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FEASIBILITY OF CRYPTO CURRENCIES AS A VALID LEGAL TENDER IN KENYA'S FINANCIAL MARKET

By

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G62/69800/2011

A Thesis submitted in partial fulfillment for the degree: Master of Laws.

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Acknowledgment

First and above all, I praise God for giving me the strength to finish this thesis.

For my thesis to be what it is, a lot of guidance and assistance has been given to me by various people.

I want to acknowledge my husband, Joshua, for always being there for me and being the strength, I needed when all I wanted to do was give up.

I sincerely thank my supervisor, Mr Stephen Kiptinness, for his supervision and professional guidance.

Dedication

I dedicate this thesis to my husband Joshua for his enormous love and support and two my two children Sifa and Kai who inspire me each day to be the best that I can in whatever I do.

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Abstract

This study examined the feasibility of crypto currencies as a valid legal tender in Kenya's financial market. This was achieved by reviewing the viability and stability of a free system of banking without the intervention of a Central Bank. Though the roles and responsibilities of Central Banks vary from one country to another, Central Banks are primarily agencies for monetary policy and settlement. They play important functions of lender of last resort; facilitators of sound currency and banking; and monetary policy. The study relied on two theories - Modern Monetary Theory (MMT); and New Currency Theory (NCT). Predicated on the desire to find out whether crypto currencies as a 'free virtual banking system' are able to achieve the monetary and fiscal stability objective of central banking, the study hypothesized that even though crypto currencies may not evolve to be a valid legal tender in Kenya's financial market, cryptocurrencies as a free system of banking without the intervention of a Central Bank can achieve or sustain a stable economy. The study postulated that cryptocurrencies as a form of free virtual banking system without a Central Bank are likely to fall short of the monetary and fiscal stability objective of central banking as it is deficient of the essential functions of monetary and fiscal policy formulation. The study embraced both the desk top literature review and quantitative and qualitative research methodology with the aim of establishing facts about crypto currencies. The study concluded that crypto – currencies are not subject to the regulation of CBK as they fall short of the legal dictates of central banking which require licensing and regulation of bodies offering financial services. On the basis of the above conclusion, the study recommended that - as crypto – currencies are operated in stealth and on an internet platform, there is a need to revamp the e – platform to provide a better operating environment for cryptocurrencies so as to instill confidence and predictability on them.

CHAPTER ONE: INTRODUCTION

1.0 Introduction

According to Phanor J. Eder, the law has often been unprepared to meet revolutionary modifications in the monetary system.[1]

Crypto-currencies are a unique form of person to person virtual currency transactions without interventions from Central Banks.[2] The person to person transactions entail money transfer from one point to another through a person to person e-payment application which acts as an intermediary.[3] The transactions can be made through a computer with access to the internet or via a mobile device. Contrary to payments through providers of e-money such as Kenya's M-Pesa or China's Alipay, crypto currency does not concern payments in digital form in the existing currencies. Virtual currencies operate using embedded payment systems. They are thus unique and in a different category owing to that attribute.[4]

Some of the common crypto currencies include- Bitcoins, Ripple, Monero, Litecoin, Ether, and Zcash.[5] Bitcoins are fashioned by a technical procedure identified as mining where people engage

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[1] Phanor J.Eder 'Legal Theories of Money' [1934] Cornell Law Review < https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=1360&context=clr > Accessed 18 May, 2018

[2] European Central Bank Virtual currency schemes – a further analysis, 2015 < https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf > Accessed 18 May, 2018

[3] Reade Ryan* and Mayme Donohue 'Securities on Blockchain' [2017-2018] 73 The Business Lawyer <https://www.hunton.com/images/content/3/5/v2/35271/ABA_The_Business_Lawyer_Securities_on_Blockchain.PDF.pdf > Accessed 19 May, 2018

[4] ibid

[5] Cryptocurrencies to Invest In 2018 (Jan 16, 2018) <https://cryptosrus.com/cryptocurrencies-to-invest-in/ > Accessed 18 May, 2018

in a virtual competition entailing the solving of complex math puzzles. The winner of that competition is rewarded with 25 Bitcoins which they have the option of selling.[6]

Though the roles and responsibilities of Central Banks vary from one country to another, central banks are primarily agencies for monetary policy and settlement.[7] They play important functions of lender of last resort; facilitator of sound currency and banking; and monetary policy.[8] The precursors of central banking commenced as bankers to the government and issuers of banknotes.[9] For example, the Bank of France, the Austrian National Bank, the Bank of Portugal, the National Bank of Denmark, the Bank of Italy and the Bank of Spain among others came into existence with the objectives of establishing the credibility of banknotes and restoring monetary stability.[10] These objectives were inspired by episodes of over issuance and collapses of convertibility.[11]

While the sender codes/hides (encrypts) a message with the aid of an algorithm and key, the recipient decrypts it in order to generate the original message. It is because of their encryption framework that these digital currencies are referred to as crypto currencies.[12] They are considered reliable because they are based on a combination of a big number of diverse sciences, with

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[6] Timothy B. Lee 'Bitcoin explained - What incentive do people have to help process Bitcoin transactions?' (Vox, Nov 3, 2015) < https://www.vox.com/cards/bitcoin/what-incentive-do-people-have-to-help-process-bitcoin-transactions > accessed 20 May, 2018

[7]YNGVI ÖRN KRISTINSSON *Implementation of monetary policy and Central Bank Instruments* < https://www.bis.org/publ/othp04_2.pdf > accessed 20 May, 2018

[8]*Functions of a Central Bank* < https://www.albany.edu/~bd445/Economics_350_Money_and_Banking_Slides_Spring_2013/History_of_Central_Banking.pdf > accessed 20 May, 2018

[9]Michael D. Bordo *A Brief History of Central Banks*, 2007 < http://www.russoeconomics.altervista.org/Bordo2007.pdf > accessed 20 May, 2018

[10] ibid

[11] ibid

[12] ibid

arithmetic as the simple component constituting an application known as cryptography. This platform analyzes and creates the protocols and algorithms with the main objective of ensuring that no data is altered or interjected in the exchange by third parties.[13]

Cryptocurrencies use the Blockchain technology and a reorganized ledger. Alex Tapscott and Don opine that Blockchain technology is an interference free digital ledger application of economic dealings that may be automated to record fiscal dealings and virtually anything of value.[14] This technology removes all kinds of human intervention because it allows the distribution but not copying of digital information.[15] Blockchain not only permits dealings to be concurrently unidentified but importantly continue being protected by upholding a tamper- proof open record of value. [16]Owing to this positive attribute, no authority acting as a supervisor is needed to control or control any action on the network.[17] Apart from its use in running crypto currencies, the attributes of the platform of blockchain possibly allow it to be deployed in the provision of other services including - monitoring of supply chains; establishing digital identities; exclusive rights protection; immutable data backup; and digital voting among others.[18]

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[13] ibid

[14] ibid

[15] Orlando Trott 'Blockchain, Bitcoin, and Fatprotocols: Exploring The Innovation Behind a Shared, Immutable Ledger in 2018' (*Data Dump, May 26, 2017*) < https://medium.com/data-dump/what-is-blockchain-technology-1b576cfc85a7 > accessed 21 May, 2018

[16] ibid

[17] ibid

[18]Sean Williams '20 Real-World Uses for Blockchain Technology' (The Motley Fool , Apr 11, 2018) < https://www.fool.com/investing/2018/04/11/20-real-world-uses-for-blockchain-technology.aspx > accessed 20 November, 2018

According to analysts from Citibank, Kenyans have accumulated an estimate cryptocurrencies holdings approximated to 2.3 % of the GDP being more than Sh163 billion.[19] Analysts from Citibank were of the opinion that if cryptocurrencies were to collapse, that collapse would cause massive economic disruption.[20] Amidst Kenyans' risky gamble in high risk cryptocurrencies, the CBK cautioned Kenyans about the factuality of the legality of the crypto currencies tender.[21] The CBK has continued being skeptical about crypto currencies owing to its lack of a regulatory regime.[22] According to CBK, in case of a collapse of crypto currencies, consumers would suffer financial losses without having any legal redress. CBK further emphasized that in the event of a dispute, the only solution available to the investors would be limited only to instituting a civil case between the parties.[23] However, Satchu opines that cryptocurrencies are likely to be accepted as a legitimate investment class and that the high investment in them happening in Kenya is part of a global movement towards the mainstreaming and acceptance of cryptocurrencies.[24]

In the backdrop of new disruptive technologies, this paper aims at finding out whether a 'free system of virtual banking' without the intervention of a central bank can exhibit stability. In so

[19] BRIAN NGUGI 'Citibank warns over risk of Kenya bitcoins' (Business Daily, January 14, 2018) < https://www.businessdailyafrica.com/news/Citi-warns-over-risk-of-Kenya-bitcoins/539546-4263658-format-xhtml-rxcrr3z/index.html > accessed 21 May, 2018

[20] ibid

[21] Dominic Omondi 'Central Bank has already warned Kenyans against using Bitcoin' (*Standard Digital, October 11th 2017*) < https://www.standardmedia.co.ke/business/article/2001257027/bitcoin-hot-new-investment-opportunity-or-a-sham > accessed 21 May, 2018

[22] Dominic Omondi 'Central Bank has already warned Kenyans against using Bitcoin' (*Standard Digital, October 11th 2017*)

[23] ibid

[24] ibid

doing, the paper seeks to consider whether the central bank's regulation of cryptocurrencies is necessary and desirable.

1.1 Study Background

Block chain technology was first developed in 2009 by computer programmer - Satoshi Nakamoto.[25] The structure of the Block chain technology had three distinctive features: the currency is a peer to peer currency thus having the implication that the transactions do not require third party validation; the system is open source meaning that the programming code of the cryptocurrencies application is open to the public for development; and cryptocurrencies is a decentralized currency. That implies that the currency is not under the regulation or control of any organization or government.[26]

The first crypto currency system pioneered for payment in Kenya was Bitpesa which in its inception served as a money transfer system allowing people to transfer money from diaspora to Kenya. Bitpesa functions by converting Bitcoins to Kenya shillings and subsequently transmitting the money via a mobile money service to the recipients in Kenya. Worldwide, the scale of the use of cryptocurrencies has substantially increased.[27] However, compared to the traditional systems of electronic payments for example use of dollars as a circulating currency and credit cards, crypto currencies still remain small.

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[25] Zoë Bernard 'Everything you need to know about Bitcoin, its mysterious origins, and the many alleged identities of its creator' (*Business Insider, Dec. 2, 2017*) <http://www.businessinsider.com/bitcoin-history-cryptocurrency-satoshi-nakamoto-2017-12?IR=T> accessed 21 May, 2018

[26] ibid

[27] ibid

Adoption of crypto currencies has been limited by among other factors – lack of a regulatory legal framework; lack of clarity on what cryptocurrencies are and how they work; and the companies that trade in cryptocurrencies are also exposed to security risks leading to those companies recording huge losses resulting from hacking.[28] Other concerns are that apart from the volatile value of crypto currencies, they are also linked to criminal activity.[29] Their limitations notwithstanding, crypto currencies have been lauded for making transactions easier, faster, and inexpensive with unconditionally no banking fees.[30]

Owing to the controversial nature of crypto-currencies, different governments have taken diverse approaches towards them. For instance, while Germany considers them as private money, France has proposed the legislation of stiffer regulations on cryptocurrencies to stop them from being used to dodge taxes or to finance illegal activities.[31]

1.2 Problem statement

Crypto currencies as a form of digital currencies are not only unregulated but also lack information regarding the transactions volume and investment products.[32] These currencies have no physical

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[28] ibid

[29] Samantha Douma *Bitcoin: The Pros And Cons Of Regulation* (2016) < https://openaccess.leidenuniv.nl/bitstream/handle/1887/42104/Bitcoin%2C%20The%20Pros%20and%20Cons%20of%20Regulation.pdf?sequence=1 > accessed 21 May, 2018

[30] ibid

[31] ibid

[32] Blundell-Wignall, A. *The Bitcoin Question: Currency versus Trust-less Transfer Technology*, (OECD Publishing, 2014) <https://www.oecd.org/daf/fin/financial-markets/The-Bitcoin-Question-2014.pdf > accessed 21 May, 2018

manifestation and are not recognized in many jurisdictions including India.[33]This study postulates that cryptocurrencies as a form of free virtual banking system without a Central Bank is likely to fall short of the monetary and fiscal stability objective of central banking as it is deficient of the essential functions of monetary and fiscal policy formulation.

1.3 Objectives of the study

The overall objective of the discourse is to find out whether cryptocurrencies as a 'free virtual banking system' are able to achieve the monetary and fiscal stability objective of central banking. This objective is informed by the fact that as opposed to contemporary central banking which has monetary and fiscal policy formulation attributes, crypto currency banking is deficient of those essential attributes.

The definite objectives of the discourse are;

i. To find out the possibility of cryptocurrencies evolving to be a valid legal tender in Kenya's financial market.

ii. To find out whether cryptocurrencies are capable of regulation by the Central Bank.

iii. To find out the possibility of having a stable economy in the event of having a 'free system of virtual banking' without the intervention of a Central Bank.

iv. To find out the regulatory measures imposed on cryptocurrencies in Kenya.

[33] Press Trust of India, 'Bitcoin not a legal tender, not a recognised medium of exchange, says Jaitley' (*New Delhi, May 22, 2018*) < https://www.hindustantimes.com/business-news/bitcoin-not-a-legal-tender-not-a-recognised-medium-of-exchange-says-jaitley/story-JGDvsgUrgB90qN1Y2QXH1N.html > accessed 21 May, 2018

1.4 Research questions

This discourse will seek to answer the below questions;

i. Whether cryptocurrencies are likely to evolve to be a valid legal tender in Kenya's financial market.
ii. Whether cryptocurrencies are capable of regulation by the Central Bank.
iii. Whether a 'an unregulated system of virtual banking' can achieve or sustain a stable economy.
iv. Whether there are regulatory measures imposed on crypto currency in Kenya.

1.5 Research hypothesis

Crypto currencies have been described as a form of free banking' system without a Central Bank.[34] Central banks on the other hand have been established, theorized and structured as institutions with the primary mandate of ensuring stability of the economy. This study hypothesizes that cryptocurrencies are not likely to evolve to be a valid legal tender in Kenya's financial market owing to their mysterious nature and functionality which makes them incapable of regulation by the Central Bank.

[34] Denis Pombriant 'Cryptocurrency and central banking' (*Enterprise Irregulars, January 4, 2018*) < https://www.enterpriseirregulars.com/121751/cryptocurrency-central-banking/ > accessed 21 May, 2018

1.6 Theoretical framework

1.6.1 Modern Monetary Theory (MMT)

Coined by Bill Mitchell, Modern Monetary Theory (MMT) referenced to the works the founder of modern macroeconomics- John Maynard Keynes.[35] Keynes theorized that entirely, the contemporary States have had the power to determine what constitutes money.[36] As a macroeconomic theory, MMT is descriptive of modern economies, where Governments establish a national currency in form of a fiat money.[37] The MMT is majorly characterized by solemnity supply of the national currency by the government.[38]

Being the national currency's sole supplier, the government has authority of issuing currency diverse denominations and form (whether physical or not). As a result of monopoly on the issuance of money, the governments' ability to; pay for its purchase; fulfill its promise for future payments; and provide a fund to other sectors is unlimited.[39]

The CBK Act designates the CBA as the bank with the sole right to issue coins and notes in Kenya. The Act dictates that only those coins and notes shall be the legal tender in Kenya.[40] Further, the material, denominations, forms, inscriptions and other characteristics of coins and notes issued by the CBK shall only be determined by the Bank.[41] From the above provisions, it is evident that for

[35] ibid
[36] Keynes, John Maynard *A Treatise On Money Vol.1* (Digital Library of India, 1914)
[37] Éric Tymoigne, L. Randall Wray *Modern Money Theory 101: A Reply to Critics* 2013 < http://www.levyinstitute.org/pubs/wp_778.pdf > accessed 25 May, 2018
[38] ibid
[39] ibid
[40] Ibid, section 22 (1)
[41] Ibid, section 22 (2)

a currency to be a legal tender, that currency must have been issued by the CBK. From the foregoing, crypto currencies do not constitute legal tenders as they are neither issued nor regulated by the CBK.

