of cryptocurrencies in the financial sector as assets, securities and means of payments.

It can also be concluded, from the case of countries such as Japan, that a comprehensive legal framework which grants regulatory authorities supervisory roles is key to managing risks such as fraud and money laundering by exercising investigatory powers and setting standards for compliance in the industry. Without regulation, it is clear that some of the systemic challenges of DLT's such as trust, price volatility and the lack of a central authority cannot be mitigated. Indeed, as deduced from the study, cryptocurrencies cannot thrive outside regulation.

³³⁶ Brian Wasuna, 'Brazil bitcoin con scheme goes down with Kenyans' cash', <https://www.nation.co.ke/news/Brazil-bitcoin-con-scheme-gobbles-Kenyans--cash/1056-5007738-hfykxqz/index.html> accessed on 12th October 2019

The myth that trust can be built without government intervention is far from the truth. Government intervention is key to maintaining integrity in the financial system. Kenya can therefore benefit from the case studies and look to reviewing current legislation to accommodate cryptocurrencies. As it can be deduced from the review of the Constitution in Kenya, anything that is currency or legal tender must be sanctioned by the CBK. The traditional concept of cryptocurrencies being a technology that is decentralized from a central government authority is therefore unlikely to get any regulatory sanction in Kenya and as the case in both South Africa, China and Japan has demonstrated, this position is the same in other jurisdictions. What has been observed is that countries have moved to create hybrid models marrying the characteristics of cryptocurrencies within regulatory ambit and creating frameworks for user cases, regulatory oversight and risk mitigation.

As has can be deduced from the Keynesian model, currency plays a more bigger role than that of being a medium of exchange- currency establishes sovereignty and thus as opined by the State Theory of Money, states must exercise legal control and accord any currency legitimacy as legal tender. It can also be deduced from this study and analyzing the foundation of money from Aristotle that cryptocurrencies do possess some fundamental characters of money key being medium of exchange and store of value. However, cryptocurrencies are limited in some fundamental aspects including as a unit of value, and fundamentally, cryptocurrencies fail to gain legal recognition as currency in other jurisdictions making it difficult for other states to offer global recognition and a coherent regulatory framework. This has creates a fragmented approach which creates a challenge in countries that are trying to create a national framework as cryptocurrencies are global in nature.

To this extent what can be deduced in the study of South Africa, China and Japan is that these countries have attempted to study user cases of cryptocurrencies and to provide or propose a regulatory framework to legitimize those specific user-cases under the law. The user case for cryptocurrencies that appears dominant are three clear user cases; firstly, the use of cryptocurrencies as a medium of exchange in payments, secondly the use of cryptocurrencies as stores of values (trading, conversion), and as CBDC's to assist central banks in the effective distribution of central bank role of currency management including

the option of designating cryptocurrencies as the digital format of fiat currencies as can be seen in the case of China.

These case studies therefore draw very relevant models for Kenya to adopt into its financial sector regulatory frameworks. As can be deduced from the study, Kenya has sufficient regulations in the financial sector which can provide for cryptocurrencies including mitigating the risks should Kenya seek to move beyond the precautionary approach.

Lastly, it is clear that in both China, South Africa and Japan the government is investing more into research and development of specialized knowledge in the area to inform the next steps in those jurisdictions. Kenya's move to incorporate the Taskforce Report on Blockchain Technology and Artificial Intelligence under the Ministry of ICT is a move in the right direction and the CBK needs to lead in creating a multi-sector technical group such as the IFWG in South Africa to review and develop areas of reforms in the financial sector in Kenya to provide for a framework for cryptocurrency regulation.

CHAPTER FIVE

OBSERVATIONS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

Chapter five covers observations, conclusions based on the observations and recommendations stemming from the conclusions. Finally, the study makes suggestions for further research where necessary.

5.1 Observations

After investigations and inquiry into the research questions and objectives of the study, below is a summary of the observations. From the analysis, this study found that whereas cryptocurrencies do have some characteristics of money (are a store of value, medium of exchange and means of payment) they are not issued by the government and thus are not legal tender. The study further established that countries have leaned towards the State Theory of Money and Keynes Monetary Theory and money or legal tender is that which is recognized by the state. Hence, cryptocurrencies to the extent that they are not issued by the state do not qualify to be currency and will only be recognized once the central authorities in those countries sanction their use and accord them recognition to operate in any form in the financial sector. The classical theoretical underpinning of the State Theory of Money and Keynes Model informs the Kenyan law where the CBK Act stipulates clearly that currency is that which is issued by the CBK. The Libertarianism and the freedom in the commons aspirations of cryptocurrencies' self-regulatory trust model has failed to persuade the world as governments have maintained a centralised role of issuing and controlling currency, and in some instances, outlawing the trade in cryptocurrencies (China).

