

# Regulating user interactions within the financial technology market: Cryptocurrencies in Nigeria

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## List of Abbreviations

CBN	-	Central Bank of Nigeria
CC	-	Cryptocurrencies
CIBN	-	Chartered Institute of Bankers in Nigeria
SEC	-	Securities Exchange Commission
IOSCO	-	International Organization of Securities Commissions
NIPC	-	Nigeria Investment Promotion Commission

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## Glossary of Terms

**Altcoins:** cryptocurrency developed after bitcoin

**Asset:** a thing of value/property capable of being owned and traded

**Bitcoin/BTC:** the first cryptocurrency to be issued. Also used to refer to the underlying technology. i.e. the blockchain system within which bitcoin-related transactions operate and are recorded

**Divisibility:** the ease of dividing currencies into smaller units of value to facilitate the transfer of minuscule transaction costs

**Credit:** a type of money spent ahead of earning the purchasing power

**Cryptocurrency:** any form of virtual currency issued on the blockchain including unstable and stablecoins

**Cryptoasset** – the broader category of tokens underpinned by cryptography and issued on the blockchain including security tokens, utility tokens, commodity tokens and payment tokens/cryptocurrencies

**Cryptocurrency market:** any market where cryptocurrencies are traded or used either as securities, commodities and currencies

**FinTech:** the branch of technology that deals with the facilitation of transaction payments

**Ledger:** a record of monetary transactions reflecting credit and debit actions

**Mining pool:** a profit-oriented combination of miners' resources for the purpose of mining cryptocurrency units. Arrangements could be temporary or continuous

**Portability:** the ease of moving money around due to their representation and weight

**Regulatory Sandbox:** a scheme for testing regulation of technology within a controlled environment before introducing such products to the market.

## Abstract

Nigeria is recognised as one of the leading adopters of cryptocurrencies globally. Cryptocurrencies facilitate complicated user interactions thereby raising several issues for regulation in a developing economy like Nigeria. The imbalance in promoting the interests of users, market actors, and the state, who are actively involved in cryptocurrency user interactions (CUI) exacerbates the problem. This thesis investigates good regulation for CUI in Nigeria. Good regulation refers to the minimum requirements that every regulatory regime must have regardless of the subject and context of regulation. A doctrinal analysis of laws, policy documents, and academic literature on markets and financial regulation reveals that public interest principles namely consumer protection, market integrity and resilience, and distributional justice underpin good market regulation. Regulatory issues with CUI emanating from the above principles include information inadequacy, bounded rationality, data protection and integrity, security of assets, market manipulation and abuse, market externalities, financial inclusion, financial stability and regulatory coherence. An evaluation of the adequacy of the Nigerian financial sector regulatory framework in resolving the highlighted issues exposes an unsatisfactory result. Incoherent rules, tensions and conflicts amongst regulators, and limited state regulatory capacity are the major issues. Private actors have better access to crucial regulatory resources. Consequently, Nigeria should leverage private actors' control of regulatory resources to supplement its inadequate capacity and promote good CUI regulation. The thesis offers regulatory surrogacy as the framework within which good regulatory principles, mechanisms for enforcement, and implementation of rules can be established. Strategic role allocation, constructive interaction, conducive conditions, and better reporting mechanisms must underpin this approach to regulation.

## Declaration

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# Dedication

To God

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# Chapter One

## Introduction

### 1.1 Overview and context

This thesis investigates *good regulation* for user interactions in the emerging financial technology market.<sup>1</sup> It focuses on cryptocurrency user interactions in Nigeria (CUI) and recommends the application of legislation implemented and enforced by regulatory surrogates and state regulators.<sup>2</sup> Cryptocurrencies are innovations of blockchain technology. A cryptocurrency is a form of virtual currency which may also function as a security or commodity.<sup>3</sup> Bitcoin, the first type of cryptocurrency and model upon which other cryptocurrencies are developed, functions in a distributed manner: information about transactions relating to bitcoin and similarly modelled cryptocurrencies, is not stored in one server or place.<sup>4</sup> The distributed nature of cryptocurrencies has significant connections to the motive underpinning their creation.

The motive for creating cryptocurrencies is rooted in libertarian ideology. Bitcoin's developer aimed to limit the influence of established governments and organised private parties in the

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<sup>1</sup> The chapter defines what 'good' regulation means in Section 1.4 below

<sup>2</sup> Section 1.2 below expands on the meaning of CUI

<sup>3</sup> The term *cryptocurrency* has been defined by scholars and regulators in different ways. For some of these definitions, see Kate Goldman, Arnav Kumar, *A taxonomy of digital assets* (Milken Academy, 2021). In this thesis, it refers to any type of virtual currency created on and underpinned by blockchain technology and by cryptography. See Chapter 2 on the meaning and functions of cryptocurrencies

<sup>4</sup> Jerry Brito, Andrea Castilo, *Bitcoin: A Primer for Policymakers* (Kindle Edition 2016) Location 47; Lucas Mearian, 'FAQ: What is blockchain and how can it help business? The distributed ledger technology has enormous potential for firms that figure out how best to use it', (2017) <<https://bit.ly/3t5Fpfx>> 15 November 2017



private lives of individuals.<sup>5</sup> Consequently, the innovation is designed to improve privacy and enhance the efficiency of borderless financial transactions. From a libertarian perspective, cryptocurrencies are better alternatives to money and existing payment systems.<sup>6</sup>

Cryptocurrencies alter the perception of money and contemporary commerce for several reasons. First, they are not represented by physical cash or gold but exist solely in digital forms. Second, states or other central bodies neither issue nor guarantee the value of cryptocurrency.<sup>7</sup> This means that these authorities also have limited control over the use of cryptocurrencies and cryptocurrency markets. Third, cryptocurrencies are secured through unconventional means of securing assets. Nakamoto, bitcoin's originator, noted that "in the physical world, security requires locks, vaults and signatures; in the digital world, it requires cryptography and automated systems."<sup>8</sup> The cryptographic means of securing assets and the other features of cryptocurrencies highlighted above have positive and negative implications.

Starting with the advantages of cryptocurrencies. They represent a cheaper and more convenient means of conducting commercial transactions. Cryptocurrency transactions mostly dispense with the need for traditional financial intermediation in remittance thereby eliminating the cost associated with using intermediaries.<sup>9</sup> As stated above, the cryptocurrency network relies on automated systems for transaction facilitation, recording and security. This does not

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<sup>5</sup> Nicolas Wenker, 'Online Currencies, Real-World Chaos: The Struggle to Regulate the Rise of Bitcoin' [2014] Vol.19 (1) Fall Texas Review of Law & Politics 145, 148 Timothy May; a retired Intel physicist, in a discussion on the encroachment upon privacy by governments with his friends determined that cryptography may help limit state control. *ibid.* Cryptocurrencies are built upon this ultimate aim. Derek A. Dion, 'I'll Gladly Trade You Two Bits on Tuesday for a Byte Today: Bitcoin, Regulating Fraud in the E-Conomy of Hacker-Cash' [2013] J.L. Tech. & Pol'y 165

<sup>6</sup> Stephanie Lo and J Christina Wang, 'Bitcoin as Money? Motivation' [2014] No. 14-4, Current Policy Perspectives, Federal Reserve Bank of Boston 2

<sup>7</sup> Matthew Kien-Meng Ly, 'Coining Bitcoin's "Legal-Bits": Examining the Regulatory Framework for Bitcoin and Virtual Currencies' [2014] Harvard Journal of Law Tech Volume 27, Number 2, 587, 590

<sup>8</sup> Satoshi Nakamoto, 'Bitcoin: A Peer-To-Peer Electronic Cash System 8' (2009) <<https://bit.ly/3t2J1iz>> 20 July 2017

