

**DECODING THE DILEMMA OF CRYPTOCURRENCY
REGULATION IN KENYA**



UNIVERSITY OF NAIROBI

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Declaration by the Student

I JACQUELINE WANJIKU WAIHENYA declare that this is my original work and that the same has not been presented to any institution of higher learning for the award of a diploma, degree or post-graduate qualification or for consideration of any certification.

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DEDICATION:

-dedicated to-
Alexis, Nicolette,
Lilian, William,
Maureen, Remy, Ryley & Dave
-My Family-

You don't choose your Family,
They are God's gift to you, as you are to them.

-DESMOND TUTU

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LIST OF ABBREVIATIONS & ACRONYMS

AML	-	Anti-Money Laundering
ATM	-	Automated Teller Machine
₿	-	Bitcoin
BATM	-	Bitcoin Automated Teller Machine
BCBS	-	Basel Committee on Banking Supervision
BTC/btc	-	Currency abbreviation for Bitcoin
CA	-	Communications Authority
CAP	-	Chapter, Laws of Kenya
CBDC	-	Central Bank Digital Currency
CBK	-	Central Bank of Kenya
CEA	-	Commodities Exchange Act (United States of America)
CFTC	-	United States Commodity Futures Trading Commission
CMA	-	Capital Markets Authority
CPMI	-	Committee on Payments & Market Infrastructures
CoK	-	Constitution of the Republic of Kenya
CAESP	-	Crypto Asset Exchange Service Providers
CS	-	Cabinet Secretary
DAF	-	Digital Asset Framework
DAO	-	Decentralized Autonomous Organization
dApps/DAPP	-	Decentralized Applications

DATA	-	Digital Asset Transfer Authority
DFC	-	Digital Fiat Currency
DLT	-	Distributed Ledger Technology
€	-	Euro
EA	-	East Africa
EAC	-	East African Community
EEA	-	European Economic Area
E-money	-	Electronic Money
ETF	-	Bitcoin Exchange Traded Funds
e-RMB	-	Digitalized <i>Renmimbi</i> (China's sovereign backed cryptocurrency)
FATF	-	Financial Action Task Force
FSB	-	Financial Stability Board
GDP	-	Gross Domestic Product
GSC		Global Stable Coin
ICO	-	Initial Coin Offering
IOSCO	-	International Organization of Securities Commissions
KLR	-	Kenya Law Reports
Kshs.	-	Kenya Shillings
KYC	-	Know Your Customer
P2P	-	Peer – to – Peer
PBOS	-	Peoples Bank of China
PoA	-	Proof of Asset
PoW	-	Proof of Work

PoS	-	Proof of Stake
QBD	-	Queens Bench Division
RBA	-	Retirement Benefit Authority
SEC	-	United States Securities Exchange Commission
SME	-	Small and Medium Sized Enterprises
SRO	-	Security Token Offerings
STO	-	Security Regulatory Organizations
UKJT	-	UK Jurisdiction Taskforce
UNSC	-	United Nations Security Council
XBT	-	Exchange currency abbreviation for Bitcoin

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ABSTRACT

Although Kenyans have quickly and enthusiastically adopted cryptocurrency nevertheless the government has not provided an adequate regulatory framework to safeguard their interests. This has created substantial risk which requires to be addressed as it could lead to substantial and negative effect on the Kenyan economy.

Cryptocurrency and its underlying blockchain technology are a relatively new phenomenon around the world which have evolved dramatically and are now considered to be a disruptive technology. They have developed to such a point as to become impossible to ignore. Their proponents champion anonymity and security in the transfer of value in digital format with minimal government involvement thereby allowing the community to transact through a spontaneous order dubbed by economists as catallaxy. Though the cost of transaction particularly across borders has been significantly reduced cryptocurrencies have not been without challenges particularly as regards theft, illegal and criminal activities. The pace at which cryptocurrencies are developing has therefore created substantial challenges for regulators around the globe especially in their definition and/or classification (taxonomy) as well as in the manner in which various regulators have chosen to respond to this new phenomenon.

The study reveals that Kenya too is grappling with how to deal with cryptocurrencies and the Central Bank of Kenya (CBK) being the mandated regulator for monetary policy and fiscal management of the country in tandem with the Capital Markets Authority (CMA) have advised the public, financial institutions and investors that Bitcoin and by extension all cryptoassets do not fall within the ambit of central bank regulated activities as they are not backed by any government and are indeed not issued or otherwise licensed by any centralised authority thus providing no protection to them in the event such cryptoassets collapse, disappears or otherwise becomes an unsustainable business venture and fails.

The study therefore highlights that there exist substantial gaps in the law and regulatory environment in the country and seeks to glean lessons from other jurisdictions around the world which have succeeded in reigning in the benefits of cryptocurrency while mitigating the risks and challenges it creates including but not limited to terrorism, insurgent and criminal activities.

The study concludes that some measure of regulation ought to be considered for adoption geared towards ensuring that the benefits of cryptocurrency are harnessed whilst concurrently ensuring that the illegitimate use and application of cryptocurrencies is less attractive and preferably downright painful for any perpetrators and/or offenders in Kenya.

KEY WORDS:

Bitcoin; blockchain; cryptoassets; cryptocurrency; currency; digital; innovation; legal tender; minting; mining; money; public interest; regulation; sovereign fiat; tax; technology; Kenya

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CHAPTER ONE - INTRODUCTION

1.1 CRYPTOCURRENCY/VIRTUAL CURRENCIES:

At its most basic virtual currencies can be said to be a digital representation that functions as a medium of exchange, unit of account and/or a store of value.¹ Virtual currencies have no physical manifestation, they have no intrinsic value, and their value is generally not backed by the government.² In some cases, you can spend it like money, but it does not have legal tender status in most jurisdictions including the United States where it was first developed. Some virtual currencies have an equivalent value in other currencies, such as U.S. dollars or Euros, or can be traded for other virtual currencies. These are referred to as convertible virtual currencies. Bitcoin is an example of a convertible virtual currency.³

Though there does not as yet exist a universally acceptable definition of cryptocurrency Jan Lansky provides a fairly useful comprehensive definition by outlining that Cryptocurrency is a system that meets all of the following 6 conditions: (1) it does not require a central authority, (2) it keeps an overview of cryptocurrency units and their ownership, (3) it defines whether new cryptocurrency units can be created. If new cryptocurrency units can be created, the system defines the circumstances of their origin and how to determine the ownership of these new units, (4) Ownership of cryptocurrency units can be proved exclusively cryptographically, that is to say, solely

¹U.S. Commodities Futures Trading Commission, *Advisory with Respect to Virtual Currency Derivative Product Listing* (21 May 2018) CFTC Staff Advisory No.18-14 Divisions of Market Oversight and Clearing & Risk Available at www.cftc.gov/bitcoin Last accessed on 24 September 2018

² Joshua Baron, Angela O'Mahony, David Manheim and Cynthia Dion-Schwarz - *The Current State of Virtual Currencies (Chapter 2 from National Security Implications of Virtual Currency: Examining the Potential for Non-state Actor Deployment)* (2015) Available at <http://www.jstor.org/stable/10.7249/j.ctt19rmd78.8/> Last accessed 23 June 2018

³Joichi Ito, Neha Narula, and Robleh Ali, *The Blockchain Will Do to the Financial System What the Internet Did to Media* - Harvard Business Review Harvard Business Review (8 March 2017 edition updated on 9 March 2017) Available at <https://hbr.org/2017/03/the-blockchain-will-do-to-banks-and-law-firms-what-the-internet-did-to-media> Last accessed on 23 November 2019

through processes and procedures of secret codes and cipher systems, (5) it allows transactions to be performed solely by an owner/proprietor who can prove current ownership of the transaction units via a transaction statement and it is only they who can change of the proprietorship of the cryptographic units in question, and (6) In the event 2 different commands to change the units proprietorship and entered at the same time only one of the said instructions will be effected.⁴

Industry sectors	Primary function
Exchanges	Purchase, sale and trading of cryptocurrency
Wallets	Storage of cryptocurrency
Payments	Facilitating payments using cryptocurrency
Mining	Securing the global ledger ("blockchain") generally by computing large amounts of hashes to find a valid block that gets added to the blockchain

Fig1: Key cryptocurrency sectors and their functions
 – adapted from Hileman & Rauchs, 2017

The industry sectors can be classified into the exchanges, wallets, payments and mining. Though the sectors are depicted as having different functions in reality the boundaries have become extremely blurry.⁵

⁴Jan Lansky, *Possible State Approaches to Cryptocurrencies* Journal of Systems Integration (2018) Vol.9 No.1. Available at <http://dx.doi.org/10.20470/jsi.v9i1.335> Last accessed on 23 November 2019

⁵Garrick Hileman and Michel Rauchs, *Global Cryptocurrency Benchmarking Study* (2017) University of Cambridge Judge Business School Available at https://www.jbs.cam.ac.uk/fileadmin/user_upload/research/centres/alternative-finance/downloads/2017-04-20-global-cryptocurrency-benchmarking-study.pdf Last accessed 24 September 2018

1.2 **BACKGROUND:**

Cryptocurrency enthusiasts consider Bitcoin to be the most disruptive technology that the world has seen since the emergence of the world wide web and the internet⁶ with its underlying blockchain technology being defined as the Internet of Value which is a transformative step up from the internet of information⁷ which we are currently in. The digital currency is traced to a whitepaper authored by its anonymous developer going by the pseudo-name Satoshi Nakamoto in 2009⁸ following closely on the heels of the world financial crisis of 2008. This crisis was precipitated by the collapse of Lehman Brothers Holdings Inc. the then fourth largest investment bank in the United States of America and which greatly affected the banking system in the United States of America and further had a domino effect on global markets creating the biggest global financial crisis and paralleled only by the aftermath of the collapse of Enron.⁹ Bitcoin was then touted as a viable alternative to fiat currencies (legal tender) as the intermediaries and issuers of currencies had “failed”. In a nutshell bitcoin was a peer-to-peer electronic cash system based on cryptographic proof instead of trust enabling any two willing parties to transact directly without any need for a trusted third party.¹⁰ Since the inception of Bitcoin the terms digital currency, virtual currency and cryptocurrency have increasingly come to be used interchangeably though there are some nuances to

⁶ Finn Brunton, *Digital Cash – The Unknown History of the Anarchists, Utopians, and Technologists Who Created Cryptocurrency* (2019) Princeton University Press Princeton and Oxford pg.18

⁷ Don Tapscott and Alex Tapscott, *Blockchain Revolution: How the Technology Behind Bitcoin & Other Cryptocurrencies is Changing Money, Business and the World* (2016) Portfolio/Penguin pg.23

⁸ Satoshi Nakamoto, *Bitcoin A Peer-to-Peer Electronic Cash System* Available at <https://bitcoin.org/bitcoin.pdf> Last accessed 20 September 2018

⁹ Mike Adu-Gyamfi, *The Bankruptcy of Lehman Brothers: Causes, Effects and Lessons Learnt* - Journal of Insurance & Financial Management, Vol.1, Issue 4 (2016) 132-149. Available at <https://journal-of-insurance-and-financial-management.com/index.php/JIFM/article/view/36/pdf> Last accessed on 22 November 2019

¹⁰ International Finance Corporation Blockchain Report, *Opportunities for Private Enterprises in Emerging Markets*, Second and Expanded Edition January 2019 Available at <https://www.ifc.org/wps/wcm/connect/8a338a98-75cd-4771-b94c-5b6db01e2797/201901-IFC-EMCompass-Blockchain-Report.pdf?MOD=AJPERES> Last Accessed 7 May 2019

the same.¹¹ Digital currency being the blanket term used to describe all electronic money including both virtual and cryptocurrency¹², virtual currencies for their part are a type of digital currency typically controlled by its creators and used and accepted among members of a specific virtual community¹³ and finally the “crypto” in cryptocurrency referring to the fact of encryption algorithms and cryptographic techniques to ensure security in their use across networks.¹⁴ A number of international institutions are further increasingly using the term “cryptoassets” in place of cryptocurrencies as the space evolves.

The decade that has followed the phenomenal uptake of Bitcoin has spawned the birth of a multitude of other cryptocurrencies around the world and created significant interest in its underlying blockchain technology. Blockchain technology refers to a decentralised peer-to-peer network that maintains a ledger that uses cryptographic tools to maintain the integrity of transactions and the integrity of the ledger itself, and a protocol-wide consensus mechanism that verifies the data and determines if, when, and how to update the ledger.¹⁵ Blockchains are also referred to as Distributed Ledger Technology (DLT) though financial institutions, experts and scholars in the field have demonstrated a preference to use the term blockchain to describe this peer-to-peer technology.

It is considered that the extensive use of mobile based services, particularly in Africa and Asia, provides an easy avenue for a blockchain-based system to extend its

¹¹ Yessi Bello Perez, *The Differences Between Cryptocurrencies, Virtual, and Digital Currencies* (19 February 2019) Available at <https://thenextweb.com/hardfork/2019/02/19/the-differences-between-cryptocurrencies-virtual-and-digital-currencies/> Last accessed on 27 February 2019

¹² Yessi Bello Perez Ibid Supra Note 11

¹³ Yessi Bello Perez Ibid Supra Note 11

¹⁴ Yessi Bello Perez Ibid Supra Note 11

¹⁵ Josias Dewey, Holland & Knight LLP, *Global Legal Insights – Blockchain & Cryptocurrency Regulation* (2019) First Edn. Global Legal Group Ltd, London pg.6 Available at https://www.acc.com/sites/default/files/resources/vl/membersonly/Article/1489775_1.pdf Last accessed on 31 May 2020

services¹⁶ and as such Kenyans have not had any significant conceptual challenges in uptake given that the MPESA revolution which commenced in 2007 created a natural fit. Today the country is considered to be one of the earliest adopters on the continent of Bitcoin and a number of other virtual currencies. The country has gone ahead to post impressive numbers by way of penetration with the total number of Bitcoin transactions in Kenya being estimated to be worth over \$1.5m, according to the Blockchain Association of Kenya.¹⁷

Kenya is touted to be the origin of Africa's tech movement and its innovations birthed our country as the Silicon Valley of innovation in Africa.¹⁸ It is considered to be a leader amongst the drivers of the Silicon Savannah alongside countries like Nigeria and Uganda and has seen significant adoption of Bitcoin, Ethereum, other cryptocurrencies and virtual currencies amongst the tech savvy community and investors keen to get involved in the early stages. The question of regulation, policy and research therefore looms large and there are growing concerns that bitcoin, cryptocurrency and virtual currency activities require to be undertaken within a known framework where users interests are protected and the virtual currency ecosystem ought to be such as to prevent cybercrime, money laundering activities and other activities that may prove to be harmful to individual users, investors and the domestic and global economy in the long run. The question of taxation has also featured intermittently with governments in varied jurisdictions devising strategies of capitalizing on the uptake of cryptocurrencies.

¹⁶IFC Blockchain Report Ibid Supra Note 10 pg.17

¹⁷ Mary-Ann Russon, *Crypto-currencies gaining popularity in Kenya* (22 February 2019) Available at <https://www.bbc.com/news/business-47307575> Last accessed on 27 February 2020

¹⁸ Dipolelo Moime *Kenya, Africa's Silicon Valley, Epicentre of Innovation* (25 April 2016) Available at <https://vc4a.com/blog/2016/04/25/kenya-africas-silicon-valley-epicentre-of-innovation/> Last accessed 7 May 2019

In July 2018 the Finance and National Planning Committee of Parliament, National Assembly questioned the then Cabinet Secretary National Treasury CS Hon. Henry Rotich about the use of bitcoin in the country seeking to know why the Treasury and the Central Bank of Kenya (CBK) had allowed people to venture into the unregulated cryptocurrency space without being licensed to operate and/or be taxed.¹⁹ It is to be noted that within 2 weeks of CS Hon. Rotich being summoned to Parliament the Chairman of the government taskforce, which had been established by the Cabinet Secretary for Information and Communications CS Joseph Wakaba in February 2018, Dr. Bitange Ndemo on Blockchain & Artificial Intelligence released a press statement to the effect that they had issued a report proposing the creation of a digital asset registry to be followed by the establishment of a Central Bank Digital Currency (CBDC) with a nominal value and recognized as legal tender that would be introduced to the market through an Initial Coin Offering (ICO). The CBDC would require to be grounded with graduated forms of regulatory sandboxes, technical piloting and smart regulations. This would be aligned to the country's monetary and fiscal policy.²⁰ This would not be the first time that a regulatory sandbox had been mooted as the Capital Markets Authority (CMA) did so in June 2017 and the CMA issued their Stakeholders Consultative Paper on Policy Framework for Implementation of a Regulatory Sandbox to Support Financial Technology (Fintech) Innovation in the Capital Markets in

¹⁹Kevin Helms, 'Kenya Has Two Weeks to Decide Whether to Regulate Cryptocurrencies' (5 July 2018) Available at <https://news.bitcoin.com/kenya-crypto-regulation/>pg.5 Last accessed on 12 November 2019

²⁰CryptoGuru, *The Kenya Blockchain Taskforce Recommends Creation of a Local Cryptocurrency* (14 July 2018) Bitcoin KE Available at <https://bitcoinke.io/2018/07/the-blockchain-taskforce-recommends-a-digital-currency-for-kenya/> Last accessed 24 September 2018

Kenya²¹ and they followed this up with their Regulatory Sandbox Policy Guidance Note of March 2019.²²

The question of regulation of cryptocurrency is not unique to Kenya and various jurisdictions around the world are seeking to understand this space better and regulate it properly. The United Kingdom through the British Parliament's Treasury issued their report on 19th September 2018²³ effectively calling for regulation of their local cryptocurrency market insisting such rules could help UK be a global centre for crypto-assets.²⁴

1.3 **STATEMENT OF PROBLEM:**

Bitcoin and other cryptocurrency or virtual currency have now been adopted in the country and there is a growing interest in what it is by individual users and investors. Kenya has had one of the first few bitcoin ATM²⁵ and bitcoin exchanges²⁶ and it is reported that Kenyans are holding about Kshs.163,000,000,000.00 (Kenya Shillings One Hundred Sixty-three Billion) in accumulated holdings of Bitcoin²⁷ which translates

²¹ Capital Markets Authority, *Stakeholders Consultative Paper on Policy Framework for Implementation of a Regulatory Sandbox to Support Financial Technology (FINTECH) Innovation in the Capital Markets in Kenya* – (July 2017) Available at https://www.cma.or.ke/index.php?option=com_content&view=article&id=353:stakeholders-consultative-paper-on-policy-framework-for-implementation-of-regulatory-sandbox-to-support-financial-technology-fintech-innovation-in-the-capital-markets-in-kenya&catid=12&Itemid=207 Last accessed 12 November 2019

²² Capital Markets Authority, *Regulatory Sandbox Policy Guidance Note* (December 2018) pg.3 Available at <https://bitcoinke.io/wp-content/uploads/2018/12/Draft-Regulatory-Sandbox-Policy-Guidance-Note-2018.pdf?x47002> Last accessed on 12 November 2019

²³ UK Parliament, *Crypto Assets Report* (19 September 2018) Treasury Committee House of Commons. Available at <https://publications.parliament.uk/pa/cm201719/cmselect/cmtreasy/910/91003.htm> Last accessed on 31 May 2020

²⁴UK Treasury Committee Report Ibid Supra Note 23

²⁵ Coin ATM Radar, *Bitcoin ATM Machine in Nairobi at Kenrail Towers-General Bytes* (10 May 2018) Available at https://coinatmradar.com/bitcoin_atm/4670/bitcoin-atm-general-bytes-nairobi-kenrail-towers/ Last accessed on 8th November 2019

²⁶ 'BitPesa'ebpage(*BitPesa*) Available at <https://bitpesa.co/> Last accessed 23 September 2018

²⁷Brian Ngugi, *Citibank Warns over Risk of Kenya Bitcoins* (14 January 2018) Business Daily Available at <https://www.businessdailyafrica.com/news/Citi-warns-over-risk-of-Kenya-bitcoins/539546-4263658-format-xhtml-rxcrr3z/index.html> Last accessed 24 September 2018

to about 2.3% percent of Kenya's Gross Domestic Product.²⁸ As such in the event of collapse or failure the country would likely experience a negative effect of substantial magnitude.²⁹ This therefore raises the concern about whether or not the legal framework is responsive to this new phenomenon and whether or not there are safeguards to the individual users and investors. Also, the role of government within this space is yet to be clearly defined though various regulators and government departments have either weighed in or otherwise expressed their viewpoints accordingly.

The Researcher has therefore examined this new technological phenomena seeking to establish the nature of cryptocurrency and whether or not it fits into the concept of legal tender as defined by our laws; the regulatory responses to cryptocurrency within the Kenyan regulatory environment; whether cryptocurrency is recognized by the Kenyan legal framework as well as whether or not it is properly and/or effectively regulated and sought to establish lessons learnt from other jurisdictions around the world.

1.4 JUSTIFICATION OF STUDY:

There is a growing consensus that is now often repeated to the effect that Blockchain technology will disrupt, revolutionize and reorganize business and shall in the process redefine companies and economies.³⁰ The killer decentralised app (dApp/DAAP) that has given this technology prominence is the Bitcoin founded on an underlying blockchain technology and which has attracted a dedicated tech community and robust code review process which has transformed it into the most secure and reliable cryptocurrency and/or blockchain. The technology is likened to email such that there

²⁸Kenyan Wallstreet, *Kenya among the Few Countries in the World with Highest per Capita Holding of Bitcoin – Citi* (8 October 2019) Available at <https://kenyanwallstreet.com/kenya-among-countries-world-highest-per-capita-holding-bitcoin-citi/> accessed 24 September 2018

²⁹Brian Ngugi Ibid Supra Note No.27

³⁰ Marco Iansiti and Karim R. Lakhani, *the Truth About Blockchain* - Harvard Business Review Harvard Business Review (January/February 2017) edition Available at <https://hbr.org/2017/01/the-truth-about-blockchain> Last accessed on 23 November 2019

is now the widespread expectation that some form of Bitcoin will persist into the long-term.³¹ That being the case and the vast potential that is projected it is important to consider the place of Bitcoin and other cryptocurrencies. This is especially so given that current payment methods and infrastructures are not built for the challenges of today's cross border commerce, marketplaces and/or person-to-person transactions. There is therefore a need for an informed debate on how the legal system can deal with cryptocurrencies, virtual currencies and digital currencies.³² On the one hand we have a school of thought mostly drawn from blockchain developers and advocates whose philosophy is that methods of data transformation ought to be impossible to corrupt and therefore impossible to police,³³ on the other hand we have those who consider that some form of regulation was inevitable³⁴ particularly since there is a growing realization that while the mathematical code does a great job of removing the intermediaries it does not address the question of human greed and deceit.³⁵

It will therefore be interesting to consider the status of cryptocurrency in Kenya as well as to anticipate which direction Kenyan regulators will follow and possibly generate best fit recommendations that may eventually be used to establish our policy in regards to cryptocurrency or digital currency. Business thinkers around the world believe that the government can play a great role in laying the groundwork for new innovations and

³¹Joichi Ito, Neha Narula, and Robleh Ali Ibid Supra Note No.3

³² Nir Gazit, *Cryptocurrency and Regulation: How the Recent Past Offers a Potential Insight Into How the Seemingly impossible can be achieved* - Global Banking & Finance Review - Issue 10

³³ Shlomit Azgad-Tromer, *Crypto Securities: On the Risks of Investments in Blockchain-based Assets & the Dilemmas of Security Regulation* American Law Review Vol.68.69 pg.120 Available at http://www.aulawreview.org/au_law_review/wp-content/uploads/2018/11/02-Azgad-Tromer.to_Printer.pdf

Last Accessed 24 September 2018

³⁴IFC Blockchain Report Ibid Supra Note 5

³⁵Brian Kelly, *The Bitcoin Big Bang - How Alternative Currencies are About to Change the World* (2015) John Wiley & Sons pg.139

industries³⁶ and Kenya ought to adopt this position to remain true to its moniker - the Silicon Savannah.

From the peer-to-peer white paper authored by Satoshi Nakamoto and the events that have followed it is evident that the nature of bitcoin is global, it is decentralized and it is not issued by any national government. It has no intrinsic value and its value is created by the users who acquire it in the first instance by a process called “mining”. It is also touted to be faster as compared on the international scene to cross-border transfers within the conventional banking system as well as being far more affordable. Bitcoin is also private and independent as it requires no “trusted intermediaries” and though the ledgers are public the identity of the users is anonymous and they are only identified by a code or a number.

The uptake of bitcoin and cryptocurrencies generally has not however been without its challenges key amongst which is its volatility, its susceptibility to theft and its use towards subversive activities. In addition to this since its early years cryptocurrency is associated with crypto-anarchists who consistently espouse strong anti-government and anti-establishment rhetoric. Unfortunately, thus far our legislative framework and the pronouncements of the regulator have adopted an aloof stand of non-interference merely taking steps to warn the investing public that bitcoin and other virtual currencies are not regulated.³⁷

³⁶Ulrich Betz, *Breakthrough Innovation in the 21st Century* (2018) Harvard Business Review Analytic Service Research Report for Merck KGaA, Darmstadt, Germany Available at <http://www.ulrich-betz.de/Dokumente/BreakthroughInnovationinthe21stCentury.pdf> Last accessed on 23 November 2019

³⁷ Central Bank of Kenya, *Public Notice on virtual currencies such as Bitcoin* (December 2015) Available at https://www.centralbank.go.ke/images/docs/media/Public_Note_on_virtual_currencies_such_as_Bitcoin.pdf Last accessed on 23 November 2019

1.5 **STATEMENT OF OBJECTIVES:**

The main aim and thrust of this study has been to capture the global evolutionary dynamics of cryptocurrency, its impact within Kenya and particularly to identify the gaps that have emerged as a result.

1.5.1 To do so the research targets have been geared towards achieving the following objectives:

- (1) to consider, identify and/or establish a working definition of cryptocurrency and its taxonomy.
- (2) to trace the evolution of cryptocurrency and highlight major legal events that have impacted and/or shaped the development of the various types of cryptocurrencies around the world and in Kenya;
- (3) to identify comparative responses to the question of regulation of cryptocurrency in Kenya with other jurisdictions.
- (4) to suggest key areas for regulation, policy and further research intervention in Kenya.

1.5.2 As such the overarching Research Questions of this study were framed to be:-

- (1) What is cryptocurrency?
- (2) Is cryptocurrency money?
- (3) Are there legal consequences of using cryptocurrency?
- (4) Are there any risks attendant to the use of cryptocurrency and how has the legal framework responded to them, in Kenya and around the world?
- (5) Are there any lessons to be learned from different legal responses to the development of cryptocurrency around the world that can be applied to Kenya?

1.6 **HYPOTHESIS:**

1.6.1 The study is designed to test the hypothesis that

- (1) The use of cryptocurrency though highly innovative remains largely unregulated within the Kenyan legal framework; and
- (2) An assessment of other jurisdictions around the world is of great benefit in providing lessons and/or determining the best regulatory response that ought to be adopted by the Kenyan regulatory framework.

1.7 **RESEARCH METHODOLOGY:**

1.7.1 This project is a doctrinal consideration of the legal theories, jurisprudence and legal philosophy impacting cryptocurrency as well as the approaches surrounding this new global phenomenon. The doctrinal focus of the same being on two distinct words, that is to say, innovation and regulation in general, and in particular, the innovation of cryptocurrencies, virtual currencies and/or cryptoassets vis-à-vis public interest regulation.

1.7.2 There is value in further outlining that the nature and context of cryptocurrencies and/or virtual currencies entailed contextualizing the same within the geo-political, economic, sociological, anthropological and technological dynamics that have had a huge impact on their development lending a distinct interdisciplinary flavour to the work.

1.7.3 The methodology consisted substantially of literature review and desk research from internal records and database sources, the internet, institutional libraries, trade associations, government agencies, and published reports. Therefore, this being a relatively new area and given the nature of the emerging fundamentally being internet based, a considerable portion of the technical material and information was obtained online.

1.8 **LIMITATIONS:**

The area of cryptocurrency is fairly new and therefore the number of academic articles, data and /or reports is depressed. It is also a fast-evolving area which has dramatically changed even during the pendency of the research and what may hold today may be obsolete in a fairly short timeframe.

1.9 **THEORETICAL FRAMEWORK**

The research paradigm of this study is an overview of the theoretical foundations and challenges surrounding cryptocurrency particularly based upon the concepts of the libertarian economic theory of innovation, the public interest theories of regulation as well as the inherent conflict and tension between both extremes and in particular how these apply to cryptocurrencies. The opportunities and challenges that may arise have also been considered as well.

1.9.1 **The Libertarian Theory of Innovation vis-à-vis Cryptocurrency:**

Libertarians are not a homogenous group though the common threads that permeate this school of thought is that most, if not all, activities that are undertaken by the state should be abandoned or undertaken by private entities. Thus, the leading thinkers such as Robert Nozick, Michael Levin and Ayn Rand are united in their view of limited of government where the only role of governmental authority is to protect persons and property from force or the threat of force.³⁸

Possibly the most influential thinker in relation to innovation and cryptocurrency would be Frederick Hayek, the Austrian lawyer-cum-economist who wrote the trilogy entitled *Law, Legislation and Liberty* and comprising Rules and Order (Volume 1), Mirage of

³⁸ Walter Block “*The Libertarian Minimal State?: A Critique of the Views of Nozick, Levin and Rand*” (2002) The Journal of Ayn Rand Studies 4, No.1: 141-60. Available at <http://www.jstor.org/stable/41560207> Last Accessed 28 August 2020.

Social Justice (Volume 2) and the Political Order of a Free People (Volume 3).³⁹ Per Richard Posner, Hayek was famous for 2 ideas, to wit, first socialism (in the sense of public ownership of the means of production) is unworkable because it requires more information about the economy than could possibly be obtained and processed by a central planning board. The information necessary for the operation of the economy is dispersed among the multitude of individuals who engage in economic activity. Each has a tiny amount of the relevant information and the price system is the only feasible way in which the information possessed by each can be pooled and translated into an efficient schedule of economic outputs. His second idea was that socialism, even in the limited form advocated by the British Labour Party of the day, would if adopted lead inexorably to totalitarianism⁴⁰. His first idea has been used liberally in arguments in support of innovation within the context of the internet oft described as the sensible notion of innovation⁴¹ to the effect that there are two basic values that must be maintained in any succinctly complex system characterized by spontaneous order through local knowledge and interactions: (1) upholding the purposes of the individual agents in the system, and (2) upholding the rules of just conduct that will maintain and further the overall order. Any other legislated rules or aims are necessarily futile at best, and destructive at worst, for they lack the local knowledge and the purposes of the individuals that make up the overall system.⁴² This concept of innovation also known

³⁹F.A. Hayek, *Law, Legislation, and Liberty: a New Statement of the Liberal Principles of Justice & Political Economy* (2013) Vol.1, 2 & 3 Reprinted by Routledge Classics. The volumes were first published in 1973, 1976 and 1979 respectively.

⁴⁰Richard A. Posner, *Hayek, Law, and Cognition* (2005) 1 New York University Journal of Law of Liberty 147 Available at https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2913&context=journal_articles Last accessed on 24 September 2019

⁴¹Mathias Bärwolff, *Discrimination, Liberty, and Innovation - Some Thoughts on the Invariable Trade-offs of Normative Purposes & Technical Means on the Internet* (2009) 5 <<http://conferences.sigcomm.org/context/2009/workshops/research/papers/Barwolff.pdf>> accessed 24 September 2018.

⁴² Mathias Bärwolff Ibid Supra Note 41

It is important to note that Bärwolff however considers innovation within a fairly narrow prism such that innovation ought primarily to refer to the freedom of individuals to deploy and disseminate inventions. According to his thinking therefore, it should not mean that dissemination is to be free of charge, nor should it assume away

as catallaxy has further been adopted into the thinking around cryptocurrency and has come to mean not only “to exchange” but also “to admit into the community” and “to turn a foe into a friend”. The catallaxy is a “spontaneous order,” in which social rules and the patterns of behavior based on them emerge, not from conscious design, but as the unintended though orderly consequences of an untold number of purposeful individual actions⁴³. The term catallactics is defined as “the science of exchange”, because it studies economics by looking at the primary evidence: individual transactions⁴⁴ and it prescribes diminished size and scope of government while emphasizing on value-for money to the taxpayer, i.e. 'efficiency', and the substitution of government administration by market or pseudo-market formations.⁴⁵ The basic policy implication of the Austrian school of thought largely influenced by Hayek’s work is the uncompromising advocacy of free market policies.⁴⁶

It is therefore safe to conclude that libertarians argue for less reliance on government and emphasize that the legal order ought to be based primarily on the markets and market players. They are therefore more inclined to approach government involvement along the lines of deregulation and privatization and even then with a focus only on security and protection to safeguard the integrity of private property and liberty and their conception can best be articulated as done so in the classic John Locke social

the roles of intermediaries, for innovation is always more than simply dropping an invention onto a preexisting and well-defined “infrastructure”: Innovation means taking risks, driving integration so as to ease frictions, and thus shaping new structures, changing that which was before.

⁴³ Sanford Ikeda, *Dynamics of the Mixed Economy: Toward a Theory of Interventionism* (1997) Routledge pg.55

⁴⁴Francis Pouliot, *Catallaxy: The Origins of Bitcoin, Innovation and Spontaneous Order* (19 September 2017) Available at <https://medium.com/@francispouliot/catallaxy-the-origins-of-bitcoin-and-innovation-93dbc3190eac> Last accessed 24 September 2018

⁴⁵Nesta Devine, *Catallactics: Hayek's 'Evolutionary' Theory of Economics, Applied to Public Policy and Education Through Competition and Market Forces* (1999) Paper presented at AARE Annual Conference Melbourne 1999 Available at

<https://www.aare.edu.au/data/publications/1999/dev99089.pdf> Last accessed on 23 November 2019

⁴⁶Jürgen Wandel and Vladislav Valentinov, *The Nonprofit Catallaxy: An Austrian Economics Perspective on the Nonprofit Sector* (2014) Voluntas: International Journal of Voluntary and Nonprofit Organizations, Vol. 25, No. 1 (February 2014), pp. 138-149 Springer Available at <https://www.jstor.org/stable/42630960> Last accessed: 20th October 2019

contract theory where persons, in this case innovators and users of cryptocurrencies contract with each other and/or their sovereign to enter into an a civil society whereby they delegate limited powers to the government for purposes of retaining social order.⁴⁷

1.9.2 **The Concept of Public Interest Theory of Regulation vis-à-vis Cryptocurrency:**

Todd Sandler reviewing Olson’s *Power and Prosperity: Outgrowing Communist and Capitalist Dictatorships*⁴⁸ observed that Olson and writers like Douglas C. North supported the view that every market economy required to have in place well defined property and individual rights framework provided for and oversighted by governments. This is because in the absence of such oversight we descend into “a natural state of anarchy” where inordinate time and resources would be spent in guarding possessions.⁴⁹ He makes a case for government intervention not only in assuring the property and individual rights but goes further to provide for a viable system of taxation to facilitate the government in such endeavours.⁵⁰

As such it is evident that market failure is the primary fundamental and motivating reason for the entry of regulation. Once the regulatory body is established its *raison d’être* is to decrease or otherwise remove inefficiencies that may arise from market failure.⁵¹ Per Posner the term regulation also includes taxes, subsidies, legislative and administrative controls over rates, entry and other nuances of economic activity. He

⁴⁷John Locke, *Two Treatises of Government* (2003) 14th Reprint Cambridge University Press

⁴⁸Todd Sandler, *Review of Mancur Olson Power and Prosperity Outgrowing Communist and Capitalist Dictatorships*. New York. Basic Books, 2000 pp272 (Dec 2001) *Journal of Economic Literature* Vol.39. No.4 pp.1280-1282 Available at <https://www.jstor.org/stable/2698562> Last accessed on 28 September 2019

⁴⁹Todd Sandler Ibid Supra Note 48 pg. 1281.

⁵⁰ Todd Sandler Ibid Supra Note 48 pg. 1281.

⁵¹ Sam Peltzman, Michael E. Levine & Roger G. Noll, *The Economic Theory of Regulation after a Decade of Deregulation*’ (1989) Brookings Institutional Press Vol. 1989 pp.1-59 Available at <https://www.jstor.org/stable/2534719> Last accessed on 28 September 2019

categorises the two key schools of thought on economic regulation to be on the one hand the “public interest” theory and on the other is the “capture” theory.⁵²

The Public Interest Theory is based on the assumption that economic markets are extremely fragile and are susceptible to operating inefficiently or inequitably if left alone. The government therefore steps in due to public demand for the rectification of palpable and remediable inefficiencies and inequities in the operation of the free market. The importance of government regulation is virtually costless. Market failure is the primary fundamental and motivating reason for the entry of regulation.

Within the Kenyan context of cryptocurrency and as earlier outlined the Kenyan public is holding about Kshs.163,000,000,000.00 (Kenya Shillings One Hundred Sixty-three Billion) in accumulated holdings of bitcoin which translates to about 2.3% percent of Kenya’s GDP.⁵³ In the event of market failure therefore there could be some very negative impacts on the virtual currency market which will conceivably affect the mainstream economy creating the rationale for regulation.