As an approach to macroeconomics, the modern money theory examines both financial and economic policy from the 'modern money's perception'.[42] The theory attempts to uncover the operation of money in modern economies. This theory attempts to explain why governments which enjoy monetary sovereignty enjoy a flexible policy space, free from hard financial constraints. Of concern to this paper, the study attempts to establish how MMT conceptualizes policy perceptions with reverence to price stability, financial steadiness and full engagement as major components of economic stability.[43]

1.6.2 New Currency Theory (NCT).

Another relevant theory is the New Currency Theory (NCT).[44] This theory has certain similarities with MMT as they share various components. For example, both the proponents of MMT and NCT share a common understanding that the money system is not just a series of economic transactions but is an essential foundation of the economy. The proponents of this theory have highlighted the discrepancies in the MMT but in the same vein made more encompassing understanding of the concepts of modern money and monetary modernization.[45] Advocates of NCT favor the

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[42] ibid

[43] Éric Tymoigne, L. Randall Wray *Modern Money Theory 101: A Reply to Critics* 2013 < http://www.levyinstitute.org/pubs/wp_778.pdf > accessed 25 May, 2018

[44] ibid

[45] ibid

establishment of an independent Central Bank with 100% fiat money.[46] For example, Blanchard noted that there was a near agreement that with regards to traditional monetary policy, Central Banks are better placed to retain full independence. [47] According to Huerta de Soto, an ideal banking system is that which adheres to general legal principles.[48] Huerta also theorized that a completely distinct currency (gold) as different from the central banking system and planning is ideal.[49] According to Huerte, the proposed system would prevent cyclical economic crises of artificial boom and economic recession.[50]

Another money theory is the theory of Chartalism.[51] This theory advocated for a system of money creation within the economy rather than from outside for example as by gold.[52] Chartalism conceptualized money as a vertical transaction entailing a government to private citizens interactions.[53] As opposed to chartalism, the circuit theory envisioned a horizontal model entailing private to private interactions. This money creation holds that money is not created exogenously by Central Bank lending but by the banking sector endogenously.[54]

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[46] Antoine Clarke 'A response to Huber' (*Economics, Money 29 April 14*)< https://www.cobdencentre.org/2014/04/a-response-to-huber/ > accessed 25 May, 2018

[47]Blanchard *Rethinking Macro Policy*, 2015

[48]Antoine Clarke 'A response to Huber' (*Economics, Money 29 April 14*)< https://www.cobdencentre.org/2014/04/a-response-to-huber/ > accessed 25 May, 2018

[49]Jesús Huerta de Soto *Money, Bank Credit, and Economic Cycles* (Ludwig von Mises Institute, 2006)

[50] Ibid, p746

[51] ibid

[52] ibid

[53] ibid

[54] ibid

1.6.3 Public Interest Theory

First developed by Arthur Cecil Pigou, the Public interest theory posits that the supply of regulation is as a result of a response to a demand from the community for the improvement of either inequitable or inefficient market practices.[55] This theory has been touted as the prime validation for government involvement in capitalist economies.[56]

The theory advances the notion that the demand, supply and dissemination of resources should not be relegated to control by private players in the market with no governmental involvement.[57] Informed by the dictates of the social contract theory, the theory notes that owing to the agreement between the governed and the government, the government's control and regulations are adopted as a means of safeguarding the public from the harmful consequences of market failure.[58]

Although the application of this theory is often invoked in the event of occurrence of market failures,[59] the theory is cognizant of the fact that markets have self-regulating mechanisms which do not need intervention of the law.[60]

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[55] Andrei Shleifer 'Understanding Regulation'(2005) 11 (4) European Financial Management 439–451

[56] Jørgen Grønnegaard Christensen "Public interest regulation reconsidered" <http://www.regulation.upf.edu/dublin-10-papers/1J1.pdf > accessed 18 Nov 2019

[57] Dassiou, X., Langham, P., Nancarrow, C. *et al.* "Public service markets: their economics, institutional oversight and regulation." 15035 (2015) Palgrave Commun 1

[58] Johan den Hertog *REVIEW OF ECONOMIC THEORIES OF REGULATION*, 2010

[59] JJ.siegers, Van Den Bergh PUBLIC & PRIVATE INTERESTS IN REGULATION < https://dspace.library.uu.nl/bitstream/handle/1874/724/full.pdf?sequence=1 > accessed 18 Nov 2019

[60] Anthony D. Williams, *An Economic Theory Of Self-Regulation*, 2004

1.6.4 Private Interest Theory

Private Interest Theory is informed by the presumption that regulation can be developed and advanced by private sector players without public sector interventions.[61] This theory presumes that mechanisms of regulation emanate from collective or individual efforts projected at enhancing the interests of members.[62] The theory further presumes that the realization of public interest motives is the ultimate objective of regulatory framework. This theory is anchored on the understanding that regulations have failed to achieve their intended objective of public interest. The theory further postulates that the regulations have only served as externalities to those regulated sectors.[63] The significant regulatory failure of regulation of public interest has necessitated the consideration of private interest theory mode of self-regulation.[64]

Whereas the public interest theory advances the notion that market failure are occasioned by lack of regulations designed to promote access to public needs. Public interest theory is thus aimed at mitigating the failures in the market.[65] In contradistinction, private interest theories contend that the enactment of regulations driven by the desire to advance public interest have often failed as those legislations have tended to promote limited interests of either some players in the market to the disadvantage of the public.

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[61] Eri Nakamura "Regulation, public interest, and private interest: an empirical investigation of firms in Japan" (2019) 56 Empirical Economics

[62] M. B. Adams* and G. D. Tower "Theories of Regulation: Some Reflections on the Statutory Supervision of Insurance Companies in Anglo-American Countries" (1994) 19 The Geneva Papers on Risk and Insurance 156-177

[63] Ibid

[64] ibid

[65] BRIAN ANDREW 'MARKET FAILURE, GOVERNMENT FAILURE AND EXTERNALITIES IN CLIMATE CHANGE MITIGATION: THE CASE FOR A CARBON TAX' (2008) 28, PUBLIC ADMINISTRATION AND DEVELOPMENT 393–401

Crypto currencies have been characterized as a form of currency.[66] That characterization necessitates the concern – whether as a form of currency, crypto currency should be regulated, and if in the affirmative, then how. This dilemma has been at the center of stakeholders concern in the blockchain sector. Comparatively, the private interest theory of regulation has been preferred as being less cumbersome.[67] Proponents of this theory also contend that the public interest theory is less favorable as it has the tendency of limiting the growth of the blockchain sector.[68]Proponents of the private interest theory also favor self-regulation on account of the fact that regulators are not adequately endowed with the requisite technical skills and capacity to regulate the blockchain sector.[69]

This paper leans on the fact that while fiscal theories aid in the illustration of the basic attributes of currencies, those theories are based on assumptions and not perfect situations. These philosophies have also transformed to agree with the economic circumstances at a given period.[70] It is on this footing that the paper intends to find out whether the looming banking system without a Central Bank is viable.

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[66] ibid

[67] Hanna Almlöf, Per-Olof Bjuggren "A regulation and transaction cost perspective on the design of corporate law" (2019) 47 European Journal of Law and Economics 407–433

[68] ibid

[69] Porter, Tony, and Karsten Ronit. "Self-Regulation as Policy Process: The Multiple and Criss-Crossing Stages of Private Rule-Making." (2006) 39 (1) Policy Sciences, 41–72.

[70] Ernst W. Händler 'The Evolution of Economic Theories. A Formal Approach' (1982) 18 (1) Erkenntnis (1975) < http://www.jstor.org/stable/pdf/20010795.pdf > accessed 25 May, 2018

1.7 Literature review

Sreeramana Aithal P and Suresh Kumar conceptualized a bank as an intermediary of finance which creates money by lending money to a borrower.[71] In that process, the bank creates a corresponding deposit on its balance sheet.[72] A bank system that exhibits banking characters is an ideal bank. Sreeramana A.P and Suresh K found ubiquitous banking system and mobile device-based electronic banking systems had the attributes of a desirable banking system.[73] The above authors opine that the speed, quality, accuracy and convenience of the conventional banking system can be improved using electronic communication technology to a great extent.[74]

Huerta de Soto proposed a unrestricted banking system that is in compliance with the general legal principals.[75] The notion of a free banking system was also voiced by Sreeramana A.P and Suresh K who found that the system requirements of an ideal banking ought to be: relatively free of all kinds of government regulations or restrictions; portable or easily moveable; a system that satisfies its customers' intellectual needs; customers can do transactions at any time and any number of times.[76]

[71] Sreeramana Aithal P and Suresh Kumar *Concept of Ideal Banking and Realization of it using Ubiquitous Banking,* 2016 < https://mpra.ub.uni-muenchen.de/72338/1/MPRA_paper_72338.pdf > accessed 25 May, 2018
[72] ibid
[73] ibid
[74] ibid
[75] Ludwig van den Hauwe *Review of Huerta de Soto´s 'Money, Bank Credit, and Economic Cycles´* 2006 <https://mpra.ub.uni-muenchen.de/49/1/MPRA_paper_49.pdf > accessed 25 May, 2018
[76] ibid

According to Evgeny Gavrilenkov and Paul J.J. Welfens, in an ideal financial system, the mobility of capital is a necessary goal.[77] According to the IMF, it is desirable that private capital ought to flow freely across countries. In this model, capital finds its most efficient use globally.[78] Such inflow will benefit countries with high growth prospects but a low capital base.[79]

According to Hyoung-kyu Chey, the standings and values of currencies at the international stage constitute a major depicture of the worldwide fiscal order.[80] This standing of currencies has an impact of influencing the economic and political relations among nations by shaping the world economic and political system.[81]

Alfred Mitchell-Innes wrote that money has existed as a standard of delayed imbursement and not as a medium of exchange.[82] In this characterization, Mitchell believed that government's money was debt which could be redeemed by the government by taxation.[83] Mitchell further wrote that whenever government issues money, a tax is imposed. Consequently, taxpayers are individually indebted to the responsibility of redeeming the debt contracted by the government. It is from Mitchell's understanding that this paper finds out whether a free banking system devoid of central banking stringencies is viable.

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[77] Paul J.J. Welfens, Evgeny Gavrilenkov *Restructuring, Stabilizing and Modernizing the New Russia: Economic and Institutional Issues*, 2012 p26

[78] ibid

[79] Ibid

[80] ibid

[81] ibid

[82] Mitchell A Innes & L. Randall Wray "Credit and state theories of money: The contributions of A. Mitchell Innes" (2004) Edward Elgar

[83] Mitchell-Innes, Alfred "The Credit Theory of Money" [1914]The Banking Law Journal. **31**

1.8 Justification of the study

The inception and use of crypto currencies as digital currencies has met positive reception by its users.[84] It is estimated that the market of cryptocurrency might hit $1 trillion in 2019.[85] The success of cryptocurrencies is because of their positive attributes including - transactions relating to cryptocurrencies have no transaction fees and no need for real names. There are also no third parties in the transaction. The users can therefore use their cryptocurrencies to pay for products with ease and at no costs.[86]

The recent surge of a new wave of international financial integration was a legitimate cause but which confronted Central Banks with new challenges of monitoring and managing financial risks. International financial integration (establishment of worldwide monetary system substantially amplified in 1970s and more significantly in the 1990s.[87] Those efforts were however halted with the beginning of World War I as national fiscal markets became severely controlled and regulations enforced on money flows.[88] In the late 1970s, a new wave of global fiscal integration hit the world with efforts to dismantle regulation of domestic financial systems, capital controls and adoption of technological revolution.[89]

This paper approaches the inception of cryptocurrencies as a positive disruptive technology process in the banking and finance transfer sector but with the possibility of reshaping the notions

[84] ibid
[85] ibid
[86] ibid
[87] ibid
[88] ibid
[89] ibid

of central banking and international financial integration. This discourse is necessary on the foundation of the premise that it seeks to analyze cryptocurrencies not just as an inevitable disruptive process capable/incapable of regulation but also the possibility of adoption of crypto currency as a valid legal tender in Kenya's financial market. This discourse is also warranted on the basis that it studies the feasibility of a new concept (crypto currency) to sustain a stable economy on the backdrop of crypto currency being a 'free banking' system without policy formulators (Central Bank).

1.9 Research methodology

This paper will be done through a desk appraisal of publications. This technique will entail the review of preceding study findings to realize a broad perception of the concepts of cryptocurrencies and central banking. The paper will study relevant literature to discern whether cryptocurrencies as a 'free system of virtual banking' without the intervention of a central bank can sustain stability of the economy. As a method of research, desk review is a secondary research method by which appropriate publications are studied to analyzing the practice, law, opinions and trends in the subject of study. In the instant study, this analysis will be important in establishing an informed understanding on the feasibility of adopting crypto-currencies as a legal tender in Kenya.

The study will also be undertaken using fieldwork as a means of bridging the gap between the existent knowledge and the reality on ground.

1.9.1 Research Design

Descriptive survey research design is the most ideal for this study. Descriptive survey method enables exactness of the feature and then helps the investigator describe precisely what is seen.[90] A descriptive study design focuses on unfolding the attributes of a problem. Hence the project will include describing consumer characteristics or functions and thus it is a descriptive research design.

1.9.2 Target Population

Muijs notes that populace is a collection of individuals from which an illustration can be made for the objectives of a research.[91] Population denotes the sum of essentials from which inferences in a study are made. According to a report by Citibank, Kenyans rank among highest in cryptocurrency holding Per Capita.[92] Approximately 0.005 of the population in Kenya use cryptocurrencies.[93] That number nears approximately 2 million people who use cryptocurrencies. The target populace is critical to the study because they are the users of cryptocurrencies.

Table 1.9.2 Target Population

Population	
Bank employees	2000
IT experts	2000

[90] Musabah Bakhit Salim and Al ZefeitI, 'Methodological Considerations InStudying Transformational Leadership Andits Outcomes' <https://journals.sagepub.com/doi/pdf/10.5772/60429>.
[91] ibid
[92] ibid
[93] CryptoDavid, *Kenya Among the Top African Countries Using Bitcoin as of 2019* (2019) <https://bitcoinke.io/2019/01/kenya-among-the-top-african-countries-using-bitcoin-as-of-2019/>.

General Public	1,996,000
Total	**2,000,000**

1.9.3 Sampling Technique and Sample Size

A sample is a cluster in an exploration study from which data is obtained, or a population designated for surveillance and analysis. It is illustrative of a people taken to determine the ideal expression of the results. Omair emphasizes the prominence of sampling. Omair states that where the populace is extremely large, it may be reasonably depicted through sampling.[94]

For the objective of this study, the sample will encompass a random selection of persons from the designated populace. The sample size will be maintained at approximately 100 for the project purpose. The sample information is as tabulated below:

Table 1.9.3 The Sample Size

Population Sample		
Population Description	**Target population**	**Sample Population-0.0001%**
Bank employees	20000	2
IT experts	20000	2

[94] Aamir Omair, 'Sample Size Estimation and Sampling Techniques for Selecting a Representative Sample' (2014) 2 Journal of Health Specialties 142.

General Public	980,000	98
Total	**1,020,000**	102

A sum of two hundred respondents constituting 0.0001% percent of the whole populace will be selected as a representation of the entire population. Stratified random sampling was deployed in this research. The researcher will collect data from the Bank employees and IT experts.

The total sample size will be 102 persons i.e. n= 102. Stratified random sampling is important to a researcher in that it used in highlighting specific subgroups within in a population. Stratified random sampling is valuable in such studies as it ensures that key subgroups within the sample are present.[95]

1.9.4 Research Instruments

Face to face dialogues will be conducted with the participants in decided locations in which key respondents' members from Bank employees, IT experts and the general public. All dialogues will be done prior to setting of schedules with the respondents. The time limits for the interviews will be specified to approximately between 25 to 30 minutes. All interviews will be conducted using prepared interview question papers. They will be recorded in addition to the respective questions.

A Questionnaire entails a formal list of questions issued to respondents so as to solicit information.[96] This study will make use both unstructured and structured preset questions as a

[95] ibid.
[96] ibid

means of gathering the desired data. The closed or structured questions are designed to elicit definite answers and reduce the wasting of the respondents' time. The open-ended or unstructured questions will be designed to take into account the feelings and further explanations of the respondents. The questionnaires, attached as annex 2 of this study, will be administered in person to Bank employees, IT experts and the general public.

1.9.5 Data Collection

The data collected will be presented in a manner that will ensure that it communicates the findings and enables conclusions to be made.[97] The data will be sampled from both secondary and primary data sources. That data will subsequently processed, analyzed and then presented. The data will be presented through accurate, clear and appropriate techniques. The information will then be relayed in different representation formats including line graphs pie charts, tables, and bar graphs.