<sup>9</sup> Its use has however created several actors including intermediaries. For instance, miners and cryptocurrency exchanges replace banks and foreign currency exchanges.

only result in faster transactions; it also removes from remittance processing the need to rely on human discretion and common imperfections associated with such discretion. Cryptocurrencies achieve the above without recourse to state-issued fiat currencies (FC) thereby severing a direct link to the state apparatus. Most importantly, the use of cryptocurrency as money or for the purpose of remittance represents just one of their functions. Cryptocurrencies also function as commodities and investments/securities thereby expanding the class of existing assets and financial opportunities within the financial sector. The ease of trading cryptocurrencies is one of the key factors attracting investors to the new class of assets.<sup>10</sup>

Notwithstanding some of their benefits, cryptocurrencies are far from perfect.<sup>11</sup> First, the satisfactory performance of cryptocurrencies regarding each of their three functions, namely currency, security and commodity, is debatable.<sup>12</sup> Their currency function is undermined by limited market/merchant acceptance.<sup>13</sup> Additionally, cryptocurrencies are a poor store of value due to their high volatility margins.<sup>14</sup> This has implications beyond their use as currencies considering that investors also lose funds to value instability.<sup>15</sup> Chapter 2 evaluates the three functions of cryptocurrencies in more depth.

Second, high levels of risks (and rewards) and lack of certainty are general issues with cryptocurrencies. Several cryptocurrencies introduced to the market within the decade have ceased to exist. Coinopsy's list of dead cryptocurrencies has more than 2300 entries.<sup>16</sup>

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<sup>10</sup> Carmen Reinicke, '1 in 10 people currently invest in cryptocurrencies, many for ease of trading, CNBC survey finds' CNBC (24 August 2021) <<https://cnb.cx/3Bybvod>> 31 October 2021

<sup>11</sup> One core issue was the lack of trust in the creation and governance of money. Nakamoto (n 8); Paul V., Michael J., Casey, *Cryptocurrency; How Bitcoin and Digital Money are Challenging the Global Economic Order* (Kindle Edition 2015)

<sup>12</sup> See Chapter 2

<sup>13</sup> *ibid*

<sup>14</sup> *ibid*

<sup>15</sup> Paul et al (n 11)

<sup>16</sup> Coinopsy, 'List of dead coins' <<https://www.coinopsy.com/dead-coins/>> 30 October 2021

Similarly, a study shows that only 15% of initial coin offerings (ICO) introduced to the market in 2017 survived. Approximately 78% were scams, 4% failed and 3% died.<sup>17</sup> In essence, a substantial number of users lost their funds to dead cryptocurrencies. As of January 2021, more than 4,000 cryptocurrencies existed in largely unregulated (or under-regulated) cryptocurrency markets.<sup>18</sup> The figure increased to 6826 by October 2021.<sup>19</sup> As illustrated in the above statistics, a significant fraction of these cryptocurrencies is largely unsustainable.<sup>20</sup> Many more unsustainable cryptocurrencies will continue to be developed and introduced to the markets if left uncontrolled. Additionally, the complex nature of cryptocurrencies and the above issues widen the interest imbalance among key actors interacting within cryptocurrency markets. Finally, the cross-jurisdictional implications of vast cryptocurrency markets exacerbate the complicated nature of the market and user interactions.<sup>21</sup> Several issues for CUI regulation emanate from the above.<sup>22</sup>

This chapter introduces the thesis which investigates *good regulation* for CUI in Nigeria. Many of the themes and issues introduced here are explored in more depth in other parts of the thesis. The remainder of the chapter is structured as follows. Section 1.2 summarises the general issues with regard to the regulation of technologies, cryptocurrencies and their user interactions while Section 1.3 makes a case for regulating CUI in Nigeria. Section 1.4 evaluates why the prohibition of cryptocurrency use in Nigeria is not the right regulatory approach. Section 1.5

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<sup>17</sup> Cryptocurrencies are often introduced to the market through ICOs. See Sherwin Dowlatabadi, Michael Hodapp, 'Cryptoasset Market Coverage Initiation: Network Creation' Satis Group (July 11, 2018) 24. <<https://bit.ly/3zV9pPx>> 24 July 2019. For a more recent example of bounded rationality and inexperienced cryptocurrency investors, see 'Squid Game crypto token collapses in apparent scam' *BBC* (2, November 2021) <[www.bbc.co.uk/news/business-59129466](http://www.bbc.co.uk/news/business-59129466)> 18 November 2021

<sup>18</sup> Luke Conway, 'The 10 Most Important Cryptocurrencies Other Than Bitcoin' (January 19, 2021) <<https://bit.ly/3esdL8G>> 10 March 2021

<sup>19</sup> Raynor de Best, 'Quantity of cryptocurrencies as of October 11, 2021' *Statista* (11 October 2021) <<https://www.statista.com/statistics/863917/number-crypto-coins-tokens/>> 30 October 2021

<sup>20</sup> See section 1.2 below on the large fractions of cryptocurrency failure and fraud

<sup>21</sup> Divya Joshi, 'How the laws & regulation affecting blockchain technology can impact its adoption' (October 20, 2017) <<https://bit.ly/3l2ZUXr>> 16 November 2017

<sup>22</sup> See Chapter 4 for examples

states the research question and objectives. Sections 1.6 and 1.7 identify the significance of the research and the methodology adopted in the research, respectively. The concluding section summarises the seven chapters of the thesis.

## 1.2 Cryptocurrencies and CUI: Issues for regulation

To start with, cryptocurrency user interactions (CUI) refer to the market activities underpinning cryptocurrency market use. A further explanation of CUI will be returned to in Section 1.2.1 below. First, it is necessary to highlight the implications of cryptocurrencies for contemporary commerce and the regulation of financial services/products. As illustrated above, cryptocurrencies are transforming commerce by improving the security of assets and enabling cheaper, easier and faster transactions.<sup>23</sup> These features drive the adoption of cryptocurrencies. Accordingly, Brito and Besinger argue that economies that fail to permit cryptocurrency use may be at an international competitive disadvantage because cryptocurrency could be the future of payments.<sup>24</sup>

Building upon the above, Orimogunje, a crypto-trade expert, warned regulators by predicting that the blockchain will transform banking similar to how the internet revolutionised the communications industry.<sup>25</sup> What, then, are the wider implications of the disruptive nature of

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<sup>23</sup> John Mauldin, 'Is Bitcoin the Future?' (Forbes) <<https://bit.ly/3vbIVXK>> January 24, 2018; Paul et al (n 11) Location 266; Trevor I. Kiviat, 'Beyond Bitcoin: Issues in Regulating Blockchain Transactions' (2015) 65 Duke L.J. 569, 572; Jacek Czarnecki, Krzysztof Wojdyło, Blockchain, Smart contracts and DAO (2016) <<https://bit.ly/3er07CI>> 21 January 2018. 11

<sup>24</sup> Brito & Anor (n 4) Location 963; Greg Bensinger, 'Bitcoin Exchange to Open in U.S.' (2015) Wall Street Journal. Jan. 26

<sup>25</sup> Mauldin (n 23); 'Crypto firm Coinbase valued at more than oil giant BP' (BBC 14 April 2021) <<https://www.bbc.co.uk/news/business-56750102>> 07 May 2021. Several cryptocurrency market investors have also made huge losses. Zoe Kleinman, 'Bitcoin investors: From buying a Bentley to losing it all' 9 February 2021 <<https://www.bbc.co.uk/news/technology-55996412>> 07 May 2021; Dayo Adesulu, 'Bitcoin Craze! Is cryptocurrency real money or a Ponzi scheme?' (2018) <<https://bit.ly/3i42NYd>> 22 January 2018

cryptocurrency for regulation? Chapters 3, 4 and 6 explore the answer to the above in more detail. The discussion below touches on some of these challenges.