In addition to market failure another key justification for regulation as pertains to cryptocurrency lies in the fact that it tends to attract interest from individuals and entities who are keen on anonymity and who may use this as a cloak for terrorism, insurgent and criminal activities. Thus, regulation ought to be geared towards ensuring that virtual currencies are not utilized for illicit activities such as trade in drugs, guns, weapons of mass destruction, fundraising and/or money laundering.⁵⁴

⁵²Richard A. Posner, *Theories of Economic Regulation* (1974) The Bell Journal of Economics and Management Science Vol.5 No.2 pp.335-358 Available at <https://www.jstor.org/stable/3003113> Last accessed on 28 September 2019

⁵³ Brian Ngugi Ibid Supra Note 27

⁵⁴Joshua Baron, Angela O'Mahony, David Manheim & Cynthia Dion-Schwarz Ibid Supra Note 2

1.10 **CHAPTER BREAKDOWN:**

Chapter One is an introductory statement briefly stating the background and historical development of cryptocurrency and virtual currency around the world. The conceptual and theoretical framework covers the key concepts of the study being the concept of cryptocurrency and/or virtual currency, the concept of money, legal tender, banking and their impact on cryptocurrency, the concept of libertarian economic theory, innovation and its interplay with cryptocurrency, the concept of public interest regulation vis-à-vis cryptocurrency. A consideration of the prevailing legal framework or lack thereof has also been outlined and a comparative analysis of the different approaches to cryptocurrency from a global perspective has been considered taking care to identify jurisdictions in which cryptocurrency and virtual currencies have seen high adoption and the administrative and legislative steps taken by the respective states with emphasis on the competing concepts of libertarian innovation on the one hand and public interest regulation on the other with an indepth consideration of the value of adopting public interest regulatory thinking and scholarship within the context of cryptocurrency. The statement of the research problem has been outlined together with the justification and value of the study culminating in the statement of the objective of the study. The research methodology of the study and a consideration of the data analysis, result and a discussion of the same has further been done.

Chapter two charts the history and development of cryptocurrency, tracing it from the self-contained gaming groups and social networks that it first emerged in and laying a basis for appreciating the *raison-d'être* of virtual currencies following the global financial crisis and the effects this has had on the evolution of Bitcoin, Ethereum and other virtual currencies. A consideration of the nature and classification of cryptocurrency is undertaken taking care to compare and contrast it with legal tender

and note the resultant advantages and disadvantages of cryptocurrency. It has also been critical to consider and identify the risks associated with cryptocurrency and virtual currency especially in relation to anti-money laundering initiatives, taxation and the use of cryptocurrency for subversive activities.

Chapter three undertakes a critical analysis of the existing regulatory framework in Kenya or lack thereof. An examination of the regulatory responses by the concerned regulatory agencies has also been reviewed and documented. An identification of the advantages of the prevailing system and/or approach together with its weaknesses and disadvantages is laid out to better understand the legal issues that have/have not been addressed.

As the regulatory responses by world agencies in the various jurisdictions vary, in chapter four, a comparative analysis of the different approaches to the Bitcoin/Cryptocurrency conundrum and the approaches adopted by various national governments and how they have handled the question of bitcoin, cryptocurrency and virtual currencies is canvassed drawing from various jurisdictions around the world for instance within African countries primarily Nigeria, Uganda and South Africa, Australia and New Zealand, the European Union, Japan and other Asian countries, United Arab Emirates and other Middle East Countries, the United States of America and Canada. In summary the responses by various governments around the world fall into four categories, with the first group giving an outright ban; a second group takes the stance that it is legal but are non-interventionist; the third group considers it legal and they require users to comply with taxation and/or anti-money laundering legislation or both; the fourth group which is limited in number have set up a legislative regulatory framework e.g. Japan and the United States though the provisions in each jurisdiction differs substantially.

The summary of findings is set out at Chapter Five which also contains the conclusions of the study and the recommendations and a statement on areas for further research.

1.11 SUMMARY:

This introductory chapter set out to examine, define and understand the emergence of Bitcoin and the exponential growth of Cryptocurrency. Cryptocurrency is considered to possibly be the most disruptive technology the world has seen since the advent of the personal computer and the internet. Considering the now almost unquestioned premise that Cryptocurrency and especially the underlying Blockchain technology will disrupt, revolutionize and reorganize business and shall in the process redefine companies and economies including the Kenyan economy the concern that therefore arises is whether or not the Kenyan legal framework is responsive to this new phenomenon and whether or not there are safeguards to individual users and investors as well as to consider, identify and/or combat risks arising from and or related with to the adoption of Cryptocurrency especially within the context of theft, anti-money laundering and their use in subversive activities.

The researcher hypothesized that the Kenyan Government ought to create a conducive environment for innovation in financial technology, virtual currency and cryptocurrency while simultaneously providing a sufficiently robust protective legal framework and system within which the Kenyan citizens' rights to protection of both private property and liberty are met. The research further hypothesized that any considerations of how any resultant income would be handled from a tax perspective also ought to be clarified.

There have been 2 contrasting and conflicting theories that have been at the core of this study. Firstly, is the libertarian theory of innovation first postulated by Nobel Laureate

Frederick Hayek, the Austrian-cum-economist an unapologetic and uncompromising advocate for free and unfettered market policies. The libertarian school of thought argues for less reliance on government and emphasizes that the legal order ought to be based primarily on a spontaneous order guided solely by markets and market players resulting in a unique though usually complex system emerging solely out of the said market knowledge and interactions. The libertarians further push the concept of private money provided in these private markets to challenge the traditional government monopoly of supply of money and any rules within the system being those resulting out of just conduct by consensus of the players.

Secondly, there is at the opposing side the concept of public interest theory of regulation based on the foundation that market economies require proscribed property and individual rights controlled, managed and/or regulated by governments in the absence of which we descend into a natural state of anarchy where considerable time and resources are spent safeguarding our possessions. Further, provision for taxes to facilitate government in such endeavours requires to be made. The public interest theory is founded on the assumption that market economies can be fragile or otherwise operate inefficiently or without equity if left to their own devices without regulatory oversight. Sovereigns are accordingly called upon to step in due to public demand to rectify and remedy any inefficiencies and inequities within free markets.

To investigate the problem the researcher set up 4 objectives being (1) to consider, identify and/or establish a working definition of cryptocurrency (2) to trace the evolution of cryptocurrency and highlight major legal events that have impacted and/or shaped the development of cryptocurrency around the world and in Kenya (3) to identify comparative responses to the question of regulation of cryptocurrency in

Kenya and other jurisdictions; and (4) to suggest key areas for regulation, policy and further research intervention in Kenya.

To achieve the foregoing aims the study has considered (1) the various categorization of the variety of cryptocurrencies that have emerged and continue to emerge and how the legal framework ought to respond with view to eliminating and/or mitigating the risks associated with cryptocurrency; (2) how other countries around the world have responded to the growing influence of cryptocurrency and what regulatory responses have been adopted vis-à-vis how Kenya has responded to the advent of cryptocurrency and virtual currencies in general is considered. The aim of the regulatory framework being to make the illegitimate use of cryptocurrencies less attractive⁵⁵ and preferably downright painful for any perpetrators and/or offenders.

The Research Questions have therefore been framed to be (1) What is cryptocurrency? (2) Is cryptocurrency money? (3) Are there legal consequences of using cryptocurrency? (4) Are there any risks attendant to the use of cryptocurrency and how has the legal framework responded to them, in Kenya and around the world? (5) Are there any lessons to be learned from different legal responses to the development of cryptocurrency around the world that can be applied to Kenya?

In the next chapter the study will discuss the history and development of cryptocurrency.

⁵⁵ Omri, Marian Ibid Supra Note 38

CHAPTER TWO: HISTORY, DEVELOPMENT & TAXONOMY OF CRYPTOCURRENCY

2.1 A BRIEF HISTORY OF MONEY & LEGAL TENDER:

Since the emergence of Bitcoin and the subsequent proliferation of cryptocurrencies the debate as to whether cryptocurrency/virtual currency is equivalent to cash, a replacement for cash, a digital asset or otherwise just a means of exchange over digital platforms continues unabated. The one sure thing is that cryptocurrencies have become a global phenomenon and they have made a gigantic contribution to the paradigm shift in the way we view financial transactions as well as created a giant leap in technology particularly arising from the blockchain decentralized digital system. Further in the wake of the development and deepening of cryptocurrencies new challenges to regulation have arisen primarily in the traditional areas of tension in financial regulation, that is to say, anti-money laundering and consumer protection as well as new ones such as data privacy abuse coupled together with questions regarding the tax implication of trade in cryptocurrency.

Traditionally money has come to be defined as a store of value, a unit of account, and a medium of exchange, accepted and/or backed by a government. Currency for its part is considered to be a variation on money; it is money that is generally accepted as a form of money, it flows within an economy and is accepted as a medium of exchange. Money essentially becomes authorized as part of a nation's currency.⁵⁶ As it has become tempting to consider cryptocurrency as money it is accordingly impossible to consider the development of virtual money or cryptocurrency without first tracing the background of money particularly to its role as legal tender and its subsequent

⁵⁶ Ed Howden, *The Crypto-Currency Conundrum: Regulating an Uncertain Future* (2015) Emory International Law Review, Vol. 29, No. 4, 2015. Available at SSRN: <https://ssrn.com/abstract=2821358> Last accessed on 3rd November 2019

monopoly by sovereign states to back it up. The growth of regulators to monitor and manage money has also had a significant bearing on our concept of money and how the same is handled in any economy. This is because money is merely an idea⁵⁷ albeit a powerful one and at its core it can be said to be a system of mutual trust described by Prof. Yuval Noah Harari to be the most universal and most efficient system of mutual trust ever devised.⁵⁸ It is based on 2 universal principles, to wit, universal convertibility and universal trust that have enabled strangers to cooperate effectively in trade and industry.⁵⁹ These universal principles are not entirely without challenges and on occasion it has served to corrupt human values and intimate relations⁶⁰ thereby creating the need to appoint a sovereign power to determine or back its value and when required take steps, including the threat of violence and/or violence sometimes stated as power and the threat of power, to assure its value and stability. To understand the evolution of money it is crucial to appreciate the key determinants of how money is utilized including economics, geography, technology, social and political factors.⁶¹

The general consensus amongst historians and economists appears to be that the worlds' oldest form of exchange is barter trade which traditionally has been defined to involve the direct exchange of goods and/or services between two or more trading partners.⁶² Barter replaced self-sufficiency and increased efficiency by allowing for

⁵⁷ Clem Chambers, *Money is Merely An Idea* (2013) Forbes Available at <https://www.forbes.com/sites/investor/2013/07/29/money-is-merely-an-idea/#7e653d847377> Last accessed on 5 January 2019

⁵⁸ Yuval Noah Harari *Sapiens: A Brief History of Humankind* (2015) Vintage pg.201

⁵⁹ Yuval Noah Harari Ibid Supra Note 58 pg.208

⁶⁰ Yuval Noah Harari Ibid Supra Note 58 pg.209

⁶¹ Agustin Carstens, *Money & Payment Systems in the Digital Age* (1 November 2018) Speech delivered by General Manager Bank for International Settlements at the Finance & Global Economics Forum of the Americas – University of Miami Business School Available at <https://www.bis.org/speeches/sp181101.htm> Last accessed on 5 January 2019

⁶² Portia Oliver & Mercy Mpiganjira, *Barter Trading: An Empirical Investigation of Management Practices* (December 2011) African Journal of Business Management Vol. 5(31), pp. 12256-12263 Available at <https://academicjournals.org/journal/AJBM/article-full-text-pdf/718C75519336> Last accessed on 5 January 2019

increased specialization⁶³ and historically it is said to have preceded money.⁶⁴ A large number of economists further relate a stylized “history of money” to the following effect: As specialization caused problems in coordinating trade, societies naturally settled upon certain commodities, usually metals, as media of exchange. Later the minting of a certain quantity and/or quality of a metal into coin acted as a signal of the quantity and purity of the metal. The signals of standardization needed credibility and the process of standardization was therefore frequently undertaken by governments who had established a reputation for some degree of honesty (which they frequently exploited). From coinage, which was commodity money in most senses, it was a relatively small step to substitute the use of paper representing contracts between the bearer and a bank or government.⁶⁵ In the twentieth century the gold standard⁶⁶ was abandoned in favour of a new monetary system that was based on a country’s wealth and trustworthiness and this is what is known as fiat currency.⁶⁷

Technology has consistently played a pivotal role in the historical development and evolution of how we perceive and utilize money. For instance, the development of the Uganda Railway brought the coins hinterland⁶⁸ into the East African region where it replaced the use of cowries for a variety of transactions including payment of taxes.

The development of bank printing hastened the replacement of coinage with paper

⁶³ L. Randall Wray, *Introduction to an Alternative History of Money* (3 May 2012). Levy Economics Institute, Working Paper No. 717. Available at SSRN: <https://ssrn.com/abstract=2050427> or <http://dx.doi.org/10.2139/ssrn.2050427> Last accessed on 12 November 2019

⁶⁴ Anne Chapman, *Barter as a Universal Mode of Exchange* (1980) *L'Homme*, T.20, No.3 (Jul-Sep), pp.33 - 83(1980) pg.54 Available at <https://www.jstor.org/stable/25131676> Last accessed on 5 January 2019

⁶⁵ Joseph A. Ritter, *The Transition From Barter to Fiat Money* (1995) *American Economic Review* Vol. 85, No. 1 (Mar., 1995), pp. 134-149 Available at <https://www.jstor.org/stable/2118000> Last accessed on 5 January 2019

⁶⁶ Angela Redish, *Anchors Aweigh: The Transition From Commodity Money to Fiat Money in Western Economies*, (1993) *The Canadian Journal of Economics* Vol. 26, No. 4 (Nov., 1993), pp. 777-795 pg.777 Available at <https://www.jstor.org/stable/135820> Last accessed on 5 January 2019

⁶⁷ Andres Guadamuz & Chris Marsden, *Blockchains and Bitcoin: Regulatory Responses To Cryptocurrencies* (2015) *First Monday* Vol.20 No.12 (7 December 2015) pg.6 Available from Sussex Research Online: <http://sro.sussex.ac.uk/id/eprint/58872/> Last accessed on 27 October 2019

⁶⁸ Glyn Davies, *A History of Money from Ancient Times to the Present Day* (2002, 3rd Edn.) University of Wales Pres Cardiff pg. 36

money which released money from its metallic chains and anchors.⁶⁹ The invention of the telegraph made the electrification of communications a reality and laid the foundation for the creation of the pioneer electronic interbank payment system.⁷⁰ Electronics and the deepening of the internet have further enhanced the development of electrification and digitization of payments.⁷¹

Be that as it may and despite significant scholarship in this area the original purpose of money and the fundamental role it places in any economy still remains a matter without consensus and it can only be classified as contested. What is however agreed by most scholars is that within the historical context money has fulfilled various roles in different jurisdictions and/or geographical locations during different historical epochs as a measure of value, a medium of exchange in market transactions, a store of value and as a means of payment.⁷²

2.1.1 **The Definition & Characteristics of Money:**

Defining what exactly money is has proven to be a surprisingly challenging matter for academia in economic, social and legal spheres. The ancient Greek philosopher Aristotle posited that money or currency is a substance that has *teleos*, a purpose or application which is a value measurement. He further defined the 4 classic characteristics of money to include (1) durability; (2) portability; (3) divisibility; and (4) intrinsic value⁷³. Modern definitions largely ignore the fourth characteristic but

⁶⁹ Glyn Davies Ibid Supra Note 60 pg.175

⁷⁰ Agustin Carstens Ibid Supra Note 62

⁷¹ Agustin Carstens Ibid Supra Note 62

⁷² Jean-Paul Chavas & Daniel W. Bromley, *On the Origins and Evolving Role of Money* (2008) Journal of Institutional & Theoretical Economics Vol. 164, No. 4 (December 2008), pp. 624-651pg.625 Available at <https://www.jstor.org/stable/40752722> Last accessed on 4 April 2019

⁷³ Scott Meikle, *Aristotle on Money* (1994) Phronesis Vol. 39, No. 1, 1994, pp. 26–44. Available at <https://www.jstor.org/stable/4182455> Last accessed 4 April 2020

also include (5) uniformity (6) limited supply and (7) acceptability⁷⁴ as the key characteristics of money.

From a legal perspective in *The State Theory of Money* Georg Friedrich Knapp emphasized that money was a creation of the law arising out of legislative policy and from the legislative activity of the State.⁷⁵ Knapp advocated for a definition of the monetary system of the State that was not too narrow. According to him the criteria could not be limited to the fact that it was issued by the state, which would exclude bank notes, or that it was legal tender as monetary systems frequently accepted money that was not legal tender but rather ought to be defined taking into account what means of payment a State allowed within its monetary system. Therefore, the critical definitive element was the “acceptation” and “state-acceptation”⁷⁶ which delimited the monetary system. As such where if a payer rendered payment, the business was completely concluded as between the payer, the recipient and the issuer and further where the payer no longer had any obligation, the recipient had no further rights against the payer and/or the state where the state had issued the money then this amounted to a monetary system.⁷⁷

This definition not only includes “legal tender” but goes further to encompass any bank notes provided that the state recognizes them in satisfaction of payment. Thus, for instance within the Kenyan context the Central Bank of Kenya is established under Kenyan Constitution⁷⁸ having the sole right to issue and/or withdraw any notes, coins

⁷⁴ B. Ivica Stankovic, R. Aleksandar Mihajlovic & A. Radomir Mihajlovic *Crypto-Currency and E-Financials* (2014) 4 International Journal of Economics & Law 132 Available on Central & Eastern European Online Library - Heinonline p.135 Last accessed on 4 April 2019

⁷⁵ Georg Friedrich Knapp, *The State Theory of Money* (1924) Macmillan & Co. Limited pg.40

⁷⁶ Georg Friedrich Knapp Ibid Supra Note No.75 pg.95

⁷⁷ Georg Friedrich Knapp Ibid Supra Note No.75 pg.102

⁷⁸ Constitution of Kenya - Article 231(2)

and legal tender.⁷⁹ CBK is further responsible for the critical functions of formulating monetary policy, establishing, maintaining and promoting price stability, issuing currency and it also performs other regulatory functions. The Central Bank of Kenya Act⁸⁰ further outlines the country's monetary system by providing that the unit of currency shall be the Kenya Shilling.⁸¹ What this means is that by legislative fiat payers, recipients and the state engage in transactions with the Kenya Shillings in Kenya and all monetary obligations are recorded, settled and discharged in this Kenyan currency⁸². The currency of Kenya being defined to mean the bank notes and coins issued by the CBK and it further includes any right to receive such bank notes or coins as a credit or balance at a bank or financial institution located within or outside Kenya.⁸³ The Act further goes to provide for the application and/or acceptance of foreign currency within the Country.⁸⁴

The importance of Knapp's approach is that in a country such as Kenya we observe that not only do we use bank notes and coins, the traditional fiat currencies, to complete payments but we have further monetary systems that are recognized by law and in practice including electronic payments such as RTGS, Mpesa mobile payments, plastic cards/money and the like. Thus, any person who makes payment using statutory approved technology is deemed to have lawfully and fully discharged their payments through any of the modes of payments duly recognized by CBK.

⁷⁹ Sections 4A(1)(f) and 22(1) of the Central Bank of Kenya Act (Cap 491) further expounds on the currency, notes, coins and legal tender which are only legal tender if issued by the Central Bank of Kenya.

⁸⁰ The Central Bank of Kenya Act (Cap 491)

⁸¹ CBK Act Ibid Supra Note 80 - Section 19(1)

⁸² CBK Act Ibid Supra Note 80 - Section 21

⁸³ CBK Act Ibid Supra Note 80 - Section 2

⁸⁴ CBK Act Ibid Supra Note 80 - Section 2

2.1.2 Snapshot of the Evolution of Payment Systems:

Warren J. Samuels in his book review of *The Legal History of Money in the United States 1774-1970* by James Willard Hurst further noted that monetary systems are not given by nature, nor are they created once and for all time. Rather they emerge out of a series of private and government actions not always undertaken deliberately and in an informed manner.⁸⁵

Money has acted as a means of payment for a long time and most especially during the periods of coinage when the face value of the coin coincided with the value of the metal it was fashioned out of whether gold, silver or copper. In time governments experimented with token values on the coins enabling them to deface the value on the coins to represent a certain amount full bodied or large denomination coin or currency backed by the government.⁸⁶ This has generally come to be termed the metal/gold standard.⁸⁷ The gold and silver large coins established weight and fineness however money was not designed to be kept but was rather geared towards favouring the circulation and/or exchange of goods.⁸⁸ In time the tokens were replaced by paper money/bills of exchange and this marked the onset of payment systems monopolized by governments and the emergence of the prevalent fiat backed currency approach around the world.⁸⁹ In contemporary markets governments now issue paper money by decree which determines its validity and the strength of the respective governments determines the value of the paper currency and the currency thereby produced is said

⁸⁵ Warren J. Samuels, *The Legal Foundations of Money - A Book Review of The Legal History of Money in the United States 1774-1970* by James Willard Hurst (1974) Reviews in American History, Vol. 2, No. 4 pp.487-494 John Hopkins University Press Available at <https://www.jstor.org/stable/2701062> Last accessed on 20 October 2019

⁸⁶ Thomas J. Sargent & Francois R. Velde, *The Big Problem of Small Change* (1999) Journal of Money, Credit and Banking, Blackwell Publishing Vol. 31(2), pgs 137-161

⁸⁷ Thomas J. Sargent & Francois R. Velde Ibid Supra Note No.86

⁸⁸ Thomas J. Sargent & Francois R. Velde Ibid Supra Note No.86

⁸⁹ Thomas J. Sargent & Francois R. Velde Ibid Supra Note No.86

to be issued by sovereign fiat.⁹⁰ The foregoing is the idealized evolution of money as a means of payment however there are alternative viewpoints⁹¹ which favour a not so linear emergence with various geographical areas experiencing different influences from both the private entities, such as the House of Medici, as well as the governments. However, the point of convergence is that today, practically all markets are irredeemably on a paper standard⁹² backed by fiat. Nevertheless, the import of this is the recognition that there are multiple perspectives to how money and monetary systems developed and evolved.

2.2 THE ORIGINS OF VIRTUAL CURRENCY/CRYPTOCURRENCY:

As early as 1999 Milton Friedman articulated in an interview that the internet would be one of the major forces reducing the role of government.⁹³ And indeed the history and development of Bitcoin, cryptocurrency and/or virtual currency is intricately interwoven with the emergence and development of the internet and it was substantially driven by a group of extropians.⁹⁴ The Extropians were really just an email list, a string

⁹⁰Oren Levintal & Joseph Zeira, *The Evolution of Paper Money* (2009) The Hebrew University of Jerusalem SSRN Electronic Journal Available at <https://dx.doi.org/10.2139/ssrn.1429724> Last Accessed on 11 November 2019

⁹¹ L Randall Wray Ibid Supra Note No.63

⁹² Milton Friedman & Anna J Schwarz, *Has Government Any Role in Money?* (1987) Chapter in the National Bureau of Economic Research out of print Volume entitled **Money in Historical Perspective** (1987) Published by University of Chicago Press (p.289-314) pg.309 Available at <https://www.nber.org/chapters/c7507.pdf> or <https://core.ac.uk/download/pdf/6900301.pdf> Last accessed on 11 November 2019

⁹³ 1999 interview with Nobel Laureate Milton Friedman conducted by NTU/F. Full video: <http://youtu.be/mlwxdyLnMXM>

⁹⁴ Extropians are a group of people espousing the transhumanist philosophy and belief that advances in modern science and technology will eventually enable people to live indefinitely. They share an expectation that there will be considerable and immense advances in computational power, life extension and nanotechnology resulting in indefinite lifespans resulting from future advances in biomedical technology, mind uploading and bodies/brains preserved through cryogenics/cryonics. Modern extropians consider themselves to be a global movement and their views are captured in the Extropist Manifesto written by Max More in 1998 which is available at <https://extropism.tumblr.com/post/393563122/the-extropist-manifesto> Last accessed on 29 February 2020.

Per Finn Brunton (Supra Note No.6) the Extropians fused Austrian economic theories with new technologies and Bay Area techno- optimism to produce a model of transformation through speculative monies— from idea coupons to anonymous digital cash— that could be cryptographically authenticated, with their value backed by the very future they promised to bring about. They tried to accelerate the arrival of their utopia with a financial project to overclock human civilization.

of conferences and events, a magazine and a foundation and a handful of prominent organizers interested in promoting artificial intelligence, cognitive science and neuroscience, intelligence- increase technologies,” “life extension, cryonics and biostasis, nanotechnology, spontaneous orders, space colonization, economics and politics (especially libertarian), science fiction,” studying and producing memes, “morality and amorality,” psychedelics, and prankish weirdness and highbrow trolling.⁹⁵ They hybridized American libertarianism, Austrian economics, the then recent/current technological advances (and prospective fantasies), a science-fictional sensibility, and modish theories of emergence and to this they added a coastal Californian culture and worked on new kinds of money, especially digital cash, as a speculative tool and accelerant to achieve their utopian ideals.⁹⁶

By and large the original stages of the evolution of cryptocurrencies as we know them today and especially upto and including 2013 are perceived to have lived almost exclusively in the realm of coding enthusiasts and criminals⁹⁷ and/or self-styled cypherpunks⁹⁸ and crypto-anarchists/libertarians who set about to build markets and transaction systems together with the social prototypes to go with them that would destroy any government standing in the way of an encrypted society.⁹⁹ Todate the anti-establishment tag continues to dog cryptocurrencies due to this early orientation of the originators of cryptocurrencies.

⁹⁵ Finn Brunton Ibid Supra Note 6 pg.120

⁹⁶ Finn Brunton Ibid Supra Note 6 pg.122

⁹⁷ Brian Kelly Ibid Supra Note 35 pg.21

⁹⁸ Cypherpunks are activists who advocate the widespread use of strong cryptography (writing in code) and similar methods as a route to achieving societal and political (progressive) change. The term cypherpunks is derived from (cryptographic) *cipher* and *punk* and it was added to the Oxford English Dictionary in 2006.

This is per Julian Assange, Jacob Appelbaum, Andy Muller-Maguhn & Jeremie Zimmerman *Cypherpunks: Freedom & Future of the Internet* (2012) OR Books pg. 1

⁹⁹ Finn Brunton Ibid Supra Note 6 pg.80

Early cypherpunks included Tim May who authored the *Crypto Anarchist Manifesto*¹⁰⁰ in 1988 and played a pivotal role in the establishment of the BlackNet (Dark Net) as well as Julian Assange of the Wikileaks fame.¹⁰¹ Contemporary folklore within cryptography circles is that immediately prior to releasing the famous Bitcoin White Paper, Satoshi Nakamoto was in this very active mailing list of cypherpunks where he shared his ideas to them on an email thread¹⁰² and where the very first Bitcoin transactions were effected.

Paradoxically, it was in the collapse of Mt. Gox (Magic: The Gathering Online eXchange) on 7th February 2014 and the arrest of Ross Ulbricht (Dread Pirate Roberts) the creator and inventor of the Silk Road and the federal shutdown that followed that Bitcoin in particular and Cryptocurrency in general captured the general public's attention. These events brought Cryptocurrency into the mainstream global consciousness and the need for security then started receiving the attention it required¹⁰³ and the seriousness it deserved from the media, governments and/or regulatory agencies.

Mt. Gox was launched in 2010 by United States Programmer Jed McCaleb (who later went on to establish Ripple which is today the third largest cryptocurrency). He sold it to Mark Karpelès the French programmer and bitcoin enthusiast in March 2011 who grew it into the world's largest exchange for Bitcoin. A series of hacks led to the loss

¹⁰⁰ This is a 497 page manifesto published in 1988 and loosely tailored upon the Karl Marx's *The Communist Manifesto*. Available at <http://groups.csail.mit.edu/mac/classes/6.805/articles/crypto/cypherpunks/may-crypto-manifesto.html/> Last accessed 30 October 2019

¹⁰¹ Stephen O'Neal, *Tim May: Original Crypto Anarchist Who Was Displeased With Crypto Hype* (18 December 2018) Available at <https://cointelegraph.com/news/tim-may-original-crypto-anarchist-who-was-displeased-with-crypto-hype/> Last accessed 12 November 2019

¹⁰² Stephen O'Neal Ibid Supra Note 101

¹⁰³ Ledger, *Hack Flasback: The Mt.Gox Hack – The Most Iconic Exchange Hack* Available at <https://www.ledger.com/hack-flasback-the-mt-gox-hack-the-most-iconic-exchange-hack/> Last accessed 28 October 2019

of an alarming amount of cryptocurrency necessitating Mt. Gox to file for bankruptcy and to date about 650,000 bitcoin remains unaccounted for¹⁰⁴ and which are currently estimated to be valued at approximately US\$2 Billion.¹⁰⁵ Though theories abound online as to what happened and how it could have been prevented, the present-day status is that Mark Karpelés trial is ongoing in Japan and a Russian national called Alexander Vinnick has been indicted for selling bitcoin from some online crypto wallets considered to belong to Mt. Gox.¹⁰⁶ Further, initiatives to repay crypto traders are currently in the pipeline the most evident of which is GoxRising basically geared towards using civil rehabilitation law as opposed to the Japanese bankruptcy framework¹⁰⁷¹⁰⁸ which is perceived to be cumbersome and slow.

Today Bitcoin and other cryptocurrencies have made significant inroads and the technology upon which it is built, that is, blockchain, is touted to be the greatest disruptive technology after the personal computer and the internet.¹⁰⁹ Microsoft in May 2019 announced that it would accept blockchain as legitimate tender¹¹⁰, Facebook has announced that it plans to launch its own cryptocurrency called the Libra in 2020 and a multitude of governments are investigating the technology¹¹¹ including the Kenyan Government.

¹⁰⁴ Andrew Norry, *The History of the Mt Gox Hack: Bitcoin's Biggest Heist* (31 March 2020) Blockonomi Available at <https://blockonomi.com/mt-gox-hack/> Last accessed on 31 May 2020

¹⁰⁵ Anna Baydakova - *\$2Billion Lost in Mt. Gox Bitcoin Hack Can be Recovered Lawyer* (13 September 2019) www.coindesk.com Available at <https://www.coindesk.com/2-billion-lost-in-mt-gox-bitcoin-hack-can-be-recovered-lawyer-claims> Accessed on 26th October 2019

¹⁰⁶ Anna Baydakova Ibid Supra Note No.105

¹⁰⁷ Anna Baydakova Ibid Supra Note No.105

¹⁰⁸ Anna Baydakova Ibid Supra Note 105

¹⁰⁹ Brian Kelly Ibid Supra Note 35 pg.18

¹¹⁰ Julio Gil-Pulgar, *Microsoft Picks Bitcoin to Create a New Identity System* (14 May 2019) Bitcoinist. Available at <https://bitcoinist.com/microsoft-picks-bitcoin-to-create-a-new-identity-system/> Last accessed on 26 October 2019

¹¹¹ Joey Watson, *Cypherpunks, extropians & Anarchists – Meet the Radical Characters Behind Cryptocurrencies* (18 July 2019) The Money. Available at <https://www.abc.net.au/news/2019-07-18/history-of-cryptocurrency-cypherpunks-extropians-bitcoin/11289788> Last accessed on 26 October 2019

The Libra White Paper for its part outlines that it is the time to create a new kind of digital currency built on the foundation of blockchain technology. The mission for Libra being a simple global currency and financial infrastructure that empowers billions of people. Libra is said to be made up of three parts that will work together to create a more inclusive financial system: (1) It is built on a secure, scalable, and reliable blockchain; (2) It is backed by a reserve of assets designed to give it intrinsic value; (3) It is governed by the independent Libra Association tasked with evolving the ecosystem.¹¹²

The Libra Association is further defined to be an independent, not-for-profit membership organization headquartered in Geneva, Switzerland whose purpose is to coordinate and provide a framework for governance for the network and reserve and lead social impact grant-making in support of financial inclusion. The association's membership is formed from the network of validator nodes that operate the Libra Blockchain and members of the Libra Association will consist of geographically distributed and diverse businesses, nonprofit and multilateral organizations, and academic institutions.¹¹³

The response to Facebook's Libra has however had its challenges though with governments around the world citing its harmful potential: as a vehicle for money laundering, a threat to global financial stability, open to data privacy abuse, dangerous for consumers and stripping nations of the control of their economies by privatizing money supply.¹¹⁴ Regulators around the world were further concerned about

¹¹² Libra White Paper, *An Introduction to Libra* (2019) Available at https://libra.org/en-US/wp-content/uploads/sites/23/2019/06/LibraWhitePaper_en_US.pdf Last accessed on 29 Feb 2020

¹¹³ Libra White Paper Ibid Supra Note 112

¹¹⁴ Richard Partington, *How the Wheels Came Off Facebook's Libra Project* (18 October 2019) The Guardian Available at <https://www.theguardian.com/technology/2019/oct/18/how-the-wheels-came-off-facebook-libra-project> Last accessed on 27 April 2020

Facebook's domination in the Libra project flowing from the company's size, its having conceived of the idea as well as its overriding financial interest in its favourable outcome thereby creating an incentive and/or opportunities for antitrust activities. And in addition to this there is concern in respect of the unforeseen or unintended consequences of creating a platform for for-profit companies to begin issuing currencies and thereby injecting themselves into global economics and geopolitics.¹¹⁵ The critical challenge on how to classify the Libra token and the requirements for its regulation as well as who would regulate its activities further arose.¹¹⁶ Partners such as PayPal, eBay, Visa and Mastercard who were all part of the Libra Association also quit in what was perceived to be a dramatic fashion.¹¹⁷ Given the foregoing challenges the jury is still out as to whether or not Facebook will be eventually launch the Libra Coin given the earlier anticipated mid-2020 launch¹¹⁸ which date is now past.