1.9.6 Data Analysis

The information gathered in the study will be examined via different assessment approaches which include; regression analysis, inductive analysis, and the deductive analysis. Analytical induction technique entails a universal description of a feature through the process of data collection to the point of consistency with the hypothetical elucidation of phenomena.[98] In contradistinction to deductive analysis, inductive analysis transcends to broader theories and generalizations from specific observations. This approach of analysis is also referred to as the technique of "bottom up".

[97] ibid
[98] ibid

The researcher will deploy this technique owing to its attribute of allowing the researcher to discover alternative descriptions so as to appreciate the phenomena under study much better.

Bell and Bryman relate deductive analysis with its ability to represent the most mutual affiliations between research and theory. This is referred to as "top down" analysis. This type of analysis will be deployed as it has the ability of reconciling research and theory.[99]

Data analysis will therefore be done in accordance with the questions issued. The collected data will be sorted and categorized then tabulated. Subsequently that data will undergo interpretation by drawing inferences from the data that will be collected. Certain expressive statistics including frequencies and percentages will be used so as to achieve good results. The findings of the study will then be outlaid in different presentation formats that include line graphs, tables and pie charts.

1.9.7 Ethical Issues

The principle of voluntary participation requires people not to be compelled into contributing in study. That principle will be adhered to during this study. The concept of informed consent is thus intertwined with the ideal of voluntary participation. This denotes that the intended research respondents ought to be fully aware and informed about the risks and procedures they are likely to be involved in, so as to be able to give their consent or not to participate in the process. Ethical standards demand that participants ought not be exposed to risk of harm as a result of their participation in the study. The study seeks to guarantee confidentiality to the participants by offering them assurance that their identity will not be revealed to anybody not directly participating

[99] ibid

in the research. The anonymity principle denotes that the identity of participants will not be disclosed throughout the study.

1.10 Limitations of the study

The mystery behind the creation, use and sustainability of crypto- currencies makes the adoption of and reliability on crypto currencies problematic.[100] The block chain technology behind crypto-currencies is equally susceptible to constant change.[101] Those characteristics of crypto-currencies have a consequence in potentially limiting its study.

It is on that basis that this study is limited to the extent that it only studies the concept and practice in block chain technology and crypto currency use at a basic user level. Owing to the complexity and the stealth nature of crypto currencies, this study is limited to the point of inability to study the science and technology of block chain as well as the crypto currency technology.

From the foregoing, although the study is a feasibility study, it is limited to point that it analyzes a scientific concept, not from a scientific dimension but from a legal dimension. The study may therefore not be able to completely give answers to some of the scientific concerns underlying the technology of block chain and crypto currencies.

[100] Coinnounce - Coin Announcements '15 mysteries about bitcoin and crypto-currencies' (Coinnounce, June 27, 2018) < https://coinnounce.com/15-mysteries-about-bitcoin-cryptocurrencies/> accessed 20 November, 2018
[101]ibid

1.11 Chapter breakdown

This section is the project's introductory chapter. The chapter encapsulates the background, the problem statement, the objectives, questions, hypothesis, the framework of theories, an evaluation of the relevant literature material, justification and the methodology of the project.

The subsequent section which is chapter two, encapsulates a review of the legal outline on cryptocurrencies and central banking in Kenya.

Chapter three entails the laws on international financial integration and a compare and contrast assessment of the legal and adoption status of crypto currencies in France, India, China and the United States of America.

Chapter four shall compromise a correlational research study involving a study of empirical primary data with the aid of questionnaires on the variables to describe and examine the feasibility of Crypto Currency as a valid legal tender in Kenya's Fiscal Market by establishing correlation coefficients between Crypto Currency as a valid legal tender in Financial Market of Kenya and the stability of a 'free system of virtual banking' without the intervention of a central bank.

Section five will make conclusions and summarize the findings of the study and finally make recommendations.

CHAPTER TWO

LEGAL FRAMEWORK GOVERNING CRYPTO- CURRENCIES AND CENTRAL BANKING IN KENYA.

2.0 introduction

Both the CMA and the CBK have issued a caution against crypto-currencies on the basis that investors have no fall-back in case of loss.[102] That concern is predicated on the contention that neither the CBK nor the CMA has oversight of the Internet-based crypto-currencies.[103] According to CMA, that caution is further based on the wider risks in coin offerings identified by the International Organization of Securities Commissions (IOSCO) including:- cross-border distribution risks; information asymmetry on the risks; potential for fraud among others.[104] On the basis of the above concern and in light of the potential risks posed by crypto – currencies, this chapter will seek to study the feasibility of cryptocurrencies in light of the current Kenyan legal framework. The chapter will highlight the breadth to which Kenya's financial law regulates the various aspects of mainstream banking *vis a vis* crypto currency (bit coins) including – central banking; who can engage in banking business; structure of the National Payment System; Deposit Insurance; and Initial Coin Offering (ICO). This study will help find out whether crypto currencies

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[102] Dominic Omondi 'Central Bank has already warned Kenyans against using Bitcoin' (*Standard Digital, October 11th 2017*)< https://www.standardmedia.co.ke/business/article/2001257027/bitcoin-hot-new-investment-opportunity-or-a-sham > accessed 21 May, 2018

[103] ibid

[104] ibid

as a form of ‘self-regulating free banking' system without a central bank are feasible to be used as a valid legal tender in Kenya’s commercial market.

2.1 Regulation of Kenya’s financial market

Kenya’s financial Markets are structured along certain sectors.[105] Those sectors include – the Banking Sector; Capital markets; insurance; and Retirement Benefits Sector. Kenya’s financial sector regulation is also dependent on multiple regulations governing the processes of banking, payment.[106] Each of the sectors has its own specialized regulator and legislation governing it.[107] This chapter will however be concerned with the regulation of - banking; payment systems; information and communication; and capital markets sector.

2.1.1 Regulation of banking in Kenya

The Banking sector is guided by the following statutes: Constitution of Kenya, 2010; Central Bank of Kenya Act (2015); Banking Act (2015); Microfinance Act (2006); The National Payment System Act (2011); and the Kenya Deposit Insurance Act, 2012.[108]

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[105] Mullei, Andrew K., and Joshua M. Ng'elu. “EVOLUTION, STRUCTURE AND PERFORMANCE OF KENYA'S FINANCIAL SYSTEM / EVOLUTION, STRUCTURE ET RESULTATS DU SYSTEME FINANCIER AU KENYA.” Savings and Development, (1990)14(3) 265–284 <www.jstor.org/stable/25830234 > accessed 6 November 2018

[106] ibid

[107] Ibid

[108] Central Bank of Kenya ‘Legislation and Guidelines’ <https://www.centralbank.go.ke/policy-procedures/legislation-and-guidelines/ > accessed 6 November 2018

a) Constitution of Kenya, 2010;

Kenya's constitution inaugurates the Central Bank of Kenya and manadates the institution with the role of formulating fiscal policy, issuance of currency and ensuring price stability. The bank is also authorized to perform other functions as conferred on it by statute.[109]

b) Central Bank of Kenya Act

The CBK is established under the CBK Act.[110] Unless specifically excluded under the Act, the Bank is empowered to exercise central banking functions of any type. The Bank is also honored with the privileges of a central bank.[111] The institution is also sanctioned to establish its own conduct regulations which have to be consistent with the requirements of the CBK Act, in order to fulfill a suitable administration of the institution.[112]

The principal purpose of the bank includes *inter-alia* origination and execution of fiscal policies aimed at attaining and preserving constancy within the wide-ranging scope of rates.[113] Further, CBK is tasked with the role of realizing liquidity and appropriating operation of the instituion's financial schemes.[114] Section 4A of the CBK Act further provides for other objects of the bank as including – managing and holding its foreign exchange reserves; formulating and implementing foreign exchange policy; licensing and supervising authorized dealers; promoting the seamless

[109] Constitution of Kenya, 2010 article 231(1)
[110] Central Bank of Kenya Act, cap 491, section 3(a)
[111] ibid
[112] Sec 3(4)
[113] Sec 4(1)
[114] Sec 4(2)

payments, settlements and clearing schemes ; and acting as banker, adviser and financial representative of the Government; and issuing currency coins and notes.[115]

c) Banking Act CAP. 488

The Banking Act prohibits transactions by any banking enterprise or person from conducting fiscal business without a valid license.[116] The Act however excludes the banks that engage in investment which are licensed under the Capital Markets Act.[117] Also excluded are the microfinance banks which are licensed by Microfinance Act, 2006 under section 6(1).[118]

The Act defines financial business as **-** the acceptance of finances in form of deposit from the public. Such monies have been defined as those which are to be repaid by the financial institution either on - the running out of a fixed duration; after notification; or on request.[119] The Act also outlines banking business as receipt of currency from civic partners on deposit which are to be repaid by the financial institution either on - the elapse of a fixed duration; after notice; or on demand.[120]

From the foregoing, the prescription of the Act regarding who can carry out business as a bank is limited to – an institution which denotes - a bank; a mortgage finance company or fiscal

[115] Section 4A
[116] ibid
[117] Capital Markets Act, section 11 (3)
[118] Section 3(1)proviso (a)
[119] Section 2
[120] ibid

institution.[121]In addition to being an institution, it must also procure a license from Central Bank upon payment of the requisite fees.[122]

The Act makes it an offense for an institution to establish a new point of commerce or a branch or adjust the site of its prevailing corporate location or branch devoid of the Central Bank's approval.[123]To ensure smooth operations of banks, the Act imposes certain restrictions including - restrictions credits, advances, and guarantees;[124] restriction on investments and trading;[125] on share capital ownership of a financial institution;[126] and on the taking of deposit among others.[127] The Act delineates "deposit" as the cash that has been paid on condition that it shall be reimbursed either with or short of premium on request or in the circumstances agreed by the depositor.[128]

Institutions are required to exhibit in every branch and office in Kenya throughout the year a replica of the preceding appraised financial declarations. Those statements conform to the requirement for minimum financial disclosure as prescribed by the Central Bank.[129] The banking organizations are also required to publish in a newspaper with wide circulation, a replica of the preceding appraised income statements and balance sheet for that financial year after every quarter of the financial year.[130]

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[121] ibid
[122] Section 5
[123] Sec 8
[124] Sec 11
[125] Sec 12
[126] Sec 13
[127] Sec 16
[128] ibid
[129] Sec 22
[130] Ibid

d) The Kenya Deposit Insurance Act, 2012 (KDIA).

The Act defines deposit to mean the balance of the summation of deposits received which is unpaid or held by the institution in the process of taking deposits including- certified cheques; bank drafts or other instructions for payment made against a deposit account.[131]

2.1.2 Regulation of Payment Systems

a. The National Payment System Act No. 39 of 2011 (NPSA)

The preamble of this Act provides the objective of the Act as a regulation that establishes for the overseeing and regulation of imbursement payment systems, service providers, and similar purposes.[132] The Act defines a payment system as an organization designed to enable payments to be made between beneficiary and a payer, or facilitates money circulation, and including any procedures and instruments which are related to that system.[133]A designated payment instrument has also been defined as an instrument for payment which has been chosen in compliance with section 6.[134]

The Act gives the Central Bank discretion to elect an imbursement scheme if CBK is of the opinion that:- the system of payment appears to be potentially risky; the designation is beneficial as it might protect the public's interest; or where that designation is necessary in preserving the integrity of the system of payment.[135] The system of payment is designated by a notice specifying-

[131] KDIA No. 10 of 2012
[132]NPSA No. 39 of 2011, Preamble
[133] Sec 2
[134] ibid
[135] Section 3

the subject payment system; the person or entity that operates that system; and the terms and conditions subject of that designation.[136]

In a similar fashion, the Central Bank may designate an instrument for payment by notice in the Gazette where in the bank's view – the instrument of payment is widely used as a mode of making payment; that the designation is required in the protection of public interests or where the designation is intended to protect the integrity of instrument of payment.[137]

The Act defines settlement as the discharge of settlement obligations.[138] Such discharge of obligations is to be executed through entries passed through the CBK system of settlement or the payment of money. The Act forbids any person in Kenya from carrying on a payment service business except where such a person is an authorized payment service provider.[139] Contravention of the above provision is an offence punishable by fine not above a half a million Kenya Shillings or to incarceration of not more than three years, or both.[140]

b. The National Payment System Regulations, 2014

The regulation establishes a governance and regulation framework to regulate systems of payment and those providing services of payment.[141]A person wishing to be granted authority as a service

[136] ibid
[137] ibid
[138] Sec 2
[139] Sec 12 (1)
[140] Sec 12 (2)
[141] The National Payment System Regulations, 2014

provider in payment is obligated to make an application to the Bank.[142]An authorized applicant shall be required to have the requisite capital as dictated by the First Schedule of the regulation.[143]

As a governance requirement, a service provider for payments is required to establish a transparent, effective and adequate governance structures so as to ensure that its services meet the requirement for integrity.[144] The requisite governance provisions include:- clearly documented and defined organizational arrangements such as management and ownership structure; and broad-based board of trustees.

2.1.3 Regulation of Information and Communication Systems

a. Kenya Information and Communications Act, 2013

i. General legal framework

The Kenya Information and Communications Act (2013) establishes a legal framework within which electronic transactions are to be made in Kenya.[145] The Act defines and governs some of the most important aspects of electronic transactions including – digital signatures, certificates, electronic forms and offences relating to breach of cyber security.[146]

"Advanced electronic signature" is delineated under the Act as that signature which is uniquely linked to the person signing it. That signature ought to be generated by the signatory using a

[142] Ibid, sec 4 (1)
[143] Ibid, sec 11
[144] Ibid, sec 25 (1)
[145] Kenya Information and Communications No. 2 of 1998 < http://www.kenyalaw.org/lex//actview.xql?actid=No.%202%20of%201998 > accessed 30 July, 2018
[146] See ibid, sec 2

method that the signatory has control over. The method ought to be having the capability of recognizing the signatory. It should also be related to the data any subsequent alteration to the data is noticeable.[147] The Act also defines "electronic form" to include such information which is either received, sent or stored in any manner including optical, magnetic, microfilm, computer memory or any other similar device.

ii. Digital signatures

Generally, the Act legally recognizes electronic signatures.[148] It provides for the authentication of matters through attaching initials or with the assertion that all files will be signed up or hold an individual's initials, at that time, considering everything confined within the identified regulation, the obligations will be perceived to be fulfilled if such evidence is deemed legitimate via a progressive automated initial attached in a way that could be recommended by the cabinet secretary.[149]

The Act envisages amenability with the obligations for an authenticated initial. The act describes that in a scenario where an individual's initials are required then that obligation must be fulfilled in consideration of an automated dispatch when a progressed automated sign is used and which is unswerving as was fitting for the resolve in which the automated dispatch was produced or conversed, in consideration of the prevailing conditions, together with any pertinent pact[150]

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[147] Kenya Information and Communications No. 2 of 1998 < http://www.kenyalaw.org/lex//actview.xql?actid=No.%202%20of%201998 > accessed 30 July, 2018 section
[148] Sec 83P.
[149] ibid
[150] Sec 83O.

Specifically, the Act also governs the use of electronic signatures and records in Government agencies.[151]

iii. Offences

Apart from envisioning the formation of substantive electronic transactions process, KICA also envisions breach of those security processes[152] and empowers the Communications Authority of Kenya to establish an outline for enabling prosecution and investigations of the violations of cybercrime.[153]

The Act provides that dishonest facilitation or acquisition of a service provided by an authorized telecommunication amenities provider with the determination to evade from levies of any rates which are pertinent to the delivery of that amenity is a felony punishable on principle to a penalty that does not fine not more than 1 million Kenyan shillings or a sentence of up to 5 years in jail or both penalties. .[154]

The regulation also precludes persons who have no valid license under section 25 from running a telecommunication system or providing a telecommunication amenity. Breach of this provision amounts to an offence punishable by a penalty of not more than five hundred thousand shillings or 5 years jail time, or both.[155]

[151] Sec 83S.
[152] ibid
[153] Sec 83C(h)
[154] Ibid, sec 28
[155] Ibid, section 34(1)

2.1.3 Regulation of capital markets

2.1.3.1 The Companies Act, 2015 - the law on Initial Coin Offerings (ICOs)

ICOs is identified as a regulation which is equivalent of an Initial Public Offer (IPO) in the market of crypto-currencies.[156] Similar to IPOs, ICOs act as tools of fundraising for companies looking to create new coins or services.[157] This new functionality of the crypto-currency market raises the legal question as to whether unlike IPO, ICOs are regulated under Kenya's financial law.