Disruptive technologies, including the one underpinning cryptocurrencies, are problematic for regulators. This challenge is, however, not new. Regulators, scholars and jurists have attempted an application of the law to new technological contexts. In this vein, Fatayi Williams JSC in *Festus Sunmola Yesufu v African Continental Bank Limited* prescribed that ‘[t]he law cannot be and is not, ignorant of modern business methods and must not shut its eyes to the mysteries of the computer.’<sup>26</sup> Undoubtedly, an awareness and adequate understanding of the mysteries of the computer is the starting point to approaching the regulation of cryptocurrency user interactions (CUI).<sup>27</sup>

While the law can improve on understanding new technologies for the purpose of regulating its user interactions, the major challenge is the pace at which the law responds to new technological developments.<sup>28</sup> Generally, technology evolves faster than the law.<sup>29</sup> For instance, while regulators are contemplating how to approach CUI regulation, bitcoin’s anonymity feature has been enhanced by other cryptocurrencies to provide increased privacy.<sup>30</sup> Similar improvements and the evolutionary character of disruptive technologies not only limit law as a form of regulator but also expand the techniques for circumventing the law.<sup>31</sup> The changes highlighted above illustrate how financial technology and the evolution of cryptocurrency generate complex legal issues that push the boundaries of existing laws.

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<sup>26</sup> SC42/1975 5

<sup>27</sup> Chapters 3 and 7 provide some lessons which regulators can draw from to better regulate technology user interactions

<sup>28</sup> See Chapter 3 on how regulatory instruments and resources have been combined to generate better outcomes

<sup>29</sup> This theme is echoed all through the thesis International Telecommunication Union, *The internet of things* (2005); Czarnecki & Wojdyło (n 23)

<sup>30</sup> Cryptocurrencies like verge, monero and zcash have better privacy features compared with bitcoin. See Chapter 2

<sup>31</sup> See Chapter 3

Essentially, the faster evolution of technologies exacerbates the problems by testing the limits of regulators' dynamism and flexibility.

The architecture and operation of the blockchain, among others, also have significant implications for the law's inability to match the fast development of technology, resilient market actors and effect desirable changes. Cryptocurrency permits interactions across state borders.<sup>32</sup> A combination of cross-border markets, anonymity and the lack of control by states and organised private groups makes the elimination of illicit activities, consumer protection and achievement of other goals of financial regulation problematic. The voluntary closure of illicit markets before enforcement clampdowns and the creation of new ones with better features constitute examples of how the law struggles to catch up with technology development and market actors' responses to these developments.<sup>33</sup> The failure of cryptocurrencies with unidentifiable promoters/actors highlighted above constitutes another example.

Beyond technology-specific issues, the multiple functions of cryptocurrencies, already touched on above, generate negative implications for users, financial markets and the state. Market interest imbalance among users, market actors (goods and service providers) and the state exacerbate the challenge. Inadequate consumer protection is one of the major regulatory issues emanating from the above imbalance. Market resilience and integrity and distributional justice goals are other reasons for regulating CUI. The above and other implications of multiple functions of cryptocurrency form the bulk of the analysis in Chapters 4 and 6.<sup>34</sup>

Furthermore, the size and significance of cryptocurrency markets strengthen the call for the regulation of cryptocurrencies and CUI. Statistics show that by 2016, over 10 million people

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<sup>32</sup> Pseudo-anonymity describes the general level of privacy offered by cryptocurrencies. See Chapter 2

<sup>33</sup> Chapter 4 explores the challenges in more detail

<sup>34</sup> Chapter 3

had owned bitcoin at one point in time.<sup>35</sup> An estimate also indicates that over 300 million people held and actively used cryptocurrencies by 2018.<sup>36</sup> Most importantly, the total value of cryptocurrencies in circulation was approximately \$62.4 billion by the end of 2018. This increased to \$2.60 trillion in October 2021.<sup>37</sup> To put the latest value in perspective, this was almost equal to the United Kingdom's GDP in 2020. Nigeria's GDP in the same year was less than 20% of the above value.<sup>38</sup> Cryptocurrency markets continue to grow. This growth suggests the need for a better understanding of cryptocurrencies, user interactions and markets. Financial regulators need to consider the broader implications of the growth of this disruptive technology for user interactions, existing markets and states' continued ability to meet public policy aims.<sup>39</sup> Having considered some of the issues which technology and, by extension, cryptocurrencies, raise for regulation, the next section turns to why CUI should be the focus of regulation.

### 1.2.1 Why regulate CUI?

Rather than the regulation of the technology itself, this research advocates the regulation of the interactions which cryptocurrencies enable as the means to reduce risks and harm. This is because user interactions with market actors exist at the core of financial markets, including cryptocurrency markets.<sup>40</sup> The activities underpinning these interactions, experiences of the

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<sup>35</sup> Garrick Hileman and Michel Rauchs, 'Global Cryptocurrency Benchmarking Study' (2017 Cambridge) <<https://bit.ly/3l8Itaf>> 14 December 2018

<sup>36</sup> *ibid*

<sup>37</sup> 'CoinmarketCap' 20 October 2021 <<https://coinmarketcap.com/>> 20 October 2021

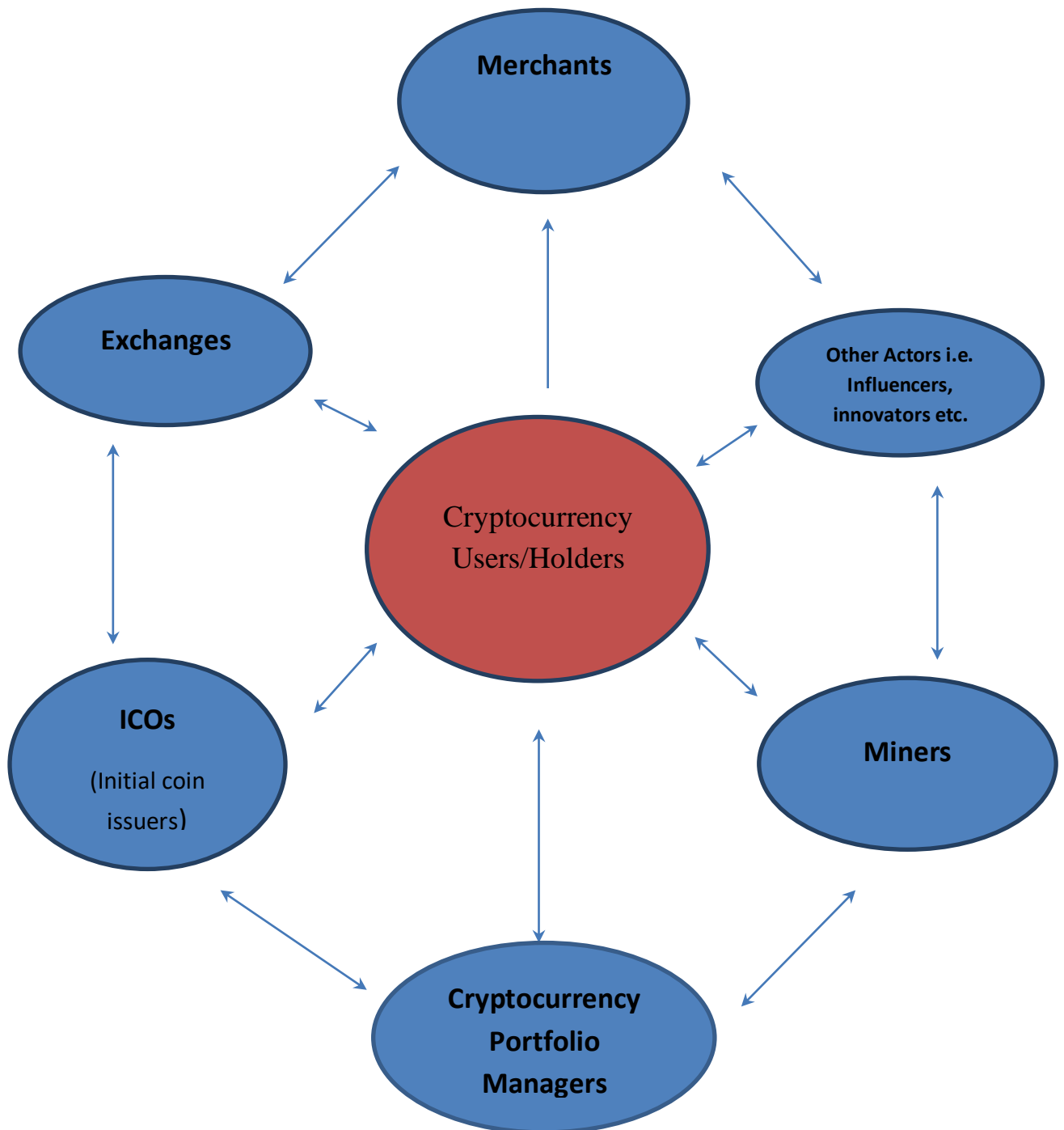
<sup>38</sup> D. Clark, 'GDP of the UK 1948-2020' (Statista, Apr 15, 2021) <<https://bit.ly/3frAWP4>> 17 May 2020; Simona Varrella, 'Gross Domestic Product (GDP) of Nigeria from the 1st quarter 2019 to the 4th quarter 2020' (Statista, Feb 19, 2021) <<https://bit.ly/3buJ2Fw>> 17 May 2021