2.2.1 **Key Stages in the Evolution & Development of Cryptocurrencies:**

As seen above Milton Friedman prophesied that the internet would be among if not the major force that would reduce the role of government further citing digital money and even going so far as to identify its appeal to subversive elements.¹¹⁹ However, probably the earliest *grande* and radical initiatives towards the march to cryptocurrencies/virtual currencies was that of Ted Nelson's Xanadu which later became Xanadu Operating Company (XOR). Early voyeurs took to the internet approaching it as a new frontier with immense opportunities creating the drive towards freedom of the internet founded

¹¹⁵ Nick Statt, *Facebook is Shifting its Libra Cryptocurrency Plans After Intense Regulatory Pressure* (3 March 2020) The Verge. Available at <https://www.theverge.com/2020/3/3/21163658/facebook-libra-cryptocurrency-token-ditching-plans-calibra-wallet-delay> Last accessed on 27 April 2020

¹¹⁶ Nick Statt Ibid Supra Note 115

¹¹⁷ Richard Partington Ibid Supra Note 114

¹¹⁸ Bitcoinist, *Facebook: The Rise of a Giant and the Libra Cryptocurrency* (17 January 2020) Available at <https://bitcoinist.com/facebook-the-rise-of-a-giant-and-the-libra-cryptocurrency/> Last accessed on 29 February 2020

¹¹⁹ Milton Friedman Interview Ibid Supra Note 93

upon the principle that the internet required to be free and open for all. The general consensus being that this would guarantee innovation, freedom of expression as well as economic growth. This approach covered a multitude of initiatives but Xanadu for its part is the first known project aimed at digitizing all human knowledge and weave money at its most fundamental level.¹²⁰ Xanadu was targeted at finding, navigating and above all pricing digital information.¹²¹ It was a model for all human culture, past and future, in which all digital information and money would be inseparable and indistinguishable.¹²² The true structure of Xanadu was one of property, ownership and the circulation of digital money.¹²³ Although Xanadu itself can only be said to have achieved modest success, if at all, the project inspired some of the most visionary computer programmers, managers and executives to pour millions of dollars and years of effort into the project.¹²⁴ Its goals were further shared by many of the smartest programmers of the first hacker generation, to wit, a universal library, a global information index and a computerized royalty system.¹²⁵

The first critical development then came through David Lee Chaum the American computer scientist who is credited with being the pioneer in cryptography and privacy-preserving technologies. He commercialized his ideas in 1989 with the launch of his company DigiCash.¹²⁶ His most significant contribution was to find a way to keep online transactions both anonymous and to prevent double spending by coming up with

¹²⁰ Finn Brunton Ibid Supra Note 6 pg.74

¹²¹ Finn Brunton Ibid Supra Note 6 pg.75

¹²² Finn Brunton Ibid Supra Note 6 pg.75

¹²³ Finn Brunton Ibid Supra Note 6 pg.76

¹²⁴ Finn Brunton Ibid Supra Note 6

¹²⁵ Finn Brunton Ibid Supra Note 6

¹²⁶ Daniel K, *The Early History of Virtual Currency & Cryptocurrency* (5 Oct 2017) Medium.com. Available at <https://medium.com/@danielfskim/the-early-history-of-digital-cash-and-cryptocurrency-b87436711de0> p.9
Last accessed on 12 November 2019

the digital blind signature.¹²⁷ His ideas were presented in a white paper entitled “*Blind Signatures for Untraceable Payments*”.¹²⁸ DigiCash was the first company to come up with a digital cash proposal although its system required a central authority such as a bank to trust its authority.¹²⁹ The payments and processes in the online payments space comprised of Ecash and another system called cyberbucks. Ecash is based on protocols which keep clients anonymous and untraceable and therefore banks could not trace how the clients spent their money. However, the merchants in the system were not anonymous as they had to return coins to the banks which would then know how the merchants were transacting. DigiCash failed largely because of (1) its primary reliance on merchant’s uptake who in the long run opted to utilize credit cards; and (2) it did not support user-to-user transactions effectively. In the end the credit card companies such as Visa, Mastercard prevailed with the Banks.¹³⁰

Nick Szabo, a computer scientist, legal scholar and cryptographer who worked with David Chaum on DigiCash and was a regular contributor to the Cypherpunk list later developed and designed Bitgold¹³¹ which was a mechanism for a decentralized digital currency. Though Bitgold was never implemented it is considered to be the direct precursor to the Bitcoin architecture and it has served as the foundation for the widely

¹²⁷ David Chaum, *Showing Credentials Without Identification Signatures Transferred Between Unconditionally Unlinkable Pseudonyms* (1986) F. Pichler (Ed.): *Advances in Cryptology - EUROCRYPT '85*, LNCS 219, pp. 241-244 pg.242 @Springer-Verlag Berlin Heidelberg 1986 Available at https://link.springer.com/content/pdf/10.1007%2F3-540-39805-8_28.pdf Last accessed on 31 May 2020

¹²⁸ David Chaum, *Blind Signatures for Untraceable Payments* (1993) *Advances in Cryptology—CRYPTO'82*, eds. Plenum D. Chaum, R.L. Rivest, and A.T. Sherman. Plenum Press, New York, 199–203. Available at <http://www.hit.bme.hu/~buttyan/courses/BMEVIHIM219/2009/Chaum.BlindSigForPayment.1982.PDF> Last accessed on 12th November 2019

¹²⁹ Jean-Paul Chavas & Daniel W. Bromley Ibid Supra Note 72 pg.8

¹³⁰ Jean-Paul Chavas & Daniel W. Bromley Ibid Supra Note 72 pgs.9&10

¹³¹ Nick Szabo, *Unenumerated – An unending Variety of Topics* (27 December 2008) Available at <https://unenumerated.blogspot.com/2005/12/bit-gold.html> Last accessed on 12th November 2019

held claim, which he has consistently denied, that Nick Szabo is Satoshi Nakamoto.¹³²

However, as the question of the identity of Satoshi remains the greatest mystery of the digital age Nick Szabo continues to be considered a serious contender to this claim.¹³³

Today the three leading cryptocurrencies by market capitalization are Bitcoin, Ethereum and Ripple¹³⁴ although there are between 3,600 to over 5,000 different types of cryptocurrency in the world presently¹³⁵ and it is impossible to ascertain the number of cryptocurrencies in existence today.¹³⁶ What is irrefutable is that the cryptocurrencies and/or virtual currency markets have grown rapidly and are now touted as being a growing megatrend with unlimited potential and opportunities.¹³⁷

2.2.2 **What therefore is Cryptocurrency?**

There is no accepted definition for Cryptocurrency. However, the prefix *crypto* stands for cryptography which is the technology that keeps information safe and hidden from attackers.¹³⁸ Cryptography being the ancient art and science of writing in secret code and which has now been adapted in data and telecommunications, particularly communications over any untrusted medium which includes just about every other network, especially the internet.¹³⁹ Cryptography not only protects data from theft or alteration but it is further used for user authentication including privacy/confidentiality

¹³² Nathaniel Popper, *Decoding the Enigma of Satoshi Nakamoto and the Birth of Bitcoin* (15 May 2015) The New York Times. Available at <https://www.nytimes.com/2015/05/17/business/decoding-the-enigma-of-satoshi-nakamoto-and-the-birth-of-bitcoin.html> Last accessed on 12th November 2019

¹³³ Jeff John Roberts, *Is there any doubt that this Man Created Bitcoin* (31 October 2018) Fortune. Available at <https://fortune.com/2018/10/31/satoshi-identity/> Last accessed on 12th November 2019

¹³⁴ Rick Bagshaw, *Top 10 Cryptocurrencies by Market Capitalization* (22 April 2020) The Coin Rivet. Available at <https://finance.yahoo.com/news/top-10-cryptocurrencies-market-capitalisation-160046487.html> Last accessed on 27 April 2020

¹³⁵ John Wanguba, *How Many Cryptocurrencies are there in 2020* (24 March 2020) E-crypto News. Available at <https://e-cryptonews.com/how-many-cryptocurrencies-are-there-in-2020/> Last accessed on 27 April 2020

¹³⁶ John Wanguba Ibid Supra Note 135

¹³⁷ John Wanguba Ibid Supra Note 135

¹³⁸ Ray King, *Understanding the Different Types of Cryptocurrency* (21 August 2019) BitDegree Tutorials. Available at <https://www.bitdegree.org/tutorials/types-of-cryptocurrency/> Last accessed on 31st October 2019

¹³⁹ Gary C. Kessler, *An Overview of Cryptography* (May 1998 reviewed on 17 November 2006) Princeton. Available at <https://www.cs.princeton.edu/~chazelle/courses/BIB/overview-crypto.pdf> Last accessed 27 October 2019

and non-repudiation.¹⁴⁰ Decryptionary.com defines cryptocurrency as “an electronic money created with technology controlling its creation and protecting transactions, while hiding the identities of its users”.¹⁴¹

In a study commissioned by the *European Parliament's Special Committee on Financial Crimes, Tax Evasion and Tax Avoidance* Prof Houben and Snyder observed that the term cryptocurrency has become a “buzzword” to refer to a wide variety of technological developments that utilize a technique better known as cryptography. Cryptography for its part being noted as the technique of protecting information by transforming it, that is, encrypting it into an unreadable format that can only be deciphered by one who possess a secret key through a process of decryption.¹⁴² Houben & Snyers considered the various definitions proffered by various institutions at the time and summarized their definition of cryptocurrency which was passed by the European Parliament the effect that comprises the following elements: (1) it is a digital representation of value; (2) it is intended to constitute a peer-to-peer (“P2P”) alternative to government-issued legal tender; (3) it is used as a general-purpose medium of exchange independent of any central authority; (4) it is secured by a mechanism known as cryptography; and (5) it can be converted into legal tender and vice versa.

Jan Lansky for his part outlines cryptocurrency as being a system that meets all of the following 6 conditions (1) It does not require a central authority but is rather distributed to achieve consensus; (2) It keeps an overview of the cryptocurrency units and their ownership; (3) It defines whether new cryptocurrency units can be created and where

¹⁴⁰ Gary Kessler Ibid Supra Note 139

¹⁴¹ Gary Kessler Ibid Supra Note 139

¹⁴² Robby Houben (Prof. Dr) & Alexander Snyers, *Cryptocurrencies & Blockchain: Legal Context & Implications for Financial Crime, Money Laundering and Tax Evasion* (July 2018) European Parliament pg.22 Available at <https://www.europarl.europa.eu/cmsdata/150761/TAX3%20Study%20on%20cryptocurrencies%20and%20blockchain.pdf> Last accessed on 27 October 2019

new cryptocurrency units can be created, the system defines the circumstances of their origin and how to determine the ownership of these new units; (4) Ownership of cryptocurrency units can be proved exclusively cryptographically, that is to say, solely through processes and procedures of secret codes and cipher systems, (5) it allows transactions to be performed solely by an owner/proprietor who can prove current ownership of the transaction units via a transaction statement and it is only they who can change of the proprietorship of the cryptographic units in question, and (6) In the event 2 different commands to change the units proprietorship and entered at the same time only one of the said instructions will be effected.¹⁴³ Cryptocurrencies are processed over a blockchain, that is, a shared peer-to-peer database to achieve authentication and privacy.

From the foregoing it is evident that cryptocurrency is a digital representation of value which has no backing by a central sovereign authority, whether the government or central bank, but rather uses a P2P decentralised, distributed ledger or blockchain in which the transactions are protected, transformed and encrypted so that only the owner of the units or someone who possess the decryption key is able to transact with them in a process where the owner's identity remains hidden and one in which they can only use the key once. The units are convertible into legal tender or vice versa.

2.2.3 **The Three Main Types of Cryptocurrency:**

In the early years the number of cryptocurrencies available could be counted on one hand but that is no longer the case and they are now at least 3,600. Six months ago, there were approximately 2,957 cryptocurrencies being traded with a total market capitalisation of \$221bn (as of 8th October 2019) with the top 10 cryptocurrencies

¹⁴³ Jan Lansky Ibid Supra Note 4

representing roughly 85% of the total market value.¹⁴⁴ After the first quarter of 2020 Coin Rivet posits that there are approximately 5,392 cryptocurrencies being traded with a total market capitalisation of \$201bn (as of April 22, 2020).¹⁴⁵ It is self-evident that the cryptocurrencies market therefore changes rapidly with new innovations of different complexions.

Currently cryptoassets on the market can be categorised broadly into 3 main types, to wit, (1)Bitcoin, (2)Altcoins; and (3)Tokens/dApps.¹⁴⁶ Bitcoin being the first cryptocurrency to be developed. Altcoins for their part are alternative cryptocurrencies to the Bitcoin which have been developed to meet perceived shortfalls of Bitcoin in various forms. The third category of cryptocurrencies are tokens which are digital assets that exists on top of an existing coin or blockchain

2.3 **WHAT IS BITCOIN?**

Bitcoin can be understood on a foundation of elements from at least 3 different disciplines, to wit, economics, cryptography and computer science.¹⁴⁷ Conceptually Bitcoin has been said to be two things at once, on the one hand, it is a digital currency meaning that the unit of account it employs has no physical counterpart with legal tender status. Second, Bitcoin per Friedrich A. Hayek is a "private currency": a currency provided by private enterprise aimed at combatting government monopolies on the supply of money.¹⁴⁸ Bitcoin is the pioneer and the best-known cryptocurrency.¹⁴⁹

¹⁴⁴ Rick Bagshaw Ibid Supra Note 135

¹⁴⁵ Oliver Knight, *Top 10 Cryptocurrencies by Market Capitalization* (22 April 2020) Coin Rivet. Available at <https://coinrivet.com/top-10-cryptocurrencies-by-market-capitalisation/> Last accessed on 27 April 2020

¹⁴⁶ Ray King Ibid Supra Note 138

¹⁴⁷ Aleksander Berensten & Fabian Schär, *A Short Introduction to the World of Cryptocurrencies* (January 2018) Federal Reserve Bank of St. Louis Review, First Quarter 2018, 100(1) pp.1-16 at pg.9 Available at <https://doi.org/10.201955/r.2018.1-16> Last accessed on 12th November 2019

¹⁴⁸ Nicholas A. Plassaras, *Regulating Digital Currencies: Bringing Bitcoin within the Reach of the IMF* (2013) Chicago Journal of International Law: Vol. 14: No. 1, Article 12. Available at: <https://chicagounbound.uchicago.edu/cjil/vol14/iss1/12> Last accessed on 11 November 2019

¹⁴⁹ Sarah Jane Hughes & Stephen T. Middlebrook, *Advancing a Framework for Regulating Cryptocurrency Payments Intermediaries* (2015) 32 Yale Journal on Regulation pgs.495-559. Available at

It is an innovative technology created by the anonymous programmer going by the pseudonym Satoshi Nakamoto who gave it away for free via his white paper published on the internet in 2009.¹⁵⁰ This creation has spurred a technological explosion similar to the personal computer and the internet.¹⁵¹

Instead of a centralised ledger (or register), the bitcoin system employs a decentralised system of ledgers known as the blockchain. The blockchain is essentially a register containing information tracking the creation and transfer of bitcoins much like a bank ledger tracks payment between bank accounts. Unlike bank accounts, however, the blockchain is not maintained by a central authority but instead resides in thousands of computers throughout the world.¹⁵² Bitcoin has therefore been described as a decentralized cash-like electronic payment system and the three main reasons for the development of Bitcoin were and remain (1)cost, (2)security; and (3)anonymity.¹⁵³ Security being accomplished through “cryptographic proof” allowing parties to a transaction to deal directly with each other without a third party authorizing the transaction.¹⁵⁴ Bitcoin was envisaged as ‘an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party.¹⁵⁵ It is run using open source software and can be downloaded by anyone from Github.¹⁵⁶ The Bitcoin system

<https://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?article=1417&context=vjreg> Last accessed 19 November 2019

¹⁵⁰ Satoshi Nakamoto Ibid Supra Note 8

¹⁵¹ Brian Kelly Ibid Supra Note 35 pg.xii

¹⁵² Kelvin F.K. Low & Ernie G. S. Teo, *Bitcoins and Other Cryptocurrencies As Property?* (September 20, 2017) 9 (2) Law, Innovation and Technology pg.235 - Singapore Management University School of Law Research Paper No. 21/2017. Available at SSRN: <https://ssrn.com/abstract=3039960> Last accessed on 10 November 2019

¹⁵³ Nikolei M. Kaplanov, *Nerdy Money: Bitcoin, the Private Digital Currency, and the Case Against its Regulation* (2012) Loyola Consumer Law Review Volume 25 Issue No.1 Article 5 pgs.111-174, pg.125 Available at: <http://lawecommons.luc.edu/lclr/vol25/iss1/5> Last accessed on 10 November 2019

¹⁵⁴ Nikolei Kaplanov Ibid Supra Note 153 pg.116

¹⁵⁵ Kelvin F.K. Low & Ernie G. S. Teo Ibid Supra Note 152 pg.3

¹⁵⁶ Github is an American company which is a subsidiary of Microsoft since 2018. It is the largest host of source code in the world. It is a Git repository hosting service which allows code sharing and publishing. It is also

runs on a decentralised peer-to-peer (often denoted P2P) network. It is meant to be fully distributed in the sense that every node or computer terminal is connected to each other. Each node may leave and re-join as it wishes. The nodes are bounded by a consensus that accepts the proof of work (PoW) known as the blockchain as the authoritative record. Each time there is a crisis, the price of bitcoin has a spike.¹⁵⁷ The P2P framework eliminates the middleman, especially financial services providers and/or market intermediaries. It is already having an impact on banking, insurance, trustee, custody, fund management, private equity, and venture capital.¹⁵⁸

Being a peer-to-peer network, Bitcoin depends on its users who are called “miners” to create the currency units and verify transactions. Bitcoins are created or “mined” by computers solving increasingly complex math problems (that is, algorithms) that verify the sequence of data (that is, the block) that are linked together and are recorded in a public ledger known as the “blockchain.” The system was designed so that the maximum number of Bitcoins that can be mined is capped at 21 million, and the system of mining will cease in 2140. The miners are rewarded with transactions fees. Because Bitcoin payments are peer to peer, the transaction costs are lower than if they had to go through a third-party intermediary. This makes Bitcoin attractive to some cost-

considered a social networking site for programmers as it provides a centralized place where people can discuss Patches <https://techcrunch.com/2012/07/14/what-exactly-is-github-anyway/> Last accessed on 10 November 2019 ***A “patch” for its part is a compact representation of the differences between two files, intended for use with line-oriented text files. It describes how to turn one file into another, and is asymmetric: the patch from *file1* to *file2* is not the same as the patch for the other direction (it would say to delete and add opposite lines, as we will see). The patch format uses context as well as line numbers to locate differing file regions, so that a patch can often be applied to a somewhat earlier or later version of the first file than the one from which it was derived, as long as the applying program can still locate the context of the change. The terms “patch” and “diff” are often used interchangeably, although there is a distinction, at least historically. A diff only need show the differences between two files, and can be quite minimal in doing so. A patch is an extension of a diff, augmented with further information such as context lines and filenames, which allow it to be applied more widely. These days, the Unix *diff* program can produce patches of various kinds. <https://www.oreilly.com/library/view/git-pocket-guide/9781449327507/ch11.html> Last accessed on 30 April 2020

¹⁵⁷ David Lee Kuo Chuen & Linda Low, *Inclusive Fintech, Bitcoin, Cryptocurrency & ICO* (2018) World Scientific Publishing Co. Pte Limited pg.40

¹⁵⁸ David Lee Kuo Chuen & Linda Low Ibid Supra Note 157 pg.45

conscious small businesses and for those who want to send low-cost remittances to relatives living in developing countries.¹⁵⁹ Bitcoin's decentralized, mining-based infrastructure requires that many users dedicate significant resources in order to maintain and secure the overall system. The ability of users to transact in bitcoins depends on the decentralized system's ability to consistently and securely add new blocks to the blockchain, thereby validating individual transactions. At the same time, the mining process has become increasingly computationally intensive as the computational difficulty of mining bitcoins was designed to increase with miners. Today, to have a meaningful chance of successfully mining, special-purpose hardware that is specifically optimized for Bitcoin mining is needed.¹⁶⁰

Bitcoins are computer files, similar to a music or text file, and can be destroyed or lost just like cash. They are stored either on a personal computer or entrusted to an online service." They can be spent on both goods (real or virtual) and services. Because Bitcoins are just computer files, "spending" them simply entails sending them from one user to another, just like sending an email via the Internet.¹⁶¹

Bitcoin is a virtual monetary unit and therefore has no physical representation. A Bitcoin unit is divisible and can be divided into 100 million "Satoshis," the smallest fraction of a Bitcoin. The Bitcoin Blockchain is a data file that carries the records of all past Bitcoin transactions, including the creation of new Bitcoin units. It is often referred to as the ledger of the Bitcoin.¹⁶² Conventionally, the uppercase "Bitcoin" refers to the network and technology, while the lowercase "bitcoin(s)" refers to units of the

¹⁵⁹ Benton E. Gup, *What is Money? From Commodities to Virtual Currencies/Bitcoin* (2014) SSRN Alternative Investment Analysts Review (2014) Vol.3., (14 March 2014) pp.52-59 Available at SSRN: <https://ssrn.com/abstract=2409172> or <http://dx.doi.org/10.2139/ssrn.2409172> Last accessed on 23 June 2018

¹⁶⁰ Joshua Baron, Angela O'Mahony, David Manheim & Cynthia Dion-Schwarz Ibid Supra Note 2

¹⁶¹ Nicholas Plassaras Ibid Supra Note 149 pg.384

¹⁶² Alexander Berensten & Fabian Schär Ibid Supra Note 148 pg.4

currency. The currency is denoted “฿” and is also commonly abbreviated to “BTC”, although some exchanges use “XBT”¹⁶³, the suggested currency code which is compatible with the ISO 4217 standard.¹⁶⁴

2.3.1 **Classification:**

Attempts to classify Bitcoin and cryptocurrencies have been elusive at best. Questions that arise include whether or not Bitcoin can be classified as any of the following (1) currency or money? (2) a commodity? (3) an investment vehicle? (4) a digital asset?

Recalling that money is traditionally consisted to be durable, portable, divisible, uniform, of limited supply and acceptable it is not a giant leap to consider Bitcoin and Cryptocurrencies as amounting to currency or money. However, if we consider the legal perspective requiring money to either be legal tender or otherwise recognized by the state in satisfaction of payment then Bitcoin does not amount to currency or money strictly speaking. Therefore, even though it may be tempting to classify bitcoin (or indeed any other cryptocurrency) as a currency because it demonstrates similar attributes to money, there is one characteristic that distinguishes it from money in that no centralised authority such as a government or central bank controls and/or distributes bitcoin. From a theoretical standpoint however, it could conceivably become

¹⁶³ It is important to note that XBT is still not considered to be the official ticker of Bitcoin. However, when the popularity of the flagship currency started skyrocketing (along with its price), it was felt that there was a need for a currency code, but the problem was that the commonly used ‘BTC’ ticker name actually violated the ISO 4217 standard. According to these rules, the first two letters of the currency symbol are supposed to represent the country (e.g, KES where K stands for Kenya or USD where ‘US’ stands for the United States). Apart from the vast majority of national currencies, ISO 4217 also provides codes for the so-called ‘super currencies’ that are not restricted to a certain currency and pose as a global medium of exchanging money. These currencies are also dubbed ‘X currencies’ due to the fact that they always begin with this very letter thus gold is denoted XAU, palladium XPD and platinum (XPT).

For its part the ISO 4217 establishes internationally recognized codes for the representation of currencies that enable clarity and reduce errors. Currencies are represented both numerically and alphabetically, using either three digits or three letters. Periodically, amendments must be made to ISO 4217:2015 and these are managed by the Secretariat of the Maintenance Agency, in this case the SIX Interbank Clearing Ltd on behalf of the Swiss Association for Standardization, SNV. International Standards Organization – *Currency Codes ISO4217* (1978) <https://www.iso.org/iso-4217-currency-codes.html> Last accessed on 27 April 2020

¹⁶⁴ David Lee Kuo Chuen & Linda Low Ibid Supra Note 157 pg.33.

money in the event of authorization by a central authority such as a government although to date no nation has taken that critical step.¹⁶⁵

Black's Law Dictionary defines a commodity to be an article of trade or commerce¹⁶⁶ generally characterized by limited differentiation from varying producers thus allowing for certain defining characteristics to classify it something as a commodity.¹⁶⁷ Bitcoin is considered to share characteristic with "hard commodities" such as gold and silver that are usually mined.¹⁶⁸ Perhaps due to this perspective in September 2015 the United States Commodity Futures Trading Commission (CFTC) rendered a statement to the effect that the CFTC classifies bitcoin and other virtual currencies to be a commodity within the ambit of the Commodity Exchange Act (CEA)¹⁶⁹ further requiring all those acting in the cryptocurrency space to follow the same rules applicable to all participants in the commodity derivatives markets. In 2018 The CFTC obtained rulings in three different enforcement actions in 2018 to the effect that virtual currencies (also commonly referred to as cryptocurrencies or digital currencies) qualify as commodities under the CEA and may be regulated by the CFTC.¹⁷⁰

An "investment" for its part is a purchase of goods that are not consumed today but used to generate wealth in the future. An "investment vehicle" is an asset or item that an investor purchases in the hope that it will generate income or appreciate in value.¹⁷¹

Bitcoin has been considered an investment vehicle/tool because even though Mt. Gox

¹⁶⁵ Ed Howden Ibid Supra Note 56 pg.762

¹⁶⁶ Black's Law Dictionary 310 (9th ed. 2009)

¹⁶⁷ Nikolei Kaplanov Ibid Supra Note 153 pg.147

¹⁶⁸ Ed Howden Ibid Supra Note 56 pg.764

¹⁶⁹ (ch. 545, 49 [Stat. 1491](#), enacted June 15, 1936) is a federal act passed in 1936 by the U.S. Government replacing the Grain Futures Act

¹⁷⁰ See *Commodity Futures Trading Commission v. McDonnell*, 332 F. Supp. 3d 641 (S.D.N.Y. 2018); *Commodity Futures Trading Commission v. My Big Coin Pay, Inc.*, 334 F. Supp. 3d 492 (D. Mass. 2018); *Commodity Futures Trading Commission v. Gelfman Blueprint, Inc.*, No. 17-7181, 2018 U.S. Dist. LEXIS 205706 (S.D.N.Y. Oct. 16, 2018).

¹⁷¹ Ed Howden Ibid Supra Note 56 pg.765

was a serious set back Bitcoin recovered and it has remained on a steady rapid growth path. The upper limit of 21 Million Bitcoin ceiling is further considered to be a stabilizing factor coupled with the fact that more sophisticated investors are joining the fray.¹⁷² The best example of bitcoin as an investment vehicle can be seen through the introduction and growth of the Bitcoin Exchange Traded Funds (ETF). ETFs trade on secondary exchanges similar to stock exchanges where investors purchase shares with the hope that they will increase their wealth by gaining and/or making positive returns. Similarly when users buy Bitcoin in the hopes that it will appreciate in value regardless of if they have bought bitcoin or through an ETF they are engaging with bitcoin as an investment.¹⁷³

The Digital Asset Transfer Authority (DATA)¹⁷⁴ which is Bitcoin's self-regulatory group classifies bitcoin as a digital asset and of all the classifications proffered to date this is seen as the most logical classification.¹⁷⁵

2.4 **ALTCOINS:**

The Bitcoin software is completely open source and therefore any capable developer is in a position to download it, modify it and create her own version of the software. This capability has led to an explosion of alternative bitcoin implementations, popularly known as altcoins.¹⁷⁶ Alternative cryptocurrencies to the Bitcoin vary in the way in which they are developed, mined and marketed¹⁷⁷ and they are alternate versions of Bitcoins with minor changes hence the term "altcoins". Many altcoins have sought to

¹⁷² Richard Ozer, *Bitcoin: The Insider Guide to Blockchain Technology, Cryptocurrency & Mining Bitcoin* (2017) CreateSpace Independent Publishing Platform (July 18, 2017) Pg.21-24

¹⁷³ Ed Howden Ibid Supra Note 56.pg.765

¹⁷⁴ DATA is a self-regulatory body that works to legitimize those who engage in the crypto-currency industry.

¹⁷⁵ Ed Howden Ibid Supra Note 56 pg.767

¹⁷⁶ Andres Guadamuz & Chris Marden Ibid Supra Note 67 pg.9

¹⁷⁷ Joanna Perkins & Jennifer Enwezor, *The Legal Aspect of Virtual Currencies* (November 2016) Butterworths Journal of International Banking & Financial Law. Available at http://fmlc.org/wp-content/uploads/2018/03/jibfl_2016_vol31_issue10_nov_virtualcurrencies.pdf Last accessed on 27 October 2019

improve on the original and are generally venture capitalist backed¹⁷⁸ however no single altcoin has todate demonstrated the resilience to change as Bitcoin has¹⁷⁹ and therefore their marketers have tacitly avoided marketing themselves as competitors to Bitcoin but have rather positioned themselves as performing tasks different from Bitcoin.¹⁸⁰

Altcoins can be categorised into 2 broad types being (1) Altcoins built using Bitcoins open source protocol with a number of changes to its underlying codes conceiving a new coin with a different set of features,¹⁸¹ for example, Litecoin; and/or (2) Altcoins not based on Bitcoin open source protocol but have their own protocol and distributed ledger, for example, Ethereum and Ripple.¹⁸² The second type of Altcoins are significantly different from Bitcoin as they use different algorithms e.g. proof of stake (PoS).¹⁸³ Of note is Ethereum, the second largest cryptocurrency by market capitalization after Bitcoin and which is very distinct from Bitcoin where transactions are executed in an altcoin called Ether.¹⁸⁴ *The Ethereum White Paper*¹⁸⁵ pioneered a brand-new concept of smart contracts in 2015 following its launch. A smart contract is a programmable automated transaction functionality¹⁸⁶, that is to say, it automatically executes a transaction when certain things happen. Ripple for its part creates a payments network in which users make a connection to other users they trust and agree

¹⁷⁸ Jay Isaacs, *The Ultimate Step-by-Step Guide to Bitcoin* (2017) pg.22

¹⁷⁹ Saifedean Ammous, *The Bitcoin Standard: The Decentralized Alternative to Central Banking* (2018) John Wiley & Sons pgs 251-257

¹⁸⁰ Ammous Ibid Supra Note 179

¹⁸¹ Altcoins built on Bitcoin open source protocol are also sometimes referred to as Metacoins. In some quarters however metacoins have a wider application and they can also be referred to as Digital Assets, Smart Contracts, DACs, DAOs, etc. Suffice it say that there are a lot of buzz words around altcoins, the terms are fragmented since the industry is just starting.

¹⁸² Robby Houben & Alexander Snyers Ibid Supra Note 142 pg.36

¹⁸³ Ray King Supra Note 138

¹⁸⁴ Joanna Perkins & Jennifer Enwezor Ibid Supra Note 178

¹⁸⁵ Vitalik Buterin, *Ethereum White Paper: A Next Generation Smart Contract & Decentralized Application Platform* (2014)

¹⁸⁶ Joanna Perkins & Jennifer Enwezor Ibid Supra Note 177

to allow the transfer of funds between them creating a transparent public permissioned blockchain allowing for detailed analysis of the network and its properties and it is therefore qualified as a pseudo-anonymous coin.¹⁸⁷

Some of the justifications for developing and/or investing in altcoins include hedging against any design flaws that may not yet be apparent in Bitcoin, creation of utilities in the future that may allow an altcoin to overtake Bitcoin, creation of new niches for the altcoins which create value for users and/or investors.¹⁸⁸ Thus far however, Bitcoin continues to enjoy first mover advantage particularly because its decentralized network effect and security have been tried, tested and proven¹⁸⁹ It has further been demonstrated to have a store of value proposition as it has been around longer without any real failure. It is more liquid, more accessible having more exchanges, merchants, developers, software, hardware and implementations to support it.¹⁹⁰ There is therefore an emerging school of thought which subscribes to the position that many altcoins will likely fail with very few gaining global acceptance due to superseding advancements in technology, increased and tighter regulation as well as insufficient demand.¹⁹¹

2.5 **TOKENS(FOR DAPPS):**

These are the third category of cryptocurrency and they are utilized on the decentralized applications (dApps/DAPP) and are completely distinct from Bitcoins and Altcoins in that they do not have their own blockchain.¹⁹² A token can therefore be said to be a scarce digital asset that exists on top of an existing coin or blockchain. At the moment, most tokens exist on the Ethereum network.¹⁹³ A token therefore represents an asset or

¹⁸⁷ Robby Houben & Alexander Snyers Ibid Supra Note 142 pg.36

¹⁸⁸ Richard Ozer Ibid Supra Note 172

¹⁸⁹ Richard Ozer Ibid Supra Note 172

¹⁹⁰ Richard Ozer Ibid Supra Note 172

¹⁹¹ David Lee Kuo Chuen & Linda Low Ibid Supra Note 158 pg.38

¹⁹² Ray King Ibid Supra Note 138

¹⁹³ World Crypto Index, *Differences between Digital Assets, Tokens & Coins* (2018) World Crypto Index: Cryptocurrency Guide, News & Reviews <https://www.worldcryptoindex.com/differences-between-digital-assets-tokens-coins/> Last accessed on 2 November 2019

a utility that a company has and they give it away to their investors during a public sale called an Initial Coin Offering (ICO).¹⁹⁴ The term is also interchangeably used to denote initial crowd/coin/crypto-token offering (ICO) or crowdlending.¹⁹⁵ It bears mention that tokens are truly innovative and they present an arrangement of technological components that is so novel and varied that they defy categorization as a traditional asset, commodity, security or currency.¹⁹⁶ There are multiple types of tokens each functioning separately from the others and these can be categorised into 2(two) broad categories, that is to say, security tokens and utility tokens.¹⁹⁷ Security tokens can take the form of any physical trade-able asset for example Digix.¹⁹⁸ Every DGX token represents a unique bullion bar sitting in designated custodial vaults, each DGX token represents 1 gram of gold.¹⁹⁹ Equity Tokens on the other hand allow new start-ups to finance themselves. A new DAPP can start an Initial Coin Offering (ICO), this way they have the ability to offer their own tokens that can be purchased by anyone during an ICO. The tokens purchased imply ownership and control of the DAPP, which makes the purchaser a shareholder. Just like in conventional companies that operate in the stock market, owners have a say in the course the DAPP takes – token holders can

¹⁹⁴ Ray King Ibid Supra Note 138

¹⁹⁵ David Lee Kuo Chuen & Linda Low Ibid Supra Note 158 pg.45 and pg.85

¹⁹⁶ Peter Van Valkenburgh, *Framework for Securities Regulation of Cryptocurrencies* (2018) Coin Centre Report Version 2 (10th August 2018) <https://coincenter.org/entry/framework-for-securities-regulation-of-cryptocurrencies> pg. 3 Last accessed on 2 November 2019

¹⁹⁷ Ether Party Smart Contracts Inc., *Digital Tokens 101: What Does it All Mean?* (1 May 2018) Available at <https://blog.etherparty.com/digital-tokens-101-what-does-it-all-mean-1f204fdd8a09> Last accessed on 31 October 2019

¹⁹⁸ Digix is a decentralized autonomous organization (DAO) where blockchain technology is applied using DGX tokens where 1 DGX token represents 1 gram of gold on Ethereum. The DAO was created by a company called DigixGlobal in Singapore in 2014 and held an ICO crowdsale on 30th March 2016. DGX coins are created through a protocol in terms of Proof of Asset (PoA). PoA is designed to assure that sufficient gold has been acquired and stored against each DGX and the certification is stored on the Ethereum [blockchain](#). The main nodes that process the PoA are the vendor which provides the gold, the third-party auditor which is hired to check the quality and quantity of the stored gold, and the vault. DGXs are issued against PoA cards which evidence details of the stored gold, including but not limited to the timestamp of the card, the gold bar serial number, audit documentation and the chain of custody digital signatures. Paul Andrew – *What is DigixDAO/Beginners Guide* - Coin Central (21 February 2018) Available at <https://coincentral.com/digixdao-beginners-guide/> Last accessed on 27 April 2020.

¹⁹⁹ World Crypto Index Ibid Supra Note 193

vote through the blockchain which makes it transparent and secure.²⁰⁰ A further application for tokens is that of “currency tokens” likened to “app coins” because they can be used to purchase goods and/or services inside of a DAPP. This arises because the total amount of tokens is fixed and as time goes on and if demand for the products or services offered by that DAPP grows the value of the tokens also increases²⁰¹ e.g. Golem tokens²⁰²

It is critical to identify the category in which a token falls under as there are distinct regulatory implications for each and the legal environment is increasingly seeking to scrutinize particularly the manner in which the ICOs are organized. Further and increasingly in many jurisdictions’ questions regarding anti-money laundering laws, general consumer protection laws plus specific laws depending on what the token actually does are arising.²⁰³

The United States of America has developed a general applicability of federal securities law that extends to non-standard investments based on what is termed as the Howey test founded upon the holding in the seminal 1946 Supreme Court case. The test has 4 main prongs to define an investment contract for the purposes of the Securities Act to include a contract, transaction or scheme in which a person [1] invests his money in; [2] a common enterprise and is led to [3] expect profits [4] solely from the efforts of the promoter or a third party. Further, it is immaterial whether the shares in the

²⁰⁰ World Crypto Index Ibid Supra Note 193

²⁰¹ World Crypto Index Ibid Supra Note 193

²⁰² Golem is a worldwide decentralized supercomputer that combines the computing power of each machine on its network. What Golem offers is a decentralized sharing economy of computing power, where anyone can make money ‘renting’ out their computing power or developing & selling software. Golem Tokens are stored on Ethereum.

²⁰³ Coinbase, *Securities Law Analysis of Blockchain Tokens* (5 December 2016) Available at <https://www.coinbase.com/legal/securities-law-framework.pdf> Last Accessed on 2 November 2019

enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise²⁰⁴

As such regulators are required to consider how a token is designed and/or used in determining whether an investment qualifies to be classified as an asset as either being within or without their regulatory purview. For a regulator and any regulatory policy, they develop the classification will therefore turn more on question “how it is employed” as opposed to the more abstract and metaphysical “what is it” question.²⁰⁵

2.6 **STAKEHOLDERS IN THE CRYPTOCURRENCY ECOSYSTEM:**

In the traditional sense the cryptocurrency ecosystem has been described comprising quite a diverse infrastructure in 3 broad categories, that is to say, mining, investing and trading²⁰⁶. Mining is undertaken by miners who could be individuals, groups and/or companies who provide computer power to mine, that is, solve complex computation puzzles and otherwise record the resulting transactions within the Blockchain and they receive mining rewards (Bitcoins) in exchange for the resources they provide. They are responsible for system security and their role is to validate transaction, create block generally act as system stability guards. Investors/traders are people and organisations that invest in Bitcoin with the expectation of gaining a profit and within the investing and trading categories there are users, potential investors or speculators, miners, wallet providers, exchange and trading platforms and entrepreneurs. The users drive the demand and are interested either in short-term speculation, long-term investing or are simply the trend-followers who decided to jump on the cryptocurrency bandwagon.

Wallet providers offer the platforms in which cryptocurrencies are kept, and finally

²⁰⁴ Peter Van Valkenburgh Ibid Supra Note 196 pg.45

²⁰⁵ Peter Van Valkenburgh Ibid Supra Note 196 pg.4

²⁰⁶ Mary Favour, *Three (3) Major Ways Stakeholders Benefit in the Cryptoworld* (2017) Steemit. Available at <https://steemit.com/cryptocurrency/@maryfavour/three-3-major-ways-stakeholders-benefit-in-the-cryptoworld>
Last accessed on 16 June 2020

exchange and trading platforms allow for a smooth exchange between fiat money and cryptocurrencies and thus offer a secondary market on which cryptocurrencies could be traded.²⁰⁷

With the passage of time and the interest cryptocurrency has generated other important players that have emerged to include (1) Institutions of learning termed Academia Universities that have set up centers to research and support the growth of Bitcoin, for example MIT's Digital Currency Initiative (DCI) which supports bitcoin core developers; (2) Trade and industry associations comprising companies that use the blockchain technology for example UK Digital Currency Association (UKDCA) and Australian Digital Currency Commerce Association (ADCCA); (3) BitCoin Advocacy Groups being non-profit groups who provide research and education on Cryptocurrencies e.g Bitcoin Foundation and Coin Center; (4) Persons who buy goods using Bitcoin; (5) Manufacturers, providers and/or users of BitCoin ATMs popularly referred to as BATMs and which operate along similar lines as traditional bank ATMs (or cash machines); (6) Technical/expert developers of Bitcoin core code generally designated as Bitcoin Developers; (7) Individuals and/or businesses who elect to be paid in Bitcoin. These are a growing group of people who are referred to as Freelancers and who are tracked down for through Bitcoin freelancer job sites; (8) Bitcoin Lenders such as Bitbond who lend Bitcoins for an agreed interest rate and who ply their services through peer-to-peer Bitcoin lending sites; (9) Businesses who accept payment in Bitcoin and who are called Merchant Businesses; (10) Mining Hardware providers e.g. Bitmain from whom users can source mining hardware; (12) Mining Pools such as

²⁰⁷ Ciupa Katarzyna, *Cryptocurrencies: Opportunities, Risks and Challenges for Anti-Corruption Compliance Systems* (2019) OECD Global Anti-Corruption & Integrity Forum. Available at <https://www.oecd.org/corruption/integrity-forum/academic-papers/Ciupa-Katarzyna-cryptocurrencies.pdf> Last accessed on 16 June 2020

AntPool and BitFury Pool where miners work together by pooling their resources and share block rewards; (13) Research and Development Blockchain groups e.g. IC3 The Initiative For CryptoCurrencies & Contracts; (14) Short term investors/speculators in Bitcoin who invest heavily in the hope of quick gains for the immediate or short term; (15) Traders who buy and sell Bitcoin. These can be agents, hedgers or speculators; (16) Bitcoin wallets providers e.g. Coinbase, Blockchain.info or StrongCoin.²⁰⁸ In a growing number of jurisdictions tax regulators, country tax collection departments that are interested in tax obligations arising from taxable income from mining. Such income is that deemed to have been derived from self-employment income and thus being amenable to tax.²⁰⁹ And finally, parliaments, courts and law enforcement agencies that are being called upon to legislate, interpret and/or execute the law relating to cryptocurrencies and/or cryptoassets.