The Act precludes a private company limited by guarantee or shares from making offers to the community of some securities of the corporation comprising of guarantees for the institution with an opinion that they are being provided to the community.[158]

The Capital Markets Act provides the act of offering of securities to include the invitation of a person to engage in an agreement to subscribe for, underwrite, or acquire any securities.[159] The Act makes it an offence for an offeror or an issuer to issue a public offer of securities without the approval of the Authority.[160]

2.1.3.2 Regulation by Capital Markets Authority

The Capital Markets Authority Act provides the regulatory functions of the CMA as including - licensing; supervision; guaranteeing compliance regulatory and legal framework by all the capital

[156] CNBC 'Tokenization: The world of ICOs' < https://www.cnbc.com/2018/07/13/initial-coin-offering-ico-what-are-they-how-do-they-work.html > Accessed 5 November 2018
[157] ibid
[158] The Companies Act, 2015, Section 511
[159] Capital Markets Act, Cap 485A section 30A(1)
[160] Ibid, sec 30A(4)

market intermediaries and all market participants.[161] The Authority is also tasked with the mandate of regulating public offers of securities including bonds and equities.

Importantly, the Authority also bears the mandate of reviewing the legal framework as a response to market dynamics. In consonance with this mandate,[162] the Authority has issued guidelines including: Guidelines on the prevention of money laundering and terrorism financing in the capital markets arrangement of guidelines.

2.1.3.2.1 Guidelines on the prevention of money laundering and terrorism financing in the capital markets arrangement of guidelines

Though this guideline do not expressly mention crypto currencies, they nevertheless highlight certain essential elements which guide the operation of crypto – currencies including the requirement of a market intermediary to *inter alia* ensure - customer identification; Customer due diligence; and proper keeping of records.[163]

Section 8 of the Guidelines require a market intermediary to put in place procedures and policies aimed at addressing any anticipated risks that may be associated with the use of such new technology specifically those relating to non-face-to-face business transactions and relations.[164]

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[161] ibid
[162] section 12 A (1)
[163] Section 5,6 & 7 respectively.
[164] Section 8

2.2 Conclusion

The concern of this chapter was predicated on the proposition that although general guidelines and legislation indirectly envision the use of crypto currencies, neither the CBK nor the CMA has direct oversight on the internet-based crypto-currencies. As a result of that concern, this chapter sought to investigate the status of the law on financial sector in Kenya and whether that law prohibits or not the operation and usage of crypto-currencies or whether the use of crypto-currencies in Kenya is feasible.

The paper found that the operation and use of crypto currencies in Kenya is not in conformity with the elements of - central banking; banking business; structure of the national payment system; and Initial public offers by public companies. This chapter finds that crypto – currencies being operated in stealth and on an internet platform are not subjected to the regulation of CBK. They therefore fall short of the legal dictates of central banking which require licensing and regulation of entities offering financial services.

CHAPTER THREE

THE IMPACT OF INTERNATIONAL FINANCIAL INTEGRATION; A COMPARATIVE STUDY OF THE LEGAL AND ADOPTION STATUS OF CRYPTO CURRENCIES IN FRANCE, INDIA AND CHINA; & THE PLACE OF CRYPTO-CURRENCIES IN THE WORLD ECONOMIC ORDER

3.1 Impacts of international financial integration

3.1.1 Introduction

Global financial integration denotes to the cross-border holding of fiscal assets and liabilities.[165] The term denotes the degree to which cross-border transactions are not restricted by an economy.[166] The globe's fiscal markets are quickly assimilating into a solitary global marketplace.[167] With sufficient bodies and sound policies, evolving countries could embrace fiscal integration and gain from the benefits that accrue from the integration.[168]

Financial integration has a host of advantages and disadvantages. For example, integration has been found to be beneficial as it gives banks contact to more supply of capitals which allow them to grow capital quickly. Fiscal integration is usually characterized by the execution of monetary reforms in countries whose effect is to improve the country's economic prospects.[169] Consequently, financial integration has proved to be advantageous to countries as it boosts growth

[165] Sonila Beliu 'International Financial Integration' (2005) 8 Western Michigan University < https://scholarworks.wmich.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=2019&context=dissertations > accessed 5th December, 2018

[166] ibid

[167] Otmar Issing The globalization of financial markets, 200 < https://www.ecb.europa.eu/press/key/date/2000/html/sp000912_2.en.html > accessed 5th December, 2018

[168] ibid

[169] ibid

and diversification.[170] On the converse, financial integration has created the following adverse effects - increase in volatility of emerging markets and creation of significant costs.[171]

3.1.2 Impacts of Global Fiscal Integration on the Banking System

Ideologies in favor of financial integration opine that it could occasion an upsurge in the grade of proficiency of the fiscal integration process and also increase the breadth and depth of national fiscal markets. This potential is premised on the fact that financial integration may lower excessive profits and costs associated with cartelized and monopolistic markets and consequently improve resource allocation and lower the cost of investment.[172]

By growing the level of competition of banks and allowing the use of refined banking technology and techniques, foreign bank penetration has been argued to be able to advance the eminence and accessibility of fiscal services in the national market.[173] This improvement of quality and availability correspondingly improves efficacy by dipping the price of processing and acquiring data on possible debtors.[174] Consequently, that may serve as an enhancement of the domestic banks' supervisory and legal framework.[175]

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[170] Pierre-Richard Agénor Benefits and Costs of International Financial Integration: Theory and Facts, 2003 < https://personalpages.manchester.ac.uk/staff/pierre-richard.agenor/pdfs/Agenor-BenefCosts02a.pdf > accessed 5th December, 2018

[171] ibid

[172] ibid

[173] Caprio, Gerard, and Patrick Honohan "Restoring Banking Stability: Beyond Supervised Capital Requirements." (1999) 13 (4) Journal of Economic Perspectives 43-64 <https://www.aeaweb.org/articles?id=10.1257/jep.13.4.43 > accessed 5th December, 2018

[174] ibid

[175] ibid

Accessibility of a country to either direct or indirect international capital contributes to abridged instability in funds flow within episodes of monetary volatility and the steadiness of the domestic monetary scheme.[176] That proposition is supported by the current shift by creditors to non-local organizations which are supposed to be wide-ranging than domestically-owned banks.[177]

3.1.3 Impacts of Global Financial Integration on the economy

Throughout the past couple of years, the corporate world has been characterized by a rapid amalgamation of the globe's financial markets.[178] International markets have witnessed a rise in global issuance of bonds.[179] International trade of financial assets has also increased substantially.[180] These developments have been characterized by increased global integration of investments projected to realizing more profitability and the prospect to broaden their horizons on threats from a global perspective.[181]

Global financial integration has encouraged capital inflows in many countries through the lifting of barriers to investment; creation of improvements in the economic environment; lifting capital account restrictions; and the introduction of market-oriented reforms among others.[182] Integration offers banks access to a greater source of funds to intermediate which sanctions them to

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[176] ibid

[177] Hyun E. Kim, Byung-Yoon Lee *The Effects of Foreign Bank Entry on the Performance of Private Domestic Banks in Korea,* 2004 < https://www.bis.org/publ/cgfs22korea.pdf > accessed 6th December, 2018

[178] ibid

[179] ibid

[180] ibid

[181] Eduardo Levy Yeyati 'International financial integration through the law of one price: The role of liquidity and capital controls' J. Finan. Intermediation (2009) 18 432–463 <http://siteresources.worldbank.org/DEC/Resources/InternationalFinanceIntegrationthroughtheLawofOnePrice.pdf > accessed 6th December, 2018

[182] ibid

promptly increase credit rates.[183] The concept of Financial integration often ensues alongside the enactment of economic transformations which are designed to enhance the economic projections of the nation and elevate representatives' anticipations. Integration has also been found to increase the bases of risk and the speed of market reaction.[184]

Global financial integration has been found to enhance financial development in most developing countries which have low saving rates by easing constrained internal resource mobilization.[185] This exposes investors to adequate resources for projects with high rates of return. Financial integration has proven to have a positive impact of improving access to the international capital market and an of impact of developing domestic financial market. This increases the pool of possible capitals and increases the probability financing high return investments with the consequence of enhancing economic growth.[186]

Critics like Jagdish Bhagwati, advanced the idea that the benefits of global fiscal integration outweigh the risks. Bhagwati argues that free capital mobility does not necessarily guarantee enormous benefits owing to the fact that significant improvements from capital account are mere assertions that have not been proved. According to Bhagwati, there is no empirical evidence to justify the benefits of global financial integration. Global financial integration can be detrimental as it exposes countries to dependency on externally generated funds to generate growth.[187]That

[183] ibid
[184] ibid
[185] ibid
[186] ibid
[187]Kengere Angwenyi Herman *Contagion And Spillover Effect From United States Of America Stock Markets To East African Securities Market*, 2016 <

makes the resilience of the economies in times of sudden stops to be low. Developing countries are projected to not only agonize from instability in their own financial market positions but also from the contagion effects of volatility occurring elsewhere as result of being linked to other financial markets.[188]

International financial integration has exposed some countries to financial instability of commercial banks which has hiked the level of risk and exposure of commercial banks.[189] In general financial instability has been motivated by: the high advancement in the context of monetary trades; high costs of fiscal predicaments and their amplified occurrence; and the augmented intricacy of novel tools.[190]

3.1.4 Conclusion

This chapter considered- financial integration; comparisons of the state of adoption of cryptocurrencies in France, India and China; and the place of crypto-currencies in the world economic order.

The chapter examined whether the empirical evidence can anticipate benefits from financial integration for countries. In a nutshell, the chapter found that financial integration can boost growth by improving investments and returns on investment vide market efficiency effects and knowledge

https://irlibrary.ku.ac.ke/bitstream/handle/123456789/18136/Contagion%20and%20spillover%20effect%20from%20United%20States%20of%20America%20stock%20markets%20to%20east%20African%20securities%20markets.pdf?sequence=1&isAllowed=y > accessed 6th December, 2018

[188] ibid

[189] ibid

[190] Pierre-Richard Agénor Benefits and Costs of International Financial Integration: Theory and Facts, 2003 < https://pdfs.semanticscholar.org/40e6/92bb81f625390998b13e1718aaf146b7b627.pdf > accessed 6th December, 2018

spillover. By diversifying assets and tapping global markets, integration insures individuals against adversity in their home economies.[191]

Financial integration has also been identified as a strategy that significantly enhances financial outlays within unindustrialized or emerging nations through cutting the association amid local savings and investment.[192] By shifting the investments toward schemes with more anticipated profitability ratios, integration enhances growth due to the enhanced ability to branch out on the elevated threats typically occasioned in more profitable schemes. [193]Integration equally enhances the depth and efficiency of the domestic financial system, with more imperative progressive response to investment and development.[194]

3.2 Comparative study of the legal and adoption status of crypto currencies in France, India, the United States of America and Japan

3.2.1 Cryptocurrencies in France

3.2.1.1 History of the Growth of a legal framework

In 2016, France pioneered the recognition of blockchain technology in the field of mini bonds.[195] Also known as cash vouchers, mini bonds are essentially a category of promissory notes that are

[191] ibid
[192] ibid
[193] ibid
[194] Sarwat Jahan and Brad McDonald 'A Bigger Slice of a Growing Pie' Finance & Development 48(3) < https://www.imf.org/external/pubs/ft/fandd/2011/09/jahan.htm > accessed 7th December, 2018

[195] Das, Samburaj. "Blockchain Tapped by French Bank BNP for Mini-Bonds." *CCN*, 19 Sept. 2016, <https://www.ccn.com/blockchain-tapped-french-bank-bnp-mini-bonds > accessed 5 April 2019

often incorporated in crowd-lending trades.[196] Later in 2017, the Financial Market Authority of France launched a fundraising and research support programme named the "Universal Node to ICO's Research & Network' (UNICORN) to assess and support ICOs.[197] The ICOs involve the issuance of tokens which principally depend on the usage of both the cryptocurrencies and Blockchain expertise to fund particular technology schemes which are commenced by an institution.[198]

In 2018, *France Strategies* also known as the French Strategy and the Prospective General Commission with the help of the Prime Minister of French issued a statement on blockchain and cryptocurrencies. The report recommended for a number of transformations which were designed to empower an all-encompassing development of the identified expertise in France.[199] In September, 2018, the French Parliament's lower house initiated a debate regarding the *France Strategies* report containing some relevant changes aimed at sustaining the development of cryptocurrency enlightened enterprises which are better subsidized, additionally inventive and rational.[200]

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[196] ibid
[197] Higgins, Stan. "French Regulator Launches 'UNICORN' ICO Support Project." *CoinDesk*, 26 Oct. 2017, <https://www.coindesk.com/french-regulator-launches-unicorn-ico-support-project > accessed 5 April 2019
[198] The AMF publishes a discussion paper on Initial Coin Offerings and initiates its UNICORN programme< https://www.iosco.org/library/ico-statements/France%20-%20AMF%20-%20Discussion%20paper%20on%20Initial%20Coin%20Offerings%20and%20UNICORN%20programme.pdf >
[199] ibid
[200] ibid

In relation to the preceding occurrences, it is evident that the French regime is strategizing on how to institute a more convenient legal outline towards the adoption and operation of cryptocurrencies.

3.2.1.2 Government legislative and administrative attitude on cryptocurrencies

France has enacted two ordinances aimed at regulating blockchain technology.[201] Despite skepticism surrounding cryptocurrencies, the French government is transitioning in the direction of launching an oversight administration motivated by the underlying blockchain technology.[202] In 2017, France enacted a law authorizing the registration of unlisted securities and their transfer through the use of blockchain technology.[203] Subsequently in 2018, the French Ministry of Economy made a declaration to have Paris turn out to be the capital of ICOs via the enactment of a legal outline that oversees the ICOs.[204] In April 2018, the highest administrative court of France (Conseil d état) made a verdict resulting into the alleviating of the tax liability on value returns ensuing from cryptocurrency trades by enacting a flat tax rate of 19%.[205]

3.2.1.3 Cryptocurrencies regulation

With only two ordinances enacted regulating blockchain technology in France, cryptocurrencies largely remain unregulated as the only legislative actions taken so far do not adequately address the intricate issues on adoption and usage of cryptocurrencies.[206] However, the regulation of cryptocurrencies is still work in progress as the French regime is dynamically reviewing the

[201]The Law Library of Congress, Global Legal Research Center *Regulation of Cryptocurrency Around the World*, 2018 < https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf > accessed 5 April 2019
[202] ibid
[203] ibid
[204] "France to Create Legal Framework for Cryptocurrency Offerings." (*Reuters*, 22 Mar. 2018) , https://www.reuters.com/article/us-france-cryptocurrencies-idUSKBN1GY0YE accessed 5 April 2019
[205] ibid
[206] ibid

cryptocurrency spectacle and designing strategies that are aimed at inaugurating a supervisory government. Due to the government's constant efforts to establish a formidable regulatory regime, there is real enthusiasm for the underlying blockchain technology.[207]

The 2016 ordinance incorporated two provisions that had the effect of allowing the use of blockchain technology for "mini-bond" (*minibon*) which is a specific type of zero-coupon bond.[208] That ordinance offered the initial designation of "blockchain" in French regulation.[209] However, the provisions of that ordinance solitary warranted an exceedingly narrow submission.[210] The subsequent rule enacted in 2017 proceeded to fashion a legal structure for possible use of blockchain expertise for a more diversified scope of financial tools.[211]

3.2.1.4 Taxation of cryptocurrencies

The recommendations from the Direction Générale des Finances Publiques (DGFP, General Directorate for the Public Finance), dictate that monetary returns gained from the trading of cryptocurrency should be taxed.[212] The guideline requires that the gains be taxed differently depending on whether it is a commercial or non-commercial sale.[213]

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[207] ibid
[208] ibid
[209] Boring, Nicolas. *Cryptocurrency Regulation*, 2018, < https://www.loc.gov/law/help/cryptocurrency/france.php#III > accessed 5 April 2019
[210] ibid
[211] ibid
[212] "The Income Threshold under Which No Income Tax Is Paid Is High," 2016, https://doi.org/10.1787/eco_surveys-cri-2016-graph41-en.
[213] ibid

Cryptocurrencies in France are also considered as part of an individual's wealth for the resolution of tax declaration and calculation of French wealth tax.[214] Similarly, the scope of gift tax has also been widened to include - the unrestricted transmission of cryptocurrencies from one individual to the other.[215]