<sup>39</sup> Chapter 4 for the issues raised by CUI

<sup>40</sup> Market actors such as exchanges, e-wallet service providers, merchants and initial coin issuers/Crypto-asset promoters

users and parties' rights and obligations are some of the core aspects of CUI. These interactions, which may be licit or illicit, occur within and across state borders.

Figure 1.1 - Simplified version of the relational model of user interactions with other actors in the financial technology market





User interactions with market actors could take different forms. An exchange of cryptocurrencies for FCs is an example. In this example, a user may interact with an exchange by exchanging Nigerian naira with ether/bitcoin. User interaction could equally take the form of subscriptions to Initial Coin Offerings (ICO) offered by the promoters of crypto securities.<sup>41</sup> Merchants also interact with users where the latter pays for goods and services with cryptocurrencies. User interactions can occur within purely automated systems devoid of identifiable actors. While it may be less problematic where identifiable market actors serve market needs directly or are responsible for automated systems, significant issues may arise where interactions occur independently of identifiable market actors. An example of this is transacting directly on the blockchain network, i.e. interacting with miners.<sup>42</sup>

Points of CUI, such as those illustrated above, are great opportunities for regulation to limit the negative implications of cryptocurrency while leveraging the technology. Some laws have focused on regulating market interactions and activities rather than focusing regulatory attention on the instruments underpinning these interactions and activities. Stamp duty laws, consumer protection laws, competition laws, anti-money laundering laws, banking laws, securities laws and investment laws are examples.

There are other justifications for regulating CUI rather than cryptocurrencies. First, cryptocurrencies themselves are hard to regulate. As identified above, the technology is designed to resist interference, including regulation. Consequently, it is much easier to regulate the interactions with identifiable users and market actors. Second, positive and negative implications emanating from the use of cryptocurrencies stem from complex user interactions which must be unpacked to promote *good regulation*. Finally, Chapter 4's illustration of the

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<sup>41</sup> See Chapters 2, 4 and 6

<sup>42</sup> See Chapter 2 on mining and the role of miners.

interest imbalance within market interactions indicates the need to make CUI the focus of regulation.

Additionally, there are apparent gaps in the regulatory protection of users within CUI that must be closed by regulation. Users interact with pseudo-anonymous actors who operate without appropriate licenses. Considering that these interactions occur outside of direct state scrutiny, significant risks and harm are inevitable. This raises the regulatory need to manage risks and prevent harm. While states, including Nigeria, have several mechanisms for reducing risks and harm, the effectiveness of these mechanisms is currently limited within CUI as a result of their complexities and the architecture of cryptocurrencies. Chapters 5 and 6 explore these in detail.

Turning now to the advantages of making CUI the focus of this research. Primarily, identifying and analysing the issues connected to the interactions and activities underpinning cryptocurrencies, markets provide specific examples of *what* needs to be regulated and *why*. These equally have significant links to an evaluation of the adequacy of regulators' capacity to promote good CUI regulation.<sup>43</sup> The next section examines the wider implication of CUI for users, the Nigerian financial sector and why Nigeria should regulate CUI.

### 1.3 Cryptocurrencies and their application by Nigerians: The case for regulating CUI in Nigeria

Considering that cryptocurrencies are being used in different countries, the question here is *why Nigeria?* Nigeria has been chosen as the focus of this research because of the prevalent adoption of cryptocurrencies locally and the socioeconomic reasons behind this development. Nigeria occupies the 6th position in a recent ranking of top countries by cryptocurrency

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<sup>43</sup> See Chapter 7

adoption.<sup>44</sup> Around \$200 million per month was traded in Nigeria in 2020.<sup>45</sup> It is estimated that 33.1 million holders used and traded cryptocurrencies in Nigeria in April 2022.<sup>46</sup> This represents above 15% per cent of the Nigerian population. Increased adoption in Nigeria is partly attributable to how cryptocurrencies solve remittance issues for traders and holders who engage in cross-border transactions. Other local prospects of cryptocurrency equally drive adoption in Nigeria. Chapters 4 and 5 expand on this.

Although cryptoassets, including cryptocurrencies, serve multiple functions, Nigerians utilise cryptocurrencies and several other cryptoassets to meet specific needs shaped by local realities. How, then, and why do Nigerians use cryptocurrencies? Is there any evidence of the use of other cryptoassets in Nigeria? The next section identifies the common use of cryptocurrencies and other cryptoassets in Nigeria, and the problems and opportunities they raise for regulation while Chapter 2 focuses on a detailed examination of cryptoasset types, functions and the technology underpinning selected cryptocurrencies.

### 1.3.1 Cryptocurrencies and the socio-economic situation in Nigeria

There is a paucity of reliable data on how Nigerians use cryptocurrencies. However, three major uses which are informed by the diverse needs of holders are discernible from current market trends. These are the use of cryptocurrency as a means of purchasing goods and services, as a

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<sup>44</sup> According to a survey with participants drawn across the world, 32% of participants are Nigerians who admit to owning and using cryptocurrencies Katharina Buchholz, ‘How Common is Crypto?’ (11 February 2021) <<https://bit.ly/3qAg6AA>> 5 March 2021; X ‘Top 20 Countries with Cryptocurrency Adoption’ (03 September 2021) *European Business Review* <<https://bit.ly/30MYx9T>> 01 November 2021; see also Kevin Helms, ‘Ukraine, Russia, South Africa, Nigeria Among Top Countries by Cryptocurrency Adoption’ (September 2020) <<https://bit.ly/2PMe1ox>> 5 February 2021

<sup>45</sup> Tuedor Akpevwe Jackson, ‘Cryptocurrency Ban: A destructive financial policy’ (09 February 2021) <<https://bit.ly/315ccPa>> 09 February 2021

<sup>46</sup> Temitayo Jaiyeola, ‘Despite CBN ban, 33.4 million Nigerians trade crypto – Report’ (Punch, 18 April 2022) <<https://punchng.com/despite-cbn-ban-33-4-million-nigerians-trade-crypto-report/>> 19 April 2022

store of value/hedging device against the frequent devaluation of the naira and investment asset.<sup>47</sup> The use of other cryptoassets including security, utility and commodity tokens in Nigeria is also examined below. Each of these is examined in turn below.