2.7 **CHALLENGES FOR REGULATION: CRYPTOCURRENCY:**

The novel and unique nature of cryptocurrencies has created challenges to legal definition and classification of the same and they have in many ways defied traditional approaches to understanding and regulation of the space. In addition to this cryptocurrency and its underlying technology of blockchain continues to experience growth at an unprecedented pace leading academics, scholars and regulators to play catch up sometimes in instances where as soon as an understanding is attained new and emergent perspectives and concepts emerge.

2.7.1 **Determining Ownership & Property in Bitcoin:**

The question of ownership in Bitcoin appears to have first arisen as a legal question following the Mt Gox hack and subsequent bankruptcy proceedings initiated by Mt

²⁰⁸ Stakeholdermap.com, *Bitcoin Stakeholders* (2008) 2070 T. Morphy. Available at <https://www.stakeholdermap.com/bitcoin-stakeholders.html> Last accessed on 16 June 2020

²⁰⁹ Stakeholdermap.com Ibid Supra Note No.208

Gox. A Kyoto resident who had a Bitcoin account at the Exchange took Mt Gox to court seeking to have 458.8812618btc held in his account transferred to him after the bankruptcy had been declared. The plaintiff relied on a right of segregation provided for by Bankruptcy Act Article 622 on the basis of ownership of bitcoin. Considerable arguments regarding ownership of Bitcoin were made. The Plaintiff sought to establish ownership of his Bitcoin held by Mt Gox and considerable arguments were made in this regard as under Japanese law case ownership must be "a tangible thing". His argument was that the electronic record held on a number of electronic computers embodied the bitcoin giving it an existence that transcended its mere a record of it and because it was possible for him to subject it to exclusive control it could by this characteristic be an object of ownership corresponding to a "thing", a tangible thing, within the contemplation of Article 85 of the Civil Code. Other characteristics highlighted included that the fact of the specific bitcoin address controlled by the owner and therefore when the amount of bitcoin is confirmed as assigned to a specific bitcoin address then as the owner of the address he managed the same and could increase or decrease the amount of the bitcoin at this address and he was therefore entitled to the ownership of bitcoin equivalent to the balance²¹⁰. The Defendants on their part argued that the concept of ownership can only have as its object a "thing", that is, a "tangible thing" and may not have as its object an intangible thing. A "tangible thing" has physical existence occupying part of space, and in the broad sense, includes natural forces such as electricity. However, it is not applicable to anything which does not have a physical existence such as mere information of data and right the electronic record itself representing the bitcoin is not actually transferred from the above sender to the

²¹⁰Plaintiff Z1 v. Defendant; Bankrupt Entity/ Mt Gox Co., Ltd, Bankruptcy Trustee/ KOBAYASHI Nobuaki. Tokyo District Court, Heisei 26(Year of 2014), (Wa)33320 - https://www.law.ox.ac.uk/sites/files/oxlaw/mtgox_judgment_final.pdf Last accessed on 13 November 2019 pg.4

above recipient. In accordance with the above argument, the electronic records representing each bitcoin do not exist and the bitcoin does not have a physical existence, so that it does not constitute a "tangible thing," nor can it be the object of ownership. Thus, the plaintiff does not have ownership of the Bitcoin, nor a right of segregation based on any such ownership.²¹¹ The Tokyo District Court after considering the arguments found that bitcoin did not have the necessary corporeality and the susceptibility of exclusive control to be the object of ownership. Therefore, the bitcoin could not be the object of ownership, which is a real right.²¹²

It is however important to note that the Tokyo District Court subsequently agreed to move Mt. Gox out of liquidation and into civil rehabilitation, allowing its assets to be distributed to putative owners.²¹³

Considering the question of ownership and property through the prism of English Common Law in similar circumstances it is important to recall Lord Wilberforce's articulation of the characteristics of property, still considered the *locus classicus* and which he set out to be thus in National Provincial Bank v Ainsworth [1965]²¹⁴ to be that (1) it must be definable; (2) it must be identifiable by third parties; (3) it must be capable in its nature of assumption by third parties; and (4) it must have some degree of permanence or stability.

The UK Jurisdiction Taskforce ("UKJT") considered whether or not cryptoassets are property and in their published *Legal Statement on the Status of Cryptoassets and Smart Contracts 2019*²¹⁵ which has come to be commonly referred to as the Legal Statement

²¹¹ Mt. Gox Bankruptcy Case Ibid Supra Note No.210 pg.5

²¹² Mt. Gox Bankruptcy Case Ibid Supra Note No.210 pg.9

²¹³ Robin Harding, *Japan Court sentences Mt. Gox Chief Executive Mark Kapeles* (15 March 2019) <https://www.ft.com/content/1e66c8ea-46c3-11e9-b168-96a37d002cd3> Last accessed on 13 November 2019

²¹⁴ 1 AC 1175 at 1247–8

²¹⁵ UK Jurisdiction Taskforce, *Legal Statement on Cryptoassets and Smart Contracts* (November 2019) Law Delivery Panel Available at <https://technation.io/about-us/lawtech-panel/> Last accessed on 29 February 2020

concluded that cryptoassets have all the characteristics of property.²¹⁶ They placed reliance upon the pronouncement in *National Provincial Bank* above as adopted in the Singapore case *B2C2 v Quoine Pte Limited (2019)*²¹⁷ where the Judge stated that “cryptocurrencies have the fundamental characteristic of intangible property as being an identifiable thing of value” and that they corresponded with all the requirements in *National Provincial Bank*.²¹⁸

The Legal Statement has further received judicial mention with approval in the UK High Court of Justice Business & Property Courts of England and Wales Commercial Court (QBD) in *AA v. Persons Unknown & Others*.²¹⁹ In this case the Claimant, an English Insurer who successfully applied to be anonymized filed an application for a proprietary injunction against the defendants in a claim where their insured Canadian customer was hacked and through an incident response company specializing in the provision of negotiation services in relation to cryptocurrency cyber-crime settled a ransom via bitcoins. Following the settlement, a renknown blockchain investigations firm traced some of the bitcoins to a specified address linked to an exchange known as Bitfinex operated by the 3rd and 4th defendants.

Given the orders sought the question of proprietaryness of bitcoin and cryptocurrencies necessarily arose as they were neither choses in possession or choses in action because they are virtual, are not tangible and cannot be possessed. The Honourable Judge nevertheless felt it relevant to consider the analysis in the Legal Statement and he not

²¹⁶ UK Legal Statement Ibid Supra Note No.215 pg.16

²¹⁷ *B2C2 Limited v Quoine Pte Limited* [2019] SGHC Singapore International Commercial Court (I) 03. *B2C2 Ltd v Quoine Pte Ltd* [2019] SGHC(I) 03 Available at https://www.sicc.gov.sg/docs/default-source/modules-document/judgments/b2c2-ltd-v-quoine-pte-ltd_a1cd5e6e-288e-44ce-b91d-7b273541b86a_8de9f2e2-478e-46aa-b48f-de469e5390e7.pdf Last accessed on 29 February 2020

²¹⁸ *B2C2 Ltd Case* Ibid Supra Note No.217 pg.57

²¹⁹ *AA v. Persons Unknown who demanded Bitcoin on 10th and 11th October 2019, Persons Unknown Who Own/Control Specified Bitcoin, iFinex trading as Bitfinex and BFXWW Inc. trading as Bitfinex* [2019] EWHC 3556 (Comm). Available at <https://www.bailii.org/ew/cases/EWHC/Comm/2019/3556.html> Last accessed on 29 February 2020

only found the reasoning of the said statement to be sound and compelling but he took a step to set out paragraphs 71 to 84 in their entirety in his judgment.²²⁰

The said paragraphs are an illuminating and detailed consideration of previous cases in which the UK Courts had considered what could and what would not amount to property either by being a thing in possession or in action and further which novel kinds of intangible assets had been found to amount to property.

Thus, in the Colonial Bank v. Whinney (1885)²²¹(the Colonial Bank Case) the question that arose was whether shares deposited as security for loan were things in action within the meaning of the Bankruptcy Act 1883, an issue of statutory interpretation and which if answered affirmatively would exclude them from the bankrupt estate by virtue of section 44 of the Act. However, the case was not about the scope of property generally as there was no dispute about the shares being property but rather how to deal with them within the context of bankruptcy. The majority decision by Lindley LJ and Cotton LJ held that the shares were not things in action relying on previous case law arising from the predecessor statute, the Bankruptcy Act 1869. They also drew some support from sections 50(3) and 50(5) of the 1883 Act, which appeared to make a distinction between shares and things in action. In dissent Fry LJ attributed a very broad meaning to things in action and reached the opposite conclusion, reasoning principally from what he considered to be the essential nature of a share. A share constituted “the right to receive certain benefits from a corporation, and to do certain acts as a member of that corporation” and was therefore, in his view, closely akin to a debt. He supported his conclusion by a comparison of shares to other, established things in action, such as partnership interests and interests in funds. He stated that “personal things” are either

²²⁰ AA v. Persons Unknown & Ors, Re Bitcoin Supra Ibid Note No.219 pg.23 to 26

²²¹ Colonial Bank v. Whinney (1885) 30 ChD 261

in possession or in action, and that there is no third category. He approved a passage from *Personal Property by Joshua Williams* which described things in action as a kind of residual category of property: “In modern times [sc. By the 19th century] ... several species of property have sprung up which are unknown to the common law ... For want of a better classification, these subjects of personal property are now usually spoken of as ... [things] in action. They are, in fact, personal property of an incorporeal nature...”. On appeal,²²² the House of Lords also framed the question as one about statutory interpretation approving the judgment and reasoning of Fry LJ and of interest was Lord Blackburn’s position that “in modern times lawyers have accurately or inaccurately used the phrase ‘[things] in action’ as including all personal chattels that are not in possession”. The House of Lords are considered to have reached a conclusion that the class of things in action could be extended to all intangible property as opposed to the basis that the class of intangible property should be restricted to rights that could be claimed or enforced by action. Accordingly, the Legal Statement took the view that Colonial Bank was not to be treated as limiting the scope of what kinds of things can be property in law but further demonstrated the ability of the common law to stretch traditional definitions and concepts to adapt to new business practices (in that case the development of shares in companies).

In another case considering the classification of a thing in possession or a thing in action *Allegemeine VersicherungsGesselschaft Helveetia v. Administrator of German Property (1931)*²²³ Slessor LJ considered Colonial Bank as demonstrating “how the two conditions of [thing] in action and [thing] in possession are antithetical and how there is no middle term”. However, this case was not about the scope of property generally.

²²² *Colonial Bank v. Whinney* HL ([1886] 1 1 AppCas 426)

²²³ *Allegemeine VersicherungsGesselschaft Helveetia v. Administrator of German Property (1931)*

Colonial Bank was more recently cited in 2014 in Your Response v. Datateam Business Media²²⁴ where the claimant sought to assert a lien over a database in digital form but faced the obstacle of the previous decision of the House of Lords in OBG Ltd v. Allan²²⁵ that there could be no claim in conversation for wrongful interference with a thing in action because it could not be possessed. The Claimant made an unsuccessful attempt to distinguish the case from OBG by arguing that though the database could not be regarded as a physical object, it was a form of intangible property different from a thing in action and so was capable of being possessed. The Court of Appeal rejected this argument with Moore-Bick LJ stating that Colonial Bank made it “very difficult to accept that the common law recognises the existence of intangible property other than [things] in action (apart from patents, which are subject to statutory classification), but even if it does, the decision in OBG Ltd v. Allan²²⁶ prevented them from holding that property of that kind is susceptible of possession so that wrongful interference can constitute the tort of conversion”. He said that there was “a powerful case for reconsidering the dichotomy between [things] in possession and [things] in action and recognizing a third category of intangible property, which may also be susceptible of possession and therefore amenable to the tort of conversion” but the Court of Appeal could not do that because it was bound to follow the decision in OBG.

Per the Legal Statement the Court of Appeal did not, and did not need to, go so far as to hold that intangible things other than things in action could never be property at all, only that they could not be subject of certain remedies. The intangible thing with which they were concerned was a database, which (as Floyd LJ said) would not be regarded

²²⁴ Your Response v. Datateam Business Media Ltd: CA 14 Mar 2014 (2014) EWCA Civ 281/[2015] 1 QB 41

²²⁵ OBG Ltd v. Allan (2008) AC 1

²²⁶ OBG Ibid Supra Note No.225

as property anyway because it was pure information. They did not have to consider intangible assets with the special characteristics possessed by cryptoassets.

Other cases they considered where the courts treated novel kinds of intangible assets as property included Dairy Swift v. Dairywise Farms Ltd (2001)²²⁷ where the court held that milk quota could be the subject of a trust and Armstrong v. Winnington²²⁸ where the court held that an EU carbon emissions allowance could be the subject of a tracing claim as a form of “other intangible property”, even though it was neither a thing in possession nor a thing in action.

The Legal Statement further considered some important 20th Century statutes which define property in terms that assume that intangible property is not limited to things in action including the *Theft Act 1968*; the *Proceeds of Crime Act 2002* and the *Fraud Act 2006* which all define property as including things in action “and other intangible property” and which demonstrate that there is no conceptual difficulty in treating intangible things as property whether or not they concern things in action. In addition to this the Patents Act 1977 provides at s.30 that a patent or application for a patent “is personal property (without being a thing in action) which necessarily recognises that personal property can include things other than things in possession (which a patent clearly is not) and things in action”. The UK Jurisdiction Taskforce therefore concluded that even though a cryptoassets was not a thing in action per the definition of that term that fact in and of itself did not mean that it was disqualified from being treated as property.²²⁹

The Honourable Mr. Justice Bryan therefore proceeded to find that cryptoassets such as Bitcoin are property as they meet the 4 criteria laid out in *National Provincial Bank*

²²⁷ Dairy Swift v. Dairywise Farms Ltd (2001) EWCA Civ 145

²²⁸ Armstrong DLW GmbH v. Winnington Networks Ltd (2012) EWHC 10(Ch)

²²⁹ Paragraph 84 of the Legal Statement

v. Ainsworth because they were definable, they were identifiable by third parties, they were capable of being assumed by third parties and they exhibit a degree of permanence and he therefore proceeded to adopt the determination of the Singapore International Commercial Court's case B2C2 Limited v. Quoine PTC Limited [2019] SGHC (I) 03.²³⁰

Within the common law jurisdictions therefore there appears a trend towards resolving the question as to whether or not cryptocurrencies and/or cryptoassets are property in favour of finding that they fall within the parameters set out in National Provincial Bank.

2.7.2 **Accounting Regulation & Monetary Policy:**

It is now a generally accepted premise that even though cryptocurrency markets like Bitcoin have registered multiple peaks and successive ups and downs²³¹ cryptocurrency market capitalization has achieved great heights ranging about US\$240Billion²³² in late 2019 and these values appear to be on an upward trajectory. It is critical to recall that Cryptocurrency is virtual money with zero intrinsic value issued by a computer code in electronic portfolios whose value is solely determined by factors of demand and supply as it is not convertible into anything and does not have the backing of any central authority such as the central bank or government. Its value is accordingly not determined and/or derived by a convertible tangible asset (such as gold) nor a fiat currency (such as dollar).²³³ Controversy still reigns regarding how to account for cryptoassets in financial statements and there is as yet no consensus on the way to

²³⁰ AA v. Persons Unknown (Re: Bitcoin) Ibid Supra Note 219 pg.26

²³¹ Nikhita V. Ramrakhiani, *An Introductory Outlook: What Are The Prospective And Current Issues With Regards To Accounting For Cryptocurrency* (2018) Dublin Business School pg.12 Available at <https://esource.dbs.ie/handle/10788/3523> Last accessed on 10th November 2019

²³² CoinMarketCap, *Top 100 Cryptocurrencies by Market Capitalization* (2019) Available at <https://coinmarketcap.com/> Last accessed on 10th November 2019

²³³ Nikhita V. Ramrakhiani Ibid Supra Note 231 pg.17

account for tax in respect of such items in general and particular how to recognise any attendant income or losses, market capitalization capturing the appreciation of fair value of the Bitcoin virtual currency/cryptocurrency and accounting treatment for the same as an asset.²³⁴

As a matter of public policy there are implications particularly in regard to macroeconomic considerations such as its impact on (1) money supply; (2) current financial systems; (3) subsisting regulatory framework vis-à-vis the decentralised network with no clear legal entities; and (4) social behaviour modification and reengineering of business systems and approaches making it a fertile domain and/or discipline for scholarship and study by researchers, regulators, investors and merchants.²³⁵

2.7.3 **Inherent Risks of Bitcoin:**

Bitcoin trading has been characterized with risks that have come to be associated with the cryptocurrency including (1) that it is a high risk investment perceived to be traded by speculators seeking short or medium term price changes; (2) they are characterized with high price volatility (3) they are connected with the real possibility of criminal activity; (4) they are sometimes considered to be a Ponzi Scheme; and (5) there has been outright theft of Bitcoins stored in online wallets.²³⁶

The European Banking Authority in its *EBA Opinion on “Virtual Currencies”* (2014)²³⁷ identified, defined and categorized at least 70 risks on the basis of who or what is

²³⁴ Nikhita V. Ramrakhiani Ibid Supra Note 231 pg.28

²³⁵ David Lee Kuo Chuen & Linda Low Ibid Supra Note 158 pg.42

²³⁶ Mateusz Wiatr, *Bitcoin as a Modern Financial Investment* University of Economics in Katowice, Department of Investment and Real Estate. Available at <https://rep.polessu.by/bitstream/123456789/5570/1/30> Last accessed on 12 November 2019

²³⁷ European Banking Authority, *EBA Opinion on “Virtual Currencies”* (4 July 2014) EBA/Op/2014/08 European Banking Authority. Available at <https://eba.europa.eu/sites/default/documents/files/documents/10180/657547/81409b94-4222-45d7-ba3b-7deb5863ab57/EBA-Op-2014-08%20Opinion%20on%20Virtual%20Currencies.pdf?retry=1> Last accessed on 30 August 2020

threatened by the earmarked risks. Threatened groups and/or risks were outlined to include (a) users of cryptocurrencies who applied the same in business transactions; (b) users of cryptocurrency repository services or cryptocurrency exchange offices; (c) challenges to financial integrity particularly money laundering and other criminal activity e.g. theft; (d) existing payment systems; and (e) regulatory authorities.²³⁸

2.7.4 **Emerging Challenges - Tumblers:**

As regulatory authorities continue to increase and enhance their understanding and regulation of cryptocurrency new services are being developed particularly by those who ascribe to the original credo by the cryptoanarchists and their drive to keep government out of the process thereby enabling them to enjoy the freedom of transacting in privacy. Cryptocurrency “Tumblers” also known as coin mixers are one such recent development. Cryptocurrency “Tumblers” mix identifiable (alternatively known as “tainted”) cryptocurrency funds with legitimate funds so as hide the trail behind the cryptocurrencies with the aim of sanitizing the tainted funds. They conceal the origin, custody and/or possession as well as and ledger activity and/or movement of cryptocurrencies, through the use of encryption and mixing strategy²³⁹. A Tumbler (alternatively called a “mixing service”) will dilute, co-mesh, and mix identifiable cryptocurrency funds with other funds for a fee of 1-3%.²⁴⁰ Cryptocurrency tumblers function through the use of an algorithm that allows the service to conceal and muddle the history of the tokens they receive. Once the mixer gets the coins it partitions them into smaller amounts and then sends these new smaller blocks to a large number of

²³⁸ Jan Lansky Ibid Supra Note 4 pg.24

²³⁹ Usman W. Chohan, *The Cryptocurrency Tumblers: Risks, Legality and Oversight* (30 November 2017). Discussion Paper Series: Notes on the 21st Century. Available at SSRN: <https://ssrn.com/abstract=3080361> or <http://dx.doi.org/10.2139/ssrn.3080361>. Accessed on 27 October 2019

²⁴⁰ Alex Lielacher, *Coin Mixers: How do they Work and Should You Use them?* (22 June 2018) Cryptonews Available at <https://cryptonews.com/exclusives/coin-mixers-how-do-they-work-and-should-you-use-them-2070.htm> Accessed on 27 October 2019

addresses making it well nigh impossible to determine the true history of a coin. It is this flow of activity that gives the services their name as they are ‘mixing’ the coins with many other different transactions usually through addresses owned by the tumbler itself. To achieve high levels of obscurity the tumbler/mixer may repeat the process several times. Other strategies may also include a delay in transactions in order to further serve the process. Once the process is completed the tumbling service then directs the ‘clean’ coins to a pre-arranged address which may actually be the sender’s original and initial address or another one specified by the customer.²⁴¹ While mixing helps protect privacy, it is also susceptible to the set of risks usually subsumed within the category of anti-money laundering (AML) problems²⁴² and nefarious activities such as organized crime and terrorism. Cryptocurrency tumblers operate via an algorithm that enables the service provider to conceal and shroud the history of the tokens they receive.²⁴³ These services are not without risk however to the users as there are currently no recourses should the provider fail to “return” the mixed coins making the risk of theft significant.²⁴⁴

2.8 SUMMARY:

This chapter has traced the stylized history and development of money and legal tender taking into account and considering determining factors such as economics, geography, technology, social and political factors had on our understanding. Starting with the use of commodities such as metals for use as media of exchange leading to the minting of certain qualities and/or qualities of metal into coin to represent and signal standardization frequently done and backed by governments. Later developing from

²⁴¹Usman W. Chohan Ibid Supra Note 239

²⁴² Alex Lielacher Ibid Supra Note 240

²⁴³ Alex Lielacher Ibid Supra Note 240

²⁴⁴ Alex Lielacher Ibid Supra Note 240

coinage to paper generally denoting a contract between the bearer/holder and a bank or government known as fiat currency. The electrification of communications and the establishment of electronic interbank payment systems and the development of the internet that has deepened the use and adoption of digitization of payments. The legal perspective of money and the monetary system was further considered and a brief snapshot of the emergence of payment systems was outlined.

This chapter further traced the key stages in the evolution and development of cryptocurrency from the early gaming groups and social networks of cryptoanarchists/libertarians who were labelled criminals due to their anti-government stance, the development and commercialization of cryptography and privacy preserving technologies online that was later enhanced to become a mechanism for a decentralized digital currency called “Bitgold” which though never operationalized is considered to be the precursor to the Bitcoin architecture. An appreciation that no consensus on the definition of cryptocurrency has been arrived at and an attempt to consider some approaches to definitions of cryptocurrency and the taxonomy of the 3 key genres of cryptocurrency being Bitcoin, Altcoins and Tokens were canvassed.

Challenges for regulation of bitcoin were further highlighted in this chapter including (1) challenges that have dogged the determination of ownership and property in bitcoin in Japan and within the context of the commonwealth which is edging towards including cryptoassets within Lord Wilberforce’s celebrated definition in National Provincial Bank v. Ainsworth (1965) to be (1) defineable, determinable and identifiable by third parties capable in its nature of accepted and handled by third parties and otherwise having a level of permanence or stability; (2) Accounting treatment and regulation and the impact of cryptocurrency upon monetary policy; (3) Inherent risks to users, investors and regulators such as price volatility, attractiveness for use in

criminal activity, use in Ponzi schemes and outright theft of bitcoin stored in online wallets; and (4) the emergence of tumblers which have been used for nefarious activities such as AML activity, organized crime and terrorism.

The next chapter will look at the Kenyan space and its response to the emergence of cryptocurrency.

CHAPTER THREE: EXISTING LEGAL & REGULATORY FRAMEWORK IN KENYA

3.1 INTRODUCTION:

Slightly under two centuries ago the first currency, the Maria Teresa Dollar was introduced in Kenya to be replaced by the Indian Rupee upon the advent of colonialism in the East Africa Protectorate. Prior to 1850 trade within the Eastern Africa region was carried out through barter, then cowrie shells and at some point beads. Arab traders plying the Indian Ocean sea trade upon entering the hinterland in search of ivory and slaves brought with them coins (money) in place of the heavy cumbersome salt bars then in use. In 1896 the British commenced construction of the Kenya-Uganda Railway and as the workers, being from British India, were commonly paid in Rupees the use of the rupee spread with the development of the railway and it acquired different names with each Kenyan community it encountered, for example, *zirupia* or *chirupa* in Luhya, *rupia* in Luo, *iropiyani* in Maasai, *rubia* in Kikuyu and *ropyen* or *robia* in Kalenjin. As the use of currency became prevalent the need for Banks emerged and their regulation and regulatory framework did not lag far behind.²⁴⁵ Today Kenya is shaping the global future of money through the most significant mobile transfer innovation of our times called MPESA and our markets are joining the rest of the world in adopting new financial technologies including cryptocurrency.

Within Africa, Kenya is considered to be one of the earliest adopters of cryptocurrency particularly Bitcoin the digital currency developed by Satoshi Nakamoto,²⁴⁶ which has catalyzed the use and adoption of cryptocurrency shifting it from a transfer of value amongst secluded and self-contained virtual groups to value exchangeable in the real-

²⁴⁵ Kari Matu, *A History of Currency in East Africa from 1895* (1 November 2016) The Star, Kenya Available at <https://www.the-star.co.ke/news/big-read/2016-11-01-a-history-of-currency-in-east-africa-from-1895/> Last accessed on 28 August 2018

²⁴⁶ Satoshi Nakamoto Ibid Supra Note No.8

world economy²⁴⁷ Kenya, considered to be a leader amongst the drivers of the Silicon Savannah alongside countries like Nigeria and Uganda, has seen significant adoption of Bitcoin, Ethereum, other cryptocurrencies and virtual currencies amongst the tech savvy community and investors keen to get involved in the early stages. The question of regulation, policy and research therefore looms large and there are growing concerns that bitcoin, cryptocurrency and virtual currency activities require to be undertaken within a known framework where users interests are protected and the virtual currency ecosystem ought to be such as to prevent cybercrime, money laundering activities, terrorism funding and/or other activities that may prove to be harmful to individual users, investors and the domestic and global economy in the long run.

In July 2018 the Finance and National Planning Committee of Parliament, National Assembly questioned the then Cabinet Secretary National Treasury CS Hon. Henry Rotich about the use of bitcoin in the country seeking to know why the Treasury and the Central Bank of Kenya (CBK) had allowed people to venture into the unregulated cryptocurrency space without being licensed to operate and be taxed.²⁴⁸ Their Counterparts in the United Kingdom through the British Parliament's Treasury issued their report on 19th September 2018 going a step further and calling for regulation of their local cryptocurrency market insisting such rules could help UK be a global centre for crypto-assets.²⁴⁹ It is to be noted that within 2 weeks of CS Hon. Rotich being summoned to Parliament the government taskforce which had been established by the Cabinet Secretary for Information and Communications CS Joseph Wakaba in February 2018 and chaired by Dr. Bitange Ndemo on Blockchain & Artificial Intelligence released a press statement to the effect that they had issued a report

²⁴⁷ Andres Guadamuz & Chris Marsden Ibid Supra Note 67 at pg.8

²⁴⁸ Kevin Helms Ibid Supra Note 19

²⁴⁹ UK Treasury Committee Report Ibid Supra Note 23

proposing the creation of a digital asset registry to be followed by the establishment of a Central Bank Digital Currency (CBDC) with a nominal value and recognized as legal tender that would be introduced to the market through an Initial Coin Offering (ICO). The CBDC would require to be grounded with graduated forms of regulatory sandboxes, technical piloting and smart regulations all of which would be aligned to the country's monetary and fiscal policy.²⁵⁰ This was in recognition of the innovation being a regulatory sandbox that had been mooted by the Capital Markets Authority (CMA). They did so in June 2017 when the CMA issued their *Stakeholders Consultative Paper on Policy Framework for Implementation of a Regulatory Sandbox to Support Financial Technology (Fintech) Innovation in the Capital Markets in Kenya*²⁵¹ and the CMA Regulatory Sandbox Policy Guidance Note.²⁵² Following this initiative 3 startup fintech firms were selected to take part in the regulatory sandbox in March 2019 giving them a chance to live test innovative solutions with the capacity to deepen and enhance the efficiency of capital markets. They include Innova, which will test its cloud-based data analytics platform designed for use by investors, fund managers, banks, actuaries, pension administrators and regulators and Pezesha, which has been approved to test an internet-based crowdfunding platform through which investors can provide loan facilities to Small and Medium-sized Enterprises (SMEs) and a third company²⁵³ which however opted to remain confidential.²⁵⁴ Though none of the 3 companies was identified as being engaged in cryptocurrencies this was

²⁵⁰ CryptoGuru Ibid Supra Note 20

²⁵¹ Capital Markets Authority Stakeholders Consultative Paper Ibid Supra Note 21

²⁵² Capital Markets Authority Regulatory Sandbox Policy Ibid Supra Note 22

²⁵³ Capital Markets Authority, *Press Release: Three Firms Admitted to CMA Regulatory Sandbox* (30 July 2019) Available at https://www.cma.or.ke/index.php?option=com_content&view=article&id=582:press-release-three-firms-admitted-to-the-cma-regulatory-sandbox&catid=12:press-center&Itemid=207 Last accessed on 14 November 2019

²⁵⁴ Tom Jackson, *3 Kenyan Fintech Startups Picked for CMA Regulatory Sandbox* (2 August 2019) Disrupt Africa. Available at <https://disrupt-africa.com/2019/08/3-kenyan-fintech-startups-picked-for-cma-regulatory-sandbox/> Last accessed on 14th November 2019

nonetheless a signal to the industry that the CMA was creating a forum for real potential to deepen the sector even though it came on the heels of the prior warnings issued via press releases cautioning members of the public from participating in cryptocurrency. Since then the Ministry of Information, Communication and Technology has issued its report popularly referred to as the *Blockchain Taskforce Report*²⁵⁵ which acknowledges that remittances through blockchain-enabled cryptocurrency can reduce costs and increase efficiency and it further recognizes that countries like South Africa are looking into regulating the cryptocurrency industry whilst Turkey is considering launching a national cryptocurrency.²⁵⁶ Key components of the report are addressed at Strategy Component 2: Digital Asset Framework—Enabling Cryptocurrency and other alternative currencies in Kenya. The Digital Asset Framework (DAF) being the criteria which a cryptocurrency must meet in order to be listed on the exchange. It is proposed to leverage the existing CMA legal framework²⁵⁷ and Strategy Component 3: Regulatory Sandbox for FinTech Innovations, which is the recommended vehicle to realise this.²⁵⁸ A further proposal is Strategy Component 4: Digital Currency (Digital Fiat Money) which proposes to launch the CBDC or Digital Fiat Currency (DFC) being the digital form of fiat money which is currency established to be money by government regulation or law. This is aimed at including (1) payments, clearing and settlement, (2) lending (and sections of commercial banking practice); and (3) alternative currency configurations (digital) and transition of fiscal monetary policy.²⁵⁹

²⁵⁵Ministry of Information, Communication and Technology, *Emerging Digital Technologies for Kenya: Exploration and Analysis* (July 2019) Blockchain Taskforce. Available at <http://www.ict.go.ke/blockchain.pdf> Last accessed on 14 November 2019

²⁵⁶ Blockchain Taskforce Report Ibid Supra Note 255 pg.36

²⁵⁷ Blockchain Taskforce Report Ibid Supra Note 255 pg.71-72

²⁵⁸ Blockchain Taskforce Report Ibid Supra Note 255 pg.73-75

²⁵⁹ Blockchain Taskforce Report Ibid Supra Note 255 pg.79-80

3.1.1 **Legal Framework of Cryptocurrency in Kenya:**

Kenya's current legal framework within the cryptocurrency space is primarily predicated around the regulatory action taken by CBK being the regulator mandated by the Constitution empowered to formulate and manage the country's monetary policy and otherwise manage the fiscal system of the nation. CBK issued the only known policy statement in a public notice in December 2015 warning that virtual currencies like Bitcoin did not comprise legal tender in the Kenyan jurisdiction and users accordingly had no protection in the event of any platform that exchanges or holds the virtual currency failed or went out of business. The CBK Governor therefore advised the investing public against transacting in Bitcoin and similar products.²⁶⁰ The Capital Markets Authority (CMA), being the regulator of listed securities swiftly moved to join ranks with the CBK.

There have however been calls for the CBK and CMA to reconsider their position regarding virtual currency to forestall any negative effect in the event there is a failure in the sub-sector which has grown substantially and is now a significant part of the country's GDP.

3.2 **KENYAN POLICY, LEGAL & REGULATORY FRAMEWORK:**

Kenya does not have in place a cryptocurrency policy, statutory and/or regulatory framework²⁶¹ and the Honourable Lady Justice M. W. Muigai in her Ruling in *Wiseman Talent Ventures*²⁶² case upheld the Plaintiff/Applicant's assertion that there is no comprehensive legal regime to regulate emerging markets on cryptocurrencies²⁶³. However, this has not prevented Kenya from being a leading country insofar as the

²⁶⁰ Central Bank of Kenya Public Notice Ibid Supra Note 37

²⁶¹ Blockchain Taskforce Report Ibid Supra Note 255 pg.28

²⁶² *Wiseman Talent Ventures v Capital Markets Authority* [2019] eKLR

²⁶³ *Wiseman Talent Ventures* Ibid Supra Note 262 at pg.9

adoption of cryptocurrency is concerned²⁶⁴ the country being ranked 23rd globally in Bitcoin Trading Volumes.²⁶⁵ Kenya boasts one of the first few bitcoin exchanges on the continent trading in the name Bitpesa²⁶⁶ as well as the first all Africa bitcoin exchange called Pesamill.²⁶⁷ The country also has a Bitcoin ATM, another first, which was recently installed in Nairobi, Kenya²⁶⁸ at Kenrail Towers, Ring Road Parklands Nairobi²⁶⁹ operated by the BitClub Network and it is a fiat-to-crypto only ATM where minimum transactions of Kshs.500.00 (Kenya Shillings Five Hundred) worth of bitcoin and litecoin can be purchased using the machine.²⁷⁰ The ATM is operated by the BitClub Network and it is a fiat-to-crypto only ATM where bitcoin and litecoin can be purchased using the machine.²⁷¹ The steps taken at the ATM (if you want to buy some cryptocurrencies) are fairly straightforward and they entail (1) inserting Kshs.500.00 (Kenya Shillings Five Hundred) or more into the machine; (2) open your Bitcoin wallet and scan and receive QR code²⁷² provided; (3) enter your phone number; (4) wait for a confirmation code; (5) enter the phone confirmation code; and (6) await to receive a receipt for your purchase; (7) after less than 10(ten) minutes the Bitcoins are reflected

²⁶⁴ Blockchain Taskforce Report Ibid Supra Note 255 pg.28

²⁶⁵ Angeline Mbogo, *Kenya Ranks 23 Globally in Bitcoin Trading Volumes* (28 August 2018) The Kenyan Wall Street. Available at <https://kenyanwallstreet.com/kenya-ranks-23-globally-in-bitcoin-trading-volumes/> Last accessed on 14 November 2019

²⁶⁶ BitPesa Ibid Supra Note 26

²⁶⁷ CryptoGuru, *PesaMill Africa Crypto Exchange Launches in Kenya* (27 September 2019) Bitcoin KE. Available at <https://bitcoinke.io/2018/09/pesamill-africa-crypto-exchange-launches-in-kenya/> Last accessed on 14 November 2019

²⁶⁸ CryptoGuru, *A Look at the First Bitcoin ATM in Kenya* (14 May 2018) Bitcoin KE Available at <https://bitcoinke.io/2018/05/first-bitcoin-atm-in-kenya/> Last accessed 23 September 2018

²⁶⁹ Coin ATM Radar Ibid Supra Note 25

²⁷⁰ Bitcoin.com, *Places in Kenya Where You Can Find an ATM* (11 June 2019) Available at <https://forum.bitcoin.com/bitcoin-discussion/places-in-kenya-where-you-can-find-a-bitcoin-atm-t118226.html> Last accessed on 8 November 2019

²⁷¹ Bitcoin.com Ibid Supra Note 270

²⁷² QR codes are two-dimensional barcodes that can be read by many cell phones and smartphones. The codes, which are small squares with black and white patterns. The "QR" in QR codes stands for "quick response," as the codes are designed to be read quickly. QR codes can be read by dedicated QR code readers and by some cell phones. Liane Cassavoy – *What is a QR Code* – Lifewire (5 December 2019) <https://www.lifewire.com/the-definition-of-qr-codes-578656>. It is a type of barcode that contains a matrix of dots. https://techterms.com/definition/qr_code . Last accessed on 1 May 2020

in your account.²⁷³ The service is said to be more expensive than market rates though this is attributed to the fact that it is currently a monopoly.²⁷⁴ Further, it is said that about 2.3% of the country's GDP is held in Bitcoin²⁷⁵ which is a significant amount. Kenya's global regulation ranking is nevertheless said to be "on the fence" as cryptocurrencies are not deemed to be illegal but the virtual currency space is unregulated.²⁷⁶ CBK has however issued warnings to the effect that cryptocurrency is risky and is not legal tender. Therefore, in Kenya today you can deal in cryptocurrencies by buying, trading, exchanging, holding and/or storing them as long as you do not break any existing laws.²⁷⁷ It is therefore important to present a primer on the Policy Framework for Financial Services to determine which laws may impact on the emergent Cryptocurrency sector in Kenya

3.2.1 **Policy Framework – Financial Services:**

The overarching goal of the *Kenya Vision 2030*²⁷⁸ published in 2008 is to produce "a globally competitive and prosperous country with a high quality of life by 2030". It is geared towards transforming and molding Kenya into "a newly-industrialising, middle income country providing a high quality of life to all its citizens in a clean and secure environment". The Vision rests on 3 primary pillars being the economic, social and political. Financial services fall within the economic pillar and are one of the key sectors under this head that are captured as a key foundation area targeted for reforms

²⁷³Incubate Africa, *Kenya's First Bitcoin ATM* (4 June 2018) Available at <https://incubateafrica.net/2018/06/kenyas-first-bitcoin-atm/> Last accessed on 8 November 2019

²⁷⁴ Incubate Africa Ibid Supra Note No.273

²⁷⁵ Bryan Adams Kuria, *How to Buy and Sell Cryptocurrencies in Kenya* (21 January 2019) Bitcoin KE, Available at <https://bitcoinke.io/2019/01/how-to-buy-and-sell-cryptocurrencies-in-kenya/> Last accessed on 14 November 2019

²⁷⁶Finder.com, *Is Bitcoin Legal? Cryptocurrency Regulations Around the World* Cryptofinder. Available at <https://www.finder.com/global-cryptocurrency-regulations-pg.18> Last accessed on 14 November 2019

²⁷⁷Business Today, *How to Invest in Bitcoin & Cryptocurrency in Kenya* (13 January 2018) Available at <https://businesstoday.co.ke/invest-bitcoin-cryptocurrencies-kenya/> Last accessed on 14 November 2019

²⁷⁸Kenya Vision 2030 – Sessional Paper No.10 of 2012

and development.²⁷⁹ Since its inception the Vision has overseen the marked development of technology and financial services expanding the number of Kenyans reached by financial services and thereby increasing the need for effective government regulation for their enhanced protection.