3.2.1.5 France concerns concerning the intrinsic threats associated with Cryptocurrencies

The French Central Bank has been categorical that cryptocurrencies are not substitutes for the customary fiat currencies on the grounds that:

i. Cryptocurrencies are challenging to use, encompass amplified trading levies and have not been insured from deceit;

ii. The funds are fickle to be incorporated as entities of account and

iii. The funds have no inherent worth and cannot be used as replacement in currency worth.[216]

The French Central Bank has considered using the term "crypto-asset" as an alternative to "cryptocurrency" owing to their unsuitability as studied and postulated in a March 2018 report by the Banque de France (French Central Bank) involving the central concerns, threats and viewpoints instituted by cryptocurrencies.[217] In that report, the French Central Bank (Banque de France) focused on the motives why "cryptocurrencies" cannot be perceived as eligible currencies.[218]

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[214] ibid
[215] ibid
[216] James A Dorn (ed), *Monetary Alternatives: Rethinking Government Fiat Money* (Cato Institute 2017).
[217] Staff, Global Legal Research Directorate. *Regulation of Cryptocurrency Around the World*. June 2018, <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed 5 April 2019
[218] ibid

3.2.2 Cryptocurrencies in India

3.2.2.1 Introduction

Since 2013, small-scale businesses in India have been using cryptocurrencies as a form of currency.[219] This has increased the popularity of cryptocurrencies. As evidenced by the increase in the exchange of crypto currency in India, cryptocurrencies have metamorphosed into a means of investment.[220] Despite the absence of a definite outline for standardizing crypto currencies, the inhibition of right to use formal banking networks by government has steered the closure of key crypto trades in India.[221]

3.2.2.2 Cryptocurrencies regulation in India

In December 24, 2013, the Reserve Bank of India ("RBI"), the entity mandated with overseeing financial regulations, financial markets policies and trades regulation, effected the primary monitoring rejoinder in the framework of cryptocurrencies when it delivered a public statement on the issue (Press Note 1).[222] Though the RBI neither sanctioned nor prohibited cryptocurrencies, it nevertheless cautioned consumers, owners and agents of 'virtual currency', of the probable threats linked with cryptocurrencies.[223]

As a consequence of the declaration of Press Note 1, a number of cryptocurrency transactions such as 'INRBTC' and 'Buysellbitco.in' momentarily halted their transactions. Subsequently, the

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[219] 'Overview of the Indian Cryptocurrency Market' (Mission.org) < https://medium.com/the-mission/overview-of-the-indian-cryptocurrency-market-7e6e9e4f948a > accessed 24 April, 2019
[220] ibid
[221] Kevin Helms 'Indian Trade Association Calls for Fast Crypto Regulation to Drive Growth' < https://news.bitcoin.com/indian-trade-association-nasscom-crypto-regulation/ > accessed 24 April, 2019
[222] "Blockchain Laws and Regulations | India | GLI." *GLI - Global Legal InsightsInternational Legal Business Solutions*, https://www.globallegalinsights.com/. Accessed 23 Apr. 2019.
[223] ibid

Enforcement Directorate of the exchange control regulations sought to examine the transactions that were being carried out on the platform of 'Buysellbitco.in' by arguing that that platform was a violation of foreign exchange control regulations.[224] Although the ED's actions and the Press Note 1 destabilized the popularity of cryptocurrency transactions, that impact was short-lived as the press release had neither banned nor prohibited cryptocurrency, instead, India experienced a firm and enhanced development in cryptocurrency trades.[225]

The RBI also issued a declaration referred to as 'Applications of Block Chain Technology to the Banking and the Financial Sector in India.'[226] The white paper favorably views the application of blockchain technology by banks.[227] Additionally, the RBI indicated its intentions to establish a domestic ledger platform like the NEFT and RTGS involving National Payment Corporation of India.[228]

Following the press releases by the RBI, the Government of India constituted an inter-disciplinary committee with the mandate of examining: the prevailing international supervisory and legal systems overseeing cryptocurrency; the contemporary position of cryptocurrency in India and universally; and the established approaches to resolve on concerns associated to customer security

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[224] ibid

[225] Das, Samburaj. "India Is Considering a Ban on the 'Use' of Cryptocurrencies." *CCN*, 31 Oct. 2018, < https://www.ccn.com/breaking-india-is-considering-a-ban-on-the-use-of-cryptocurrencies. > accessed 23rd April, 2019

[226] ibid

[227] ibid

[228] Pratik Bhakta , 'NPCI plans international remittance on UPI platform' < //economictimes.indiatimes.com/articleshow/63540688.cms?from=mdr&utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst > accessed 23rd April, 2019

and legalizing funds.[229] That process constituted a positive gesture towards cryptocurrency regulation as it raised the possibilities that the regime would formally authorize the usage and trading of cryptocurrencies.[230]

However, a circular dated 6th April, 2018 released by the RBI has substantially impeded the operation of cryptocurrency in India as the RBI banned all financing organizations, banks, non-banking financing organizations and payment scheme earners from facilitating any dealings in cryptocurrencies.[231] The RBI subsequently gave a three-month period within which all accounts dealing with cryptocurrency were to be shut down.[232] As a result of this stringent measures the Government of India has stalled cryptocurrencies thus making it challenging for members to engage in financial trading through conventional banking networks.[233]

3.2.3 Crypto currency in China

3.2.3.1 Introduction

Similar to France and India, the rise of cryptocurrencies in China has also necessitated regulatory and policymaking concern.[234] The principal supervisory organization governing the digital

[229] ibid
[230] ibid
[231] Tejal Shah , Shailak Jani *Applications of Blockchain Technology in Banking & Finance* < https://www.researchgate.net/publication/327230927 > accessed 23rd April, 2019
[232] ibid
[233] ibid
[234] Crypto Regulation News: China is considering the elimination of crypto mining, IMF is concerned about cryptocurrency after a twitter poll, Goldman Sachs rejects development of crypto trading desk, Bakkt's launch is delayed due to custody uncertainty < https://medium.com/paradigm-fund/crypto-regulation-news-china-is-considering-the-elimination-of-crypto-mining-imf-is-concerned-f423369e2f89 > accessed 24 April, 2019

currency in China is the People's Bank of China (PBOC'), the central bank of mainland China.[235] Such regulation has encouraged innovation.[236]

In June 2018, a working paper was issued by the China Banking and Insurance Regulatory Commission (the "CBIRC").[237] The paper provided that the digital currency issued by the PBOC was to be the legitimate sovereign cryptocurrency.[238] The working paper required that sovereign cryptocurrency was to gain financial worthiness as a flat currency and the exchange be customized as a moderate of transaction.[239] The working paper also noted that non-sovereign cryptocurrency was not to be considered as 'currency' but simply as a programmed numerical representation.[240] It is on that account that the PRC regulatory authorities does not recognize cryptocurrencies as a flat currency but instead as a kind of virtual commodity.[241]

The position in China is that cryptocurrencies are yet to be categorized into sovereign cryptocurrency and the private cryptocurrency. On the basis of that categorization, the cryptocurrencies will be treated differently.[242]

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[235] Marie Huillet 'China's Central Bank Extends Its Regulatory Scrutiny to Crypto 'Airdrops ' < https://cointelegraph.com/news/chinas-central-bank-extends-its-regulatory-scrutiny-to-crypto-airdrops > accessed 24 April, 2019

[236] ibid

[237] Michael Cripps and Xiaolin Lin 'China: CBIRC Issues Consultation Draft On Regulations On Insurance Company Related Party Transactions' < http://www.mondaq.com/china/x/701044/Insurance/CBIRC+Issues+Consultation+Draft+On+Regulations+On+Insurance+Company+Related+Party+Transactions > accessed 24 April, 2019

[238] ibid

[239] ibid

[240] ibid

[241] ibid

[242] 'Digital Currencies: International Actions and Regulations ' <https://www.perkinscoie.com/en/news-insights/digital-currencies-international-actions-and-regulations.html > accessed 24 April, 2019

3.2.3.2 Regulation of Crypto currency in China

The 2013 and 2017 PBOC Circulars are presently the two main government conventions that govern reserved cryptocurrencies in China.[243] The import of those two regulations is that they: apart from clarifying cryptocurrencies as a virtual commodity, the regulations also enforce limitations on third-party payment agents partaking in cryptocurrency trades; and on financial institutions. Those two pieces of legislation also bar ICOs and cryptocurrency trades conducted through token financing and trading platforms with the consequence that a violation results into civil, administrative and criminal liabilities.[244] For instance, the Law governing the People's Bank of China which was modified in 2003, makes it illegal to issue or sell tokens as specified under the administration of the PBOC. For example, article 20 of the aforementioned act prohibits any individuals or units from printing or selling promissory notes as surrogates for Renminbi to flow on the marketplace."[245] A violation of this law obliges such individuals or institutions to stop the prohibited act instantaneously and a levy of up to RMB200, 000 be enforced.[246]

Similarly, the Securities Regulation of China's Republic (amended in 2014) prohibits the act of illegal issue of securities. Violators of this face the risk of receiving governmental fines from China Securities Regulatory Commission ("CSRC').[247] The issuer of an illegal fundraising or ICO risks the possibility of being imposed with approximately 10 years in jail or detention for life. The

[243] ibid
[244] ibid
[245] Law of the People's Republic of China on the People's Bank of China (amended in 2003)
[246] ibid
[247] Securities Law of the People's Republic of China (amended in 2014)

victims may also be penalized a fee of about RMB50, 000 to RMB500, 000.[248] Such an issuer may also face other sentences such as impounding of their assets by the government for the period in-between. [249]

3.2.4 Crypto currency in Japan

Through the enactment of the Japanese Payment Services Act, Japan has installed a legal framework for the operation of crypto-assets and block chain technology.[250] For instance, an amendment was made on the Japanese Payment Services Act with effect that that amendment not only recognized crypto currencies as an acceptable system of digital settlement currency but also provided for a definition of crypto currencies.[251] Although this amendment was not a direct formal recognition of crypto currencies, it nevertheless indirectly recognized the form and operation of crypto currencies.[252]

3.2.4.1 Definition and scope of Crypto-currency / virtual currency

Crypto-currency / virtual currency is defined by the Payment Services Act as a form of property value that can be used as payment for services or in purchasing or renting of goods by unspecified persons. The currency needs to be transferable via an electronic data processing system.[253] The Act limits the scope of crypto currencies to only values in property that are stored in electronic

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[248] ibid
[249] ibid
[250] Jason Weinstein, Alan Cohn & Chelsea Parke *Blockchain & Cryptocurrency Regulation,* 2019
[251]Marta González *Blockchain in Japan*, 2018
[252] ibid
[253] Payment Services Act art. 2, para. 5

devices in an electronic form. That definition expressly excludes currency-denominated assets and currency.[254]

3.2.4.2 Registration of Exchange Business

The operation of crypto currency exchange business is limited by the Act to only the business operators who are registered with any competent local Finance Bureau.[255] An organization operating the business of exchange of crypto currencies ought to be either a foreign crypto currency exchange business or a stock company with a representative resident and with an office in Japan.[256] The Act also provides that a foreign crypto currency exchange business which is registered with a foreign government in the foreign country ought to provide proof of that foreign registration while making an application for registration in Japan.[257] Such application for registration is examined by the competent Finance Bureau. However, where such an application is rejected, the applicant must be notified of the reasons leading to such rejection.[258]

3.2.4.3 Regulation of Cryptocurrency Exchange Businesses

The Act mandates the exchanges businesses with the task of protecting business information under their control by establishing competent security systems.[259] The exchanges businesses also have a duty to install measures to ensure appropriate conduct of business where it contracts its operations

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[254] ibid
[255] Ibid arts. 63-2 & 63-3 ;
[256] Payment Services Act art. 63-5, para. 1.
[257] *Id*. art. 2, para. 9.
[258] art. 63-5
[259] art. 63-8.

to any contractor.[260] The crypto currency exchange businesses are further mandated with the task of providing information on contract terms and fees to their customers.[261]

Regarding the framework for resolution of disputes, a business engaging in the trade of crypto currencies ought to contract a dispute resolution center which has been designated and with expertise in the business of cryptocurrency exchanges. In the alternative, such a business ought to establish its independent system to deal with the customers' complaints.[262]

3.2.4.4 Supervision

The businesses engaging in the exchange of crypto currency are required to keep the accounting records of the transactions on cryptocurrency.[263] Those businesses are further required to the Financial Services Agency (FSA) annual reports on business.[264] Amending the Prevention of Transfer of Criminal Proceeds Act, the Payment Services Act amendment of 2016 added businesses engaging in cryptocurrency exchange to the list of bodies subject to the regulations of money laundering.[265]

3.2.5 Conclusion

France has made remarkable strides in advancing the development of a legal framework and operation environment for cryptocurrencies or crypto assets. Additionally, the French executive

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[260] ibid
[261] *Ibid*. art. 63-10
[262] art. 63-12, para. 1
[263] *Ibid*. art. 63-13
[264] art. 63-14
[265] Act No. 22 of 2007, *amended by* Act No. 67 of 2017

and legislative outlets are dynamically probing the best approaches on how they can standardize cryptocurrencies. In summary, the French Parliament has enacted two ordinances to affect the operationalization of cryptos. The French Parliament has equally initiated a mission to research and make findings on the feasibility of blockchains, cryptocurrencies and other technologies.[266] Although these efforts are still work in progress, they point towards the feasibility of cryptocurrencies as a valid legal tender.

In China, 2 enactments – (the 2013 and 2017 PBOC Circulars) are the pieces of legislation that currently govern the operation of cryptocurrencies. Those circulars not only clarify the place of cryptocurrencies as a form of virtual commodities but also impose restrictions on third-party imbursement representatives partaking in cryptocurrencies trades; and on financial institutions. In a nutshell, while the legal regime in China allows for the operation of cryptocurrencies, that operation is however restricted.

In India, the government through the RBI has imposed stringent measures on the operation of cryptocurrencies which has made it challenging for members to perform cryptocurrencies trades via conventional banking networks. That has substantially impeded the dealing of cryptocurrency in India.

[266] Giovanni Perani 'Blockchain: is self-regulation sufficient?' < https://medium.com/coinmonks/blockchain-is-self-regulation-sufficient-5bb68ac7e33f > Accessed 23 Apr. 2019.

3.3 Prospects of adoption of crypto-currencies by countries

The probability of use of crypto-currencies being used as an alternative source of currency has been at the center of contemporary academic debate.[267] As opposed to traditional financial instruments, crypto-currency is anchored on cryptographic proof, a system which has proved to be more efficient than the traditional payment methods such Mastercard and Visa.[268] Cryptocurrencies have been associated with attributes such as - high liquidity, anonymity and lower transaction costs among others.[269]

According to a 2014 study by Hencic and Gourieroux, the results of the value currency comparison between Bitcoin and the U.S. Dollar signposted phases of hypothetical conducts from online trading.[270] In investigating the volatility of Bitcoin, a study by Sapuric and Kokkinaki indicated that although the exchange rate of Bitcoin had been characterized by high annualised volatility, the crypto-currency could nevertheless be considered as more stable in consideration of the transaction volume.[271] Another study by Briere also found that cryptocurrencies have shown high volatility and large average returns.[272]

Crypto-currencies have exhibited the properties of both speculative and standard financial assets. That characteristic has ignited debate as to whether the crypto-currencies should be categorized as

[267] ibid
[268] ibid
[269] ibid
[270] Hencic, Andrew, and Christian Gourieroux. ‘’Noncausal autoregressive model in application to Bitcoin/USD exchange rate.’’ (2014) Econometrics of Risk. Berlin: Springer. pp. 17–40.
[271] Svetlana Sapuric, and Angelika Kokkinaki. “Bitcoin is volatile! Isn’t that right?” (2014). Business Information Systems Workshops, Lecture Notes in Business Information Processing. pp. 255–65.
[272] Briere, Marie, Kim Oosterlinck, and Ariane Szafarz. “Virtual currency, tangible return: Portfolio diversification with Bitcoins.” (2015) 16 Journal of Asset Management 365–73.

a currencies, investments or assets.[273] These positive attributes have inspired the use of crypto-currencies as alternate form of currency. It is on that account that Annie Nova notes that Bitcoin are slated to take on cash money as cryptocurrencies receive more acceptance and usage.[274] In a nutshell, owing to the structure and functionalities of crypto-currencies, they have founded themselves as a disruptive technology in the world economic order: the crypto- currencies pose the probability of penetrating into the confines of traditional money systems.[275]

[273] ibid
[274] ibid
[275] By inference

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This section outlines the data analyzed and the findings of the respondents. The project obtained the data though the filling of questionnaires by the respondents and subsequently through content analysis. The concern of the study was to find out the feasibility of Crypto Currencies as a valid legal tender in Kenya's Financial Market on the consideration whether cryptocurrencies are able to guarantee a 'Free Banking' System without the aid of the Central Bank. The following data depicts 100% of the respondent interviewed who were 102 individuals whose data was analyzed.