### 1.3.1 (a) Cryptocurrencies: Payment instrument

The use of cryptocurrencies as a means of purchasing goods and services is prevalent among consumers.<sup>48</sup> This has had a profound impact on the financial inclusion of the unbanked and underbanked population in Nigeria.<sup>49</sup> Similarly, cryptocurrencies have been adopted on a much larger scale by Nigerian traders who not only use cryptocurrencies for remittance but also accept them in exchange for goods.<sup>50</sup> Bitcoin, ether, and stablecoins like USD tether and terra are some of the cryptocurrencies used in remittance by users in Nigeria.<sup>51</sup> Traders who accept payments for goods and services in cryptocurrencies have identified several factors behind this trend such as accessibility, cheaper costs, faster processing times and a wider market base beyond the borders of Nigeria.<sup>52</sup> The latter has been a catalyst for traders' access to customers in international markets with cryptocurrencies as a means of paying for products.<sup>53</sup> Each of the highlighted reasons is addressed below.

Easy access to more widely accepted currencies is important for traders and consumers in Nigeria considering that several factors complicate access to US dollars (USD) commonly accepted for cross-border trade. First, a greater demand for USD for international trade means

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<sup>47</sup> Buchholz (n 44)

<sup>48</sup> Yomi Kazeem, Bitcoin is booming in Nigeria as both business users and speculators rush in, (December 2017) <<https://bit.ly/3vZKLdC>> 2 October 2018

<sup>49</sup> Chapter 4 expands on financial inclusion as one of the reasons for regulating and not banning the use of cryptocurrencies.

<sup>50</sup> Kazeem (n 48); Nzekwe Henry, 'Bitcoin is More Popular in Nigeria & South Africa than Anywhere Else in The World' (8 November 2019) <<https://bit.ly/3A5orCy>> 2 January 2020. Chijioke Ohuocha, Libby George, (Reuters, 12 October 2021) 'Crypto trading thrives in Nigeria despite official disapproval' <<https://reut.rs/389yY61>> 24 March 2022

<sup>51</sup> *ibid*

<sup>52</sup> Tim McDonell, 'How Nigerians Beat Bitcoin Scams' 22 January 2018 <<https://bloom.bg/3xSfVVh>> 2 January 2020

<sup>53</sup> Henry (n 50)

that the Central Bank of Nigeria (CBN) rations the available USD earned through oil exports among competing interests. To ensure that more pressing needs are prioritised, the CBN maintains a list of essential goods and services. Nigerians could only access USD at the CBN/official rates for the highlighted goods and services. Payment for buying and importing highlighted goods, estacode allowance for designated officials, medical fees, travelling allowance and student maintenance allowance are some of the items on the list of highlighted goods and services.<sup>54</sup> Nevertheless, the presence of an item on this does not mean Nigerians have unfettered access to USD. There is a cap on the number of USD that could be accessed at the CBN rate for any of the highlighted goods and services.

Conversely, Nigerians must buy USD required for other purposes on the black market which is often 30% above the CBN rate. This suggests that excluded goods can only be purchased with much more expensive USD sourced from the informal foreign exchange market.<sup>55</sup> To complicate matters further, the CBN issued a directive preventing banks from processing the transfer of foreign currencies received over the counter.<sup>56</sup> Money lodged into bank accounts over the counter could only be withdrawn through similar means.<sup>57</sup> Although this directive was aimed at discouraging the use of the black market in sourcing USD, it did not occasion any significant change in the behaviour of customers considering that there is an existing demand which cannot be met by commercial banks.<sup>58</sup> Black market actors equally settle obligations through bank transfers.

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<sup>54</sup> CBN, 'Press Release: CBN Will Meet Forex Demand for Eligible Invisible Transactions' <<https://bit.ly/3IYXHGW>> 30 March 2022

<sup>55</sup> See McDonell (n 54); Buchholz (n 44)

<sup>56</sup> CBN, 'Operations of Domiciliary Accounts' (30 November 2021) <[www.cbn.gov.ng/out/2020/ted/ted.fem.fpc.gen.01.010.pdf](http://www.cbn.gov.ng/out/2020/ted/ted.fem.fpc.gen.01.010.pdf)> 30 March 2022

<sup>57</sup> The CBN clarified this is a tweet. CBN, 'The CBN has not prohibited acceptance of foreign currency cash deposits by DMBs' (22 February 2020) <<https://bit.ly/3uJz4ZS>> 30 March 2020

<sup>58</sup> Patrick Olajide; Abdul-Hameed, Adeola Sulaimon, Foreign Exchange Transaction in Nigeria: Determinants of Customer Preferences for Bank and Black-Market Patronage, (Apr 2012) *The Journal of Commerce*; Lahore

Additionally, there are regulatory limits on the volume of transfers.<sup>59</sup> Funds sourced through the CBN, the black markets, or any other means are subject to the daily/monthly caps on transfers in line with the CBN directive on limiting money laundering and financing of terrorism.<sup>60</sup> These measures discourage the processing of international remittances through commercial banks. Currently, similar limits are not enforced with cryptocurrency transfers.<sup>61</sup> The accessibility of cryptocurrencies presents them as a viable and less restrictive means of making cross-border payments.<sup>62</sup>

Finally, the cost of doing business is high. Multiple exchange rates encourage foreign exchange malpractices including the discriminatory release of USD to customers.<sup>63</sup> This means that access to dollars is even more complicated for the average user.<sup>64</sup> Cryptocurrencies provide a cheaper alternative to locally sourced USD for financing international trade and remittances with limited recourse to intermediaries. The foregoing indicates that cryptocurrencies solve some of the issues touching on remittance by reducing the cost of doing business, promoting financial inclusion and bypassing the influence of poorly managed actors as intermediaries. Currently, there are exchange service providers who cater to the needs of the above groups by offering certain cryptocurrencies in exchange for the Nigerian naira.<sup>65</sup> Bitcoin, ether, litecoin and monero are common examples of cryptocurrencies offered by these exchanges. Users who

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Vol. 4, Iss. 2, 40 Alexis Akwagyiram, 'Nigerian central bank warns against using FX black market' (August 2020) <<https://reut.rs/3fUV4JB>> 21 May 2020

<sup>59</sup> Chapter 5 expands on the issues predisposing traders to using cryptocurrencies for international remittance.

<sup>60</sup> CBN 'Guidelines on International Money Transfer Services in Nigeria' (June 2014)

<<https://bit.ly/3iMIMWT>> 9

<sup>61</sup> Although the FATF recommends this. See Chapter 5 on FATF AML/CFT recommendations

<sup>62</sup> *ibid*

<sup>63</sup> Sunday Ogwu, Abdullateef Aliyu, Chris Agabi, Sani Ibrahim Paki, 'Naira Hits 550 To A Dollar as EFCC Warns Banks Against Forex Fraud' (Daily Trust, 10, September 2021) <<https://dailytrust.com/naira-hits-550-to-a-dollar-as-efcc-warns-banks-against-forex-fraud>> 22 March 2022; Wasilat Azeez, 'Desist from forex malpractices or face suspension, CBN warns banks' (The Cable, 11 September, 2021) <[www.thecable.ng/desist-from-forex-malpractices-or-face-suspension-cbn-warns-banks](http://www.thecable.ng/desist-from-forex-malpractices-or-face-suspension-cbn-warns-banks)> 22 March 2022

<sup>64</sup> McDonell (n 54); Buchholz (n 44)

<sup>65</sup> See NairaEx 'FAQ' <<https://nairaex.com/home>> 24 March 2022

have these cryptocurrencies can use these in exchange for other cryptocurrencies traded within the larger cryptocurrency market.