Kenya is also a member of the East African Community (EAC) with effect from the year 2000 following the signing of the *Treaty for the Establishment of the East African Community*.²⁸⁰ The EAC now comprises Burundi, Kenya, Rwanda, Uganda, Tanzania and South Sudan and it is geared towards the economic, social and political integration of the member states. In 2015 the member states therefore came up with the *East Africa Vision 2050*.²⁸¹ The EA Vision envisages a single market comprising at least 200million consumers benefiting from a monetary union and a single currency²⁸² facilitating a free range of cross-border services grounded on free movement of goods, people, capital, labour and services.²⁸³ The EA Vision is further within the ambit of the *African Agenda 2063: the Africa We Want*²⁸⁴ which aspires to an African continental free trade area. A key pillar for the implementation of this Agenda is the aspiration for continental financial and monetary institutions. The Framework Document provides that by 2063 the necessary diverse infrastructure (quality and size) will be in place to support Africa's accelerated growth, technological transformation, trade and

²⁷⁹ Vision 2030 Ibid Supra Note 278

²⁸⁰ East African Community (ed), *The Treaty for the Establishment of the East African Community: Signed on 30th November, 1999: Entered into Force on 7th July, 2000 (Amended on 14th December, 2006 and 20th August, 2007)* (East African Community Secretariat 2007).

²⁸¹ East African Community's Institutional Repository, *East African Vision 2050: Regional Vision for Socio-economic Transformation and Development* (2015) <http://repository.eac.int/bitstream/handle/11671/567/EAC%20Vision%202050%20FINAL%20DRAFT%20OCT-%202015.pdf?sequence=1&isAllowed=y> Last accessed on 23 November 2019

²⁸² EAC Vision 2050 Ibid Supra Note 281 pg.90

²⁸³ EAC Vision 2050 Ibid Supra Note 281 pg.90

²⁸⁴ African Union & Commission, *Agenda 2063: The Africa We Want "A shared strategic framework for inclusive growth and sustainable development & a global strategy to optimize the use of Africa's resources for the benefit of all Africans"* Framework Document (September 2015) https://au.int/sites/default/files/documents/33126-doc-framework_document_book.pdf

development, including and/or featuring: (1) advanced transport and infrastructure such as high-speed railway networks, roads, shipping lines, sea and air transport; (2) expanded and enhanced investment in ICT and the digital economy.²⁸⁵

Accordingly, Kenya is further a signatory to the *Agreement Establishing the African Continental Free Trade Area*²⁸⁶ which was adopted by the 10th Extraordinary Session of the African Union in Kigali, Rwanda on 21st March 2018 and which came into force on 30th May 2018. Kenya signed the same on 21st March 2018, ratified the same on 6th May 2018 and deposited the instrument on 10th May 2018.²⁸⁷ Article 13 of the said Treaty provides that a State Party shall not apply restrictions on international transfers and payments for current transactions relating to its specific commitments.²⁸⁸

3.2.2 **Legal & Institutional Framework – Financial Services:**

Kenya's financial sector has for a long time been considered to be relatively developed for its income level and comparative to other Sub-Saharan Africa countries.²⁸⁹ Indeed, *Absa Africa Financial Reports Index 2018*²⁹⁰ ranked the Kenyan financial services sector third in Sub-Saharan Africa only excelled by South Africa and Botswana²⁹¹. The index considered and assessed progress and potential across six key areas: that is,

²⁸⁵ African Union & Commission – Agenda 2063 Supra Ibid Note No.284 pg.34

²⁸⁶ African Union, *Agreement Establishing the African Continental Free Trade Area (EN)* https://au.int/sites/default/files/treaties/36437-treaty-consolidated_text_on_cfta_-_en.pdf Last accessed on 14 November 2019

²⁸⁷ African Union, *Agreement Establishing the African Continental Free Trade Area - Status List (EN)* <https://au.int/sites/default/files/treaties/36437-sl-AGREEMENT%20ESTABLISHING%20THE%20AFRICAN%20CONTINENTAL%20FREE%20TRADE%20AREA%20%282%29.pdf> Last accessed on 14 November 2019

²⁸⁸ AFCTA Treaty Ibid Supra Note 287 pg.42

²⁸⁹ United Nations Economic and Social Council; United Nations. Economic Commission for Africa (1997-03). Kenya's financial sector: institutional structure, evolution and resource mobilization, mobilization of development. UN. ECA Conference of African Ministers of Finance (6th : 1997, Mar. 31 - Apr.2 : Addis Ababa, Ethiopia); UN. ECA Intergovernmental Group of Experts Meeting (1997, March 25 - 28 : Addis Ababa, Ethiopia). Addis Ababa :. © UN. ECA., <http://hdl.handle.net/10855/4926> Last accessed on 14 November 2019

²⁹⁰ *Absa Africa Financial Reports Index 2018* Available at <https://www.absa.co.za/content/dam/south-africa/absa/cib/pdf/insights/IA-Africa-financial-markets-index-report-IA-11-Oct.pdf> Last accessed on 15 November 2019

²⁹¹ KenInvest, *Innovation Leader In Fintech & Financial Inclusion*. Available at <http://www.invest.go.ke/financial-services/> Last accessed on 15 November 2019

(1) market depth; (2) access to foreign exchange; (3) market transparency, (4) tax and regulatory environment; (5) macroeconomic opportunity; and (6) the legality and enforceability of standard financial markets master agreements²⁹².

3.2.2.1 **The National Treasury:**

Within the Kenyan context the financial sector is overseen by the National Treasury and the statutory regulators. The National Treasury is established under the provisions of Article 225 of the *Constitution of Kenya* as read with Section 11 of the *Public Finance Management Act, 2012*²⁹³ and *Executive Order No.2 of 2013*²⁹⁴. It has the mandate to provide overall policy oversight of the Kenyan Financial Sector and it is headed by the Cabinet Secretary²⁹⁵ for the time being in charge of and responsible for matters relating to finance²⁹⁶. The other members of the National Treasury are the Principal Secretary²⁹⁷ and the department or departments, office or offices of the National Treasury responsible for economic and financial matters²⁹⁸.

The regulators in the financial sector include the Central Bank of Kenya, the Capital Markets Authority, the Insurance Regulatory Authority, the Retirement Benefits Authority and the Societies Regulatory Authority. Though the regulators have specific mandates set out in their establishing statutes there have been calls to consolidate their activities under a single financial services regulator, a proposal which received Cabinet approval and a draft bill was published.²⁹⁹ This is however yet to come to fruition.

²⁹² Patrick Alushula, *Kenya Ranked Third Most Attractive Financial Market* (23 October 2018) Datahub, Business Daily. Available at <https://www.businessdailyafrica.com/datahub/Kenya-Africa-third-most-attractive-finance-market/3815418-4819124-esewnr/index.html> Last accessed on 15 November 2019

²⁹³ Public Finance Management Act, Act No.18 of 2012, Laws of Kenya

²⁹⁴ Executive Order No.2 of 2013, *Organization of the Government of the Republic of Kenya* (May 2013) Government Printer. Available at <http://www.shitemi.com/wp-content/uploads/2013/10/executive-order-no-2-of-2013-on-the-organization-of-gok.pdf> Last accessed on 15 November 2019

²⁹⁵ Public Finance Management Act Ibid Supra Note No.293 - Section 11 (3)

²⁹⁶ Public Finance Management Act Ibid Supra Note No.293 - Section 2

²⁹⁷ Public Finance Management Act Ibid Supra Note No.293 - Section 11 (2)(b)

²⁹⁸ Public Finance Management Act Ibid Supra Note No.293 - Section 11 (2)(c)

²⁹⁹ Draft Financial Services Regulatory Authority Bill of 2016

In pursuance of their statutory mandates both the Central Bank of Kenya and the Capital Markets Authority have at various points issued regulatory advisory statements regarding cryptocurrencies and/or virtual currencies.

3.2.2.2 The Central Bank of Kenya:

The Central Bank of Kenya (CBK) is established under Article 231 of the *Constitution of Kenya, 2010* as read together with section 3 of the *Central Bank of Kenya Act*³⁰⁰. The CBK is charged with the principal objects of formulating and managing the country's monetary policy³⁰¹, ensuring liquidity, solvency and proper functioning of a stable market-based employment subject to the foregoing³⁰², foreign exchange policy, hold and manage foreign exchange and licence foreign exchange authorised dealers³⁰³, formulate and implement such policies as best promote the establishment, regulation and supervision of efficient and effective payment, clearing and settlement systems³⁰⁴, act as banker to and fiscal agent to the Government³⁰⁵ and issue currency notes.³⁰⁶

The Banking Act³⁰⁷ and Prudential Guidelines³⁰⁸ for their part create the legal and regulatory framework within which banks and financial institutions are regulated. These instruments of legislation set out detailed provisions regarding the licensing of banks, minimal standards applicable for licencing, framework for management of the banks and the regulatory environment and the powers of CBK in each instance. Important regulatory parameters such as liquidity management, agency banking,

³⁰⁰ Central Bank of Kenya Act, Act No.15 of 1966 (Cap 491) Revised Edition 2018 (2014), Laws of Kenya

³⁰¹ CBK Act Ibid Supra Note No. 300 - Section 4(1)

³⁰² CBK Act Ibid Supra Note No. 300 - Section 4(3)

³⁰³ CBK Act Ibid Supra Note No. 390 - Section 4A(1)(a),(b) and (c)

³⁰⁴ CBK Act Ibid Supra Note No. 300 - Section 4A(1)(d)

³⁰⁵ CBK Act Ibid Supra Note No. 300 - Section 4A(1)(e)

³⁰⁶ CBK Act Ibid Supra Note No. 300 - Section 4A(1)(f)

³⁰⁷ The Banking (Amendment) Act, Act No.25 of 2016

³⁰⁸ Bank of Kenya Prudential Guidelines for Institutions Licenced Under the Banking Act, 2013

consumer protection and mergers, acquisitions and transfer of assets are further addressed in the Banking Act and Prudential Guidelines.

CBK is further empowered under the *National Payment Systems Act, 2011*³⁰⁹ to regulate and supervise payment systems and payment service providers. The Act defines a payment system to mean 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.³¹⁰ A payment system requires to be designated as such pursuant to a gazette notice³¹¹ where in the opinion of the Central Bank the payment system poses systemic risk³¹² and such designation is necessary to protect the interest of the public³¹³; or where such designation is in the interest of the integrity of the payment system.³¹⁴ The Central Bank may further by notice in the Gazette, designate a payment instrument³¹⁵ if it is of the opinion that the payment instrument is of widespread use as a means of making payment and may affect the payment systems of Kenya³¹⁶; the designation is necessary to protect the interests of the public³¹⁷; or such designation is in the interest of the integrity of the payment instrument.³¹⁸ Upon such designation of a payment system CBK automatically recognizes the management body of such payment system³¹⁹ and such payment system management body recognized shall be subject to such guidelines that may be issued by the Central Bank from time to time.³²⁰ Settlement shall be

³⁰⁹ National Payment Systems Act, Act No.39 of 2011, Laws of Kenya

³¹⁰ National Payment Systems Act Ibid Supra Note 309 - Section 2

³¹¹ National Payment Systems Act Ibid Supra Note 309 - Section 3

³¹² National Payment Systems Act Ibid Supra Note 309 - Section 3(a)

³¹³ National Payment Systems Act Ibid Supra Note 309 - Section 3(b)

³¹⁴ National Payment Systems Act Ibid Supra Note 309 - Section 3(c)

³¹⁵ National Payment Systems Act Ibid Supra Note 309 - Section 6(1)

³¹⁶ National Payment Systems Act Ibid Supra Note 309 - Section 6(1)(a)

³¹⁷ National Payment Systems Act Ibid Supra Note 309 - Section 6(1)(b)

³¹⁸ National Payment Systems Act Ibid Supra Note 309 - Section 6(1)(c)

³¹⁹ National Payment Systems Act Ibid Supra Note 309 - Section 7(1)

³²⁰ National Payment Systems Act Ibid Supra Note 309 - Section 7(2)

effected by payment of money or by means of entries passed through the Central Bank settlement system or a designated payment system.³²¹ Only a Central Bank settlement system participant; or a bank³²², an institution or a branch of a foreign institution that is allowed to clear in terms of section 8 (2)(i)(d)³²³ may clear payment instructions and contravention of these provisions attracts criminal sanction as the same amounts to an offence and such a person shall be liable, on conviction, to a fine not exceeding five hundred thousand shillings or imprisonment for a term not exceeding three years, or both.³²⁴ It is prohibited in Kenya for any person to conduct the business of a payment service provider except as an authorized payment service provider.³²⁵ A person who contravenes the provisions of subsection (1) commits an offence and shall, on conviction be liable to a fine not exceeding five hundred thousand shillings, or to imprisonment for a term not exceeding three years, or to both.³²⁶

CBK may also issue a money remittance licence pursuant to the *Money Remittance Regulations, 2013*³²⁷ which expires on the 31st day of December each year³²⁸ and is renewable annually³²⁹. This licence is not transferable, assignable and/or encumbered in any way.³³⁰ The applicant must meet the requirements set out in the said regulations and satisfy the Central Bank which then evaluates an application for a licence to operate as a money remittance operator and in considering such an application the Bank shall consider the applicant's statement of financial affairs;³³¹ the adequacy of the applicant's

³²¹ National Payment Systems Act Ibid Supra Note 309 - Section 9(1)

³²² National Payment Systems Act Ibid Supra Note 309 - Section 10(1)(a)

³²³ National Payment Systems Act Ibid Supra Note 309 - Section 10(1)(b)

³²⁴ National Payment Systems Act Ibid Supra Note 309 - Section 10(2)

³²⁵ National Payment Systems Act Ibid Supra Note 309 - Section 12(1)

³²⁶ National Payment Systems Act Ibid Supra Note 309 - Section 12(2)

³²⁷ Money Remittance Regulations, 2013 – Legal Notice No.66 of 2013

³²⁸ Money Remittance Regulations Ibid Supra Note 327 – Regulation 9

³²⁹ Money Remittance Regulations Ibid Supra Note 327 – Regulation 12

³³⁰ Money Remittance Regulations Ibid Supra Note 327 – Regulation 8

³³¹ Money Remittance Regulations Ibid Supra Note 327 – Regulation 6(1)(a)

capital structure, earning prospects, business and financial plans;³³² the history, character and integrity of the applicant's shareholders and proposed directors³³³ as well as a chief executive officer and key senior officers who shall be permanent officers of the company with a working knowledge of money remittance operations and applicable laws;³³⁴ the competence and integrity of the applicant's proposed management;³³⁵ whether the public interest shall be served by the granting of the licence to the applicant;³³⁶ and any other factors as may be determined by the Bank.³³⁷ A licensed money remittance operator is required to maintain a minimum core capital of not less than twenty million shillings at all times.³³⁸ CBK in pursuance of its mandate under the foregoing legal provisions has not licenced any business entity engaging in cryptocurrency and/or virtual currency but has rather issued notices and circulars to that effect warning that such transactions are not protected.³³⁹

3.2.2.3 **The Capital Markets Authority:**

The Capital Markets Authority (CMA) is established under the *Capital Markets Act*³⁴⁰ and its mandate is to regulate activities in the capital markets. The CMA licenses and supervises all the activities of capital market intermediaries, ensures proper conduct of all licensed persons and market institutions and regulates the issuance of the capital market products (bonds, shares etc.). In the course of time various statutory amendments have been made to expand the role and mandate of the CMA within the financial services sector, to wit, expanding the licencing of brokers/dealers by

³³² Money Remittance Regulations Ibid Supra Note 327 – Regulation 6(1)(b)

³³³ Money Remittance Regulations Ibid Supra Note 327 – Regulation 6(1)(c)

³³⁴ Money Remittance Regulations Ibid Supra Note 327 – Regulation 16

³³⁵ Money Remittance Regulations Ibid Supra Note 327 – Regulation 6(1)(d)

³³⁶ Money Remittance Regulations Ibid Supra Note 327 – Regulation 6(1)(e)

³³⁷ Money Remittance Regulations Ibid Supra Note 327 – Regulation 6(1)(f)

³³⁸ Money Remittance Regulations Ibid Supra Note 327 – Regulation 10

³³⁹ Central Bank of Kenya Public Notice Ibid Supra Note 37

³⁴⁰ Capital Markets Act, Cap 485, Laws of Kenya

removing the requirement to be a member of the securities exchange³⁴¹, enabling and facilitating a nationwide system of stockbrokerage services to allow wider participation by the general public in the stock market³⁴², enhancing the CMA's regulation role for the purpose of promoting, regulating and facilitating the development of an orderly, fair and efficient Capital Markets in Kenya³⁴³, enhancing CMA's power to formulate (in consultation with the Cabinet Secretary) such rules as may be required to ensure orderly and fair trading in capital markets instruments and protection of investors³⁴⁴, further powers to include sanctions for breach of the provisions of the Capital Markets Authority Act or regulations made under the said Act or otherwise for non-compliance with CMA requirements or directions including levying of financial penalties proportional to the gravity or severity of the breach and/or as may be prescribed and ordering a person to remedy or mitigate the effect of the breach, make restitution or pay compensation to any person aggrieved by the breach³⁴⁵, empowering the CMA by notice to approve a person as a securities exchange if it is satisfied that the applicant is a limited liability company limited by shares or as may be prescribed by CMA and that the applicants board of directors is constituted in a manner prescribed by the CMA³⁴⁶, CMA may delegate any of its functions under the Act to a committee of the Board, recognized self-regulatory organization or an authorized person³⁴⁷ and rules and regulations formulated thereunder shall take into account and be consistent with the objective of promoting and maintaining an effective and efficient securities market; and be exposed for comment by stakeholders and the general public for a period of 30

³⁴¹ The Statute Law (Repeal and Miscellaneous Amendments) Act, No. 14 of 1991, Laws of Kenya

³⁴² The Capital Markets Authority (Amendment) Act, No. 10 of 1994, Laws of Kenya

³⁴³ The Capital Markets Authority (Amendment) Act, No. 3 of 2000, Laws of Kenya

³⁴⁴ The Finance Act, Act, No. 15 of 2003, Laws of Kenya

³⁴⁵ The Finance Act, Act, No. 9 of 2007, Laws of Kenya

³⁴⁶ The Finance Act, Act, No. 10 of 2010, Laws of Kenya

³⁴⁷ The Capital Markets Authority (Amendment) Act No.37 of 2011 Laws of Kenya

days by giving notice in at least two daily newspapers which have a national circulation as well as on electronic media.³⁴⁸

*The CMA Guidelines on the Prevention of Money Laundering and Terrorism Financing in the Capital Markets*³⁴⁹ also apply as measures to detect and prevent subversive activities especially money laundering and/or terrorist financing through Capital Markets. These generally define what amounts to money laundering and terrorist financing and they refer to the money laundering process as comprising and/or being accomplished in three stages³⁵⁰ being (a) placement where a person engaged in money laundering introduces their illegal profits into the financial system; (b) layering in which phase the person proceeds to undertake a series of transactions described as conversions or movements of the funds with aim of distancing them from their sources an example given is channeling of funds through the purchase and sales of investment instruments; and (c) integration where legitimacy is given to criminally derived wealth and the proceeds are channeled back into the legitimate economy in such a way that they re-enter the financial system appearing as normal business funds. The foregoing stages could comprise numerous transactions by the persons engaged in money laundering and these could alert an institution of the criminal activity.

This therefore requires Directors of any market intermediary to establish appropriate and effective measures, policies and procedures to detect and prevent money laundering and terrorist financing;³⁵¹ and further ensuring compliance with the CMA Guidelines, *the Proceeds of Crime and Anti-Money Laundering Act, 2009*³⁵² (as

³⁴⁸ The Finance Act, Act, No. 57 of 2012, Laws of Kenya

³⁴⁹ The CMA Guidelines on the Prevention of Money Laundering and Terrorism Financing in the Capital Markets - Gazette Notice No.1421

³⁵⁰ CMA Guidelines Ibid Supra Note 349 – Regulation 2.2

³⁵¹ CMA Guidelines Ibid Supra Note 349 – Regulation 3(1)(a)

³⁵² Proceeds of Crime and Anti-Money Laundering Act, Act No.9 of 2009

amended³⁵³) and *the Proceeds of Crime and Anti-money Laundering Regulations, 2009*³⁵⁴ all other legal and regulatory requirements thereto.³⁵⁵ The CMA Guidelines are fairly detailed and require a market intermediary to adopt the risk-based approach³⁵⁶ ensuring that they not only identify customers³⁵⁷ adequately but that they undertake customer due diligence³⁵⁸, maintain proper and detailed records³⁵⁹ and adopt stringent measures in regards to where new technology and non-face-to-face transactions³⁶⁰ are to highlight suspicious transactions³⁶¹ and report³⁶² them and continuously monitor³⁶³ the transactions they are undertaking.

As placement, layering and integration often involves illicit funds flows of criminal through financial securities transactions market intermediaries are further required to be engaged in combating terrorism by keeping updated the various resolutions passed by the United Nations Security Council (UNSC) on counter terrorism measures in particular the *UNSC Resolutions 1267 (1999), 1373 (2001), 1718 (2006), 1988 (2011)* and such other relevant Resolutions which require sanctions against individuals and entities belonging or related to the Taliban and the Al-Qaida organization among others. They are required to maintain a database of names and particulars of listed persons in the UN Consolidated List and such lists as may be issued under Regulation 13 of the *Prevention of Terrorism (Implementation of the United Nations Security Council Resolutions on Suppression of Terrorism) Regulations 2013* in relation to the

³⁵³ The Proceeds of Crime and Anti-Money Laundering (Amendment) Act, Act No.3 of 2017.

³⁵⁴ The Proceeds of Crime and Anti-Money Laundering Regulations, 2009 – Legal Notice No.59 of 2013

³⁵⁵ CMA Guidelines Ibid Supra Note 349 – Regulation 3(1)(b)

³⁵⁶ CMA Guidelines Ibid Supra Note 349 – Regulation 4

³⁵⁷ CMA Guidelines Ibid Supra Note 349 – Regulation 5

³⁵⁸ CMA Guidelines Ibid Supra Note 349 – Regulation 6

³⁵⁹ CMA Guidelines Ibid Supra Note 349 – Regulation 7

³⁶⁰ CMA Guidelines Ibid Supra Note 349 – Regulation 8

³⁶¹ CMA Guidelines Ibid Supra Note 349 – Regulation 9

³⁶² CMA Guidelines Ibid Supra Note 349 – Regulation 10

³⁶³ CMA Guidelines Ibid Supra Note 349 – Regulation 11

domestic list by the Counter Financing of Terrorism Inter-Ministerial Committee.³⁶⁴

Cross referencing these lists aids in ensuring persons on said lists and/or entities connected with them do not engage in money laundering activities through Kenya's securities markets.

CMA for its part was perceived as inclined to consider allowing cryptocurrency entities to be licenced under its sandbox regulatory platforms but it ultimately issued a warning against Kenicoin initial coin offering which action it successfully defended in court.³⁶⁵

3.3 **APPROACHES TO REGULATION OF CRYPTOCURRENCY IN KENYA:**

The first regulatory action taken in Kenya in regards to Cryptocurrency was the CBK public notice in the exercise of its mandate following media reports appearing in the public domain on the utilization, investment and/or marketing of virtual currencies like Bitcoin in the country. CBK advised the public that Bitcoin was a digital/virtual currency that was not regulated and which was not issued or guaranteed by any centralised authority such as a government or central bank. CBK further outlined that all domestic and international money transfer services in Kenya are regulated by the Central Bank of Kenya Act and other legislation. CBK emphasized that no organization was currently licensed to offer money remittance services and products in Kenya using cryptocurrency and further that such virtual currencies were not legal tender in Kenya. The resulting situation was one in which there was no protection to users in the event that an entity, the platform that was utilized for exchanges and/or holding virtual currency collapsed or otherwise went out of business. CBK highlighted risks associated buying, holding or trading virtual currencies to include: (1) the fact that transactions were predominantly untraceable and anonymous and therefore susceptible to

³⁶⁴ CMA Guidelines Ibid Supra Note 349 – Regulation 18

³⁶⁵ Wiseman Talent Ventures Ibid Supra Note 262

subversive use by criminal elements for nefarious purposes like money laundering and/or financing of terrorism; (2) cryptocurrencies exchange platforms around the world are predominantly unregulated. There was therefore a real possibility that consumers could lose their money without having any legal redress in the event those exchanges collapsed or went out of business; and (3) there is no underlying or backing of assets and the value of virtual currencies is speculative in nature and there was a possibility that this may result in high volatility in value of virtual currencies thus exposing users to potential losses. CBK therefore strongly advised the public to desist from transacting in Bitcoin and similar products³⁶⁶. In the same period CBK further issued a circular to all Chief Executive Officers of Banks, Mortgage and Finance Companies and Microfinance Banks to the same effect as the public notice further cautioning all financial institutions against dealing in virtual currencies or with institutions engaged in virtual currencies. Financial institutions were expressly advised not to open any accounts for any person dealing with virtual currencies such as Bitcoin indicating that failure to comply with the directive would lead to remedial action being taken by the Central Bank.³⁶⁷

Safaricom Limited in the same period, on 12th November 2015 suspended its Mpesa Paybill services to Messrs. Lipisha Consortium Limited and Bitpesa Limited after which the said companies filed a petition in the High Court Human Rights and Constitutional Court.³⁶⁸ Lipisha Consortium had 24,485 third party customers through Bitpesa Limited which traded in Bitcoin. Per Safaricom Limited the 1st Petitioner, Lipisha, handed over services to a third party over whom they never undertook any due

³⁶⁶ Central Bank of Kenya Public Notice Ibid Supra Note 37

³⁶⁷ Central Bank of Kenya, *Virtual Currencies–Bitcoin* (2015) Banking Circular No. 14 of 2015, 18 December 2015. Available at https://www.centralbank.go.ke/uploads/banking_circulars/2075994161_Banking%20Circular%20No%2014%20of%202015%20-%20Virtual%20Currencies%20-%20Bitcoin.pdf Last accessed on 16 November 2018

³⁶⁸ *Lipisha Consortium Limited & another v Safaricom Limited* [2015] eKLR

diligence and whose illegal activities thereby threatened the existence of their licence issued by the regulatory authority, the CBK, particularly because the same were not sanctioned under the *National Payment Services Act, 2011* and the *Money Remittance Regulations, 2013*. The Respondent further outlined that it was obligated to meet stringent reporting requirements to CBK and in compliance they had accordingly notified the regulator of the suspicious activities that were being conducted by the Petitioners. The Court in its analysis of Bitcoin observed that Bitcoin is a form of digital currency which is created and held electronically. It is a virtual currency not printed like the ordinary known legal tender and is not a government backed currency and it also predominantly available to a select few.³⁶⁹

The Honourable Mr. Justice J.L. Onguto then proceeded to form a preliminary view that the Petitioners were engaged in activities amounting to money remittance business within the definition of regulation 2 of the *Money Remittance Regulations 2013* being a service for the transmission of money or any representation of money value without any payment accounts being created in the name of the payer or the payee as Bitcoin represents monetary value.³⁷⁰ Lipisha's petition was therefore found not to have achieved the requisite threshold for conservatory orders³⁷¹ and the Judge directed that the matter proceed to arbitration due to the provisions of the agreement between the parties.³⁷²

Be that as it may, the regulatory response however has not been homogenous and/or consistent as the Cabinet Secretary in charge of the Ministry for Information, Communications and Technology differed with the stance taken by CBK on Cryptocurrency when even acknowledging the role of the government's banker in an

³⁶⁹ Lipisha Consortium Case Ibid Supra Note 368 at pg.11 (para 75)

³⁷⁰ Lipisha Consortium Case Ibid Supra Note 368 at pg.11 (para 79)

³⁷¹ Lipisha Consortium Case Ibid Supra Note 368 at pg.11 (para 87)

³⁷² Lipisha Consortium Case Ibid Supra Note 368 at pg.12 (para 88)

interview with Citizen TV, ICT Cabinet Secretary, Joe Mucheru showed his support for Bitcoin and the underlying technology blockchain stating:-

“As we look at the future, we’re not left behind in certain areas such as the blockchain technologies, we want to be part of that growth. We missed out on the internet, blockchain we must.”³⁷³

The CBK has in the course of time come to be perceived as relaxing in its stance³⁷⁴ with the *Central Bank of Kenya Bank Supervision Report 2017*³⁷⁵ outlining as follows:-

“Banks that will embrace innovation and adopt new technologies will have unprecedented opportunities to change and improve how they provide financial services and products. At the same time, they must manage the risks created by the new digital economy. The integration of these technologies could see enhanced: due diligence and Know Your Customer (KYC) procedures in identity management and control, and a fundamental enhancement of the customer experience and journey. On its part, CBK will remain open to emerging technologies with an underlying philosophy of maximizing opportunities while minimising risk.”

Another of the key developments occurred in January 2019 when the CMA for its part also issued a warning against the Kenicoin initial coin offering (ICO) and trading offered by Wiseman Talent Ventures. The regulator drew the general public’s attention to the nature and features of the capital raising and coins trading promoted by Wiseman Talent Ventures finding that the company was undertaking activities that fell within the ambit of regulated activities but they had not yet obtained the approval by the Authority. CMA highlighted that Wiseman Talent Ventures was in the process of raising money by issuing digital tokens in the form of coins from the public and had further created a digital platform for the purposes of trading Kenicoin on its self-styled

³⁷³ Saruni Maina, *Central Bank of Kenya and Cabinet Secretary Joe Mucheru Differ Over Bitcoin* (16 January 2018) Techweez. Available at <https://techweez.com/2018/01/16/bitcoin-cbk-joe-mucheru/> Last accessed on 14 November 2019

³⁷⁴ Angeline Mbogo, *Kenya’s Central Bank Says It’s Open To Blockchain & Other Emerging Technologies* (23 August 2018) The Kenyan Wall Street. Available at <https://kenyanwallstreet.com/kenyas-central-bank-says-its-open-to-blockchain-other-emerging-technologies/> Last accessed on 14 November 2019

³⁷⁵ Central Bank of Kenya, *Bank Supervision Report* (2017) Available at https://www.centralbank.go.ke/uploads/banking_sector_annual_reports/873911276_2017%20Annual%20Report.pdf Last accessed on 14 November 2019

coin exchange in the name and style www.kenicoinexchange.com. In addition to this the Company was also promising guaranteed returns of 10% per month on the initial investment in Coins which were issued during the ICO at Kshs100/= and these were then outlined as trading at Kshs2,000/= at its Coin Exchange. In addition to this the Kencoin value was touted to be exponentially rising. CMA was also very concerned about the information asymmetry in the offering as well as liquidity and fraud risks which the Authority was then in the process of investigating by going through the operations of Wiseman Talent Ventures. They noted discrepancies in the information provided on the firm's website www.kenicoin.com and the information given to the Authority during interviews of Wiseman Talent Ventures leadership in relation to the total number of Kencoin sold and the total funds raised. Per CMA global trends in unregulated digital currencies demonstrated that the cryptoasset market was uncertain and had experienced accelerated boom and bust cycles which may expose investors to substantial losses noting by comparison that in December 2017, the price of Bitcoin was US\$19,783 and it had since fallen to US\$3,810, Litecoin was US\$366 a coin and had since come down to US\$30. Ethereum was US\$ 1,400 in January 2018 and had fallen to US\$130.³⁷⁶ Shortly thereafter CMA indicated that blockchain firms would be considered under the Sandbox Regulations provided that they were not dealing in cryptocurrencies.³⁷⁷

Wiseman Talent Ventures being dissatisfied with this turn of events applied for injunctive relief from the High Court of Kenya arguing that there is no comprehensive legal regime to regulate emerging markets on cryptocurrencies and further that the

³⁷⁶ Capital Markets Authority, *CMA Warns Against Kenicoin Initial Coin Offering and Trading* (3 January 2019) 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 Last accessed on 16 November 2019

³⁷⁷ Capital Markets Authority, *CMA Locks Cryptocurrencies Out of Innovation Hub* (21 February 2019) Available at <https://www.businessdailyafrica.com/markets/marketnews/CMA-locks-cryptocurrencies-out-of-innovation-hub/3815534-4993324-mh01pkz/index.html> Last accessed on 16 November 2019

CMA was not empowered to take the action that they did. The Court after considering the evidence preferred before it and the submissions made by the parties found that the absence of a specific regime does not ouster the jurisdiction of the general regime of law as exemplified by the relevant provisions of Capital Markets Act and the application of the United States Howey test. The interpretation of cryptocurrency as a security was therefore because it is a scheme that involves an investment of money in a common enterprise with profits to come solely from efforts of others as illustrated by Howey test.³⁷⁸

The Howey Test referred to in the Wiseman Talent Ventures case with approval is the celebrated United States Supreme Court case of Securities Exchange Commission (SEC) vs W.J. Howey Co.³⁷⁹ in which the Supreme Court established the test for a security is to establish whether or not the scheme involves an investment of money in a common enterprise with profits derived solely from efforts of others. Whether the response is in the affirmative and the test is satisfied it becomes immaterial whether the enterprise in question is speculative or non-speculative or whether there is a sale of property with or without intrinsic value the public interest laid out in the statutory policy is required to provide broad protection to an investor and it is not to be thwarted by unrealistic and irrelevant formulae.

The action taken by CMA as approved by the High Court of Kenya appears to endorse a position similar to that of the United States Securities Exchange Commission set out in its DAO Report³⁸⁰ and which directs the consideration not to the nature and/or

³⁷⁸ Wiseman Talent Ventures Ibid Supra Note 252 at pg.9

³⁷⁹ Securities Exchange Commission (SEC) vs W.J. Howey Co. 328 US 293(1946)

³⁸⁰ Securities Exchange Commission, *Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934: The DAO* (2017) Release No. 81207 / July 25, 2017. Available at <https://www.sec.gov/litigation/investreport/34-81207.pdf> Last accessed on 20 November 2019

terminology used to describe a transaction but rather to the facts and circumstances, including the economic realities of the transaction.

As such where any entity seeks to offer and sell securities in the United States they are required to comply with the federal securities laws, including the requirement to register with the Commission or to qualify for an exemption from the registration requirements of the federal securities laws which are designed to grant investors procedural protections and material information necessary to make equip them to make informed investment decisions. These requirements apply to anyone who offers and/or sells securities in the United States notwithstanding whether the issuing entity in question is a traditional company or a decentralized autonomous organization distributing its assets in certificated form or through distributed ledger technology and regardless of whether or not the securities are transacted using U.S. dollars or virtual currencies. Therefore, any entity or person engaging in the activities of an exchange is under a mandatory obligation to register as a national securities exchange or operate pursuant to an exemption from such registration.