4.2 Demographic Information

A total of 102 individual participated in the survey, with a mean age of 27 years, of the 102, 59.8% were females while male composed of 40.2% were males, University Education was the highest level of education attained by most participants, a huge proportion had a regular source of income and are aware of cryptocurrencies. This is presented below.

4.2.1 Gender representation

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	40.2	40.2	40.2
	Female	61	59.8	59.8	100.0

Total	102	100.0	100.0	

Table 4.2.1 Gender representation

From figure 1 above, it is evident that most of the respondents 59.8% were females while males composed of 40.2%. This finding likely denotes that most women believe in the viability of cryptocurrencies owing to their optimistic nature. The finding might also portray the fact that women are likely to invest in new ventures more than men.

4.2.2 Scope of formal education

What is the uppermost scope of formal education you have obtained?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary	1	1.0	1.0	1.0
	Secondary	9	8.8	8.8	9.8
	College	21	20.6	20.6	30.4
	University	69	67.6	67.6	98.0
	None	2	2.0	2.0	100.0
	Total	102	100.0	100.0	

A majority of the respondents (67.6%) were undergraduates. 20.6 % of the respondents had attended college training. Only 8.8 % of the respondents had attained at most secondary education. The above findings are significant as they exhibit the fact that most of the respondents were learned. That finding was important to this study as persons who are highly educated are able to better understand and make decisions regarding the viability of cryptocurrencies.

4.2.2 Source of income

Do you have a regular source of income?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	26	25.5	25.5	25.5
	Yes	53	52.0	52.0	77.5
	Declined	23	22.5	22.5	100.0
	Total	102	100.0	100.0	

While 52% of the respondents had a regular source of income, only 25.5% did not have. This was significant as there is a direct correlation between income and banking. Persons with regular income are more exposed to banking activities and are thus able to understand and comprehend whether Crypto Currencies are feasible as a valid legal tender in Kenya's Financial Market.

4.3 Knowledge and Usage of Cryptocurrencies.

Which cryptocurrencies are you aware of?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Bitcoin	Yes	51	50.0	79.7	100.0
Bitcoin Cash	Yes	33	32.4	51.6	100.0
Litecoin	Yes	22	21.6	34.4	100.0
Dogecoin	Yes	14	13.7	21.9	100.0

Ethereum	Yes	16	15.7	25.0	100.0
Ripple XRP	Yes	5	4.9	7.8	100.0
BAT	Yes	4	3.9	6.3	100.0
NEO	Yes	3	2.9	4.7	100.0

Do you use any form of cryptocurriency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	33	32.4	32.4	32.4
	Yes	69	67.6	67.6	100.0
	Total	102	100.0	100.0	

Which cryptocurrencies are you using of?

		Frequency	Percent	Valid Percent	Cumulative Percent
Bitcoin	Yes	32	31.4	46.4	100.0
Bitcoin Cash	Yes	23	22.5	33.3	100.0
Dogecoin	Yes	7	6.9	10.1	100.0
Litecoin	Yes	6	5.9	8.7	100.0
Ethereum	Yes	3	2.9	4.3	100.0
BAT	Yes	3	2.9	4.3	100.0
Ripple XRP	Yes	1	1.0	1.4	100.0

NEO	Yes	0	0.0	0.0	0.0

Participants knowledge and usage of cryptocurrency was also tested. The most popular cryptocurrency amongst the population was Bitcoin with 80% of the population being aware of its existence, it was followed by Bitcoin cash and the NEO was the least popular cryptocurrency. Most (67.6%) of those questioned have used or are currently using cryptocurrency and similar to popularity, bitcoin is the most used cryptocurrency at 46.4% while NEO cryptocurrency registering no usage amongst the entire sampled population.

These findings point to the fact that there is high adoption and usage of cryptocurrencies. The finding is very significant to this study as it illustrates the fact that crypto currencies are feasible as a valid legal tender in Kenya's Financial Market.

4.4 Effectiveness and Reliability

We also sought to gauge the participants view on reliability, efficiency and regulation of cryptocurrency as a form of trading currency.

How efficient are cryptocurrencies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very efficient	8	7.8	10.0	10.0
	Efficient	17	16.7	21.3	31.3
	Neutral	31	30.4	38.8	70.0

	Inefficient	9	8.8	11.3	81.3
	Very inefficient	15	14.7	18.8	100.0
	Total	80	78.4	100.0	
Missing	System	22	21.6		
Total		102	100.0		

How reliable are cryptocurrencies?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very reliable	8	7.8	10.0	10.0
	Reliable	30	29.4	37.5	47.5
	Don’t know	28	27.5	35.0	82.5
	Unreliable	8	7.8	10.0	92.5
	Very unreliable	6	5.9	7.5	100.0
	Total	80	78.4	100.0	
Missing	System	22	21.6		
Total		102	100.0		

In your opinion, are cryptocurrencies a regulated form of currency?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	58	56.9	72.5	72.5

	Yes	22	21.6	27.5	100.0
	Total	80	78.4	100.0	
Missing	System	22	21.6		
Total		102	100.0		

Most individuals were neutral on efficiency of cryptocurrency and could not properly gauge its usage as a form of currency, a smaller 37.5% thought it was a reliable form of currency, though this was slightly different from those expressing neutrality in its reliability, however a notable 72.5% thought cryptocurrency is not regulated by any forms of international laws making it difficult to gauge its efficiency and reliability as its value is with occasions and not an international adopted standard

4.5 Factors Influencing Knowledge and Usage of Cryptocurrency

Knowledge of cryptocurrencies was strongly associated with age, education and having a regular income. Most cryptocurrency users were young youths aged 21 to 35 years, had attained a university education and were in employment. Most associations had a less than 0.001 p value with was less than our set value of 0.05 thus this associations were strongly associated with these independent variables.

Age Recorded * Are you aware of cryptocurrencies Crosstabulation

		Are you aware of cryptocurrencies?					
		No	Yes	Total	Value	df	P
Age Recorded	20 yrs or less	10	2	12			
	Between 21to 25 Yrs	11	29	40			
	26 t0 30 Yrs	3	17	20			
	31 to 35 Yrs	4	4	8			
	36 yrs and Above	10	12	22			
Total		38	64	102	17.954	4	0.001

What is the highest level of formal education you have obtained? * Are you aware of cryptocurriences Crosstabulation

		Are you aware of cryptocurriences					
		No	Yes	Total	Value	df	P
What is the highest level of formal education	Primary	1	0	1			
	Secondary	8	1	9			
	College	11	10	21			
	University	16	53	69			
	None	2	0	2	23.213	4	<0.001

you have obtained?							
Total		38	64	102			

Do you have a regular source of income? * Are you aware of cryptocurriences Crosstabulation

		Are you aware of cryptocurriences					
		No	Yes	Total	Value	df	P
Do you have a regular source of income?	No	14	12	26			
	Yes	10	43	53			
	Declined	14	9	23			
Total		38	64	102	16.214	2	0.001

Usage of cryptocurrency however, was only associated with an individual's age, with youth aged 21 to 30 being the most users of the currency. No other descriptive produced an association when an ANOVA of analysis was done to establish relationships.

Crosstab: Age against usage of cryptocurrency

		Which form of crypto do you use					
		No	Yes	Total	Value	df	P
Age Recorded	20 yrs or less	3	9	12			
	Between 21to 25 Yrs	4	36	40			
	26 t0 30 Yrs	2	18	20			
	31 to 35 Yrs	7	1	8			
	36 yrs and Above	17	5	22			
Total		33	69	102	45.394	4	<0.001

4.6 Discussion of the Findings

According to the findings above, more females (59.8%) participated in the survey than their male counterparts who composed of 40.2%. A significant portion of the sample size had accomplished University Education which was determined as the uppermost level of education giving prominence to their understanding regarding the subject of enquiry. Similarly, a huge proportion of the respondents had a regular source of income and were aware of cryptocurrencies.

The findings indicated that most popular cryptocurrency amongst the population was Bitcoin with 80% of the population being aware of its existence, it was followed by Bitcoin cash and the NEO was the least popular cryptocurrency.

Regarding the effectiveness and reliability of cryptocurrencies, most individuals were neutral on efficiency of cryptocurrency and could not properly gauge its usage as a form of currency. A notable 72.5% thought cryptocurrency is not regulated by any forms of laws making it difficult to gauge its efficiency and reliability as its value is with occasions and not an international adopted standard.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section of the study encompasses a comprehensive assessment of the findings, inferences based on the literature studied and the data collected and the analysis therefrom. The section subsequently involves the recommendation proposed by the author. The project put into focus the feasibility of Crypto Currencies as a valid legal tender in Kenya's Financial Market on the consideration whether cryptocurrencies are able to guarantee a 'Free Banking' scheme that is void of a Central Bank. The project postulated that cryptocurrencies as a form of free virtual banking system without a central bank are likely to fall short of the monetary and fiscal stability objective of central banking as it is deficient of the essential functions of monetary and fiscal policy formulation.

5.2 Summary of the Findings

5.2.1 The legal regime governing cryptocurrencies in Kenya

The project aimed at exploring the status of the law on financial sector in Kenya and whether that law prohibits or not the operation and usage of crypto-currencies or whether the use of crypto-currencies in Kenya is feasible. The project determined that the operation and use of crypto currencies in Kenya is not consistent with the elements of - central banking; banking business; structure of the national payment system; and Initial public offers by public companies. The study therefore found that crypto – currencies being operated in stealth and on an internet platform are not subjected to the regulation of CBK.

5.2.2 Impact of cryptocurrencies on international financial integration

The study reviewed investigative and methodical opinions which presented both the negative and positive aspects of financial integration. The study also explored if the observed evidence recommends that nations can anticipate net benefits from it or not. The study found that financial integration can boost development through enhancing the scope of investment and the proceeds via expertise trickle-down and market competency. [276] Integration is also an insurance for economies against adversities through diversification their resources and invading international markets to flat provisional regressions in returns.[277]

The study also found that according to Paul J.J. Welfens and Evgeny Gavrilenkov, capital mobility is an effective and more appropriate objective in an ultimate monetary scheme.[278] According to the IMF, it is desirable that private capital ought to flow freely across countries. In this model, capital realizes its utmost proficient use on an international perspective.[279] Such inflow will benefit nations with a low capital base but more promising development projections.[280] Owing to their

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[276] World Bank, *Financial Integration among Developing Countries,* 1997 < http://siteresources.worldbank.org/INTGDF2006/Resources/GDF06_ch04.pdf > accessed 6th December, 2018
[277] ibid
[278] Paul J.J. Welfens, Evgeny Gavrilenkov *Restructuring, Stabilizing and Modernizing the New Russia: Economic and Institutional Issues,* 2012 p26
[279] ibid
[280] Ibid

continuous adoption and reception, cryptocurrencies may therefore emerge as a useful asset in promoting the concept of international financial integration.

5.2.3 Legal and adoption status of crypto currencies in France, India, China and Japan.

France, India, China and Japan have made remarkable strides in advancing the development of a legal framework and operation environment for cryptocurrencies or crypto assets. For example, while the French Parliament has enacted two ordinances to effect the operationalization of cryptos, the rise of cryptocurrencies in China has also necessitated regulatory and policymaking concern with the Central Bank, which is known as the People's Bank of China (PBOC') providing that the sovereign cryptocurrency will exist as an authentic monetary digital exchange allotted by the PBOC. Equally, the Reserve Bank of India ("RBI"), the unit mandated with governing of financial regulations, administration of financial markets and exchange control occasioned the initial monitoring rejoinder in the framework of cryptocurrencies with effect that it did not prohibit cryptocurrencies but nevertheless cautioned consumers, owners and agents of 'virtual currency', of the prospective threats linked to crypto currencies.

5.2.4 Significance of findings on the theory

The study postulated that, being the national currency's sole supplier, the government has authority of issuing currency of diverse denominations and form (whether physical or not). For instance, the Central Bank of Kenya Act defines currency of Kenya as constituting bank notes and coins issued by the Bank under section 22(1) and any right to receive such bank notes or coins in respect of any credit or balance at a bank or financial institution located within or outside Kenya.[281] The CBK

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[281] THE CENTRAL BANK OF KENYA ACT

Act designates the CBK as the bank with the sole right to issue coins and notes in Kenya. The Act dictates that only those notes and coins shall be legal tender in Kenya.[282] Further, the material, denominations, forms, inscriptions and other characteristics of coins and notes issued by the CBK shall only be determined by the Bank.[283]

On effectiveness and reliability of crypto currencies, the study found that a notable 72.5% thought cryptocurrency is not regulated by any form of laws making it difficult to gauge its efficiency and reliability as its value is with occasions and not an international adopted standard. On the basis of this finding and the above provisions, it is evident that for a currency to be a legal tender, that currency must have been issued by the CBK.

Crypto currencies do not therefore constitute legal tenders as they are neither issued nor regulated by the CBK.

5.3 Conclusions

In consideration of the literature and the scope of the project, the thesis found that the crypto – currencies are operated in stealth and on an internet platform. On the basis of that finding, the study concludes that crypto – currencies are not subject to the regulation of CBK as they therefore fall short of the legal dictates of central banking which require licensing and regulation of bodies offering financial services.

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[282] Ibid, section 22 (1)
[283] Ibid, section 22 (2)

However, on the basis of the state of adoption and usage of cryptocurrencies in France, India and China, it is evident that there is a positive and steady trend depicting a good progress in the adoption, use and regulation of cryptocurrencies. The field study conducted found that a notable 72.5% of the respondents thought that cryptocurrency is not regulated by any forms of international laws making it difficult to gauge its efficiency and reliability as its value is with occasions and not an international adopted standard.

In relation to the above findings, this study makes the final verdict that although there is willingness to adopt, support and regulate cryptocurrencies, there is caution from most stakeholders regarding the propriety of the form, usage and regulation of the cryptocurrencies.

5.4 Recommendations from the study

On the basis of the above conclusions, this study makes the following recommendations

i. As crypto – currencies are operated in stealth and on an internet platform, there is need to enhance the credibility, transparency and predictability of the blockchain technology which is the e – platform which cryptocurrencies operate. That will provide clarity and aid a better operating environment for cryptocurrencies so as to instill confidence and predictability in them.

ii. On the basis of the findings that cryptocurrencies fall short of the legal dictates of central banking which require licensing and regulation of bodies offering financial services, governments willing to adopt cryptocurrencies ought to legislate with intent to streamlining the cryptocurrencies with the existing currencies so as to give the cryptocurrencies the requisite legitimacy. In Kenya, such streamlining should entail amendments to -

a. CBK Act

The objects of CBK under section 4A of the CBK Act should be amended so as to mandate the CBK with the duty of licensing and supervising authorized dealers in cryptocurrencies.

b. Banking Act

Section 2 of the Act ought to be modified to take account of trade on crypto – currencies as part of financial business. This will allow the acceptance of offers and trade on crypto- currencies.

Section 2 of the Act also ought to be modified to comprise of trade on crypto – currencies as part of banking business. This amendment will legitimize trade on crypto – currencies as part of banking business.

Section 22 of the Act should be revised to take account of institutions trading on cryptocurrencies as part of the institutions required to exhibit in each administrative center and branch in Kenya throughout the year a reproduction of its preceding appraised financial accounts which will be in uniform with the minimum financial revelation necessities recommended over a certain duration by the Central Bank in addition with the complete and accurate designations of every individual who have official majors within the identified organization in Kenya.

c. Capital Markets Act, Cap 485A

Section 30A(1) on valid offers for securities should be amended to include invitations to persons to acquire or underwrite any securities including crypto- currencies. This amendment will not only legitimize trade on crypto – currencies but also help in financing cryptocurrencies.

5.5 Limitation of the Findings

The findings are limited to the extent that the usage and operation of cryptocurrencies is a technical aspect which a critical analysis on requires the expertise in information technology. As such, the findings have been limited to conclusions drawn from end user experiences, the state of legislations and philosophical understandings on the subject of study.