Why, then, is the use of cryptocurrency as a means of settling financial obligations problematic for Nigerian regulators? Notwithstanding that Nigeria's public interest goals include reducing the cost of doing business and improving financial inclusion, regulators aim to maintain adequate control of the financial services sector. A significant proportion of cryptocurrency settlements occur outside of the regulatory control of Nigeria. It could be argued that Nigeria's complex outward payment system is, in part, a deliberate regulatory measure to control the volume of funds leaving the Nigerian economy.<sup>66</sup> Widespread use of cryptocurrencies, especially when done directly/on a peer-to-peer basis among users means that a significant volume of capital could leave the country through unmonitored channels such as the blockchain and cryptocurrencies. This undermines the control of regulators over the financial sector.<sup>67</sup>

Additionally, limited regulatory scrutiny means inadequate enforcement of taxation laws on cryptocurrency transactions compared with remittances completed through existing channels including commercial banks. In general, unchecked use of cryptocurrency undermines regulators' control over licit aspects of the financial services sector. Exchanges, e-wallet service providers and miners are prominent service providers catering to Nigerians who use cryptocurrency as a means of settling financial obligations. Exercising regulatory control over these actors by regulators wherever possible is mandatory to limit some of the risks raised by the use of cryptocurrencies in Nigeria. Chapter 7 discusses this in more detail.

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<sup>66</sup> I.e. excess money leaving the economy. See Chapters 4 and 5

<sup>67</sup> Also known as peer-to-peer transactions. This refers to exchange of cryptocurrencies with the naira and vice versa without going through exchanges. With P2P transactions, users transact directly among themselves thereby operating outside the reach of regulators.

The transactional use of cryptocurrencies discussed in this section is more commonplace in Nigeria compared with the other applications of cryptocurrencies discussed below. The evidence of the use of cryptocurrencies as a store of value and investment asset, which are not as prevalent as their transactional use, has started emerging in Nigeria. For reasons connected to their volatility, the use of cryptocurrencies as a store of value is less commonplace. Likewise, evidence on the use of security tokens in Nigeria is sparse.

### 1.3.1 (b) Cryptocurrencies: Store of value

Cryptocurrency holders in Nigerian equally use them as a store of value.<sup>68</sup> This need arises from the constant decline in the value of the naira.<sup>69</sup> Chapter 2's examination of the meaning and utility of cryptocurrencies suggests that value volatility limits their utility as money. However, the above has not discouraged Nigerians from using cryptocurrencies to settle financial obligations. Stablecoins, which guarantee greater value stability, are often the cryptocurrency of choice for users. Its wider acceptance in the international community than the naira could be a contributing factor. Actors using cryptocurrencies as a store of value are more likely to buy cryptocurrencies with greater market shares such as ether and bitcoin in addition to stablecoins. They are also more likely to buy security tokens discussed below. These users engage in transactions with exchanges, miners, e-wallet service providers and ICO issuers.

### 1.3.1 (c) Cryptocurrencies: Investment asset

Although cryptocurrencies became a household name in Nigeria as a result of the use of bitcoin as a means of settling obligations in the MMM Ponzi scheme, they became known as a good

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<sup>68</sup> David Whitehouse, 'Coining It In: Nigeria's planned e-naira will not be enough to deter cryptocurrency users, analysts say' (3 September 2021) <<https://bit.ly/36GmlJz>> 24 March 2022

<sup>69</sup> *ibid*



way to make profits and improve the asset portfolios of holders afterwards.<sup>70</sup> The volume of crypto-investment assets held by Nigerians is currently unknown. Users in Nigeria acquire newly launched cryptocurrencies and existing ones with a good record of value appreciation such as bitcoin and ether.<sup>71</sup> There is limited evidence on the use of stablecoins as investment assets considering their more stable value and narrower profit margins. As noted above, stablecoins are applied as a means of payment for international remittances.<sup>72</sup> Reports of significant gains and loss of funds punctuate the history of cryptocurrency use as an investment asset in Nigeria.<sup>73</sup>

Users who apply cryptocurrencies as securities and investment assets are more likely to interact with exchanges, e-wallet service providers and miners. Exchanges are the most important actors which must be targeted by regulators considering that users may bypass e-wallet service providers and may rarely encounter miners. Even in cases where exchanges offer a limited number of cryptocurrencies in exchange for the naira, they are still invaluable to users who wish to buy other cryptocurrencies considering that an initial purchase of cryptocurrencies is required for user participation in the cryptocurrency swap/exchange market. In addition to project owners who permit token swaps, several other token switching platforms and services exist for that purpose.<sup>74</sup>

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<sup>70</sup> Lubomir Tassev, 'Curious About Bitcoin, Nigerians See Increasing Opportunities to Buy and Spend Cryptocurrencies' (17 February 2020) <<https://news.bitcoin.com/nigerians-buy-use-bitcoin/>> 24 March 2022

<sup>71</sup> Hileman, G., Rauchs, M., 'Global Cryptocurrency Benchmarking Study' (2017 Cambridge) 25 <<https://bit.ly/3ijjpsc>> 14 December 2018 64

<sup>72</sup> Abubakar Idris, Tawanda Karombo 'Stablecoins find a use case in Africa's most volatile markets' (17 August) <<https://bit.ly/3OHdH4H>> 20 April 2022

<sup>73</sup> BBC, 'Cryptocurrencies: Why Nigeria is a global leader in Bitcoin trade' <<https://bbc.in/3wzcXYA>> 24 March 2022; McDonell (n 54)

<sup>74</sup> Andrey Sergeenkov, 'The Beginner's Guide to Token Swaps' (Coinmarketcap, 2021) <<https://bit.ly/3lvTlxQ>> 22 March 2022; NairaEx 'FAQ' <<https://nairaex.com/home>> 24 March 2022

### 1.3.1 (d) Security tokens

Security tokens represent interests linked solely with intangible assets on the blockchain. ICOs refer to the public offer of crypto-securities. Decentralised Autonomous Organisation (DAO) is an example of the avenue through which crypto-securities are offered. Subscriptions to ICOs and DAO tokens are not commonplace in Nigeria. While it may not be unusual for Nigerian users to participate in DAOs, there is limited evidence to suggest the use of security tokens more generally or tokens linked to DAOs or other forms of DAOs originating from Nigeria. Besides, it would be unusual to establish such links considering that DAO is a cryptography-based and decentralised form of organisation with limited public records linking users to their crypto-securities.<sup>75</sup> Similar to security tokens, there is limited evidence to suggest widespread use of tokenised securities, tokenised vouchers or other tokenised assets in Nigeria.<sup>76</sup> If a greater adoption of these assets occurs, cryptocurrency holders who use security tokens and tokenised securities/assets in Nigeria would likely interact with exchanges, ICO issues, DAO promoters and miners.

### 1.3.1 (e) Commodity and utility tokens

Discussions on cryptoassets in Nigeria focus on cryptocurrency use for settling financial obligations, store of value and investment assets/securities.<sup>77</sup> The reason for the above is not farfetched considering the more pressing transactional and investment needs of Nigerian users. However, evidence of interest in other classes of cryptoassets including commodity and utility tokens is emerging in Nigeria. Commodity tokens refer to tokens representing holders' interests in virtual goods or items.<sup>78</sup> Non-Fungible Token(s) (NFT) is a prominent example of a

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<sup>75</sup> Chapter 2 explains the link between security tokens and DAO

<sup>76</sup> See section 2.2.1 for more on tokenised securities.

<sup>77</sup> Chapter 2 explores cryptoassets types touching on each of the above in more detail.