The position taken by CBK and CMA has been said to be warranted and justified as barely 2 years later Kenyan Bitcoin investors fell prey to Velox 10 ran by a Brazilian national called Ricardo Rocha³⁸¹ hailed as a pyramid scheme³⁸² which went gone down in early 2019 with millions of shillings they had invested in it calling for investors to examine such opportunities before taking on what appears to be a new and exciting opportunity.³⁸³

³⁸¹ Brian Ukaya, *Kenyans Lose Millions in Bitcoin Scam* (5 March 2019) Standard Media. Available at <https://www.standardmedia.co.ke/business/article/2001315305/kenyans-lose-millions-in-bitcoin-scam> Last accessed on 27 November 2019

³⁸² David Canellis, *Bitcoin pyramid scheme leaves Kenyans out of pocket after exit scam* (5 March 2019) Available at <https://thenextweb.com/hardfork/2019/03/05/bitcoin-pyramid-scheme-kenya-velox/> Last accessed on 27 November 2019

³⁸³ Krystl M., *Velox 10 Global Bitcoin Pyramid Scheme In Brazil Robs Investors in Kenya Millions* (5 March 2019) Available at <https://bitcoinexchangeuide.com/velox-10-global-bitcoin-pyramid-scheme-in-brazil-robs-investors-in-kenya-of-millions/> Last accessed on 27 November 2019

3.4 **SUMMARY:**

Chapter three acknowledges Kenya to be amongst the earliest adopters of Bitcoin and Cryptocurrency in Africa and the study in the first instance traced the country's history of money from barter trade, cowrie shells, beads, salt bars and later on the Indian Rupee was introduced into the hinterland with the progressive development of the Kenya-Uganda Railway. This led to the birth of the banking and financial system in the country which ignited and now boasts the Mpesa revolution a factor that laid the foundation enabling the quick uptake of cryptocurrencies such that (1) Kenya is now ranked 23rd globally in Bitcoin trading volumes; (2) it boasts the first bitcoin exchanges in the form of Bitpesa and Pesamill; (3) the country has a Bitcoin ATM in Nairobi; and (4) these initiatives have given the country Cryptocurrency holdings estimated at Kshs.163,000,000,000.00 (Kenya Shillings One Hundred Sixty-three Billion) comprising about 2.3% of the country's GDP a portion considered to be a significant amount. Nevertheless, Kenya's global regulation ranking is said to be "on the fence" meaning that cryptocurrencies are not deemed to be illegal and therefore any purchase, trade, exchange, holding and/or storing of cryptocurrencies could be undertaken provided one did not break the law but the virtual currency space is unregulated. The research identified warnings and circulars issued by the CBK and CMA being the duly mandated regulators in the financial sector both to taking the position that cryptocurrency is risky and is not legal tender and was beset with a number of risks. The study therefore traced the Kenyan policy, legal and regulatory framework for financial services and discussed the case filed in the High Court by Lipisha Consortium and Bitpesa against Safaricom Limited who suspended their services on grounds that the said petitioners were undertaking activities that were not sanctioned under the National Payment Services Act and the Money Remittance Regulations to which Messrs. Safaricom Limited were bound. In determining the case the Kenyan High

Court found that the petitioners were engaged in money remittance and therefore conservatory orders were not issued and the parties were referred to arbitration. CMA for their part issued a public notice against Kenicoin ICO and trading offered by Wiseman Talent Ventures for engaging in activities regulated by CMA but which had not been approved. Wiseman Talent also proceeded to High Court of Kenya. The Court adopted the Howey Test which is to the effect that the ICO amounted to an investment of money in a common enterprise with profits solely being derived from the efforts of others. CMA's action was perceived to be justified given the subsequent collapse of the Brazilian Velox 10 Global said to be a pyramid scheme.

Chapter four compares and contrasts select jurisdictions around the world and what Kenya can learn from their varying experiences and/or approaches.

CHAPTER FOUR: LESSONS LEARNT FROM DIFFERENT REGULATORY APPROACHES IN JURISDICTIONS AROUND THE WORLD

4.1 **INTRODUCTION:**

Bitcoin not only originated the notion of cryptocurrency and its underlying blockchain technology to the internet but also demonstrated to the world that organizational structure can be accomplished through computer code alone.³⁸⁴ While the Bitcoin blockchain software is open-source code maintained by developers volunteering their time even these volunteers have limited power over the network's functions and evolution. All changes to the software's code must be adopted by a supermajority of all software operators in order to be ratified. In 2018 these network members were distributed over at least 105 countries, maintaining more than 9,600 Bitcoin blockchain nodes. Many of these nodes are comprised of data centers filled with industrial-grade hardware, making a shutdown of the Bitcoin blockchain almost as unlikely as a failure of the internet itself.³⁸⁵ Cryptocurrency is therefore here to stay and various jurisdictions around the world are having to grapple with how to deal with this emergent and disruptive area. As the regulatory responses by world agencies in the various jurisdictions vary, in this chapter we will undertake a comparative analysis of how different national governments have handled the question of bitcoin, cryptocurrency and virtual currencies.

In the first instance it is important to note that even though 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 with inherent encryption, the terminology used to describe them varies greatly from one jurisdiction

³⁸⁴ Christian Kameir, *The Economics of Decentralized Organizations: The End of For Profit Corporations* (30 July 2018) Forbes Finance Council Available at <https://www.forbes.com/sites/forbesfinancecouncil/2018/07/30/the-economics-of-decentralized-organizations-the-end-of-for-profit-corporations/#54bad9fa3966> Last accessed on 23 November 2019

³⁸⁵ Kameir Ibid Supra Note No.384

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)³⁸⁶ and even within each broad approach there are multiple distinctions and/or classifications. The term crypto asset is further coming to be adopted to encompass the various types of cryptocurrencies in their differing classifications and/or categories and it is increasingly coming to be perceived as the most accurate term. In addition to this a good number of countries have issued information regarding cryptocurrencies but in many instances such initiatives fall short of providing definitive answers and/or direction.³⁸⁷ Therefore, the inescapable deduction is that there is no uniform understanding of the forms and methods of cryptocurrency regulation around the world.³⁸⁸

The problems and opportunities of digital currencies have reached a point where they have become impossible to ignore and economic components have been discussed at meetings of the World Bank, the European Central Bank, the Ministry of Finance and the Central Bank of Russia, Switzerland, Germany, Japan, the United States and a dozen other countries.³⁸⁹ In March 2018 G20³⁹⁰ Ministers of Finance and Central Bank

³⁸⁶ Global Legal Research Directorate, *Regulation of Cryptocurrency Around the World* (2018) The Law Library of Congress. Available at <https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf> Last accessed on 24 November 2019

³⁸⁷ Doles Silva, *Cryptocurrencies: International Regulation and Uniformization of Practices* (7 January 2017) UNCITRAL. Available at https://www.uncitral.org/pdf/english/congress/Papers_for_Congress/29-DOLES_SILVA-Cryptocurrencies_and_International_Regulation.pdf Last accessed on 24 November 2019

³⁸⁸ Valeriy I Prasolov, *Aspects of Crypto Currency's Legislative Regulation* (19 August 2018) Utopia y Praxis Latinamericana, vol.23, no.82, 208 Universidad del Zulia, Venezuela. Available at <https://www.redalyc.org/jatsRepo/279/27957591021/27957591021.pdf> Last accessed on 24 November 2019

³⁸⁹ Valeriy I Prasolov Ibid Supra Note No.388 pg.2

³⁹⁰ The G20/Group of 20 is an organization of finance ministers and central bank governors from 19 individual countries and the European Union. The countries are Argentina, Australia, Brazil, Britain, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey and the United States, those countries are. Collectively, its members represent more than 80 percent of the world's gross domestic product.

Governors³⁹¹ tasked the Financial Stability Board (FSB)³⁹² to provide a report by July 2018 on its work and that of other standard setting bodies (SSBs) on crypto-assets. The FSB issued a report on its work as well as that of the Committee on Payments and Market Infrastructures (CPMI), International Organization of Securities Commissions (IOSCO) and the Basel Committee on Banking Supervision (BCBS) to the effect that (1) The FSB, in collaboration with CPMI, had developed a framework and identified criterion to monitor and/or surveil the financial stability implications of crypto-assets markets; (2) CPMI had conducted significant work on applications/software of distributed ledger technology, and was conducting outreach, monitoring, and analysis of payment innovations; (3) IOSCO had established an initial coin offering (ICO) Consultation Network to discuss experiences, issues and concerns regarding ICOs, and was developing a Support Framework to assist members in considering how to address domestic and cross-border issues stemming from ICOs that could impact investor protection. IOSCO was also discussing other issues around crypto-assets, including, for example, regulatory issues around crypto assets platforms; (4) The BCBS was quantifying the materiality of banks' direct and indirect exposures to crypto-assets,

³⁹¹ Michael Crowley, *What is the G20* (27 June 2019) New York Times. Available at

<https://www.nytimes.com/2019/06/27/world/asia/what-is-the-g20.html> Last accessed on 24 November 2019

³⁹² The Financial Stability Board (FSB) was established by the G20 Heads of State and Government in April 2009 and is headquartered in Basel, Switzerland. Its mandate is to coordinate at the international level the work of national financial authorities and international standard-setting bodies in order to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies. Its membership currently includes a number of countries, international finance institution and International Standard Setting Organizations and the like. The countries (in alphabetical order) are Argentina, Australia, Brazil, Canada, China, France, Germany, Hong Kong SAR, India, Indonesia, Italy, Japan, Korea, Mexico, The Netherlands, Russia, Saudi Arabia, Singapore, South Africa, Spain, Switzerland, Turkey, United Kingdom, United States of America as well as the European Union. The International Finance Institutions include Bank of International Settlements (BIS), International Monetary Fund (IMF), Organization for Economic Development (OECD) and the World Bank (WB). The International Standard Setting Organizations include Basel Committee on Banking Supervision (BCBS), Committee on the Global Financial System (CGFS), Committee on Payments & Market Infrastructures (CPMI), International Association of Insurance Supervisors (IAIS), International Accounting Standards Board (IASB) and International Organization of Securities Commissions (IOSCO). Though its decisions are non-binding and do not give rise to any legal rights or obligations the main date of the FSB is to promote international financial stability which it does by coordinating national financial authorities and international standard-setting bodies as they work toward developing strong regulatory, supervisory and other financial sector policies.

clarifying the prudential treatment of such exposures, and monitoring developments related to crypto-assets and FinTech for banks and supervisors.³⁹³

Further, at the beginning of 2019 the European Banking Authority noted that though the levels of crypto-asset related activities was still considered to be relatively limited in the European Union (EU) and did not have immediate implications for financial stability and were also outside the EU financial services law divergent approaches to regulation of crypto-asset related activities were emerging across the EU which gave rise to potential issues including regarding (1) consumer protection; (2) operational resilience; (3) market integrity; and (4) the level playing field. There was therefore a need for a comprehensive cost/benefit analysis to determine what, if any, action is required at the EU level to address the said issues specifically with regard to opportunities and risks presented by the said crypto-asset activities and associated new technologies.³⁹⁴

At the end of May 2019 the FSB further published their *Crypto-assets: Work Underway, Regulatory Approaches and Potential Gaps Report*³⁹⁵ for purposes of updating the G20 Finance Ministers and Central Bank Governors, ahead of their June 2019 meeting, on global work underway on regulatory and supervisory approaches to crypto-assets and potential gaps. Standard-setting bodies (SSBs) and other international organisations had been working on a number of fronts, directly addressing issues arising from crypto-assets. Their work until then had mainly focused on investor

³⁹³ Financial Stability Board, *Crypto-assets Report to the G20 on work by the FSB and standard-setting bodies* (16 July 2018) Available at <https://www.fsb.org/wp-content/uploads/P160718-1.pdf> Last accessed on 24 November 2019

³⁹⁴ European Banking Authority, *Report with Advice to the European Commission: on Crypto-assets* (9 January 2019) Available at <https://eba.europa.eu/sites/default/documents/files/documents/10180/2545547/67493daa-85a8-4429-aa91-e9a5ed880684/EBA%20Report%20on%20crypto%20assets.pdf?retry=1> Last accessed on 24 November 2019

³⁹⁵ Financial Stability Board, *Crypto-assets: Work Underway, Regulatory Approaches and Potential Gaps Report* (31 May 2019) Available at <https://www.fsb.org/wp-content/uploads/P310519.pdf> Last accessed on 3 June 2020

protection, market integrity, anti-money laundering, bank exposures and financial stability monitoring.³⁹⁶ The FSB Report noted that crypto-assets are a fast-moving sector meaning that risks might evolve and further that the asymmetries of the legal frameworks in various jurisdictions made it harder to create a coherent response from all the G20 members. Also, FSB members had differing views about the level of coordination between them that should be attempted. All factors considered and despite the reality of existing regulatory gaps crypto-assets were not seen as a global stability risk and the ultimate FSB recommendation was to the effect that the G20 members should continue to monitor the system and make forward-looking assessments, as opposed to taking action then.³⁹⁷

In June 2019 the G20 then tasked the FSB to examine regulatory issues raised by “so called global stablecoin” (GSC) arrangements and to advise on multilateral responses as appropriate, taking into account the perspective of emerging market and developing economies (EMDEs) which the FSB studied and arising from this published the *Addressing the Regulatory, Supervisory and Oversight Challenges Raised by “Global Stablecoin” Arrangements: Consultative Document*³⁹⁸ in April 2020. The consultative document proposes 10 high-level recommendations that are addressed to authorities at jurisdictional level to advance consistent and effective regulation and supervision of GSC arrangements and has invited comments to be submitted on the same by 15 July 2020. The recommendations focus on financial regulatory and supervisory issues relating to privately-issued GSCs predominately intended for retail use and does not

³⁹⁶ Financial Stability Board Report Ibid Supra Note No.393 pg.no.8

³⁹⁷ Ledger Insights, *Financial Stability Board Recommends G20 Monitor Cryptoassets Rather Than Coordinated Action* (June 2019) Available at <https://www.ledgerinsights.com/financial-stability-board-recommends-g20-monitor-cryptoassets-rather-than-coordinated-action/> Last accessed on 3 June 2020

³⁹⁸ Financial Stability Board, *Addressing the Regulatory, Supervisory and Oversight Challenges Raised by “Global Stablecoin” Arrangements: Consultative Document* (14 April 2020) Available at <https://www.fsb.org/wp-content/uploads/P140420-1.pdf> Last accessed on 3 June 2020

consider the wider issues of monetary policy, monetary sovereignty, currency substitution, data privacy, competition, and taxation issues. The Consultative Document further highlights key international financial regulatory standards from BCBS, FATF, CPMI and IOSCO that could apply to GSCs.³⁹⁹

The 10 recommendations of the Consultative Document aim to mitigate the potential risks with the use of GSCs as means of payment and/or store of value, both at the domestic and international level, while supporting responsible innovation and providing sufficient flexibility for jurisdictions to implement domestic approaches⁴⁰⁰ and they are as follows: (1) Authorities should have and utilise the necessary powers and tools, and adequate resources, to comprehensively regulate, supervise, and oversee a GSC arrangement and its multi-functional activities, and enforce relevant laws and regulations effectively; (2) Authorities should apply regulatory requirements to GSC arrangements on a functional basis and proportionate to their risks; (3) Authorities should ensure that there is comprehensive regulation, supervision and oversight of the GSC arrangement across borders and sectors. Authorities should cooperate and coordinate with each other, both domestically and internationally, to foster efficient and effective communication and consultation in order to support each other in fulfilling their respective mandates and to facilitate comprehensive regulation, supervision, and oversight of a GSC arrangement across borders and sectors; (4) Authorities should ensure that GSC arrangements have in place a comprehensive governance framework with a clear allocation of accountability for the functions and activities within the GSC arrangement; (5) Authorities should ensure that GSC

³⁹⁹ Financial Stability Board Consultative Document Ibid Supra Note No.398 page no.1

⁴⁰⁰ Marius Domokos, *The Financial Stability Board Report on Stablecoins – Implications for the International Regulation of Cryptocurrencies and Other Cryptoassets* (23 April 2020) DLA Piper Publications. Available at <https://www.dlapiper.com/en/us/insights/publications/2020/04/blockchain-and-digital-assets-news-and-trends-april-2020/the-financial-stability-board-report-on-stablecoins-implications-for-regulation-cryptocurrencies/> Last accessed on 3 June 2020

arrangements have effective risk management frameworks in place especially with regard to reserve management, operational resiliency, cyber security safeguards and AML/CFT measures, as well as ‘fit and proper’ requirements; (6) Authorities should ensure that GSC arrangements have in place robust systems for safeguarding, collecting, storing and managing data; (7) Authorities should ensure that GSC arrangements have appropriate recovery and resolution plans; (8) Authorities should ensure that GSC arrangements provide to users and relevant stakeholders comprehensive and transparent information necessary to understand the functioning of the GSC arrangement, including with respect to its stabilization mechanism; (9) Authorities should ensure that GSC arrangements provide legal clarity to users on the nature and enforceability of any redemption rights and the process for redemption, where applicable; (10) Authorities should ensure that GSC arrangements meet all applicable regulatory, supervisory and oversight requirements of a particular jurisdiction before commencing any operations in that jurisdiction, and construct systems and products that can adapt to new regulatory requirements as necessary.⁴⁰¹ While this Consultative Document is focused on GSCs, that is to say, a particular class of cryptoassets, its significance should not be underappreciated for two reasons: (1) it establishes an international framework for analyzing and eventually regulating cryptoassets under the supervision of G20 and with the participation of additional governments; and (2) it expressly notes that its recommendations may apply far beyond GSCs, including to “other crypto assets that could pose risks similar to some of those posed by GSCs because of comparable international reach, scale and use.”⁴⁰²

⁴⁰¹ Financial Stability Board Consultative Document Ibid Supra Note No.398 page no.3

⁴⁰² Marius Domokos Supra Ibid Note No.400

4.2 **THE 4 COMMON APPROACHES AROUND THE WORLD**

The best countries to undertake bitcoin mining are said to be Kuwait, Georgia, Iceland, Estonia, Canada and Venezuela.⁴⁰³ These countries boast combinations of some of the following features (1) cheap electricity and/or source of power; (2) their cost of living is considered to be low; (3) they have favourable regulatory frameworks; (4) they have excellent internet service and speeds; and (5) friendly tax rates and/or legal environments.⁴⁰⁴

From the foregoing and as a matter of fact it is self-evident that the responses by various governments around the world vary distinctly. However for purposes of this study we will classify regulatory responses into four broad categories, which is the framework which we will adopt for purposes of this analysis; (1) the first group comprises those that have either prohibited or otherwise given an outright ban; (2) a second group takes the stance that it is legal but are non-interventionist; (3) the third group considers it legal and they require users to comply with taxation and/or anti-money laundering legislation or both; (4) the fourth group which is limited in number have set up their own national or regional backed cryptocurrencies or are otherwise at various stages of doing so.

4.2.1 **Prohibition or Outright Ban:**

While Bitcoin, Cryptocurrency and virtual currency have gained ground and acceptance around the world a few countries are wary of this new disruptive technology either because of its volatility, decentralized nature, perceived threat to current monetary systems and/or links to illicit activities like drug trafficking and money

⁴⁰³ Coinmama, *The 6 Best Countries to Be a Bitcoin Miner* (20 October 2019) Available at <https://www.coinmama.com/blog/where-should-you-go-to-become-a-successful-bitcoin-miner-these-six-countries-offer-the-best-balance-of-low-capital-inves/> Last accessed on 23 November 2019

⁴⁰⁴ Coinmama Ibid Supra Note No.403

laundering⁴⁰⁵ and therefore some countries have either outright banned the digital currency or alternatively engineered to cut off any support from the banking and financial system essential for its trading and use.⁴⁰⁶ Countries like Algeria, Bolivia, Morocco, Nepal, Pakistan and Vietnam have banned any and all activities involving cryptocurrencies.⁴⁰⁷ Such that Bolivia has decreed that cryptocurrencies are not allowed in the country⁴⁰⁸ as well as El Salvador where Article 184 of its Banking Law prohibits fundraising using digital currencies.⁴⁰⁹

It is to be noted that a number of countries in Northern Africa have either prohibited, banned bitcoin altogether or declared it as *haram* (forbidden or proscribed by Islamic Law). For instance, Algeria through its *2018 Financial Law of Algeria*⁴¹⁰ provided as that the purchase, sale, use, and possession of so-called virtual currency are prohibited. Defining a virtual currency to be one used by Internet users over the Internet and which is characterized by the absence of physical support such as coins, paper money, or payments by check or credit card. The penalty for violation of the Act is punishable in accordance with the laws and regulations in force.

The primary Islamic legislator in Egypt, the Dar al-Ifta has issued a religious decree classifying and designating commercial transactions in bitcoin to be *haram* (prohibited under Islamic law)⁴¹¹. The Central Bank of Iran (CBI) for its part officially announced on 22nd April 2018 that it has prohibited the handling of cryptocurrencies by all Iranian financial institutions including banks and credit institutions. The decision further bans

⁴⁰⁵ Prableen Bajpai, *Countries Where Bitcoin Is Legal and Illegal (DISH, OTSK)* Investopedia (9 May 2019) <https://www.investopedia.com/articles/forex/041515/countries-where-bitcoin-legal-illegal.asp> Last accessed on 24 November 2019

⁴⁰⁶ Prableen Bajpai Ibid Supra Note No.405

⁴⁰⁷ Library of Congress Report Ibid Supra Note No.386 at pg.2

⁴⁰⁸ Library of Congress Report Ibid Supra Note 386 at pg.9

⁴⁰⁹ Library of Congress Report Ibid Supra Note 386

⁴¹⁰ Library of Congress Report Ibid Supra Note No.386 at pg.82

⁴¹¹ Library of Congress Report Ibid Supra Note No.386 at pg.82

currency exchanges from transaction by way of buying and selling virtual currencies or otherwise adopting measures to facilitate or promote them.⁴¹²

4.2.1.1 **China:**

It is important to single out China as it is the jurisdiction that is perceived to have successfully undertaken a major crackdown on Bitcoin.⁴¹³ On 4th September 2017, seven central government regulators—the Peoples Bank of China (PBOC), the Cyberspace Administration of China (CAC), the Ministry of Industry and Information Technology (MIIT), the State Administration for Industry and Commerce (SAIC), the China Banking Regulatory Commission (CBRC), the China Securities Regulatory Commission (CSRC), and the China Insurance Regulatory Commission (CIRC) — jointly issued the Announcement on Preventing Financial Risks from Initial Coin Offerings (ICOs), which banned ICOs in China.⁴¹⁴ However, though Bitcoin is essentially banned in China and all banks and other financial institutions like payment processors are prohibited from transacting or dealing in Bitcoin, Cryptocurrency exchanges are banned and the government has cracked down on miners⁴¹⁵ the Chinese government has issued statements to the effect that it is in the process of issuing a state backed cryptocurrency⁴¹⁶ which unofficial timeline reports anticipated that this would happen sometimes in September 2020.⁴¹⁷ In the meantime, the Standing Committee of the 13th National People's Congress in China passed a new law regulating cryptography on 26th October 2019 that took effect on 1st January 2020. China Central Television (CCTV) reported that the new regulatory framework aims to set standards for the

⁴¹² Library of Congress Report Ibid Supra Note No.386 pg.83

⁴¹³ Andres Guadamuz & Chris Marden Ibid Supra Note 67 at pg.22

⁴¹⁴ Library of Congress Report Ibid Supra Note No.386 at pg.106

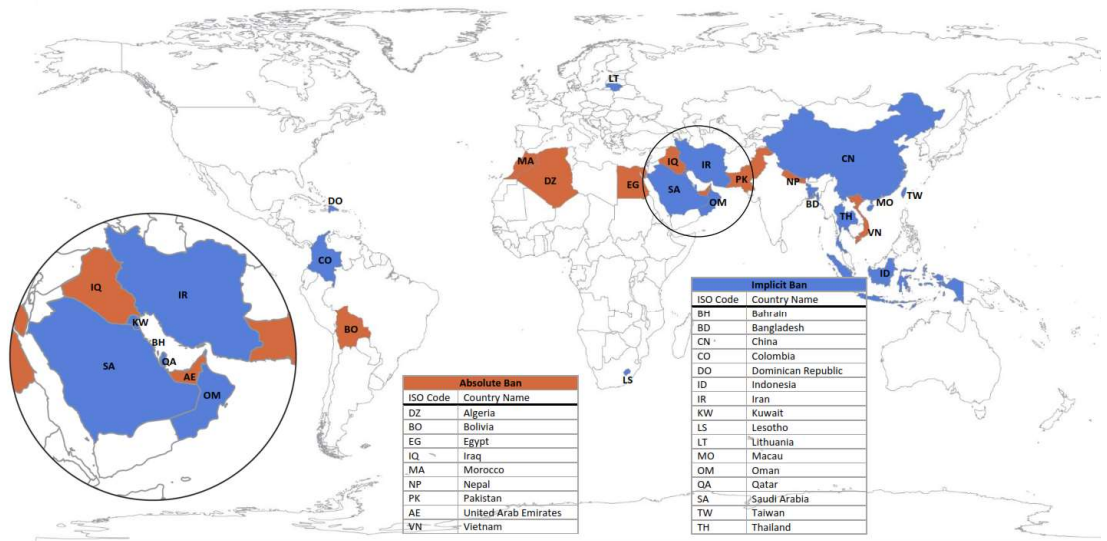
⁴¹⁵ Prableen Bajpai Ibid Supra Note No.405

⁴¹⁶ Library of Congress Report Ibid Supra Note No.386 at pg.106

⁴¹⁷ Adrian Zmudzinski, *China Passes First-Ever "Crypto-Law" Going Into Effect January 2020* (26 October 2019) Cointelegraph. Available at <https://cointelegraph.com/news/china-passes-first-ever-crypto-law-going-into-effect-january-2020> Last accessed on 24 November 2019

application of cryptography (a key component of cryptocurrencies) as well as the management and administration of passwords. The new regulatory framework creates a central cryptographic agency whose aim is to steering the public cryptographic work and create guidelines and policies for the emerging industry.⁴¹⁸

A snapshot of countries which either outrightly ban or implicitly ban cryptocurrencies are set out at Figure 2 below.



Legal Status of Cryptocurrencies

Source: Created by the Law Library of Congress based on information provided in this report.



Fig2: Map1 – Legal Status of Cryptocurrencies
– adapted from *Library of Congress Report, 2018*⁴¹⁹

⁴¹⁸ Adrian Zmudzinski Ibid Supra Note No.417

⁴¹⁹ Library of Congress Report Ibid Supra Note No.386

4.2.2 **Cryptocurrency is Legal but Non-Interventionist Regulatory Framework:**

The majority of countries fall under this category and there are at least 111 states where Bitcoin and cryptocurrencies are recognized by law and are legal. As of March 2019, the most Bitcoin-friendly countries where BTC is legal are Japan, Gibraltar, Malta, Ukraine, Switzerland, The Netherlands, Lithuania, Estonia, The United Kingdom, Germany, Bermuda, Slovenia, Singapore, Georgia, Belarus and Hong Kong⁴²⁰. In the second category of countries the usage of BTC is legal in the sense that you can own it, but there are no clear rules or legal protection concerning its status. These countries are either already creating a legal framework for Bitcoin and cryptocurrencies, or have taken a wait-and-see approach. Some of these “undecided” countries include Albania, Andorra, Argentina, Barbados, Colombia, French Guiana, Gabon, Jamaica, Jordan, Kazakhstan, Kenya, Kosovo, Kyrgyzstan, Malaysia, The Maldives, Mauritius, Nigeria, Panama, Paraguay, Peru, Tunisia, The United Arab Emirates, Tanzania, Uruguay. A snapshot of countries including those where cryptocurrencies are legal or *alegal* are set out at Figure 3 below.



Legal map of Bitcoin and other cryptocurrencies. Source: Coin.dance

Fig 3: Map 2 – Legal Map of Bitcoin and Other Cryptocurrencies , adapted from Coin.dance 2019⁴²¹

⁴²⁰ Cryptonews, *Countries in Which Bitcoin is Banned or Legal* (2019) <https://cryptonews.com/guides/countries-in-which-bitcoin-is-banned-or-legal.htm> Last accessed on 24 November 2019

⁴²¹ Coin.dance, *Bitcoin Legality by Country* (2018) Available at <https://cryptoiscoming.com/wp-content/uploads/2018/07/screen-shot-2018-07-04-at-8.56.32-am.png> Last accessed on 24 November 2019

4.2.2.1 **Japan:**

Japan is considered to have the most evolved regulatory environment for cryptocurrencies in the world. Bitcoin and other virtual currencies are recognized as legal property under the Payment Services Act (PSA) with effect from April 2017⁴²² and Japan was the pioneer country in the world to legally define “virtual currency” in its *Payment Services Act* to be (1) property value that can be used as payment for the purchase or rental of goods or provision of services by unspecified persons, that can be purchased from or sold to unspecified persons, and that is transferable via an electronic data processing system; or (2) property value that can be mutually exchangeable for the above property value with unspecified persons and is transferable via an electronic data processing system. This Act further outlines that virtual currency is confined to property values that are stored electronically on electronic devices and it specifically excludes currency and currency-denominated assets from its ambit.⁴²³

The Japanese Virtual Currency Exchange Association (JVCEA) for its part is a self-regulation entity for the Japanese cryptocurrency industry⁴²⁴ which is formally recognized by the Japanese Financial Services Agency (FSA)⁴²⁵ and has the authority to pass and enforce regulations and standards for cryptocurrency exchanges in Japan⁴²⁶

⁴²² Kevin Helms, *Japan to Provide G20 With Solution for Cryptocurrency Regulation* (23 April 2019) Bitcoin.com <https://news.bitcoin.com/japan-g20-cryptocurrency-regulation/> Last accessed on 24 November 2019

⁴²³ Global Legal Research Directorate, *Regulatory Approaches to Cryptoassets: Japan* (2019) The Law Library of Congress. Available at <https://www.loc.gov/law/help/cryptoassets/japan.php#:~:text=The%20Payment%20Services%20Act%20defines,electronic%20data%20processing%20system%20> Last accessed on 14 June 2020

⁴²⁴ Wolfie Zhao, *The Financial Services Agency (FSA), Japan’s Finance Regulator, Has Formally Approved a Cryptocurrency Exchange Association as a Self-regulatory Industry Body* (24 October 2018) Coindesk. Available at <https://www.coindesk.com/japanese-crypto-exchange-group-gets-legal-status-to-self-regulate-industry> Last accessed on 24 November 2019

⁴²⁵ CryptoMarketsWiki, *Japan Virtual Currency Exchange Association (JVCEA)* (2019) Available at [http://crypto.marketswiki.com/index.php?title=Japan_Virtual_Currency_Exchange_Association_\(JVCEA\)](http://crypto.marketswiki.com/index.php?title=Japan_Virtual_Currency_Exchange_Association_(JVCEA)) Last accessed on 24 November 2019

⁴²⁶ Jon Southurst, *16 Japanese Exchanges Form Group to Self-regulate Digital Asset Industry* (2 Mar 2018) Available at <https://bitsonline.com/japanese-exchanges-form-digital-asset-group/> Last accessed on 24 November 2019

Japan is also the world's largest market for Bitcoin in the world and therefore it was only to be expected that in December 2017 the National Tax Agency adjudged that gains on cryptocurrencies would be designated to be 'miscellaneous income' meaning that users and/or investors would thereby be taxed at rates ranging from 15% to 55%⁴²⁷. On 31 May 2019 the National Diet the country's House of Representatives, amended and reformed two cryptocurrency-related laws, the *Payment Services Act* (PSA) and the *Financial Instruments and Exchange Act* (FIEA) both of which became law and were effective from 1st May 2020. The regulations are geared towards safeguarding the interests of crypto investors who handover their assets to cryptocurrency exchanges and custodians. The 2 statutes further widened the assets within the regulatory oversight of the FSA to include derivatives, security token offering (STOs) and Initial Coin Offerings (ICOs). This new framework of regulation ushered in by the PSA and FIEA focus on three main areas (1) regulating the institutions within the digital currency ecosystem, that is to say, crypto exchanges, custodians and products; (2) recalibrating the taxonomy in the field thereby bringing reform to the previously used "virtual currency" terminology; and (3) providing measures to ensure proper and secure transactions.⁴²⁸

The PSA rescripted the term "Virtual Currency" to "Crypto Asset" on the grounds that this was a more apt term to utilize to describe cryptocurrencies and further because "crypto assets" was increasingly being adopted at international meetings like the G20. It was further adopted to avoid misleading the public through the use of the term "virtual currency" that cryptocurrencies hold the same status as fiat currencies. Another

⁴²⁷ Comply Advantage, *Cryptocurrency Regulations In Japan* Available at <https://complyadvantage.com/knowledgebase/crypto-regulations/cryptocurrency-regulations-japan/> Last accessed on 24 November 2019

⁴²⁸ Sygna Bridge, *Japan's Financial Services Agency (FSA) To Enforce New Crypto-Asset Exchange Regulations from 1 May 2020* (2020) Available at <https://www.sygna.io/blog/japan-crypto-asset-regulation-financial-services-agency-changes-psa-fiea-may-2020/> Last accessed on 13 June 2020

important change in terminology is that of “Virtual Currency Exchange Platforms” (VCEPs) or Virtual Currency Exchange Service Providers (VCESPs) which has been changed to “Crypto Asset Exchange Service Providers” (CAESPs) who provide “crypto-asset exchange services”.⁴²⁹ CAESPs are defined to include persons engaged in the business of selling, purchasing, or intermediating the sale and purchase of, or providing custody services for, crypto assets.⁴³⁰

Japan’s new regulatory framework has further introduced the concept “electronically recorded transferable rights (ERTRs), which enables the FSA to regulate different types of digital assets. ERTR tokens must fulfill three criteria, that is, (1) Investors must invest cash or assets to a business; (2) The investors’ cash or assets are invested in the business; and (3) Investors are entitled to dividends of profits or assets created by these investments.⁴³¹

Per the PSA moving forward custodian service providers will now have to share the same level of accountability for the risks as exchanges for risks such as the leakage of users’ crypto assets and money laundering/terrorism financing. Thus, custodians will need to be registered with the Financial Services Agency (FSA) even if they don’t provide crypto exchange or trading services. From 1st May 2020 onward, crypto exchanges operating in Japan are required to manage users’ money separately from their own cash flows through the use of third-party operators (such as trust or custodian service or other similar entity) to keep custody of their users’ assets. The PSA recommends using a reliable and “designated method” such as offline storage in secure cold wallets, unless it hampers the execution of smooth operations. If exchanges must

⁴²⁹ Sygna Bridge Ibid Supra Note No.428

⁴³⁰ Morrison Foerster, *Japanese Cryptocurrency Update: New Amendments to Crypto Asset Regulations Take Effect May 1* (23 April 2020) Available at <https://www.mofo.com/resources/insights/200423-japanese-cryptocurrency-update.html> Last accessed on 13 June 2020

⁴³¹ Sygna Bridge Ibid Supra Note No.428

use “hot” (ie. internet-connected and therefore vulnerable) wallets, they are now obligated to hold “the same kind and the same quantities of crypto assets” in order to repay their users in case of the hot wallet gets hacked. While these are certainly tough specifications, they are also very prudent and designed to deter exit scamming as well as to ensure that the exchange can reimburse users if the funds get stolen from the platform.⁴³² Other provisions include the prohibition to anyone from engaging in activities such as dissemination of rumors, usage of fraudulent means for purposes of selling or purchasing or engagement in any transaction in respect to crypto assets or for purposes of engagement in any crypto asset derivative transactions and the likes pursuant to the FIEA⁴³³. Controversially, crypto custodians are now subjected to tougher restrictions and must also register with the FSA for a license as a crypto-asset exchange service provider. This comes despite the fact that most custodians, like trust funds, only safeguard and transfer crypto assets per the owner’s instructions. They rarely provide any exchange services such as buying, selling or trading crypto assets. The FSA defended this decision by pointing out that prior to the new amendment, custodial services were subjected to the same risks that VCEPs had to mitigate, such as cyberattacks, the risk of a VCEP collapsing and AML/CFT threats.⁴³⁴ Japan being a senior FATF member and follows the global regulator’s FATF Standards very closely.⁴³⁵ Further, despite a pledge to do so earlier, the changes still don’t directly cover “problematic crypto-assets” like privacy or anonymous coins such as Monero.

⁴³² Sygna Bridge Ibid Supra Note No.428

⁴³³ Hishashi Oki, *Japan Hopes to Set Global Crypto Law Benchmark With Latest Regulatory Update* (5 June 2019) Cointelegraph. Available at <https://cointelegraph.com/news/japan-hopes-to-set-global-crypto-law-benchmark-with-latest-regulatory-update> Last accessed on 24 November 2019

⁴³⁴ Sygna Bridge Ibid Supra Note No.428

⁴³⁵ Sygna Bridge Ibid Supra Note No.428

However, the FSA is said to be working on regulations and it is expected that further changes are likely to follow.⁴³⁶

On 30 April 2020 the FSA announced that the two approved self-regulatory organizations (SROs) in the Japanese crypto sector are the Japan Security Token Offerings Association (JSTOA) and the JVCEA. These organizations were mandated to continue working closely with the FSA for purposes of enforcing strict standards on the country's crypto sector.⁴³⁷

4.2.3 **Legal requiring Taxation & Anti-Money laundering Compliance:**

Different countries around the world boast different cryptocurrency regulations with some even singling out Bitcoin and they allowing it to be used as money, pay taxes, purchase goods, or trade it like a commodity. Major cryptocurrency countries like the United States and Canada hold a generally crypto-friendly attitude towards cryptocurrencies while also trying to enforce anti-money laundering laws and prevent fraud⁴³⁸.

4.2.3.1 **Americas:**

Bitcoin is legal in Canada, Mexico and the United States. As seen above in the United States, the Treasury has classified bitcoin as a convertible decentralized virtual currency, the CFTC has classified bitcoin as a commodity, while the IRS taxes bitcoin as a property. Canada has a similar approach, Bitcoin is treated as an 'intangible' under the *Personal Property and Security Act*, and in the province of Quebec it is treated under the *Money Services Business Act*. The leading case for determining whether an investment contract exists is the Supreme Court of Canada's decision in Pacific Coast Coin Exchange v. Ontario Securities Commission and this outlines a four-pronged test

⁴³⁶ Sygna Bridge Ibid Supra Note No.428

⁴³⁷ Kevin Helms, *Japan Implements Significant Changes to Cryptocurrency Regulation Today* (30 April 2020) Bitcoin.com. Available at <https://news.bitcoin.com/japan-changes-cryptocurrency-regulation/> Last accessed on 13 June 2020

⁴³⁸ Cryptonews Ibid Supra Note No.420

arguably based on the Howey test that exists under U.S. law. Under Pacific Coin, an investment contract exists when there is: (1) An investment of money; (2) in a common enterprise; (3) with the expectation of profit; and (4) that comes significantly from the efforts of others⁴³⁹. Canada’s tax laws further apply to digital currency transactions and where mining is undertaken as a business but not where it is a hobby. The country has further enacted an anti-money laundering law which is pending assent which is regarded as the “world’s first national law on digital currencies, and certainly the world’s first treatment in law of digital currency financial transactions under national anti-money laundering law”⁴⁴⁰. The Bank of Canada, Payments Canada, and R3, a distributed database technology company, are further involved in a research initiative called Project Jasper “to understand how distributed ledger technology (DLT) could transform the wholesale payments system”⁴⁴¹.