REFERENCES

a. BOOKS

1. Alla Semenova *The Origins Of Money: Evaluating Chartalist And Metallist Theories In The Context Of Ancient Greece And Mesopotamia, (*Faculty of the University of Missouri-Kansas City, 2007)
2. Blanchard *Rethinking Macro Policy,* 2015

3. Blundell-Wignall, A. *The Bitcoin Question: Currency versus Trust-less Transfer Technology*, (OECD Publishing, 2014) <https://www.oecd.org/daf/fin/financial-markets/The-Bitcoin-Question-2014.pdf > accessed 21 May, 2018
4. Boring, Nicolas. *Regulation of Cryptocurrency*,2018, < https://www.loc.gov/law/help/cryptocurrency/france.php#III > accessed 5 April 2019
5. Boring, Nicolas. *Regulation of Cryptocurrency*,2018, < https://www.loc.gov/law/help/cryptocurrency/france.php#III > accessed 5 April 2019
6. Caprio (ed.) *Handbook of Safeguarding Global Financial Stability: Political, Social, Cultural, and Economic Theories and Models*, Oxford: Elsevier Inc.
7. David Archer *Roles and objectives of modern central banks* < https://www.bis.org/publ/othp04_2.pdf > accessed 21 May, 2018
8. Don Tapscott, Alex Tapscott Blockchain *Revolution: How the Technology Behind Bitcoin Is Changing Money, Business, and the World* (Portfolio, 2016)
9. Dror *Goldberg Legal Tender* ,2009 < https://www.biu.ac.il/soc/ec/wp/2009-04.pdf > accessed 21 May, 2018
10. Ellen Vanassche *The Impact of International Financial Integration on Industry Growth*, 2004 < https://www.cass.city.ac.uk/__data/assets/pdf_file/0010/78706/Vanassche.pdf > accessed 6th December, 2018
11. Éric Tymoigne, L. Randall Wray *Modern Money Theory 101: A Reply to Critics* 2013 < http://www.levyinstitute.org/pubs/wp_778.pdf > accessed 25 May, 2018
12. Éric Tymoigne, L. Randall Wray *Modern Money Theory 101: A Reply to Critics*, 2013 < http://www.levyinstitute.org/pubs/wp_778.pdf > accessed 25 May, 2018
13. European Central Bank *Virtual Currency Schemes* (2012)< https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf > accessed 21 May, 2018
14. Forrest Capie, Charles Goodhart and Norbert Schnadt *The Development Of Central Banking* (Cambridge, UK:Cambridge University Press, 2012) <

http://eprints.lse.ac.uk/39606/1/The_development_of_central_banking_%28LSERO%29.pdf > accessed 21 May, 2018

15. Giovanni Perani 'Blockchain: is self-regulation sufficient?' < https://medium.com/coinmonks/blockchain-is-self-regulation-sufficient-5bb68ac7e33f > Accessed 23 Apr. 2019.
16. Hyun E. Kim, Byung-Yoon Lee *The Effects of Foreign Bank Entry on the Performance of Private Domestic Banks in Korea,* 2004 < https://www.bis.org/publ/cgfs22korea.pdf > accessed 6th December, 2018
17. IMF *The Liberalization and Management of Capital Flows: An Institutional View*, 2012 <http://www.imf.org/external/np/pp/eng/2012/111412.pdf > accessed 25 May, 2018
18. James A Dorn (ed), *Monetary Alternatives: Rethinking Government Fiat Money* (Cato Institute 2017).
19. Jesús Huerta de Soto *Money, Bank Credit, and Economic Cycles* (Ludwig von Mises Institute, 2006
20. Jos´e De Gregorio Financial Integration, Financial Development and Economic Growth, 1998 < http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.389.5490&rep=rep1&type=pdf > accessed 5th December, 2018
21. Kengere Angwenyi Herman *Contagion And Spillover Effect From United States Of America Stock Markets To East African Securities Market*, 2016 < https://irlibrary.ku.ac.ke/bitstream/handle/123456789/18136/Contagion%20and%20spillover%20effect%20from%20United%20States%20of%20America%20stock%20markets%20to%20east%20African%20securities%20markets.pdf?sequence=1&isAllowed=y > accessed 6th December, 2018
22. Keynes, John Maynard *A Treatise On Money Vol.1* (Digital Library of India, 1914)
23. L. Randall Wray *From the State Theory of Money to Modern Money Theory: An Alternative to Economic Orthodoxy*, 2014 < http://www.levyinstitute.org/pubs/wp_792.pdf > accessed 25 May, 2018

24. Ludwig van den Hauwe *Review of Huerta de Soto´s ‘Money, Bank Credit, and Economic Cycles´* 2006 <https://mpra.ub.uni-muenchen.de/49/1/MPRA_paper_49.pdf > accessed 25 May, 2018
25. Michael D. Bordo *A Brief History of Central Banks*, 2007 < http://www.russoeconomics.altervista.org/Bordo2007.pdf > accessed 20 May, 2018
26. Otmar Issing The globalisation of financial markets, 200 < https://www.ecb.europa.eu/press/key/date/2000/html/sp000912_2.en.html > accessed 5th December, 2018
27. Otmar Issing, *The globalisation of financial markets*, 2000 < https://www.ecb.europa.eu/press/key/date/2000/html/sp000912_2.en.html > accessed 6th December, 2018
28. Paul J.J. Welfens, Evgeny Gavrilenkov *Restructuring, Stabilizing and Modernizing the New Russia: Economic and Institutional Issues*, 2012 p26
29. Philip R. Lane *International Financial Integration*, 2003 < https://core.ac.uk/download/pdf/7045653.pdf > accessed 5th December, 2018
30. Pierre-Richard Agénor Benefits and Costs of International Financial Integration: Theory and Facts, 2003 < https://personalpages.manchester.ac.uk/staff/pierre-richard.agenor/pdfs/Agenor-BenefCosts02a.pdf > accessed 5th December, 2018
31. Pierre-Richard Agénor Benefits and Costs of International Financial Integration: Theory and Facts, 2003 < https://personalpages.manchester.ac.uk/staff/pierre-richard.agenor/pdfs/Agenor-BenefCosts02a.pdf > accessed 5th December, 2018
32. Pierre-Richard Agénor Benefits and Costs of International Financial Integration: Theory and Facts, 2003 < https://personalpages.manchester.ac.uk/staff/pierre-richard.agenor/pdfs/Agenor-BenefCosts02a.pdf > accessed 5th December, 2018
33. Samantha Douma *Bitcoin: The Pros And Cons Of Regulation* (2016) < https://openaccess.leidenuniv.nl/bitstream/handle/1887/42104/Bitcoin%2C%20The%20Pros%20and%20Cons%20of%20Regulation.pdf?sequence=1 > accessed 21 May, 2018

34. Satoshi Nakamoto, Bitcoin: A Peer-to-Peer Electronic Cash System (2009) <https://bitcoin.org/bitcoin.pdf> accessed 21 May, 2018
35. Sergio Rossi *Monetary Circuit Theory and Money Emissions* [2009]
36. Sergio Schmukler *Benefits and Risks of Financial Globalization: Challenges for Developing Countries,* 2004 <http://siteresources.worldbank.org/DEC/Resources/BenefitsandRisksofFinancialGlobalizationSchmukler.pdf > accessed 21 May, 2018
37. Sreeramana Aithal P and Suresh Kumar *Concept of Ideal Banking and Realization of it using Ubiquitous Banking,* 2016 < https://mpra.ub.uni-muenchen.de/72338/1/MPRA_paper_72338.pdf > accessed 25 May, 2018
38. Sreeramana Aithal P and Suresh Kumar *Concept of Ideal Banking and Realization of it using Ubiquitous Banking,* 2016 < https://mpra.ub.uni-muenchen.de/72338/1/MPRA_paper_72338.pdf > accessed 25 May, 2018
39. T. Beck, S. Claessens, S.L. Schmukler *Financial Globalization and Crises: Overview* < http://siteresources.worldbank.org/DEC/Resources/FinancialGlobalizationandCrisisOverview.pdf > accessed 21 May, 2018
40. Tejal Shah , Shailak Jani *Applications of Blockchain Technology in Banking & Finance* < https://www.researchgate.net/publication/327230927 > accessed 23rd April, 2019
41. World Bank *PRIVATE CAPITAL FLOWS TO DEVELOPING COUNTRIES - THE ROAD TO FINANCIAL INTEGRATION,* 1997 <http://documents.worldbank.org/curated/en/569111468327550863/pdf/multi-page.pdf > accessed 5th December, 2018
42. World Bank, *Financial Integration among Developing Countries,* 1997 < http://siteresources.worldbank.org/INTGDF2006/Resources/GDF06_ch04.pdf > accessed 6th December, 2018
43. World Bank, *Financial Integration among Developing Countries,* 1997 < http://siteresources.worldbank.org/INTGDF2006/Resources/GDF06_ch04.pdf > accessed 6th December, 2018

44. YNGVI ÖRN KRISTINSSON *Implementation of monetary policy and Central Bank Instruments* < https://www.bis.org/publ/othp04_2.pdf > accessed 20 May, 2018

b. JOURNALS

1. Andrei Shleifer ‘Understanding Regulation’(2005) 11 (4) European Financial Management 439–451
2. BRIAN ANDREW ‘MARKET FAILURE, GOVERNMENT FAILURE AND EXTERNALITIES IN CLIMATE CHANGE MITIGATION: THE CASE FOR A CARBON TAX’ (2008) 28, PUBLIC ADMINISTRATION AND DEVELOPMENT 393–401
3. Caprio, Gerard, and Patrick Honohan "Restoring Banking Stability: Beyond Supervised Capital Requirements." (1999) 13 (4) Journal of Economic Perspectives 43-64 <https://www.aeaweb.org/articles?id=10.1257/jep.13.4.43 > accessed 5th December, 2018
4. Christian Rueckert* “Cryptocurrencies and fundamental rights” (2019) Journal of Cybersecurity, , 1–12
5. Dassiou, X., Langham, P., Nancarrow, C. *et al.* “Public service markets: their economics, institutional oversight and regulation.” 15035 (2015) Palgrave Commun **1,** <doi:10.1057/palcomms.2015.35> accessed 17 Nov, 2019
6. David LEE Kuo Chuen, Li Guo and Yu Wang (2018) 20 (3) The Journal of Alternative Investments Winter 16-40;
7. Eduardo Levy Yeyati ‘International financial integration through the law of one price: The role of liquidity and capital controls’ J. Finan. Intermediation (2009) 18 432–463 <http://siteresources.worldbank.org/DEC/Resources/InternationalFinanceIntegrationthroughtheLawofOnePrice.pdf > accessed 6th December, 2018
8. Eri Nakamura “Regulation, public interest, and private interest: an empirical investigation of firms in Japan” (2019) 56 Empirical Economics
9. Ernst W. Händler ‘The Evolution of Economic Theories. A Formal Approach’ Springer < http://www.jstor.org/stable/pdf/20010795.pdf > accessed 25 May, 2018
10. Ernst W. Händler ‘The Evolution of Economic Theories. A Formal Approach’ (1982) 18 (1) Erkenntnis (1975)

11. Hanna Almlöf, Per-Olof Bjuggren "A regulation and transaction cost perspective on the design of corporate law" (2019) 47 European Journal of Law and Economics 407–433
12. Hyoung-kyu Chey 'Theories of International Currencies and the Future of the World Monetary Order' (2012) 14[1) International Studies Review
13. Kenneth Rogoff ' International Institutions for Reducing Global Financial Instability' Journal of Economic Perspective (1999(13 (4) < http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.5237&rep=rep1&type=pdf > accessed 6th December, 2018
14. M. B. Adams* and G. D. Tower "Theories of Regulation: Some Reflections on the Statutory Supervision of Insurance Companies in Anglo-American Countries" (1994) 19 The Geneva Papers on Risk and Insurance 156-177
15. Mitchell A Innes & L. Randall Wray "Credit and state theories of money: The contributions of A. Mitchell Innes" (2004) Edward Elgar
16. Mitchell-Innes, Alfred "The Credit Theory of Money" [1914]The Banking Law Journal. **31**
17. Mitchell-Innes, Alfred "The Credit Theory of Money" [1914]The Banking Law Journal. **31**
18. Nobuhiro Kiyotaki and Randall Wright 'On Money as a Medium of Exchange' [1998] 97(4) Chicago Journals < https://pdfs.semanticscholar.org/3141/917d75047de6396224721356a3cbb167188c.pdf > accessed 21 May, 2018
19. Phanor J.Eder 'Legal Theories of Money' [1934] Cornell Law Review < https://scholarship.law.cornell.edu/cgi/viewcontent.cgi?article=1360&context=clr > Accessed 18 May, 2018
20. Porter, Tony, and Karsten Ronit. "Self-Regulation as Policy Process: The Multiple and Criss-Crossing Stages of Private Rule-Making." (2006) 39 (1) Policy Sciences, 41–72.
21. Reade Ryan* and Mayme Donohue 'Securities on Blockchain' [2017-2018] 73 The Business Lawyer <https://www.hunton.com/images/content/3/5/v2/35271/ABA_The_Business_Lawyer_Securities_on_Blockchain.PDF.pdf > Accessed 19 May, 2018

22. Sarwat Jahan and Brad McDonald ‘A Bigger Slice of a Growing Pie’ Finance & Development 48(3) < https://www.imf.org/external/pubs/ft/fandd/2011/09/jahan.htm > accessed 7th December, 2018
23. SERGIO L. SCHMUKLER ‘Financial Globalization: Gain and Pain for Developing Countries’ (2005) Federal Reserve Bank of Atlanta ECONOMIC REVIEW < http://siteresources.worldbank.org/DEC/Resources/FinancialGlobalizationFederalReserve.pdf > accessed 5th December, 2018
24. Sheila Dow ‘Central banking in the twenty-first century Cambridge’[2017] 41(6,7) Journal of Economics, <https://doi.org/10.1093/cje/bex051 > accessed 21 May, 2018
25. Sonila Beliu ‘International Financial Integration’ (2005) 8 Western Michigan University < https://scholarworks.wmich.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=2019&context=dissertations > accessed 5th December, 2018

c. **WEBSITES**

1. ‘Digital Currencies: International Actions and Regulations ‘ <https://www.perkinscoie.com/en/news-insights/digital-currencies-international-actions-and-regulations.html > accessed 24 April, 2019
2. ‘Overview of the Indian Cryptocurrency Market’ (Mission.org) < https://medium.com/the-mission/overview-of-the-indian-cryptocurrency-market-7e6e9e4f948a > accessed 24 April, 2019
3. “France to Create Legal Framework for Cryptocurrency Offerings.” (*Reuters*, 22 Mar. 2018) , https://www.reuters.com/article/us-france-cryptocurrencies-idUSKBN1GY0YE accessed 5 April 2019
4. Alex Hern ‘Bitcoin and cryptocurrencies – what digital money really means for our future’ (The Guardian, 29 Jan 2018) <

https://www.theguardian.com/technology/2018/jan/29/cryptocurrencies-bitcoin-blockchain-what-they-really-mean-for-our-future > accessed 21 May, 2018

5. Alexander W. Salter 'Money as a Social Institution' (AIER, 2018) < https://www.aier.org/article/sound-money-project/money-social-institution> accessed 21 May, 2018
6. Andrew Beattie 'The History Of Money: From Barter To Banknotes' (Investopedia, December 29, 2015) < https://www.investopedia.com/articles/07/roots_of_money.asp > accessed 21 May, 2018
7. Andrew Tar 'Digital Currencies vs. Cryptocurrencies, Explained' (Cointelegraph Dec 13, 2017) < https://cointelegraph.com/explained/digital-currencies-vs-cryptocurrencies-explained > accessed 21 May, 2018
8. Andrew Tar 'Digital Currencies vs. Cryptocurrencies, Explained' (*Cointelegraph Dec 13, 2017*) < https://cointelegraph.com/explained/digital-currencies-vs-cryptocurrencies-explained > accessed 21 May, 2018
9. Antoine Clarke 'A response to Huber' (*Economics, Money 29 April 14*)< https://www.cobdencentre.org/2014/04/a-response-to-huber/ > accessed 25 May, 2018
10. Antoine Clarke 'A response to Huber' (*Economics, Money 29 April 14*)< https://www.cobdencentre.org/2014/04/a-response-to-huber/ > accessed 25 May, 2018
11. Bill Buchanan OBE 'The Bank of England is planning a bitcoin-style virtual currency – but could it really replace cash?' (*The Conversation, January 3, 2018*) < http://theconversation.com/the-bank-of-england-is-planning-a-bitcoin-style-virtual-currency-but-could-it-really-replace-cash-89585 > Accessed 19 May, 2018
12. BRIAN NGUGI 'Citibank warns over risk of Kenya bitcoins' (Business Daily, January 14, 2018) < https://www.businessdailyafrica.com/news/Citi-warns-over-risk-of-Kenya-bitcoins/539546-4263658-format-xhtml-rxcrr3z/index.html > accessed 21 May, 2018
13. Cavin Odhiambo 'Bitcoin: A pump and dump scheme?' (Business Today, January 13, 2018) < https://businesstoday.co.ke/bitcoin-pump-dump-scheme/ > accessed 21 May, 2018