<sup>78</sup> Joseph Lee, *Crypto-Finance, Law and Regulation Governing an Emerging Ecosystem* (Routledge, 2022)

commodity token adopted by Nigerian users. An elite group of artists in Nigeria have leveraged the opportunities created by NFT to design digital works of art. NFT created and traded by Nigerian artists include works portraying the professional career of famous musicians and animated portraits depicting Yorubas' understanding of concepts like *Inúfùfù* (anger), *Ìyàràènişòtò* (distinguishing oneself) and *Ikojalẹ* (denial).<sup>79</sup>

While NFT represents a more dynamic way of presenting art, it is far from perfect.<sup>80</sup> Counterfeiting is one of the main issues facing artists, including those in Nigeria, creating NFT.<sup>81</sup> Although these artists currently represent a small proportion of the cryptocurrency users in Nigeria compared with actors using cryptocurrencies for transactional purposes and the market actors serving this group, good CUI regulation which makes market actors more accountable to users will be useful for expanding the frontiers of the Nigerian art and music industry.<sup>82</sup>

On the other hand, utility tokens are used by developers in settling obligations linked to the underlying blockchain.<sup>83</sup> Considering their link to the creation and use of commodity tokens on the blockchain, developers, mainly artists, are the main users of utility tokens in Nigeria.<sup>84</sup> Named utility tokens with significant links to Nigeria have also started emerging. Take tatcoin

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<sup>79</sup> Binance, 'Nigerian musician, Folarin "FALZ" Falana to Launch exclusive NFT collection on Binance NFT Marketplace' (29 March 2022) <<https://bit.ly/3NDgXNS>> 30 March 2022; Binance, 'Binance NFT Marketplace Announces Exclusive NFT Collection "Time to Heal" With Djimon Hounsou and LÁOLÚ' (11 November 2021) <<https://bit.ly/3JWr4em>> 30 March 2022

<sup>80</sup> Advantages include NFT's elimination of intermediaries and a feature which ensures that the original owner of a work of art gets paid a predetermined percentage every time the work is sold. Qin Wang, Rujia Li, Qi Wang, Shiping Chen, 'Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges' 12 <<https://arxiv.org/pdf/2105.07447.pdf>> 31 March 2022

<sup>81</sup> Elixabeth Howcroft, 'Marketplace suspends most NFT sales, citing "rampant" fakes and plagiarism' (Reuters, 22 February 2022) <<https://reut.rs/373CGxp>> 31 March 2022; Sandali Handagama, 'The NFT Craze Is Helping Nigerian Artists Go Global' (13 April 2021) <<https://bit.ly/3JUKNzK>> 31 March 2022

<sup>82</sup> Nimi Princewill, 'Nigerian artists are making a mark with NFTs' (CNN, 23 June 2021) <<https://cnn.it/3Dtt8Iw>> 31 March 2022

<sup>83</sup> See Chapter 2 on the meanings of NFTs and utility tokens

<sup>84</sup> Ijeoma Ndukwe, 'Nigerian NFT artist Osinachi: The work created by using a word processor' (BBC, 13 January 2022) <<https://www.bbc.co.uk/news/world-africa-59703123>> 29 March 2022

for instance. Tatcoin is a utility token created by a Nigerian, Gaius Chibueze, on the Ethereum Virtual Machine.<sup>85</sup> It is designed for use as a means of accessing goods and services in areas spanning tourism, education, charity and real estate.<sup>86</sup> Developers such as Gaius Chibueze, exchanges, miners and e-wallet service providers are major market intermediaries catering to the needs of Nigerian artists that create and sell NFT among others. These actors must be drafted into the regulatory arena when Nigeria starts regulating the broader cryptoassets category,

Each of the applications of cryptoassets including cryptocurrencies touched on above occurs through several market actors in the international cryptocurrency market. Having identified the why and how cryptocurrencies (and other crypto asset types) are being used in Nigeria, who, then, are the market actors serving Nigerian users? The identification of these actors is crucial for developing and maintaining good regulation of the aspect of the financial sector in Nigeria. The next section identifies some of these actors.

### 1.3.2 Market actors serving Nigerian users

The foregoing discussion illustrates that the average Nigerian user interacts with several market intermediaries. Exchanges, e-wallet service providers, internet service providers, accepting merchants, initial coin issuers and cryptocurrency portfolio managers are some of these market intermediaries. These actors are not currently regulated in Nigeria. For instance, NairaEx, Luno and BitPesa are market intermediaries who cater to Nigerian users. NairaEx, a prominent exchange service provider offers online cryptocurrency swap services to Nigerian users since

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<sup>85</sup> Lucky Nwanekwu, 'Why Tatcoin is making waves in Africa' (Premium Times, 20 August 2020) <[www.premiumtimesng.com/promoted/409991-why-tatcoin-is-making-waves-in-africa-by-lucky-nwanekwu.html](http://www.premiumtimesng.com/promoted/409991-why-tatcoin-is-making-waves-in-africa-by-lucky-nwanekwu.html)> 17 April 2022

<sup>86</sup> X, 'Africa's new utility token gets more use cases' (Vanguard, 9 May 2020) <[www.vanguardngr.com/2020/05/africas-new-utility-token-gets-more-use-cases/](http://www.vanguardngr.com/2020/05/africas-new-utility-token-gets-more-use-cases/)> 22 April 2022

2015.<sup>87</sup> Its services include an exchange of the naira with cryptocurrency and vice versa at a nominal fee.<sup>88</sup> Although NairaEx does not offer custodial services to users, it recommends compatible e-wallet service providers for cold and hot storage of users' cryptocurrencies.

Wallets, including electronic wallets (e-wallets), are locations/devices used in storing cryptocurrencies alongside relevant information. Cold storage refers to storage devices with no links to the internet.<sup>89</sup> Examples include CD ROM, memory sticks and hard disks. Hot storage, also termed e-wallets, relies on virtual servers operated by third parties.<sup>90</sup> Cold wallets have been likened to bank vaults in terms of their security and their use for the storage of different cryptoassets.<sup>91</sup> Examples of cold storage devices include paper and hardware.<sup>92</sup>

A market for cold storage devices which could potentially cater to users all over the world including those in Nigeria has also started to emerge. Examples include CoolWallet Pro, Ledger Nano X and Keystone Pro. While cold wallets are stored and can be accessed without recourse to internet access, e-wallets can be accessed only when the holder has an internet connection.<sup>93</sup> Online, mobile and multi-signature are examples of hot wallets. Desktop storage may be hot or cold depending on the availability of internet access.<sup>94</sup> Some of the above may permit the storage of just one or more cryptocurrency types.<sup>95</sup> Beyond just providing storage devices, market intermediaries providing custodial services have started emerging thereby

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<sup>87</sup> See NairaEx 'FAQ' <<https://nairaex.com/home>> 24 March 2022

<sup>88</sup> Commonly traded cryptocurrencies include Bitcoin, Ether, Litecoin and Bitcoin Cash. Ibid.

<sup>89</sup> Stevo Jokić, Aleksandar Sandro Cvetković, Saša Adamović, Nenad Ristić, Petar Spalević, 'Comparative Analysis of Cryptocurrency wallets vs Traditional Wallets' (July-September 2019) ЕКОНОМИКА Vol. 65. n 3, 65, 67.

<sup>90</sup> Lee (n 78) 93

<sup>91</sup> Jokić et al (n 89) 67

<sup>92</sup> ibid 69

<sup>93</sup> ibid

<sup>94</sup> Ibid

<sup>95</sup> ibid

raising issues on the security of assets and broader issues touching on prudential regulation for users in Nigeria accessing these services.<sup>96</sup>

Aside from interactions occurring face to face and a couple of bitcoin ATM in Lagos, Nigeria, user interactions largely occur on online platforms.<sup>97</sup> The actors touched on above including those operating solely on online platforms serve users in Nigeria even though they are not designated financial services providers under Nigerian law. Each of the above actors irrespective of their location must be addressed by Nigerian regulators mainly because they offer services similar to those regulated by financial services regulators in Nigeria. These services include payment processing and custodial services, securities offering and trading. Market actors with local ties to Nigeria such as NairaEx and Paxful have greater utility in ensuring that the public policy goals of regulation explored in Chapter 4 are met for safer CUI.