Despite this challenge of legal recognition, the study found at there are clear user cases that demonstrate that cryptocurrencies have similar characteristics and satisfy certain fundamental principles of what is regarded as money. The key principles that cryptocurrencies fulfil is that in the case of South Africa and Japan, cryptocurrencies can be used as medium of exchange, means of payment and store of value (to be traded and

converted). However, cryptocurrencies have failed to be a unit of account or to be regarded as legal tender, which from both the State Theory and Keynesian theory fail to encompass the broader goals of money in the sovereignty of states, establishing a global monetary system and providing a framework for fiscal and monetary policy. Therefore as can be deduced from the development of CBDC's perhaps the work central banks are undertaking globally and nationally as is the case of China and Japan, may provide a framework for money in state sovereignty and a role on fiscal and monetary policy and this work may signal a new phase for the adoption and recognition of cryptocurrencies. Therefore, Kenya needs to draw lessons on the global and national efforts on CBDC's to explore areas of opportunity.

The study also found out that cryptocurrencies, beyond external challenges of regulation, have systemic challenges on scalability that limit their use in the scale of fiat currencies. As a payment platform, the study established that the technology is still slow and does not compare to current global payment models. On self-regulatory trust model, it was established that the blockchain system has systemic challenges in the proof of work model to create a trustless system. However, this is where it was established that a regulatory supervision to licence intermediaries will deal with disputes or fraud, cybercrime and money laundering issues that are feared to be prevalent in the cryptocurrencies financial systems.

The study established that countries have not recognized cryptocurrencies as currency or legal tender. However, this has not deterred provision of legislation for cryptocurrency. It was established that in Germany, the regulations recognize cryptocurrencies as 'unit of account' and although the courts overruled this position, Germany is still moving towards licensing of intermediaries to bring cryptocurrency transactions under the supervision of the regulator. It was also found out that licensing of intermediaries such as cryptocurrency exchanges is a key regulatory approach towards bringing the cryptocurrency activities under regulatory oversight and provide for mitigation of risks such as cybercrime, fraud and money laundering.

It was also deduced that it is possible to licence cryptocurrency transactions as payment platforms as is the case in Japan. The study found out that cryptocurrencies due to

regulatory challenges have reduced their use as medium of exchange. Today, they are mostly traded as assets and much regulatory response are geared towards securities and provision for taxation of cryptocurrency transactions as is the case in South Africa. However countries are still investing in research to determine the clear user cases and in the case of South Africa for instance clear user cases of money as a medium of exchange , as a store of value for trade and for payments has been established; providing a clear path for regulation of cryptocurrencies as money in South Africa.

After looking at how other countries have approached regulation of cryptocurrencies, this study summarised the best case for Kenya and concludes as follows. Whereas Kenya has currently adopted a precautionary approach towards the use of cryptocurrencies, several countries have moved towards a more proportionate and risk-based approach. Kenya currently does not have any regulations to address cryptocurrencies and thus does not provide a framework to mitigate risks. This study deduced that non-recognition of cryptocurrencies as money is not fatal to the legal recognition of cryptocurrencies in the financial sector. Cryptocurrencies can still be recognised as payment platforms, assets and classified as a form of means of exchange or store of value. The study further deduced that Kenya can apply existing laws to bring cryptocurrencies under supervisory oversight and thus deal with the risks bedevilling cryptocurrency transactions such as fraud, cybercrime and money laundering.

Kenya would particular draw a useful model from the South Africa case. While the SARB has continued to enforce a precautionary statement, the country has allowed a cross-sector team of experts under the IFWG to continue undertaking research in the area to investigate the viability of cryptocurrencies both as a legal tender and as an innovation in the financial sector. This approach is advancing a progressive phased approach in South Africa where they are able using data to identify clear user cases, clear risks associated with the user cases can to propose areas of reform of current laws to mitigate those risks. South Africa has also established clear principles and areas of regulation which Kenya can borrow. Japan though relatively advanced is a useful country to study how it is developed its payments legislation to provide for cryptocurrencies. With payments being one of the clear user cases

that Kenya can seek to develop, the case of Japan is an important study and Kenya can borrow areas of amendments of our NPS Act from the Japanese reforms.