14. CHARLES MWANIKI 'Kenyans gamble millions in high risk Bitcoin trading craze' (*Business Daily, November 17, 2017)* < https://www.businessdailyafrica.com/markets/currencies/Kenyans-gamble-millions-high-risk-Bitcoin-trading-craze-/3815522-4190658-nya4a5/index.html > accessed 21 May, 2018
15. Christine Lagarde 'Central Banking and Fintech—A Brave New World?' (*IMF, 29 September 2017*) < https://www.imf.org/en/News/Articles/2017/09/28/sp092917-central-banking-and-fintech-a-brave-new-world> Accessed 18 May, 2018
16. Crypto Regulation News: China is considering the elimination of crypto mining, IMF is concerned about cryptocurrency after a twitter poll, Goldman Sachs rejects development of crypto trading desk, Bakkt's launch is delayed due to custody uncertainty < https://medium.com/paradigm-fund/crypto-regulation-news-china-is-considering-the-elimination-of-crypto-mining-imf-is-concerned-f423369e2f89 > accessed 24 April, 2019
17. Cryptocurrencies to Invest In 2018 (Jan 16, 2018) <https://cryptosrus.com/cryptocurrencies-to-invest-in/ > Accessed 18 May, 2018
18. Darius McQuaid 'Bitcoin crackdown: France plots to regulate crypto currency' (Express, Jan 15, 2018) < https://www.express.co.uk/finance/city/905169/bitcoin-France-China-South-Korea-ban-illegal-activities-Bruno-Le-Maire > accessed 21 May, 2018
19. Das, Samburaj. "Blockchain Tapped by French Bank BNP for Mini-Bonds." *CCN*, 19 Sept. 2016, <https://www.ccn.com/blockchain-tapped-french-bank-bnp-mini-bonds > accessed 5 April 2019
20. Das, Samburaj. "India Is Considering a Ban on the 'Use' of Cryptocurrencies." *CCN*, 31 Oct. 2018, < https://www.ccn.com/breaking-india-is-considering-a-ban-on-the-use-of-cryptocurrencies. > accessed 23rd April, 2019
21. Denis Pombriant 'Cryptocurrency and central banking' (*Enterprise Irregulars, January 4, 2018*) < https://www.enterpriseirregulars.com/121751/cryptocurrency-central-banking/ > accessed 21 May, 2018

22. Direction générale des Finances publiques, BNC – BIC – ENR – PAT – Régime fiscal applicable aux bitcoins [BNC – BIC – ENR – PAT – Tax Treatment Applicable to Bitcoins], *supra*
23. Dominic Omondi 'Central Bank has already warned Kenyans against using Bitcoin' (*Standard Digital, October 11th 2017*)< https://www.standardmedia.co.ke/business/article/2001257027/bitcoin-hot-new-investment-opportunity-or-a-sham > accessed 21 May, 2018
24. Dylan Matthews 'Modern Monetary Theory is an unconventional take on economic strategy' (Washington post, February 18, 2012) < https://www.washingtonpost.com/business/modern-monetary-theory-is-an-unconventional-take-on-economic-strategy/2012/02/15/gIQAR8uPMR_story.html?noredirect=on&utm_term=.34b52ecc4349 > accessed 25 May, 2018
25. Emmanuel Amberber 'Kenya's BitPesa – The next bitcoin revolution for remittance?' (Your story, 16th July 2014) < https://yourstory.com/2014/07/kenya-bitpesa/ > accessed 21 May, 2018
26. *Functions of a Central Bank* < https://www.albany.edu/~bd445/Economics_350_Money_and_Banking_Slides_Spring_2013/History_of_Central_Banking.pdf > accessed 20 May, 2018
27. Global Legal Insights 'Blockchain and Cryptocurrency Regulation 2019 – France ' < https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/france > accessed 5 April 2019
28. Higgins, Stan. "French Regulator Launches 'UNICORN' ICO Support Project." *CoinDesk*, 26 Oct. 2017, <https://www.coindesk.com/french-regulator-launches-unicorn-ico-support-project > accessed 5 April 2019
29. Institute for Development and Research in Banking Technology (Established by Reserve Bank of India)

30. Joseph Huber ‘ Modern Money Theory (MMT) and New Currency Theory (NCT)’ (*Sovereign money, undated*) < https://www.sovereignmoney.eu/0-introduction-mmt-and-nct/ > accessed 25 May, 2018
31. Kevin Helms ‘Indian Trade Association Calls for Fast Crypto Regulation to Drive Growth’ < https://news.bitcoin.com/indian-trade-association-nasscom-crypto-regulation/ > accessed 24 April, 2019
32. L. Randall Wray ‘Modern Money Theory: A Primer on Macroeconomics for Sovereign Monetary Systems’ (*New Economics Perspectives*, 2011) < http://neweconomicperspectives.org/2011/06/modern-money-theory-primer-on.html > accessed 25 May, 2019
33. Lance Gaitan ‘Can We Live Without a Central Bank?’ (*Economy and Markets, October 27, 2017*) < https://economyandmarkets.com/economy/central-banks/can-live-without-central-bank-federal-reserve/ > accessed 21 May, 2019
34. Library of Congress ‘Regulation of Cryptocurrency: China’ < https://www.loc.gov/law/help/cryptocurrency/china.php > accessed 24 April, 2019
35. Marie Huillet ‘China’s Central Bank Extends Its Regulatory Scrutiny to Crypto ‘Airdrops ‘ < https://cointelegraph.com/news/chinas-central-bank-extends-its-regulatory-scrutiny-to-crypto-airdrops > accessed 24 April, 2019
36. Matt Clinch ‘Bitcoin recognized by Germany as 'private money' (*CNBC, Wed, 21 Aug 2013*) < https://www.cnbc.com/id/100971898 > accessed 21 May, 2019
37. Michael Cripps and Xiaolin Lin ‘China: CBIRC Issues Consultation Draft On Regulations On Insurance Company Related Party Transactions’ < http://www.mondaq.com/china/x/701044/Insurance/CBIRC+Issues+Consultation+Draft+On+Regulations+On+Insurance+Company+Related+Party+Transactions > accessed 24 April, 2019
38. Ordonnance n° 2016-520 du 28 avril 2016 relative aux bons de caisse [Ordinance No. 2016-520 of 28 April 2016 Regarding Zero Coupon Bonds] art. 2,

https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT00 0032465520&categorieLien=id, *archived at* https://perma.cc/K3UP-AJ9D.

39. Ordonnance n° 2017-1674 du 8 décembre 2017 relative à l'utilisation d'un dispositif d'enregistrement électronique partagé pour la représentation et la transmission de titres financiers [Ordinance No. 2017-1674 of 8 December 2017 Regarding the Use of a Shared Electronic Registration Method for the Representation and Conveyance of Financial Instruments], https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000036171908&catego rie Lien=id, *archived at* https://perma.cc/ESA7-89E6.
40. Orlando Trott 'Blockchain, Bitcoin, and Fatprotocols: Exploring The Innovation Behind a Shared, Immutable Ledger in 2018' (*Data Dump, May 26, 2017*) < https://medium.com/data-dump/what-is-blockchain-technology-1b576cfc85a7 > accessed 21 May, 2019
41. Paiman Ramazan Ahmad 'Role of Central Banks in the Economy' (Polgari Szemle, August, 2016) < https://polgariszemle.hu/archivum/105-2016-augusztus-12-evfolyam-1-3-szam/toertenelem-nemzetkoezi-kitekintes/762-role-of-central-banks-in-the-economy > accessed 21 May, 2019
42. Pratik Bhakta , 'NPCI plans international remittance on UPI platform' < //economictimes.indiatimes.com/articleshow/63540688.cms?from=mdr&utm_source=conten tofinterest&utm_medium=text&utm_campaign=cppst > accessed 23rd April, 2019
43. Press Trust of India, 'Bitcoin not a legal tender, not a recognised medium of exchange, says Jaitley' (*New Delhi, May 22, 2018*) < https://www.hindustantimes.com/business-news/bitcoin-not-a-legal-tender-not-a-recognised-medium-of-exchange-says-jaitley/story-JGDvsgUrgB90qN1Y2QXH1N.html > accessed 21 May, 2019
44. Ryan Browne and Arjun Kharpal 'Cryptocurrency market will hit $1 trillion valuation this year, CEO of top exchange says' (CNBC, 13 Feb 2018) < https://www.cnbc.com/2018/02/13/cryptocurrency-market-to-hit-1-trillion-valuation-in-2018-kraken-ceo.html > accessed 22 May, 2019

45. SERGIO SCHMUKLER 'Financial Globalization: Gain and Pain for Developing Countries' [2004] Federal Reserve Bank of Atlanta ECONOMIC REVIEW< http://siteresources.worldbank.org/DEC/Resources/SCHMUKLER-EconomicReview.pdf > accessed 21 May, 2019
46. Staff, Global Legal Research Directorate. *Regulation of Cryptocurrency Around the World*. June 2018, <https://www.loc.gov/law/help/cryptocurrency/world-survey.php> accessed 5 April 2019
47. Tejal Shah , Shailak Jani *Applications of Blockchain Technology in Banking & Finance* < https://www.researchgate.net/publication/327230927 > accessed 23rd April, 2019
48. The AMF publishes a discussion paper on Initial Coin Offerings and initiates its UNICORN programme< https://www.iosco.org/library/ico-statements/France%20-%20AMF%20-%20Discussion%20paper%20on%20Initial%20Coin%20Offerings%20and%20UNICORN%20programme.pdf
49. The Law Library of Congress, Global Legal Research Center *Regulation of Cryptocurrency Around the World*, 2018 < https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf > accessed 5 April 2019
50. Timothy B. Lee 'Bitcoin explained - What incentive do people have to help process Bitcoin transactions?' (Vox, Nov 3, 2015) < https://www.vox.com/cards/bitcoin/what-incentive-do-people-have-to-help-process-bitcoin-transactions > accessed 20 May, 2019
51. White Paper on 'Applications of Block Chain Technology to the Banking and Financial Sector in India < http://www.idrbt.ac.in/assets/publications/Best%20Practices/BCT.pdf > accessed 23rd April, 2019
52. ymen Ben Rejeb and Adel Boughrara 'Financial integration in emerging market economies: Effects on volatility transmission and contagion' [2015] 15(3) Borsa Istanbul Review < https://www.sciencedirect.com/science/article/pii/S2214845015000174> accessed 22 May, 2019

53. Yoav Vilner '4 reasons cryptocurrency still hasn't gone mainstream' (*CNBC, 3 May 2018*) < https://www.cnbc.com/2018/05/03/yoav-vilner-4-reasons-cryptocurrency-still-isnt-mainstream.html > accessed 21 May, 2019
54. Zoë Bernard 'Everything you need to know about Bitcoin, its mysterious origins, and the many alleged identities of its creator' (*Business Insider, Dec. 2, 2017*) <http://www.businessinsider.com/bitcoin-history-cryptocurrency-satoshi-nakamoto-2017-12?IR=T> accessed 21 May, 2019

d. STATUTES

1. Central Bank of Kenya Act, Cap 491 section 4(1)
2. Constitution of Kenya, 2010 article 231(1)
3. The National Payment System Act No. 39 of 2011
4. The National Payment System Regulations, 2014
5. Kenya Information and Communications Act, 2013 (KICA)
6. Banking Act CAP. 488
7. Law of the People's Republic of China on the People's Bank of China (amended in 2003)
8. Securities Law of the People's Republic of China (amended in 2014)

APPENDIX 1: INTRODUCTION LETTER TO QUESTIONNAIRE RESPONDENTS.

To Whom It May Concern;

I am a student of Law in the University of Nairobi. I am conducting a study on the Feasibility of Crypto Currency (Bitcoins) as a valid legal tender In Kenya's Financial Market and whether crypto currencies may offer stability of a 'Free Banking' System without a Central Bank. This research project is self-funded. The objective of this study is to determine whether cryptocurrencies as a form of currency are able to guarantee stability of the financial market in Kenya. Through your participation, I hope to discover the pros and cons of cryptocurrencies as a currency.

Enclosed with this letter is a brief questionnaire that asks a variety of questions about your attitudes towards cryptocurrencies as a currency. I am asking you to look over the questionnaire and, if you choose to do so, complete the questionnaire and send it back to me in the enclosed postage envelope. If you choose to participate, do not write your name on the questionnaire. I do not need to know who you are and no one will know whether you participated in this study. Your responses will not be identified with you personally, nor will anyone be able to determine in which capacity you work as.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me at 0724561411 or at lwambani@yahoo.com If you have any questions about your rights as a research subject, you may contact the University of Nairobi, School of Law.

Yours Sincerely,

LINDA WAMBANI

APPENDIX 2: QUESTIONNAIRE

<u>GENERAL QUESTION</u>

1. **Are you aware of cryptocurrencies?**

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2. **Which cryptocurrencies are you aware of?**

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3. **Do you use any forms of cryptocurrencies ?**

4. **Which of the following do you use specifically and how often?**

a) Bitcoin

b) Bitcoin cash

c) Litecoin

d) Dogecoin

e) Ethereum

f) BAT

g) NEO

h) Ripple XRP

5. How efficient are cryptocurrencies?

…………………………………………………………………………………………………

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6. How reliable cryptocurrencies?

……………………………………………………………………………………………………

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7. In your opinion, are cryptocurrencies a regulated form of currency?

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8. As a form of free virtual banking system without a Central Bank, do you think cryptocurrencies are likely to fall short of the monetary and fiscal stability objective of central banking?

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9. Do you think cryptocurrencies are able to address the essential functions of monetary and fiscal policy formulation.

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APPENDIX 1:

<u>INTRODUCTION LETTER TO QUESTIONNAIRE RESPONDENTS.</u>

To Whom It May Concern;

I am a student undertaking a Master of Laws (LL.M) degree in the University of Nairobi and currently conducting a study on the Feasibility of Crypto Currency (Bitcoins) as a valid legal tender in Kenya's Financial Market, and whether crypto currencies may offer the stability of a 'Free Banking' System without a Central Bank.. The objective of this study is to determine whether cryptocurrencies as a form of currency are able to guarantee stability of the financial market in Kenya. Through your participation, I hope to discover the advantages and disadvantages of cryptocurrencies as a currency. For the avoidance of doubt this research project is entirely self-funded and not being sponsored by any entity or institution.

Enclosed with this letter is a brief questionnaire that contains a variety of questions about relating to your views on cryptocurrencies as a currency. I would be grateful if you could spare sometime out of your busy schedule to read through the questionnaire, complete it and send it back to me on my email as follows lwambani@yahoo.com . Kindly ensure not to write your name on the questionnaire as the identity of all participants in this study will be kept anonymous.

If you have any questions or concerns about completing the questionnaire or about participating in this study, please contact me on telephone number 0724561411 or via email at lwambani@yahoo.com If you have any questions about your rights as a research subject, you may contact the University of Nairobi, School of Law. Attached herewith is a letter from the Dean School of Law confirming my status as a post-graduate student conducting a research as part of the LL.M. degree under the University of Nairobi.

Yours Sincerely,

LINDA WAMBANI

Research Student

APPENDIX 2:

QUESTIONNAIRE

GENERAL QUESTION

1. **Have you head of the term block chain? If yes please explain in simple terms your understanding.**

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2. **Have you head of the term cryptocurrencies? If yes which cryptocurrencies are you aware of ?**

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3. **Have you used any forms of cryptocurrencies?**

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4. **Which of the following do you use specifically and how often?**

i) Bitcoin

j) Bitcoin cash

k) Litecoin

l) Dogecoin

m) Ethereum

n) BAT

o) NEO

p) Ripple XRP

5. How efficient are cryptocurrencies?

……………………………………………………………………………………………

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6. How reliable are cryptocurrencies?

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7. In your opinion, are cryptocurrencies a regulated form of currency?

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8. As a form of free virtual banking system without a Central Bank, do you think cryptocurrencies are likely to fall short of the monetary and fiscal stability objective of central banking?

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9. Do you think Kenya is ready for cryptocurrencies as an alternative form of currency?

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APPENDIX 3:

BUDGET.

ITEM	**COST**	**TOTAL COST**
Printing	3 copies	5,000
Binding	3 Hardbound copies	15,000
TOTAL		12, 000