Mexico for its part intends to regulate Bitcoin under La Ley Fintech⁴⁴². Thus, from 25 September 2019 fintech companies operating in Mexico require to be registered with the National Banking and Securities Commission (CNBV) so that they have the powers, guarantees and regularization of a financial institution, similar to traditional banking⁴⁴³.

It is further important to highlight that in March 2020 United States Congressman Rep Paul Gosar introduced the draft *Crypto Currency Act 2020* because according to him it

⁴³⁹Pacific Coast Coin Exchange v. Ontario Securities Commission (1978) 2 SCR 112 Available at <https://scc-csc.lexum.com/scc-csc/scc-csc/en/item/4380/index.do> Last accessed on 24 November 2019

⁴⁴⁰ Global Legal Research Directorate, *Regulation of Cryptocurrency In Selected Jurisdictions* (2018) The Law Library of Congress. Available at <https://www.loc.gov/law/help/cryptocurrency/regulation-of-cryptocurrency.pdf> Last accessed on 24 November 2019

⁴⁴¹ Library of Congress Ibid Supra Note 428 at pg.25-29

⁴⁴² Usman W. Chohan, *Assessing the Differences in Bitcoin & Other Cryptocurrency Legality Across National Jurisdictions* (September 20, 2017). Available at SSRN: <https://ssrn.com/abstract=3042248> or <http://dx.doi.org/10.2139/ssrn.3042248> Last accessed on 24 November 2019

⁴⁴³ Entrepreneur, *All the basics you need to know about the Fintech Law* (1 October 2019) Available at <https://www.entrepreneur.com/article/340200> Last accessed on 24 November 2019

was crucial that America remains the leader in cryptocurrency with the Bill further providing much-needed regulatory clarity about cryptocurrency to make it easier for businesses, institutions, and everyday Americans to participate in the growing industry without anymore murkiness, uncertainty, or confusion.⁴⁴⁴ The Bill makes some notable proposals which include defining digital assets, defining the primary regulatory agencies as well as assigning authority to each regulatory agencies.

It divides digital assets or virtual assets into 3 different categories, to wit, (a) Cryptocurrency being blockchain-based “representations of United States currency or synthetic derivatives”⁴⁴⁵ and on the one hand it includes reserve-backed digital assets that are completely collateralized in a corresponding bank account, backed by real-world assets in a 1:1 ratio and the other synthetic derivatives which are “determined by decentralized oracles or smart contracts and collateralized by crypto-commodities, other crypto-currencies or crypto-securities.” (b)Crypto-commodity being blockchain-based “economic goods or services with substantial fungibility” and (c) Crypto-security: blockchain-based “debt, equity, and derivative instruments”. Other definitions include that of “stablecoins” being classified as “crypto-currencies” and divides them into reserve-backed stablecoins (backed 1:1 by a real-world asset in a bank account) and synthetic stablecoins (not reserve-backed). The Bill also defines a “Decentralized Oracle” for services that transmit or verify external data outside of a blockchain to help execute smart contract functions.

The Bill further defines “decentralized cryptographic ledger” as a ledger that runs as a stand-alone blockchain secured through a minting process, such as Proof-of-Stake (PoS) where rewards are issued based on users’ “stakes”, or Proof-of-Work (PoW)

⁴⁴⁴ Kevin Helms, *US Lawmaker Introduces Crypto-Currency Act of 2020 While Under Coronavirus Quarantine* (10 March 2020) Bitcoin.com. Available at <https://news.bitcoin.com/cryptocurrency-act-of-2020/> Last accessed on 22 June 2020

⁴⁴⁵ This reference now seems to define stablecoins as cryptocurrencies.

where miners are issued rewards for verifying transactions, runs as a cryptographic asset or smart contract on the said existing stand-alone blockchain, is immutable and cannot be altered without a controlling stake. It must cryptographically link its blocks, is permissionless and doesn't require third parties to transact, is an "irreversible bearer commodity" and cannot be controlled by a single entity or is otherwise not issued by a country ("nation-state") or private entity.

The regulators are defined to be (1) Secretary of the Treasury, acting through the Financial Crimes Enforcement Network (FinCEN) and Comptroller of the Currency (OCC); (2) Commodity Futures Trading Commission (CFTC) and (3) Securities and Exchange Commission (SEC) as "Primary Federal Digital Asset Regulators". Each defined federal regulator is assigned a digital asset with sole authority such that (1) Financial Crimes Enforcement Network (FinCEN) will regulate crypto-currencies, the Securities and Exchange Commission (SEC) will take charge of crypto-securities, while the Commodity Futures Trading Commission (CFTC) will handle all defined crypto-commodities. The three regulators are required to retain and share an up-to-date list of current Federal licenses, certificates and registrations with the public that are needed to create virtual assets or trade them.⁴⁴⁶ The Secretary of the Treasury by way of FinCEN is required to establish rules for transaction tracing mechanisms, reserve backed state audits and Transition of stablecoins: if any event (e.g. dilution) forces a stablecoin to change from reserve-backed to synthesized, and vice versa, the primary regulator must be notified. The long and the short of this Bill is that it effectively places

⁴⁴⁶ Sygna Bridge, *What is the Crypto-Currency Act of 2020? (March Update)* (2020) Sygna. Available at <https://www.sygna.io/blog/what-is-cryptocurrency-act-of-2020/> Last accessed on 22 June 2020

cryptocurrencies at the same regulatory treatment such as traditional financial institutions.⁴⁴⁷

4.2.3.2 **European Union:**

The European Union for its part does not allow member states to launch their own cryptocurrency but crypto exchanges are encouraged to be legalized and comply with the regulations⁴⁴⁸. The EU Parliament has passed no specific legislation regarding cryptocurrencies. While cryptocurrencies are broadly considered legal across the bloc, cryptocurrency exchange regulations depend on individual member states. Cryptocurrency taxation also varies, but many member-states do charge capital gains tax on cryptocurrency-derived profits – at rates of 0-50%. In 2015, the Court of Justice of the European Union ruled⁴⁴⁹ that exchanges of traditional currency for cryptocurrency should be exempt from Value Added Tax (VAT)⁴⁵⁰.

4.2.3.2.1 **Estonia:**

Estonia cryptocurrency regulations are comparatively more open and innovative than in other EU member-states where Estonia's government classifies cryptocurrencies to be "value represented in digital form" but they are not legal tender. However they are considered to be digital assets for tax purposes but like in the rest of the EU cryptoassets are not subjected to VAT. The *Anti Money Laundering and Terrorism Finance Act* enacted in December 2017 introduced a new and robust regulatory framework for

⁴⁴⁷ Stefan, *The Future Of US Crypto Regulation Lies In The 2020 Cryptocurrency Act* (22 March 2020) DC Forecasts. Available at <https://www.dforecasts.com/regulation/the-future-of-us-crypto-regulation-lies-in-the-2020-cryptocurrency-act/> Last accessed on 22 June 2020

⁴⁴⁸ Cryptonews Ibid Supra Note No.420

⁴⁴⁹ European Commission Directorate General Taxation & Customs Union – Value Added Tax Committee, *Case Law: Issues Arising from Recent Judgments of the Court of Justice of the European Union (Art.398 of Directive 2006/112/EC) Working Paper No.892* (4 February 2016) Available at <https://circabc.europa.eu/sd/a/add54a49-9991-45ae-aac5-1e260b136c9e/892%20-%20CJEU%20Case%20C-264-14%20Hedqvist%20-%20Bitcoin.pdf>

Last accessed on 24 November 2019

⁴⁵⁰ Comply Advantage, *Cryptocurrency Regulations in the EU* Available at <https://complyadvantage.com/knowledgebase/crypto-regulations/cryptocurrency-regulations-eu-european-union/> Last accessed on 24 November 2019

all crypto businesses operating within Estonia.⁴⁵¹ Cryptocurrency exchanges are henceforth required to obtain 2 licenses from the Financial Intelligence Unit of Estonia being (1) the Virtual Currency Exchange Service License; and (2) the Virtual Currency Wallet Service License.⁴⁵²

At one point Estonia seemed destined to be the first country in the world to officially launch cryptocurrencies when Kaspar Korjus, the then managing director of Estonia's e-residency program divulged details of the country's plans for what he described to be *estcoin* in a blog post.⁴⁵³ The goal was to raise funds for Estonia's e-residency program which he headed and which was a scheme that invites foreign entrepreneurs to become virtual residents of Estonia. The *estcoin* was intended to fund the project and further incentivize investors and interested parties to support the growth of the e-residency community with the further objective of putting Estonia on the map as a haven for blockchain technology.⁴⁵⁴ Korjus was however care to distinguish these would be tokens from currency so as not to violate the country's agreement to use the euro as its official money.⁴⁵⁵ In his view, by not embracing crypto, (1) governments were failing to unlock a powerful driver of economic growth and were risking losing relevance entirely (2) By not embracing public oversight, legitimate crypto investors were tarnished by fraudulent ones; and (3) crypto investors were far less certain about the value and legitimacy of their token. Further considering that Crypto tokenisation was

⁴⁵¹ Comply Advantage, *Cryptocurrency Regulations in Estonia* Available at <https://complyadvantage.com/knowledgebase/crypto-regulations/cryptocurrency-regulations-estonia/> Last accessed on 2 May 2020

⁴⁵² Comply Advantage Ibid Supra Note 451

⁴⁵³ Chris O'Brien, *Estonia Planning its own Cryptocurrency, called 'Estcoin', in Bid to Become Global ICO Hub* (19 December 2017) Venture Beat. Available at <https://venturebeat.com/2017/12/19/estonia-wants-its-own-cryptocurrency-called-estcoin-in-bid-to-become-global-ico-hub/> Last accessed on 2 May 2020

⁴⁵⁴ Kim Darrah - *Estonia Pushes Ahead in Race to Issue First State-backed Cryptocurrency* - World Finance (23 April 2018) Available at <https://www.worldfinance.com/markets/estonia-pushes-ahead-in-race-to-issue-first-state-backed-cryptocurrency> Last accessed on 2 May 2020

⁴⁵⁵ Chris O'Brien Ibid Supra Note 453

bound to alter the nature of the world it was critical that Estonia takes the with the focus being on the country's overall objective to grow their new digital nation and democratize access to entrepreneurship globally.⁴⁵⁶

Eventually however the country abandoned its plans to launch the *estcoin* following intervention by the European Central Bank⁴⁵⁷ on the grounds that Estonia being a member of the European Union the only currency it could deal in was the Euro.⁴⁵⁸

Since then and in response to emergent risks⁴⁵⁹ Estonia enacted the new edition of the *Estonian Money Laundering and Terrorist Financing Prevention Act* (Rahapesu ja terrorismi rahastamise tõkestamise seadus in Estonian) which entered into force on 10 March 2020. This legislation expanded the term “virtual currency service” to be “virtual currency exchange service[s]” that is, those services that facilitate (1) the exchange of virtual currency against a fiat currency; (2) the exchange of fiat currency against virtual currency; and (3) the exchange of virtual currency against another virtual currency”.

As set out in the Estonian Company Registration website⁴⁶⁰ under this new law companies that deal with virtual currencies were to apply for one license which has two subcategories: (1) Providers of a service of exchanging a virtual currency against a fiat currency which allows exchange of fiat currency to crypto, crypto to fiat and crypto to

⁴⁵⁶ Chris O'Brien Ibid Supra Note 453

⁴⁵⁷ Ana Alexandre, *Estonia Rolls Back Its Plan to Issue National Digital Currency* (2 June 2018) Coin Telegraph. Available at <https://cointelegraph.com/news/estonia-rolls-back-its-plan-to-issue-national-digital-currency> Last accessed on 2 May 2020

⁴⁵⁸ Cali Hann, *President of European Central Bank Nixes Digital Currency for Estonia, “Currency of Eurozone is Euro”* (1 October 2019) Crowdfund Insider. Available at <https://www.crowdfundinsider.com/2019/10/152206-president-of-european-central-bank-nixes-digital-currency-for-estonia-currency-of-eurozone-is-euro/> Last accessed on 2 May 2020

⁴⁵⁹ John O'Donnell & Tarmo Virki, *Dirty Money Risks Encroach on Estonia's Digital Utopia* (1 February 2019) Technology News. Available at <https://www.reuters.com/article/us-estonia-danske-digital-insight/dirty-money-risks-encroach-on-estonias-digital-utopia-idUSKCN1PQ3UU> Last accessed on 2 May 2020

⁴⁶⁰ Estonia Company Registration Website, *Starting A Cryptocurrency Company in Estonia*. Available at <https://estoniancompanyregistration.com/cryptocurrency-company> Last accessed on 1 May 2020

crypto; (2) Providers of a virtual currency wallet service which allows for a service or framework in which keys are generated for customer(s) encrypted keys and which can be used for the purpose of keeping, storing and transferring virtual currencies.

There were also a raft of provisions that are directly targeted at companies dealing in virtual currencies,⁴⁶¹ to wit, (1) Criminal records of all related persons/companies from all countries of citizenship; (2) Passport copies of all related persons from all countries of citizenship; (3) Share capital minimum €12 000 (Euro Twelve Thousand); (4) Physical presence in Estonia making it mandatory for the applicant to have an office in the country; (5) Impeccable reputation of members of the management board in Estonia; (6) Existing bank account in an European Economic Area (EEA) country providing cross-border services in Estonia or where the provider has been licensed to operate a branch in Estonia; (7) The list of payment accounts kept in the name of the company together with each payment account's unique number and the account manager's name; and (8) Updates on KYC/AML procedure rules.⁴⁶² Companies that already had licenses were given until 1st July 2020 to bring their operations and documents into compliance with the requirements of the amendments in the AML Act and in the event of default the Financial Intelligence Unit shall revoke the existing authorization.

4.2.3.2.2 **Switzerland:**

In many quarters Swiss Banking has come to be held to be synonymous with professional, discreet and secure banking. It is a jurisdiction renowned for its neutrality and fidelity to the principles of banking confidentiality and it is generally acknowledged to be the

⁴⁶¹ Gate to Baltics: Corporate and Legal Support, *NEW: Changes in Estonian AML Law and Effect to Licensed Cryptocurrency Companies* (12 March 2020) Available at <https://www.gatetobaltics.com/news/new-changes-in-estonian-aml-law-and-effect-to-licensed-cryptocurrency-exchanges> Last accessed on 2 May 2020

⁴⁶² Estonia Company Registration website Ibid Supra Note 460

global leader in banking.⁴⁶³ The Swiss Federation, or as it is commonly called Switzerland, is considered to be among the first countries to have demonstrated a positive attitude toward Bitcoin and the country's cryptocurrency regulation provides decent conditions and support for investments, ICOs and developments.⁴⁶⁴ It is also important to outline that Switzerland and the Principality of Liechtenstein, an independent nation bordering Switzerland, enjoy excellent, friendly relations with traditionally close ties sharing a common economic and monetary area with open borders pursuant to the Customs Treaty of 1923⁴⁶⁵ under which Liechtenstein became part of the Swiss economic area. Though Liechtenstein is not a member of the European Union the two countries safeguard the same interests and values in many areas and traditionally cooperate regularly and closely in such bodies as the UN, the International Criminal Court⁴⁶⁶ and the World Trade Organization.⁴⁶⁷ For practical purposes Liechtenstein is however treated as a “micro-Switzerland” within the European Union.⁴⁶⁸ Significantly for this study Switzerland and Liechtenstein are home to the “Crypto Valley” the name coined for the forward-thinking region that spans from the canton and city of Zug, Switzerland to Liechtenstein which is in the Canton of Zug. The region boasts favorable tax laws, legal stability, crypto-friendly regulations, a unique blend of direct democracy and decentralisation, a penchant for experimentation, and a rich offering of services focused directly on the needs of blockchain entrepreneurs

⁴⁶³ Offshore Banking, *Swiss Banking- Chapter 12* – Available at <https://www.offshorecompany.com/banking/swiss/> Last accessed on 5 May 2020

⁴⁶⁴ Cointelegraph, *Switzerland News* - Available at <https://cointelegraph.com/tags/switzerland> Last accessed on 19 May 2020

⁴⁶⁵ Federal Department of Foreign Affairs, Swiss Federation (FDFA), *Bilateral Relations Switzerland–Liechtenstein* (18 November 2019) FDFA. Available at <https://www.eda.admin.ch/eda/en/fdfa/representations-and-travel-advice/liechtenstein/switzerland-liechtenstein.html> Last accessed on 19 May 2020

⁴⁶⁶ Federal Department of Foreign Affairs Ibid Supra Note 465

⁴⁶⁷ World Trade Organization, *Trade Policy Review Report by Secretariat, Switzerland & Liechtenstein* (2017) WTO. Available at https://www.wto.org/english/tratop_e/tpr_e/s355_e.pdf Last accessed on 19 May 2020

⁴⁶⁸ Theo Bajon, *Liechtenstein & the European Union: A Micro Switzerland?* (2018) University of Avignon, France (open access) Available at <https://www.researchgate.net/publication/329522847> Last accessed on 19 May 2020

worldwide.⁴⁶⁹ Zug is one of the few places in the world where utilities such as the train can be paid in bitcoin and taxpayers can pay taxes to the municipality in bitcoin.⁴⁷⁰

The Swiss Financial Market Supervisory Authority (FINMA) has issued banking and securities dealers' licenses to two "pure-play blockchain service providers" for the first time in 2019 styled the new Swiss crypto banks. These are SEBA Crypto AG, which is registered in Zug, and Sygnum AG, which is registered in Zurich. With this development the crypto banks can now offer banking services for institutional and professional crypto clients under supervision by the financial regulator in Switzerland.⁴⁷¹ Zug is the home of the Crypto Valley Association (CVA), a government-backed nonprofit that aims to build "the world's leading ecosystem for blockchain and cryptographic technologies." The CVA is possibly the main reason why many of the biggest crypto projects (including the Ethereum Foundation) chose to incorporate in Zug.⁴⁷²

Though Swiss Law does not define cryptocurrency the Swiss Federal Council Report of 2014⁴⁷³ provides a definition to the effect that a virtual currency is a digital representation of a value which can be traded on the Internet though it sometimes does take on the role of money is not accepted as legal tender anywhere. Such currencies though they have their own denominations differ from e-money in that they are not based on a currency with legal tender status. Virtual currencies manifest in digital code

⁴⁶⁹CV VC, *What is Crypto Valley?* Available at <https://cvvc.com/cryptovalley> Last accessed on 25 May 2020

⁴⁷⁰ Bastiaan Don, *Crypto Nation Switzerland: A Glimpse Into The Swiss Blockchain Ecosystem* (30 March 2018) Block IMMO. Available at <https://medium.com/blockimmo/crypto-nation-switzerland-a-glimpse-into-the-swiss-blockchain-ecosystem-8de03068e0a3> Last accessed on 25 May 2020

⁴⁷¹ Avi, *Switzerland Approves Bitcoin Banks – But With Strict Conditions Attached* (27 August 2019) Bitcoin.com. Available at <https://news.bitcoin.com/switzerland-approves-bitcoin-banks-but-with-strict-conditions-attached/> Last accessed on 5 May 2020

⁴⁷² Stefan Stankovic, *A Glimpse Into Crypto Valley In Zug, Switzerland* (31 August 2018) Cryptobriefing. Available at <https://cryptobriefing.com/crypto-valley-zug-switzerland/> Last accessed on 25 May 2020

⁴⁷³ Swiss Federal Council, *Federal Council Report on Virtual Currencies In Response To The Schwaab (13.3687) and Weibel (13.4070) Postulates* (25 June 2014) Available at <https://www.news.admin.ch/newsd/message/attachments/35355.pdf> Last accessed on 25 May 2020

and therefore do not have a physical counterpart such as that of coins or notes. The law therefore classifies virtual currencies should be classified as an asset because of the nature of their tradability.

Building on the FINMA *Guidelines for Enquiries Regarding the Regulatory Framework for Initial Coin Offerings (FINMA ICO Guidelines) of 2018* proceed to categorise tokens into three types, from which hybrid forms are possible: (1) Payment tokens which are strictly speaking cryptocurrencies with no other functions or links to other development projects and which may in some cases only develop the necessary functionality for use as a means of payment over a period of time; (2) Utility tokens which are intended to provide digital access to an application or service; and (3) Asset tokens that represent assets in real physical entities, companies, earnings streams, or an entitlement to dividends or interest payments. In terms of their economic function, these tokens resemble equities, bonds or derivatives.⁴⁷⁴ FINMA further indicated that (i) Payment ICOs would require to comply with AML provisions but would not be treated as securities. (ii) Utility ICOs would not qualify as securities only if their sole purpose is to confer digital access rights to an application or service and if the utility token can already be used in this way at the point of issue. However, if a utility token functioned solely or partially as an investment in economic terms then FINMA would treat such tokens as securities (i.e. in the same way as asset tokens); and (iii) Asset ICOs would be regarded as securities meaning that there are securities law requirements for trading in such tokens, as well as civil law requirements under the Swiss Code of

⁴⁷⁴ Daniel Haerberli, Stefan Oesterhelt & Alexander Wherlock, *Blockchain & Cryptocurrency Regulation 2020 – Switzerland* (2020) Global Legal Insights. Available at <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/switzerland> Last accessed on 25 May 2020

Obligations (e.g. prospectus requirements).⁴⁷⁵ In 2019 FINMA issued a guidance note for blockchain payments in which they reaffirmed a technology neutral approach and indicated an adherence to application of anti-money laundering laws.⁴⁷⁶

The Swiss Federal Council has further engaged in a recent legislative initiative to introduce Distributed Ledger Rights (DLT) laws aimed at creating optimal conditions for blockchain and cryptoassets. This initiative recognizes that a blockchain is a completely new framework which frequently has its legal system programmed into it and occasionally smart property rights are autonomously enforced within a public blockchain. For one school of thought this is sufficient to facilitate innovation and protect users however the Swiss consider it necessary to create an environment in the real as opposed to the virtual platform within the traditional legal regulatory framework for the provision of DLT rights by introducing the concept of register value rights.⁴⁷⁷ Register value rights create the legal basis on which tokenized shares, bonds and other financial assets can be transferred digitally in a legally binding manner compared with the current prevailing situation where a written assignment is required, that is to say, the transferors manual signature is required. Accordingly, the DLT seeks to create the best legal framework to enable Switzerland to establish itself and evolve as leading, innovative and sustainable location for fintech and blockchain companies. The Swiss Federal Council highlighted the following key areas that require to be amended in line with the above-mentioned goals (1) Civil law: Increase legal certainty for the digital

⁴⁷⁵ Swiss Financial Market Supervisory Authority - Press Release, *FINMA Publishes ICO Guidelines* (16 February 2018) FINMA. Available at <https://www.finma.ch/en/news/2018/02/20180216-mm-ico-wegleitung/> Last accessed on 25 May 2020

⁴⁷⁶ Financial Markets Supervisory Authority, Swiss Federation, *FINMA Guidance 02/2019 FINMA – Payments on the Blockchain* (26 August 2019) FINMA. Available at <file:///C:/Users/Jacqueline/Downloads/20190826%20finma%20aufsichtsmittelung%2002%202019.pdf> Last accessed on 5 May 2020

⁴⁷⁷ Pascal Hugli, *Swiss Blockchain & Crypto-Regulation Takes Shape* (19 May 2020) Crypto Valley Journal Available at <https://cvj.ch/en/focus/legal-and-compliance/swiss-blockchain-crypto-regulation-takes-shape/> Last accessed on 25 May 2020

transfer of rights, mainly rights that can be referred to as asset tokens, embodying shares, bonds and derivative instruments; (2) Bankruptcy laws: Introduce provisions for the segregation of crypto-assets and data without asset value in the event of bankruptcy of a financial service provider (including corresponding amendments to the banking insolvency procedures); (3) Financial markets laws: Create a new licence category for blockchain-based financial market infrastructures which allows access to individuals with the possibility of simplified requirements for small players; and (4) Anti-money laundering laws: Confirm the application of the Anti-Money Laundering Act (AMLA) to decentralised trading platforms.⁴⁷⁸ The DLT Draft Law will now be submitted to the Swiss Parliament to examine the proposed law.⁴⁷⁹

4.2.3.1 **South Africa:**

Cryptocurrencies have proved to be popular in South Africa, with 10.7% of the country's residents owning crypto and per the 2019 Global Digital Year Book the Country is ranked at the top of the cryptocurrency ownership list.⁴⁸⁰ This is attributable to the high volatility of the South African Rand and the convenience of cryptocurrency cross border trade and payments within the South African Development Community (SADC) countries.⁴⁸¹ Further the BRICS nations, that is the block that is made up of

⁴⁷⁸ Diana Lafita, *Federal Council Published a Draft DLT-law After Public Consultation* (17 December 2019) Loyens Loeff. Available at <https://www.loyensloeff.com/ch/en/news/federal-council-published-a-draft-dlt-law-after-public-consultation-n17842/> Last accessed on 25 May 2020.

⁴⁷⁹ Swiss Federal Council Press Release, *Federal Council wants to Further Improve Framework Conditions for DLT/Blockchain* (27 November 2019) Available at <https://www.admin.ch/gov/en/start/documentation/media-releases.msg-id-77252.html> Last accessed on 25 May 2020

⁴⁸⁰ Olivier Acuna, *South Africa Tops The List of Cryptocurrency Ownership Among Global Internet Users* (15 August 2019) Hackernoon. Available at <https://hackernoon.com/south-africa-tops-the-list-of-cryptocurrency-ownership-among-global-internet-users-bxazr30ti> Last accessed on 4 May 2020

⁴⁸¹ Ana Alexandre, *South African Central Bank to Reportedly Introduce New Crypto Regulations* (2 December 2019) Coin Telegraph. Available at <https://cointelegraph.com/news/south-african-central-bank-to-reportedly-introduce-new-crypto-regulations> Last accessed on 4 May 2020

Brazil, Russia, India, China and South Africa during the 11th Annual BRICS Summit 2019 discussed the possibility of creating a BRICS cryptocurrency.⁴⁸²

South Africa Reserve Bank's (SABR) National Payment System Department issued the first Position Paper on Virtual Currencies on 3rd December 2014 considered to be the country's White Paper on cryptocurrencies.⁴⁸³ It adopted the FATF definition of Virtual currency to be a digital representation of value that can be digitally traded and which functions as (1) a medium of exchange; (2) a unit of account; (3) a store of value, but does not have legal tender status...in any jurisdiction.⁴⁸⁴

The SA White Paper further highlighted that virtual currencies posed certain risks, to wit, (1) price instability; (2) money laundering and/or the financing of terrorism; (3) consumer risk; (4) circumvention of exchange control regulations; and (5) potential financial instability and concluded that SABR did not oversee, supervise and/or regulate the virtual currency landscape and further that any persons who participated did so at their own risk.⁴⁸⁵ In its first step towards regulation South Africa's Intergovernmental Fintech Working Group (IFWG) initiated what it referred to as

⁴⁸² Joeri Cant, *BRICS Nations Discuss Creation of New Crypto For Unified Payment System* (14 November 2019) Cointelegraph. Available at <https://cointelegraph.com/news/brics-nations-discuss-creation-of-new-crypto-for-unified-payment-system> Last accessed on 4 May 2020

⁴⁸³ South Africa Reserve Bank, *Position Paper on Virtual Currencies* (3 December 2014) SAR. Available at [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) Last accessed on 3 May 2020

⁴⁸⁴ Financial Action Task Force Report, *Virtual Currencies Key Definitions and Potential AML/CFT Risks* (June 2014) FATF. Available at <https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf> Last accessed on 3 May 2020

⁴⁸⁵ FATF Report Ibid Supra Note 484

limited regulation⁴⁸⁶ and this was defined as follows at paragraph 5.3.2 of the *Consultation Paper on Policy Proposals for Cryptoassets*:⁴⁸⁷

“This regulatory approach will not exactly fit into the model created by Lansky, but a new level is proposed between levels 3 and 4, namely ‘limited regulation’. At this proposed level, an official body places specific requirements on providers of certain services in respect of crypto assets, without setting predefined conditions for formal authorisation to provide crypto assets-related products or services. Therefore, in terms of the proposed level, the FIC will include crypto assets service providers as an accountable institution and, as such, the accountable institutions will be under legal obligation to comply with AML/CFT requirements in the FIC Act. However, the FIC does not set predefined conditions or market entry requirements for such business – therefore, South Africa will fall under a ‘limited regulatory’ framework.”

More recently IFWG jointly with its Intergovernmental Crypto Assets Regulatory Working Group (CAR WG) comprising members from their National Treasury (NT), South African Reserve Bank (SARB), Financial Sector Conduct Authority (FSCA), Financial Intelligence Centre (FIC), National Credit Regulator (NCR) and South African Revenue Service (SARS) jointly issued a position paper⁴⁸⁸ on 16 April 2020 setting out policy on the necessity of developing a regulatory and policy response to crypto asset activities in South Africa and in which they set out 30 recommendations.⁴⁸⁹ These recommendations comply with the standards set by the Financial Action Task Force (FATF), the global money laundering and terrorist financing watchdog⁴⁹⁰ and in

⁴⁸⁶ Business Tech, *Reserve Bank Proposes Stricter Cryptocurrency Regulations for South Africa in 2019* (15 January 2019) Available at <https://businesstech.co.za/news/technology/293594/reserve-bank-proposes-stricter-cryptocurrency-regulations-for-south-africa-in-2019/> Last accessed on 4 May 2020

⁴⁸⁷ Intergovernmental Fintech Working Group Crypto Assets Regulatory Working Group, *Consultation Paper on Policy Proposals for Cryptoassets*, (January 2019) IFWG, CAR WG. Available at https://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/9037/CAR%20WG%20Consultation%20paper%20on%20crypto%20assets_final.pdf Last accessed on 3 May 2020

⁴⁸⁸ Intergovernmental Fintech Working Group Crypto Assets Regulatory Working Group, *Position Paper on Crypto Assets* (16 April 2020) IFWG, CAR WG. Available at https://www.ifwg.co.za/wp-content/uploads/IFWG_CAR_WG-Position_Paper_on_Crypto_Assets.pdf Last accessed on 3 May 2020

⁴⁸⁹ Kevin Helms, *South Africa Proposes 30 Rules to Regulate Cryptocurrency* (19 April 2020) Bitcoin. Available at <https://news.bitcoin.com/south-africa-cryptocurrency/> Last accessed on 3 May 2020

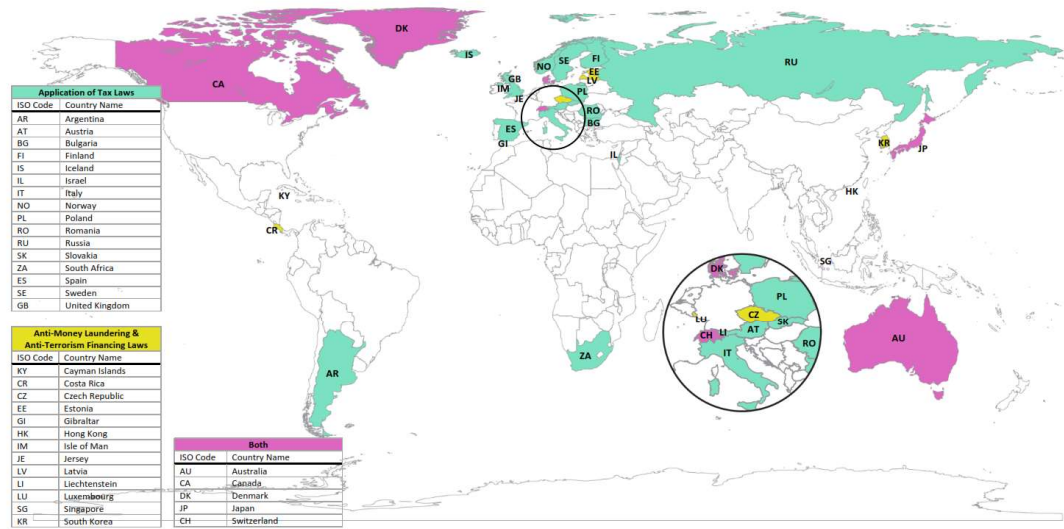
⁴⁹⁰ Kevin Helms Ibid Supra Note 489

particular revised Recommendation No. 15⁴⁹¹ of *the Financial Action Task Force Recommendations on New Technologies and Virtual Assets*.

FIC will continue to be the supervisory authority of crypto asset service providers (CASP) all of whom will be required to register with it as an accountable institution and comply with AML/CFT requirements. The Financial Sector Conduct Authority (FSCA) is to be “the responsible authority for the licensing of ‘services related to the buying and selling of crypto assets’” and “specific conduct standards should be developed for these services.” The policy paper further states that “the Financial Surveillance Department of the SARB should assume the supervisory and regulatory responsibility for the monitoring of illegitimate cross-border financial flows in respect of crypto asset services.” In addition to this cryptocurrency activities will continue to be monitored by the CAR WG and crypto assets will “remain without legal tender status and will not be recognised as electronic money” and “not be allowed for the conduct of money settlements in financial market infrastructures.”⁴⁹²

⁴⁹¹ Financial Action Task Force, *Public Statement on Virtual Assets and Related Providers* (21 June 2019) FATF. Available at <https://www.fatf-gafi.org/publications/fatfrecommendations/documents/public-statement-virtual-assets.html> Last accessed on 3 May 2020

⁴⁹² Kevin Helms Ibid Supra Note 489



Regulatory Framework for Cryptocurrencies:
Application of Tax Laws, Anti-Money Laundering/Anti-Terrorism Financing Laws, or Both

Source: Created by the Law Library of Congress based on information provided in this report.



Fig 4: Map 3 – Regulatory Framework for Cryptocurrencies
 – adapted from Library of Congress Report, 2018⁴⁹³

4.2.4 Legal with National/Regional Cryptocurrencies:

As seen above there are indications that China will be issuing its national backed cryptocurrency and this is in the pipeline being anticipated to be operational in 2021. This represents a paradigm shift around the world with more countries either seeking to launch their own national backed cryptocurrency or otherwise exploring the possibility of doing so. To date the only country that has issued their own cryptocurrencies is Ecuador where the Central Bank of Ecuador launched the country’s *Sistema de Dinero Electrónico* (electronic money system) in 2015 based entirely on its dollar based monetary system.⁴⁹⁴ Other countries that have taken serious steps in this direction include China, Senegal, Singapore, Tunisia though these countries will not be

⁴⁹³ Library of Congress Report Ibid Supra Note No.422

⁴⁹⁴ Everet Rosenfeld, *Ecuador Becomes the First Country to Roll Out its Own Digital Cash* (9 February 2015) cnbc.com. Available at <https://www.cnbc.com/2015/02/06/ecuador-becomes-the-first-country-to-roll-out-its-own-digital-currency.html#:~:text=While%20the%20world's%20most%20popular,the%20local%20currency%E2%80%94t%20he%20dollar.> Last accessed on 24 June 2020

standing alone for long with Estonia, Japan, Palestine, Russia and Sweden looking to launch their own national cryptocurrencies. Some of these countries are likely to take it a step further and replace paper tender altogether with China being one nation that is looking to take one step beyond a virtual and paper version.⁴⁹⁵

4.2.4.1 **China:**

China's central bank has stepped up its development of the e-RMB, which is set to be the first digital currency operated by a major economy.⁴⁹⁶ Though specific details are difficult to come by it is reported that the People's Bank of China (PBOC), China's Central Bank, started research on its digital legal tender in 2014. The State Council, the nation's cabinet, approved the PBOC's digital currency development program at the end of 2017, jointly with some qualified commercial banks and institutions.⁴⁹⁷ In February 2020 PBOC filed 84 patents digital currency patents related to the issuance and supply of a central bank digital currency, a system for interbank settlements that uses the currency, and the integration of digital currency wallets into existing retail bank accounts.⁴⁹⁸ The patents are attributed to PBOC's Digital Currency Research Institute and they relate to integrating a system of digital currency into the existing banking infrastructure.⁴⁹⁹ The PBOC will be the sole issuer of the "*digitalized renminbi*", and

⁴⁹⁵Bob Mason, *The Next Cryptocurrency Evolution: Countries Issue their Own Digital Currency* Available at <https://www.fxempire.com/education/article/the-next-cryptocurrency-evolution-countries-issue-their-own-digital-currency-443966> Last accessed on 24 November 2019

⁴⁹⁶ Helen Davidson, *China Starts Major Trial of State-run Digital Currency* (28 April 2020) The Guardian. Available at <https://www.theguardian.com/world/2020/apr/28/china-starts-major-trial-of-state-run-digital-currency> Last accessed on 1 May 2020

⁴⁹⁷ Chen Jia, *Digital Currency Trials are Underway* (21 April 2020) China Daily. Available at <https://global.chinadaily.com.cn/a/202004/21/WS5e9e362aa3105d50a3d178ba.html> Last accessed on 1 May 2020

⁴⁹⁸ Kevin Helms - *84 Digital Currency Patents Filed by China's Central Bank Show the Extent of Digital Yuan* - Bitcoin.com (16 Feb 2020) <https://news.bitcoin.com/pboc-digital-currency/> Last accessed on 2 May 2020

⁴⁹⁹ Kevin Helms Ibid Supra Note 498

will originally offer the digital money to commercial banks or other operators.⁵⁰⁰ The digitalized *renminbi* is said to be backed by 20,000 tonnes of gold.⁵⁰¹

China has already started testing its government-backed digital currency in some regions before it is introduced to the public, aiming to replace paper notes and coins in circulation, according to the PBOC. Pilot programs were launched in Shenzhen, Suzhou, and Chengdu, as well as in the Xiongan New Area, Hebei province in late April 2020.⁵⁰² These developments were seen in the context of a response to the novel Coronavirus outbreak which spurred on and accelerated the cashless process.⁵⁰³ A lot of work still needs to be done, especially in setting the security standards and a regulatory mechanism for the new form of payment. But with the use of the digital currency now being tested, China is said to be moving ever closer to an official launch date for the issuance and supply of a central bank digital currency and a system for interbank settlements that uses the currency.⁵⁰⁴

⁵⁰⁰ Chen Jia Ibid Supra Note 497

⁵⁰¹ Daniela Cambone, *China's Secret Weapon Against USD is a Gold Backed Crypto Currency – Max Keiser* (5 November 2019) The Street. Available at <https://www.thestreet.com/video/crypto-currency-china-secret-weapon-usd-gold-backed-crypto-currency-max-keiser-15154154> Last Accessed on 2 May 2020

⁵⁰² Chen Jia Ibid Supra Note 497

⁵⁰³ China Daily Editorial, *Digital Renminbi Moves Step Closer* (20 Apr 2020) China Daily. Available at <https://www.chinadaily.com.cn/a/202004/20/WS5e9d9fffa3105d50a3d17840.html> Last accessed on 1 May 2020

⁵⁰⁴ China Daily Editorial Ibid Supra Note No.503



Countries that Have or Are Issuing National or Regional Cryptocurrencies

Source & Note: Created by the Law Library of Congress based on information provided in this report. As discussed in the report, the Eastern Caribbean Central Bank (ECCB), which is the monetary authority for eight island economies in the Eastern Caribbean Currency Union, has entered into an agreement for the development of a digital currency for member states.