On the regulatory approach, the risk based, technology neutral and phased approach adopted by South Africa is a model Kenya can learn from. Additionally, the approach by South Africa to study global trends and to make efforts to align global trends with national efforts to avoid regulatory arbitrage is an approach Kenya should draw lessons on.

. Kenya just like South Africa and Japan can move to regulate or provide a framework and a path for recognition of clear user cases of cryptocurrencies as money, as a medium of exchange and as a means of payment as well as a store of value. The approach would look at addressing risks associated with cryptocurrencies such as price volatility, speculation, scalability, money laundering and terrorism financing challenges, lack of a trusted central sovereign intermediary (leading to unregulated and fragmented payment systems) , consumer protection (including fraud, market conduct risk and cybersecurity), undefined legal and regulatory framework as well as market efficiency and integrity risks.³³⁷

As is the case of Japan and South Africa there is no need of a *sui-generis* regulation as the current regulatory framework in the financial sector is sufficient and may only need to be amended to provide for aspects of regulation of risks associated with the specific user cases of cryptocurrencies. Crypto-currencies are innovation in the financial sector and the laws in place including the Constitution, the financial sector regulator CBK , the PCAMLA, the NPS Act , the CMA Act to mention just but a few are enough frameworks that can be reviewed to provide the areas of regulation as can be drawn from the lessons in South Africa. On the CBDC's Kenya should continue to monitor the developments in China and to additionally adopt the principles and recommendations globally by bodies such as BIS and FATF.

From the foregoing, the results of the study disapprove the hypothesis that cryptocurrencies can fulfil some of the characteristics of currency and have similarities to fiat currencies. Even though, to some extent the study has established similarities between the two,

³³⁷ Ibid note 390

cryptocurrencies lack some of the basic characteristics as defined by law to be used as legal tender. For example, it was established that they are not backed by the state.

Further, the hypothesis that some countries have recognized cryptocurrencies on the basis of specific user cases of currency and created a regulatory framework for cryptocurrencies to operate in the specific user case such as a medium of exchange and means of payments as is the case of Japan. Countries like Canada and Japan have gone out of their way to put some form of regulations to control and manage the crypto business and blockchain technology. The study established that while cryptocurrencies may not be recognized as legal tender, they can be recognized as financial instruments which can be assets, payment platforms or store of value. Therefore, Kenya has useful case studies to model its reforms in the current regulatory framework to recognize cryptocurrencies as currency and provide a regulatory framework from the lessons drawn from other jurisdictions that have been reviewed in the study.

5.2 Conclusions

From the summary of the study findings, this research concludes as follows. Even though cryptocurrencies do have some characteristics of money (are a store of value, medium of exchange and means of payment), they are not issued by the government and hence are not legal tender and do not qualify to be currency. Cryptocurrencies' self-regulatory trust model has failed to persuade the world as governments have maintained a centralised role of issuing and controlling currency. The study also concludes that cryptocurrencies, beyond external challenges of regulation, have systemic challenges on scalability that limit their use in the scale of fiat currencies.

However, cryptocurrencies do have characteristics that qualify as currency; including as a means of exchange, means of payment and store of value. The development of cryptocurrency is still progressing and nothing stops countries for providing a framework for recognition of these specific aspects of cryptocurrencies in currency legislation such as the National Payments Laws as a means of payment and as a store of money or as a financial instrument.

As can be deduced from the theories studied, both the State Theory of Money, the Keynesian Model and the Constitution of Kenya the central role of the CBK is not an option; cryptocurrencies must find life under the regulatory sanction of the CBK in Kenya- the sanction should be exercised proportionately and phased as cryptocurrencies continue to develop. In so doing the CBK will develop specific viable user cases for Kenya including CBDC's.

The study further concludes that the blockchain technology is somehow slow and does not competitively compare to current global payment models. The mining process is also cumbersome and too technical for ordinary citizens' understanding. The blockchain system has systemic challenges in the proof of work model to create a trust-less system. But regulatory supervision to licence intermediaries can deal with disputes or fraud, cybercrime and money laundering issues prevalent in the cryptocurrencies financial systems.

The study concludes that countries have not recognized cryptocurrencies as currency or legal tender but this does not deter provision of legislation for cryptocurrency. Countries can license intermediaries to bring cryptocurrency transactions under the supervision of the regulator. Licensing of intermediaries such as cryptocurrency exchanges is a key regulatory approach towards bringing the cryptocurrency activities under regulatory oversight and provide for mitigation of risks such as cybercrime, fraud and money laundering. It is also possible to licence cryptocurrency transactions as payment platforms. Cryptocurrencies have reduced their use as medium of exchange due to regulatory challenges and are mostly traded as assets and much regulatory response are geared towards securities and provision for taxation of cryptocurrency transactions.

The study further concludes that the best case for Kenya is not the current precautionary approach towards the use of cryptocurrencies, but a more proportionate and risk-based, phased approach. The fact that Kenya does not have regulations to address cryptocurrencies nor provide a framework to mitigate risks, exposes its citizens to various risks associated with crypto business. An effort should be made to legally recognise cryptocurrencies in the financial sector as payment platforms, assets and classified as a form of means of exchange or store of value. This can be done within the existing laws to bring cryptocurrencies under supervisory oversight and thus deal with the risks bedevilling cryptocurrency transactions

such as fraud, cybercrime and money laundering. In conclusion, cryptocurrencies can be used as currency as long as a regulatory framework can be put in place along the models of other jurisdictions.

5.3 Recommendations of the Study

Stemming from the conclusions, the study recommends as follows: the CBK and proponents of blockchain technology and researchers should invest in further research in the area of cryptocurrencies to debunk the myths and misconceptions about cryptocurrencies, identify viable user cases for Kenya, raise awareness among policy makers in government and the general public. In so doing, governments and their people will appreciate what technology can do for them. They will also be able to recognise the growing value of crypto trade in the international financial system and perhaps be persuaded to accept blockchain technology. Research can also improve the speed of blockchain technology and make it competitively just like the current global payment models.

The government of Kenya may introduce regulatory supervision to licence intermediaries such as ICO's or cryptocurrencies PSP's in order to deal with disputes, fraud, cybercrime and money laundering issues prevalent in the cryptocurrencies financial systems. Such a law can help to address some of the systemic challenges of scalability that limit the use of cryptocurrencies in the scale of fiat currencies. The government of Kenya The government of Kenya could explore licensing of cryptocurrency transactions as payment platforms as cryptocurrencies can be recognized legally and classified as another category of either assets, payment system platforms, unit of account or an electronic store of value. This can be done within the existing legal provisions such as provisions in the Banking Act, NPS, CMA Act, and PCAMLA just like Germany, Japan and Canada did.

The recommendations of the ICT Kenya's Ministry of Information, Communication and Technology; Taskforce Report on Blockchain Technology and Artificial Intelligence should be implemented by the CBK and further research and legislative reforms should be undertaken to build up on the important work undertaken by this Taskforce.

The government of Kenya should put in place laws to encourage innovation including proposals to CBK to adopt sandbox regulations and allow risks associated with innovations to fall within regulatory reach so as to cover consumers from loss, fraud and illegal activities. In order to achieve it would be prudent for the Central Bank of Kenya to complement its advisory issued in November 2015 on the use of cryptocurrency with a more proportionate and phased approach as can be drawn from the South Africa approach. Globally effort should continue to make efforts to develop a coherent global approach that will support national efforts thus mitigating the risk of regulatory arbitrage and fragmented approach towards the global recognition of cryptocurrencies in the financial system.

5.4 Conclusion

This study was a doctrinal legal research that embraces in-depth analysis, interpretation and discussion of the legal doctrine with its development process meant to give state authorities in Kenya practical regulatory proposals that can be implemented to provide a comprehensive legal framework for cryptocurrencies in the country. The lessons drawn from the jurisdictions sampled in this study provide useful guidance on how a regulatory regime drawn from existing legislations can operate to provide regulatory oversight for cryptocurrencies. It is clear that we do need to re-invent the wheel; we do not need *sui-generis* regulations for cryptocurrencies. Money and its traditional attributes still remain and cryptocurrencies can still be legally recognised and operate to complement fiat currency financial systems.

The support of technological innovations such as cryptocurrencies is at the heart of the 21st century revolution; proportionate legislation is the oil that powers the engine of this revolution and the need for Kenya to implement a proportionate regulatory risk based approach for cryptocurrencies as is the case in Japan and South Africa cannot be overemphasized. It is hoped this study will add to the body of knowledge and the recommendations drawn into future regulations for cryptocurrencies in Kenya.

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