Fig 5: Map 4 – Countries that Have or Are Issuing National or Regional Cryptocurrencies

– adapted from *Library of Congress Report, 2018*⁵⁰⁵

4.3 **THE GLOBAL FUTURE OF CRYPTOCURRENCY:**

It appears inevitable that given the onward expansion of cryptocurrencies in the world some level of regulation will require to be put in place. Though this appears to offend the original premise that Bitcoin was supposed to replace the currencies of “corrupt” central banks, the success of Bitcoin and now cryptocurrency means widespread adoption of cryptocurrencies and/or crypto-assets. The irony is that “widespread adoption” in and of itself inherently includes adoption by the very bankers, financiers, and politicians some Bitcoin enthusiasts love to loathe so much, and therefore signs of widespread adoption are taken as unfortunate corruptions of the Bitcoin idea.⁵⁰⁶

⁵⁰⁵ Library of Congress Report Ibid Supra Note No.422

⁵⁰⁶ David Golumbia, *The Politics of Bitcoin: Software as Right Wing Extremism* (October 2016) Forerunners: Ideas First, University of Minnesota Press Available at [https://www.academia.edu/29162085/The Politics of Bitcoin Software as Right-Wing Extremism?auto=download](https://www.academia.edu/29162085/The_Politics_of_Bitcoin_Software_as_Right-Wing_Extremism?auto=download) pg.39 Last accessed on 24 November 2019

There is sufficient evidence that crypto-assets, cryptocurrencies and/or virtual currencies have acquired a permanency on the global scene that is a positive indicator that they are here to stay. Accordingly, both on the global scene and in local jurisdictions policy makers, regulators and academics are called upon to reassess, review, establish and enhance the space but at the same time guarantee that all the interests of legitimate participants are protected and that the traditional bad boys are dealt with within the anti-money laundering regime to combat organized crime, terrorism financing and/or other subversive activities.

4.4 SUMMARY:

In chapter four we have undertaken a comparative study of various jurisdictions around the world because particularly the Bitcoin blockchain software alone has network members distributed in at least 105 countries and diverse jurisdictions are having to grapple with how to deal with this new and disruptive area. The study noted that the regulatory responses by world agencies was diverse (1)beginning with the terms the different countries use to describe cryptocurrency, for example, digital currency in Argentina, Thailand and Australia; virtual commodity adopted in Canada, China and Taiwan; payment token in Switzerland; cyber currency used in Italy and Lebanon, electronic currency such as in Columbia and Lebanon; virtual asset in Honduras and Mexico; and recently crypto-asset in Japan and even with these there are multiple distinctions and/or classifications per country. It is important to note however that there has been a trend towards adopting the term crypto-asset to denote all types of cryptocurrencies particularly by the global institutions and given that the problems and opportunities of digital currencies have reached a point where they have become impossible to ignore economic components had become the subject of discussions at meetings and/or conferences by international institutions such as the World Bank, the

European Central Bank, the Ministry of Finance and the Central Bank of Russia, Switzerland, Germany, Japan, the United States and in March 2018 the FSB was tasked to provide a report on crypto-assets which they did in collaboration with the CPMI, IOSCO and BCBS which they did to the effect that (1) the FSB & CPMI had produced a framework and established metrics to surveil the financial stability implications of crypto-assets markets; (2) CPMI had done substantial work on applications/software of distributed ledger technology and was further undertaking outreach, monitoring as well as analysis of payment innovations; (3) IOSCO had put together an ICO Consultation Network to consider experiences, issues and/or concerns regarding ICOs and was creating a Support Network to assist members disentangle domestic and cross-border issues that applied to ICOs with a view to safeguarding investor protection and further IOSCO had also identified and was discussing regulatory issues around crypto-assets platforms; and BCBS was assessing the materiality of banks' indirect and indirect exposures to crypto-assets, clarifying the attendant prudential treatment regarding such exposures as well as monitoring developments related to crypto-assets and FinTech for banks and supervisors. The European Banking Authority had further noted that there were different approaches to regulation of crypto-asset related activities which were emerging across the EU that impacted on (1) consumer protection; (2) operational resilience; (3) market integrity; and (4) the level playing field and these required to be considered comprehensively to establish what action, if any, was required at EU continental level to address them. Further, in June 2019 the FSB issued 10 recommendations in respect of GSCs, a class of crypto-assets, to mitigate the potential risks of their use as a means of payment and/or for purposes of storing value, both on the domestic and international level with a view to support responsible innovation and ensuring sufficient flexibility for different nations to implement domestic approaches.

The study identified 4 common regulatory responses around the world and this was the framework that the Researcher adopted for purposes of analysis, that is, (1) Jurisdictions which have either prohibited crypto-assets or otherwise given an outright ban; (2) Jurisdictions which took the stance that crypto-assets are legal and they were non-interventionist; (3) Jurisdictions which consider crypto-assets legal and further required the sector to comply with taxation and/or anti-money laundering legislation or both; and (4) Jurisdictions that have set up their own national or regional backed cryptocurrencies.

The countries that perceive crypto-assets to be a threat to existing monetary systems and/or link them to illicit subversive activities such as drug trafficking and money laundering and have either banned them outright whilst some have sought to cut off and/or remove any connection and/or support from the banking and financial system. Some North African and Middle East countries have declared Bitcoin *haram*. China also numbers amongst the countries that outlaw cryptocurrencies and it is perceived as having undertaken a major crackdown on Bitcoin but ironically, it has announced plans to issue a state backed currency in September 2020 and taken credible steps in this direction.

Amongst the countries where crypto-assets are legal the study noted and distinguished 3 other categories as follows (1) in approximately 111 jurisdictions virtual currencies, bitcoin and cryptocurrencies are recognized by law and are legal and this is considered to be the most prevalent category; (2) the second group sometimes referred to as “*alegal*” because parties in a country can own and/or trade cryptoassets but there are no clear rules or legal protection concerning the status of such virtual currencies and/or cryptoassets. Kenya is perceived to number amongst them. In this group where cryptocurrency is legal Japan is considered to be the world’s most forward-looking

regulatory climate for crypto-assets/cryptocurrencies and it bears repeating that the JVCEA is the formally recognized self-regulating entity for crypto-assets in Japan. It is formally recognized by the FSA and is empowered to pass and enforce regulations and standards for cryptocurrency exchanges in Japan. Bitcoin and other digital currencies are further recognized as digital property in this jurisdiction. Due to the volume of the market Japan's National Tax Agency ruled that gains in crypto-assets would be classified under "miscellaneous income" and investors are now taxed at rates from 15 to 55%. Recent changes to the PSA and FIEA have revised the term virtual currency to "Crypto-assets" a term that is gaining ground with the global institutions and the FSA was given enhanced oversight as more market intermediaries in the sector now require to be registered with them and starting May 2020 moving forward crypto exchanges operating in Japan are required to manage users' money separately from their cashflows. Other important provisions include the prohibition to anyone from participating in activities such as dissemination of rumours and the employ of fraudulent mechanisms of selling or purchasing crypto-assets.

The third category of jurisdictions further try to enforce anti-money laundering law, prevent fraud and some have tax provisions that are enforced e.g. the Americas and the EU. The US, Canada and Mexico demonstrating crypto-friendly ecosystems such that US CFTC has classified bitcoin as a commodity and the IRS taxes bitcoin. Canada also taxes Bitcoin as an "intangible" and it adopts a very similar approach to determining securities to that of the Howey Test. Taxation is however imposed upon those persons/entities who undertake digital currency transactions as a business but not as a hobby. Canada has also enacted an anti-money laundering law which is awaiting assent. Mexico for its part regulates Bitcoin under *La Fey Fintech* with effect from September 2019. The United States further published the draft *Crypto Currency Act 2020* in March

2020 which sets out a trajectory where digital assets and virtual assets will be regulated by their traditional financial institutions' regulators, to wit, FinCEN, SEC and CFTC with substantially the same treatment as the traditional financial institutions.⁵⁰⁷

Members of the EU for their part are not allowed to launch their own cryptocurrency though crypto exchanges are encouraged to be legalized and crypto-assets are broadly considered to be legal. Taxation is a question that has received the attention of the Court of Justice of the European Union which ruled cryptocurrency transactions are exempt from VAT. Other countries that have taken steps within this category include Switzerland which has openly expressed the intention to be a leading Crypto-Nation and South Africa which has instituted measures for limited regulation and is arguably the most progressive African nation in regards to both the adoption and regulation of cryptocurrencies.

The final category of approaches is that where the countries/region have issued national backed cryptocurrency and this is seen to represent a paradigm shift. China appears set to join these jurisdictions but there are already those that have issued their own cryptocurrencies including Ecuador, Senegal and Tunisia. Some of these countries may yet take it a step further and replace paper tender altogether and recent developments are indicative that China with its proposed digital renminbi may lead the way in this regard.

⁵⁰⁷ Stefan Supra Ibid Note No.447

CHAPTER FIVE: CONCLUSION & RECOMMENDATIONS

5.1 ANALYSIS & RESEARCH OUTCOMES:

Judging from the information captured in this study cryptocurrencies are a fairly recent technological phenomenon whose ground zero can be found in Satoshi Nakamoto's White Paper of 2008 which officially launched Bitcoin. This seminal work was preceded by considerable innovation activity by extropians and cypherpunks who were anti-establishment and the original tech innovators. Above all else these radical thinkers sought anonymity through the use of cryptography as a measure of security.

5.1.1 Innovation versus Regulation:

A critical pillar of the early innovators' thinking was the Hayekian theory decrying the role of a central authority favouring instead a system where changing prices from various participants in an economy could be pooled and translated into an efficient source of information. This is a central theme with Bitcoin and subsequent cryptocurrencies which created the distributed ledgers called blockchains. Blockchain technology for its part is based on catallaxy or the spontaneous order concept of innovation. Given this genesis it is no wonder then that central banks, financial intermediaries and governmental authorities have tended to handle anything cryptocurrency with suspicion. This theory of innovation would however have remained academic if David Lee Chaum had not fused cryptography with privacy preserving technologies when he developed a way to keep transactions both anonymous and simultaneously prevent double spending through what he described as the digital blind signature. This is the technological foundation upon which bitcoin and cryptocurrencies are grounded upon. Ironically the characteristic of anonymity that made it possible to have virtual currencies attracted criminal activity early in its evolution and paradoxically it is the media attention that sensationalized the resultant

scandals and brought cryptocurrencies to the forefront that spurred the growth that has seen them develop and become established around the world. Unfortunately, the early use of Bitcoin for nefarious purposes such as the widely publicized Silk Road and the subsequent hacking of Mt. Gox have not tended to inspire the support of governments who have continued to view them with a great deal of suspicion. This morass of perception has therefore served as the foundation of the tension between the innovators who have fought to keep out government from the cryptocurrency space and the regulators who have likewise sought to reign in the use of cryptocurrency in various jurisdictions and on the world scene for purposes of protecting users and investors in bitcoin and cryptocurrency.

5.1.2 **Cryptocurrency as a Global Digital Currency:**

It must be noted further that cryptocurrencies are internet based and can be transacted cross-border at significantly lower cost than any of the other traditional financial streams which require third party intermediaries. They also feature less control measures and in very many instances the transaction time is immediate. This has seen significant interest from global tech giants such as Microsoft which now accepts blockchain as legitimate tender as well as Facebook with its Libra digital currency which has expectedly hit a snag primarily because regulators around the world are perturbed by Facebook's involvement and influence in the project arising from the company's size, its financial interest and the perceived incentive for antitrust activities as well as any unforeseen consequences that may arise in the event of enabling for-profit companies and/or empowering them to issue virtual currencies thereby strategically positioning such institutions within global macroeconomics and geopolitical dynamics. Further, a great deal of uncertainty and concern as to modalities of classifying the Libra token and the dynamics of its regulation particularly on how it

would be properly regulated as well as who would regulate its activities continue to emerge. Currently, this lack of clarity in regulation has been the singular stumbling block towards the realization of the global digital currency.

The emerging global nature of cryptocurrency use and its cross-border characterization have created an asymmetry in their handling leading to different authorities adopting varying approaches with widely varied results. We can therefore conclusively surmise from the study that the world has not adopted a uniform and/or consistent approach to this current fusion of economic or financial value with technology although some common threads and/or trends can be clearly discerned. The common approaches include (1) the countries that have banned and/or prohibited cryptocurrencies; (2) countries that consider cryptocurrencies legal but are non-interventionist; (3) the group that consider cryptocurrencies to be legal requiring users to comply with taxation and/or anti-money laundering legislation or both; and (4) the group that has taken steps to set up their own national or regional backed cryptocurrencies. Kenya is considered to lie within the second group in which cryptocurrencies are legal but the countries government is non-interventionist, sometimes described as the *alegal* approach.

5.1.3 **Cryptocurrency in Kenya:**

The Study considered the situation in Kenya where cryptocurrencies and virtual currencies have been adopted widely in the country and there is substantial interest and uptake by individual users and investors with the last official reports estimating that Kenyans hold about Kshs.163,000,000,000.00 (Kenya Shillings One Hundred Sixty-three Billion) in accumulated holdings of Bitcoin translating into about 2.3% of Kenya's Gross Domestic Product. Cryptocurrencies are legal in the country though the regulatory framework in Kenya can at best be said to be wanting as in the first instance there is no policy and/or legislative framework specifically dedicated to

cryptocurrencies in the jurisdiction. However, it emerged that the primary financial industry/sector regulators being the Central Bank of Kenya and the Capital Markets Authority had undertaken various regulatory steps in regards to Bitcoin and Cryptocurrency and had successfully challenged the actions they had taken in Kenya's High Court. The action the 2 regulators have taken is further considered to have been warranted and justified following the collapse of the Brazilian pyramid scheme *Velox 10* in which Kenyan Bitcoin investors lost millions of shillings.

It must be noted though that the country's Ministry of Information, Communication and Technology had commissioned the *Emerging Digital Technologies for Kenya: Exploration and Analysis* now popularly known as the Blockchain Taskforce Report which primarily considered the technology blockchain platform that has developed from the emergence of cryptocurrencies. The report however pays scant attention to the question of cryptocurrencies in and of themselves merely noting that countries like South Africa and Turkey were looking to regulate the cryptocurrency industry and launch a national cryptocurrency respectively. Of importance to the study however are the proposals in so far as cryptocurrencies are concerned which are listed as 2 strategies, that is, on the one hand enabling a digital asset framework (DAF) for cryptocurrency/cryptoassets in Kenya and secondly to launch a Central Bank Digital Currency (CBDC) or as it is otherwise referenced in the aforesaid report, the Digital Fiat Currency (DFC) being a digital form of fiat money backed by government regulation or law.

5.1.4 **Definition of Cryptocurrency & Its Taxonomy:**

This study further sought to identify and establish a working definition of cryptocurrency and its taxonomy, trace the evolution of cryptocurrency and the major legal events that have impacted and shaped the development of various types of

cryptocurrencies in Kenya and abroad and further consider lessons that can be learnt from the regulation of cryptocurrency in other jurisdictions and ultimately identify and propose key areas for regulation policy and further research intervention in Kenya. Though to-date there is no single accepted definition for cryptocurrency the research for this project as well as other studies point to the key pillars that distinguish cryptocurrency to include (1) the digital or virtual nature of any unit that is described by virtue of the nature of technological innovation. The technology keeps information safe and hidden, that is, encrypted and is denoted by the term “*crypto*” which stands for cryptography, the ancient art and science of writing in secret code now adapted in data and telecommunications over any untrusted medium or network including the internet. Cryptography protects the data from theft or alteration and cryptographic proof, usually in the form of a line of code, is employed for user authentication, privacy/confidentiality and non-repudiation; (2) the fact of its lack of a central authority and instead relying on consensus of the owners described as a peer-to-peer database in the nature of a distributed ledger generally referred to as the blockchain; (4) The members of the database/blockchain process the cryptocurrencies by initially mining and otherwise participating in authenticating any transactions and facilitate privacy as the users do not have to go through a third-party intermediary; (5) the fact of its being an alternative to fiat or legal tender; and (6) the units are utilised by members of the blockchain to transmit or exchange value.

Within the Kenyan context the High Court in Lipisha Consortium Limited & Another v. Safaricom Limited adopted the definition of Bitcoin to be a form of digital currency which is created and held/maintained electronically though it is not printed in the same manner as what we know to be legal tender and neither is it backed by government fiat.

5.2 **KEY LESSONS FROM INTERNATIONAL EXPERIENCE:**

There are significant takeaways from the international experience particularly from the countries that have made an effort to consider, determine and set out their regulatory framework such as Japan, Switzerland, Estonia, South Africa, Americas and China summarised and outlined in brief as follows below.

5.2.1 **Definition: Cryptocurrency versus Cryptoassets:**

There does not exist an accepted or homogenous definition of either cryptocurrency or the emerging term to encompass all virtual currencies, that is to say, cryptoassets. Various jurisdictions and/or geographical regions have made attempts to incorporate a definition that works within their contexts as highlighted below.

The EU Parliament defined cryptocurrency to be a digital representation of value intended to constitute a peer-to-peer, denoted “P2P”, alternative to sovereign backed and/or government issued legal tender and which is used as a general-purpose medium of exchange convertible into legal tender and vice versa but which is independent of any central bank through mechanism known as cryptography.

Swiss law for its part does not define cryptocurrency though the Swiss Federal Council Report did outline a definition for use within that jurisdiction which considered that a virtual currency is a digital representation of value that is not accepted as legal tender but which can be traded on the Internet and can at times be used to pay for real services and/or goods in its own denominations. They are however distinguishable from e-money because they do not enjoy legal tender status. Swiss law highlights that virtual currencies do not have any physical counterpart like coins or notes but rather exist only in the form of digital code. Considering their tradability therefore virtual currencies are categorized to be an asset.

Swiss FINMA further designates virtual currencies into tokens in 3 categories, that is (1) payment tokens which are the cryptocurrencies themselves such as bitcoin; (2) utility tokens that bestow digital access to an application or service; and (3) asset tokens that represent assets and which because of their economic functionality are comparable to equities, bonds or derivatives. The Swiss Federal Council further seeks to introduce the Distributed Ledger Rights Laws aimed to create optimal conditions for blockchain and cryptoassets and establish the country as a leading crypto-friendly jurisdiction.

South Africa for its part has imported the FATF definition of virtual currency to the effect that it is a digital representation of value which can be traded digitally and operates as (1) a medium of exchange; (2) a unit of account; (3) a store of value, but does not have legal tender status... in any jurisdiction.

A novel approach is that of Japan which has led the way in adopting the term “cryptoassets” in place of virtual currency ostensibly because this is the term that is gaining currency around the world and specifically within the G20 of which Japan is a member. The shift in terminology to cryptoassets further appears to be an important signal that the debate around whether or not bitcoin or cryptocurrencies are currency/money, whether they are a commodity, an investment vehicle or a digital asset is diminishing in centrality of importance and that the world is shifting into a space where there is concrete support for the broad categorization of cryptocurrency from bitcoin, altcoins and tokens towards a singular concept of “cryptoassets” encompassing them all.

The United States for its part has approached a definition of digital assets which are also known as virtual assets from the premise that it includes cryptocurrency,

cryptocommodity and cryptosecurity based on blockchain technology and which are further divided into 3 different categories, that is, (a) Crypto-currency being blockchain-based “representations of United States currency or synthetic derivatives”⁵⁰⁸ and on the one hand it includes reserve-backed digital assets that are completely collateralized in a corresponding bank account, backed by real-world assets in a 1:1 ratio and the other synthetic derivatives which are “determined by decentralized oracles or smart contracts and collateralized by crypto-commodities, other crypto-currencies or crypto-securities.” (b)Crypto-commodity being blockchain-based “economic goods or services with substantial fungibility” and (c) Crypto-security: blockchain-based “debt, equity, and derivative instruments”. Other It divides digital assets or virtual assets into 3 different categories, to wit, (a) Crypto-currency representations of United States currency or synthetic derivatives that on the one hand include reserve-backed digital assets that are secured in a corresponding bank account to provide real-world assets backing in the ratio 1:1 and on the other synthetic derivatives which are determined by decentralized oracles or smart contracts and guaranteed against crypto-commodities, other crypto-currencies or crypto-securities; (b)Crypto-commodity that are economic goods or services which can be easily exchanged and/or converted; and (c) Crypto-security that amount to debt, equity, and derivative instruments. The proposed laws further posit a definition of “stablecoins” being classified as “crypto-currencies” divided into reserve-backed stablecoins which are secured and/or guaranteed in the ration 1:1 by a real-world asset in a bank account and synthetic stablecoins which are not reserve-backed and/or collateralized. However, for the most part it appears the approach taken in this jurisdiction is to attempt to codify

⁵⁰⁸ This reference now seems to define stablecoins as cryptocurrencies.

cryptocurrencies and cryptoassets at the federal level with the ultimate purpose bring them within the ambit of their existing and traditional financial and banking system. Considering the Lipisha Consortium Case, the Wiseman Talent Ventures Case and the Velox 10 pyramid scheme the Kenyan experience can be said to comprise of cryptocurrencies in their purest form, that is say, bitcoin as well as altcoins and tokens traded or intended to be traded on cryptocurrency exchanges. As such any definition of cryptocurrency adopted in the country would require to take this into account and incorporate the key pillars that distinguish cryptocurrency including (1) the digital or virtual nature of any unit (2) the technological feature of being encrypted denoted by the term “*crypto*”; (3) the fact of its lack of a central authority; (4) reliance on consensus of the owners described as a peer-to-peer database, blockchain or distributed ledger; (5) the aspect of privacy; (6) its being an alternative to fiat or legal tender; (7) the units are utilised by members of the blockchain to transmit or exchange value; and (8) their characterization as an asset with property that is tradable over security and/or commodity exchanges.

5.2.2 **The Property in Cryptocurrency and Digital Asset Registers:**

Within the common law jurisdictions there is a decided trend towards considering cryptocurrencies and/or assets to be property within the context of the classic definition of property first articulated by Lord Wilberforce in National Provincial Bank v. Ainsworth (1965) as being definable, determinable and identifiable by third parties capable in their nature of being accepted and/or handled by third parties and otherwise having a level of permanence and stability. Singapore was the first to adopt this position in B2C2 v. Quoine Pte Limited (2019) by recognizing that, “*cryptocurrencies have the fundamental characteristic of intangible property as being an identifiable thing of value*” which in turn was adopted by the United Kingdom Jurisdiction Taskforce in its

Legal Statement on the Status of Cryptoassets and Smart Contracts 2019 which in its turn was received with approval in AA v. Persons Unknown & Others (2019) as being sound and compelling.

The world is also rapidly moving towards figuring out how to record the property in cryptoassets thus, in Switzerland the Federal Council is in the process of introducing into its laws the concept of Distributed Ledger Rights (DLT) geared towards providing optimal conditions for blockchain and cryptoassets and whose aim is to mirror the rules already programmed into the blockchain within the real world to enable the same be registered and captured within the concept of register value rights such that tokenized shares bonds and other financial assets can be transferred digitally in a legally binding manner independent of the blockchain. The legislative framework is aimed at updating (1)civil law to enhance legal certainty for the digital transfer of rights as well as; (2)bankruptcy law to provide for segregation and/or disassociation of crypto-assets and data without asset value in the event of the occurrence of bankruptcy/insolvency of a financial service provider; (3)financial markets laws to create a new licence category for blockchain-based technology structures as well as financial market systems and/or infrastructures; and (4) anti-money laundering laws to conform with internationally accepted provisions for AML.

Japan is following a similar trajectory and it has in the first instance amended its laws to replace “Virtual Currency Exchange Platforms” (VCEPs) or Virtual Currency Exchange Service Providers (VCESPs) which the new term “Crypto Asset Exchange Service Providers” (CAESPs) in the business of selling, purchasing or intermediating the sale and purchase of, or providing custody services for, crypto assets and who are mandated to deliver “crypto-asset exchange services”. The country has further inaugurated the concept of “electronically recorded transferable rights” (ERTRs),

which enables the FSA to regulate different types of digital assets. To be recognised ERTR tokens must satisfy three key criteria, (1) there must be an investment of cash or assets to a business; (2) the investment must be done by investors; and (3) the investors must be entitled to receive dividends of profits or assets created by these investments. The United States for its part has introduced the concept of “decentralized cryptographic ledger” which is a ledger based on blockchain technology and which ledger runs separately and is secured through a mining process, running as a cryptographic asset or smart contract on the said existing stand-alone blockchain. It is immutable, unchangeable and cannot be altered without a controlling stake, is permissionless and doesn’t require third parties to transact. It is an “irreversible bearer commodity” and it is outside the control by a single entity or is otherwise not issued by a country (“nation-state”) or private entity. The uniqueness of this proposition is that it stands closest to the early innovators aspiration in that it is not managed and/or administered by a third-party but through a catallaxy. However, anonymity is derogated from due to the fact that FinCEN has powers to trace the cryptocurrency transactions by way of audit.

The Kenyan Blockchain Taskforce Report can also be credited with considering this approach in its strategy component 2 which proposes to enable cryptocurrency and other alternative currencies in Kenya by way of developing a DAF through the CMA legal framework by developing a regulatory sandbox for FinTech Innovations. The said report does not however make any specific recommendations regarding how this is to be realised and there is therefore merit in recommending that the existing legal framework provide for electronically recordable rights and in addition to updating the capital markets legal framework in Kenya specific legislation recognizing electronic/digital assets to be property and how to deal with them particularly in regards

to transfer of cryptoassets property rights, bankruptcy/insolvency and AML be clearly articulated and well defined.

5.2.3 **Defining Stakeholders within the Cryptocurrency Ecosystem:**

The study was able to identify a myriad of stakeholders within the cryptocurrency ecosystem due to the interest cryptocurrency has generated on the global platform. They key players consisting of miners and developers; investors and potential investors, speculators/short term investors in cryptoassets, traders who buy and sell cryptoassets as agents, hedgers, wallets providers, traders, users and exchange and trading platforms. Other important players that have emerged include academia/universities, trade and industry associations, advocacy groups, customers or people who buy goods using cryptocurrency, BitCoin ATMs /BATMs, core developers, freelancers who prefer to be paid in Bitcoin/cryptoassets, Bitcoin lenders, merchants businesses that accept or use cryptocurrency, mining hardware providers, mining pools, research and development initiatives groups. In a growing number of jurisdictions there have emerged tax regulators, country tax collection departments that are interested in tax obligations where income from mining has been designated to comprise self-employment income therefore making such income amenable to taxation. And finally, parliaments, courts and law enforcement agencies that are being called upon to legislate, interpret and/or execute the law relating to cryptocurrencies and/or cryptoassets.

The Estonian approach incorporates players and stakeholders engaged in the sale or exchange of cryptoassets via its new edition of the *Estonian Money Laundering and Terrorist Financing Prevention Act* which became effective on 10 March 2020 expanding the term “virtual currency service” to be “virtual currency exchange service[s]” which include those services that facilitate the exchange of virtual currency

into fiat currency, the exchange of fiat currency into virtual currency as well as the exchange of virtual currency against another virtual currency.

Under this new law companies participating in the cryptoassets space can apply for one license and they are subject to a raft of regulatory provisions. There are 2 two subcategories of companies, that is, (1) those who supply services of exchanging a virtual currency against a fiat currency; and (2) those who supply virtual currency wallet services.

These companies are required to provide (1)criminal records of all related persons/companies from all countries of citizenship; (2)passport copies of all related persons from all countries of citizenship; (3) a minimum share capital of €12 000 (Euro Twelve Thousand); (4)have a physical presence in Estonia, that is to have an office in the country; (5) guarantee the impeccable reputation of members of their management boards; (6) have an existing bank account in an European Economic Area (EEA) country which supplies cross-border services from Estonia or have established a branch in Estonia; (7) the list of payment accounts held in the name of the company together with the attendant payment account's unique number and the account manager's name; and (8) compliance with KYC/AML procedure rules.

In Japan crypto exchanges operating there are now required to manage users' money separately through third-party operators/intermediaries e.g. trust or custodian service who keep custody of their users' assets. They are also required to apply offline storage mechanisms in secure cold wallets and where they have to use "hot" (ie. internet-connected and therefore vulnerable) wallets they must hold the same kind and the same quantities of crypto assets to enable them repay/recompense their users/investors in case such hot wallet gets hacked. These new provisions are aimed at deterring exit scamming and are designed to ensure that the exchange can reimburse and/or refund

investors/users if the funds get stolen from their platforms. Other important provisions include the prohibition against harmful activities such as the dissemination of rumors or use of fraudulent means to buy, sell and/or otherwise engage in any crypto-asset transaction transactions. There are further tightened restrictions over crypto-custodians who must also register with the FSA for a license as a crypto-asset exchange service providers who require to be licensed.

Within the Kenyan sphere not much consideration seems to have been laid as regards stakeholders whether by way of mapping and/or identifying them or otherwise creating legal provisions around them and their duty and responsibilities on the one hand and privileges on the other. Some thought therefore ought to be made as well as providing the legal framework around players and stakeholders engaged in the sale or exchange of cryptoassets are licensed, how they operate as well as their responsibilities to their users.

5.2.4 **Regulation Models around the World:**

It has been established that the world's most progressive regulatory climates and/or crypto-friendly jurisdictions have embraced a measure of regulation and singling out Japan, Switzerland and South Africa we discern different levels of regulations. A key feature of any regulatory regime to be adopted in the country will be to consider and conclusively address the style, tenor and extent of involvement by the government through its regulatory institutions in the proposed regulatory policy and legal framework.

Japan's model is considered to amount to self-regulation where the JVCEA manages itself and its members and is formally recognised by the Japanese FSA which is empowered to create and enforce regulations and standards for cryptocurrency exchanges in Japan.

Switzerland for its part has a fairly similar model where the CVA, a government backed non-profit manages blockchain and cryptographic technologies. The CVA has taken it upon itself to market Switzerland as the worlds leading ecosystem in this regard and to its credit has attracted a large number of leading agencies including Facebook's Libra. However, due to the government's involvement it is important to consider this as a slightly different model whereby the government imposes permissive regulation of the sector.

South Africa for its part describes its model to be a limited regulatory approach due to its prescription to include cryptocurrencies under its FIC by designating crypto assets service providers to be accountable institutions in its AML/CFT regulatory framework. However, there are no predefined conditions or market entry requirements for businesses in the sector. Though the CAR WG outlines that it will monitor cryptocurrency activities crypto assets will not be categorised as legal tender or be recognized as electronic money and they will not be allowed to conduct money settlements within the financial market infrastructures.

It is further critical to note and distinguish the proposed regulatory structure in the United States of America *Crypto Assets Act, 2020* which seeks to bring cryptocurrencies within the ambit of its traditional financial markets.

5.2.5 **Cryptocurrency and Anti-Money Laundering Law:**

South Africa incorporated the definition of cryptocurrency from FATF and delineated crypto assets services providers to be accountable institutions with legal obligations to comply with AML/CFT requirements in April 2020 adopting wholesale the standards set by FATF. It now remains to be seen how the market will respond. Switzerland have also subscribed to the FATF provisions within their respective framework however, the Swiss have expressed an intent to incorporate AML to decentralised trading platforms.

Japan for its part is a senior member of FATF and follows AML provisions closely though its legislative provisions are largely customized to fit its cryptocurrency market. Likewise, in Kenya we have domesticated the AML laws and any cryptocurrency regulatory framework would of necessity require to adopt these to a large extent.

5.2.6 **Digital Fiat Cryptocurrency:**

The only country that has issued a digital fiat cryptocurrency is Ecuador. China has further taken concrete steps in February and March 2020 to actualise a digital cryptocurrency known as the digital *renminbi* denoted e-RMB. The developments in China are considered with a lot of interest as it will be the first major economy to operate a digital cryptocurrency backed by a government to the tune of 20,000 tonnes of gold. It is reported that PBOC, the Chinese Central Bank has already filed 84 digital currency patents associated with the issuance, development and supply of a central bank digital currency together with a structure for interbank settlements that uses the currency, and the integration of digital currency wallets into existing retail bank accounts. The PBOC will be the sole issuer of the "*digitalized renminbi*", and will originally offer the digital money to commercial banks or other operators. PBOC initiated pilot programmes in a number of cities in a move seen in the context of a response to the novel Coronavirus outbreak which spurred on and accelerated the cashless process. Though a lot of ground still requires to be covered especially in regards to setting the security standards and a regulatory mechanism for the new form of payment. China is said to be moving ever closer to an official launch date for the issuance and supply of a central bank digital currency and a system for interbank settlements that uses the currency.

The Kenyan Blockchain Report outlines Strategy Component 4 that is a proposal to launch the CBDC or DFC being the digital form of fiat money, that is, currency

designated to be money by government regulation or law. This is aimed at including (1) payments, clearing and settlement, (2) lending (and sections of commercial banking practice); and (3) alternative currency configurations (digital) and transition of fiscal monetary policy. This strategy however requires to be well thought out as there is a widely held belief that there is insufficient market demand for CBDC or DFC in most countries around the world.

5.3 **RECOMMENDATIONS FOR REGULATORY FRAMEWORK:**

From the foregoing findings this study makes the recommendation that a well thought out regulatory regime comprising of policy and/or law relating to Cryptocurrency be established as this will undoubtedly enhance the approach within the crypto-assets ecosystem and space in Kenya.

5.2.1 **Policy, Cryptocurrency Law & Practice:**

As this research revealed that there does not exist any specific regulatory regime of policy and/or law relating to Cryptocurrency in Kenya the primary recommendation of the study would be to embrace and take steps to lay out the policy framework, determine the institutional framework and their linkages as well as the cryptocurrency regulatory legislation with a view to making comprehensive provisions for the same. Considering one of the primary challenges revealed in this study relate to the nomenclature, definition and classification of bitcoin and/or cryptocurrency it is recommended that this be a key matter which the policy and regulatory framework ought to consider and determine for purposes of our jurisdiction. Other key matters include outlining the question of property in cryptocurrency particularly how ownership of cryptocurrency will be recorded and the attendant property rights, how they are to be dealt with in the event of bankruptcy and insolvency. This will also necessarily impact on the identification of the myriad of stakeholders within the

cryptocurrency ecosystem and define how they interrelate, their duties, responsibilities and/or privileges with an emphasis on enabling innovation whilst at the same time providing and securing the protection of users.

The consideration as to the extent of government involvement will further require to be considered especially within the context of the preferred model of regulation and whether or not the government will consider implementation of digital fiat currency.

AML/CFT regulations will also impact the approach that is taken.

5.2.2 **Risk:**

As has been captured in this study cryptocurrency is susceptible to certain inherent risks. It is recommended that these be considered with a view to combating any illegitimate use of cryptocurrencies including a robust anti-money laundering regime and a responsive taxation framework.

5.4 **LIMITATIONS OF THE STUDY:**

As noted at the onset of the study the area of cryptocurrency and virtual currencies is fairly new. Most significantly however is the fact that it is a fast-evolving area which has dramatically changed even during the pendency of the research. Thus, the researcher notes that what may hold true today may be obsolete in a fairly short timeframe. The findings of the study are therefore as at the time of publishing.

5.5 **FURTHER AREAS FOR RESEARCH:**

This study has considered the question of regulation of cryptocurrency in Kenya and made various proposals in this regard. However, in the course of research a number of matters emerged which could be ripe areas for further research including questions or considerations such as (1) the property in cryptocurrency vis-à-vis digital asset registers; (2) the appropriate accounting policies, standards and financial framework regarding cryptocurrencies; (3) Taxation approaches in cryptocurrency; (4) Anti-

money laundering regime vis-à-vis cryptocurrency; (5) legal framework for smart contracts.

5.6 **CONCLUDING REMARKS:**

In conclusion the tension between the tech innovators within the cryptocurrency/cryptoassets space will always be inclined towards excluding oversight of third-party intermediaries within the financial arena such as central banks, financial institutions and the government. This characteristic will always manifest itself in the developments that will emerge. However, as history has recorded unchecked avarice, greed and nefarious activities will find their way within the system and the ultimate losers are the users who invest their resources in the acquisition, use and disposal of the assets created. As this is a human trait that will not be eschewed through the technological developments and advancements a level of regulation will be necessary to protect investors and users.

This study makes a case for adopting a regulatory framework that facilitates innovation of this greatest technological development since the internet and the personal computer whilst at the same time protecting investors and users.

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