Notwithstanding that market actors like NairaEx and Paxful stated their compliance with the customer due diligence principle i.e. Know your customer (KYC), other rules governing financial products and services, that promote greater state and public transparency and accountability, must be implemented. Other market actors yet to comply with the larger body of rules governing the financial services sector must be captured by regulators in Nigeria. Non-compliant exchanges, initial coin issuers, cryptocurrency portfolio managers and merchants accepting payments in cryptocurrencies such as Paxful, Exchange Yellowcard, GS2ME and Minku are examples.<sup>98</sup> The above discussion identified how Nigerians are using cryptocurrencies and the actors serving them. However, considering the complexity of cryptocurrency and its cross-border nature, it is crucial to consider if Nigeria should prohibit or permit cryptocurrency use. The next section turns to this.

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<sup>96</sup> Ibid 67

<sup>97</sup> Bitcoinradar, 'Bitcoin ATMs in Lagos, Nigeria' <<https://coinatmradar.com/city/772/bitcoin-atm-lagos/>> 24 March 2022

<sup>98</sup> Ohuocha, George (n 52)

## 1.4 Should Nigeria prohibit or regulate cryptocurrency use?

Cryptocurrencies raise legal, regulatory and financial risks. The legal risks they raise emanate not only from the fact that cryptocurrency issuance by private actors is in direct conflict with the state's power to issue currencies but also because they directly compete with the FCs issued by the state in the exercise of this power. The regulatory risks they raise touch on the ability of regulators to adequately promote public interest principles and order in the cryptocurrency ecosystem. Finally, cryptocurrencies raise financial risks because their use increases the possibility of instability within the financial services sector, particularly considering that the ability of FCs to stir the economy may become limited with the widespread use of cryptocurrency.<sup>99</sup> The regulatory issues and risks raised by CUI form the bulk of Chapter 4's analysis. Cryptocurrencies also raise significant risks of financial loss to users at the micro level. Nevertheless, cryptocurrency use continues to increase in Nigeria.

In the light of the above, it is necessary to evaluate whether Nigeria should permit or ban cryptocurrency use. There is a division among cryptocurrency users, market actors, observers and regulators on how regulators should approach the increasing adoption of cryptocurrencies in Nigeria. Socio-economic and political reasons have been advanced in support of and against permitting cryptocurrency use in Nigeria. Those in favour of a ban on cryptocurrency use in Nigeria identify their illicit use, disruptive nature and the legal and regulatory risks they raise as key reasons for exploring this option. Conversely, those in favour of permitting cryptocurrency use advance the benefits of cryptocurrencies including their utility in cross-border remittances, financial inclusion and their promising potential for the future of financial

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<sup>99</sup> For more on the risks raised by cryptocurrency use see European Banking Authority (EBA), 'EBA Opinion On 'Virtual Currencies' (Opinion EBA/Op/2014/08) Of 4 July 2014 on Virtual Currencies, 2014) <<https://bit.ly/3cbnfoa>> 19 December 2018

services in support of their arguments. Some of these factors are explored in Sections 1.4.1 and 1.4.2 below.

Section 1.4.1 engages in a critical evaluation of the arguments in favour of an outright ban including the illicit aspects of cryptocurrency use, financial instability and some of the challenges they raise. Nevertheless, it needs to be stated at the onset of this evaluation that prohibiting the use of cryptocurrencies will have a more negative impact considering their highlighted utility within Nigeria's socioeconomic context. At the same time, cryptocurrency use raises several issues which must not be ignored by regulators. This raises the need for a balance that permits the use of cryptocurrencies while limiting their negative impact in Nigeria. How, then, can a balance be achieved between these competing issues? Permitting the use of cryptocurrencies within the confines of an adequate regulatory regime is the starting point. Consequently, Section 1.4.2 presents reasons why cryptocurrencies should be permitted and regulated.

#### 1.4.1 (a) Illicit use of cryptocurrency

The potential of cryptocurrency as an effective means of facilitating crime and other illicit activities has been advanced as one of the major reasons for an outright prohibition in Nigeria. Money laundering, tax evasion, terrorism financing, purchase of drugs and 'killer for hire' are examples of illicit use cases of cryptocurrencies.<sup>100</sup> As anticipated, evidence of illicit use of cryptocurrencies with repercussions beyond the financial services market has started emerging in Nigeria. Unresolved cases of kidnapping where the ransom was demanded in cryptocurrencies abound.<sup>101</sup> Cryptocurrencies have also been used to defy regulatory controls in place to starve protesters of funds by restricting their access to commercial banks.<sup>102</sup>

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<sup>100</sup> Lee (n 78) 84

<sup>101</sup> Samuel Haig, '\$15,000 Bitcoin Ransom Rescues Nigerian Chieftain's Kidnapped Daughter' (17 September 2019) 01 October 2019

<sup>102</sup> Sandali Handagama, 'Nigeria Protests Show Bitcoin Adoption Is Not Coming: It's Here' (October 21, 2020) <<https://bit.ly/35OJ6g9>> 12 January 2021. Chapters 4, 5 and 6 explore these in more detail.



The situation is exacerbated by the fact that illicit actors could evade regulatory control by using cold storage and engaging in peer-to-peer (P2P) transactions while they avoid engaging in transactions with e-wallet service providers and exchanges.<sup>103</sup> Bypassing identifiable market intermediaries such as e-wallet service providers and exchanges has significant implications for Nigerian law enforcement and other key stakeholders including financial service regulators and law enforcement agencies.

The negative implications of disruptive technologies including cryptocurrencies highlighted above are some of the reasons for regulation, not prohibition particularly since the availability of location masking software and P2P transactions means that users could continue to operate unhindered by regulators. This may be insufficient for limiting the prevalent use of cryptocurrencies for illicit activities. While prohibiting the use of cryptocurrencies in Nigeria may impact adoption negatively, it may be insufficient to prevent the illicit use of cryptocurrencies. Consequently, this suggests the need for regulators to devise a more constructive approach that reduces the potential for illicit activities without stifling innovation. This will equally promote the licit use of cryptocurrencies, thereby dispensing with the need for users to operate outside of the control of regulators.<sup>104</sup> Nevertheless, regulation of cryptocurrencies may not be easily achieved.

#### 1.4.1 (b) Risk of financial instability

Compared with the manifestations of illicit use of cryptocurrency discussed above, the risk of financial instability has not yet crystallised in Nigeria. However, cryptocurrency use has been

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<sup>103</sup> See above on cold storage. P2P transactions occur within informal channels like Facebook chats and WhatsApp platforms for finding buyers and sellers for their cryptocurrencies thereby placing illicit actors beyond the control of financial regulators and law enforcement agencies.

<sup>104</sup> Most importantly, cryptocurrencies offer greater utility for licit actors in Nigeria. Financial inclusion, use for remittance and facilitation of Nigeria's distributive justice goals discussed below and in more detail in Chapter 4 are common benefits.

argued to raise a significant risk of destabilising the financial sector of economies in the case of more widespread use.<sup>105</sup> Financial stability within states' cryptocurrency markets touches on the contagion implications of unstable cryptocurrency markets on the economic aspects of the society within which CUI occurs. This has significant connections with how CUI could disrupt the traditional financial services sector they mimic through favourable competition. Signs of the above have may start emerging soon considering the steady increase in the number of users and volume of transactions with links to Nigeria.<sup>106</sup>

Significantly, the naira's ability to steer the economy may be negatively impacted if cryptocurrencies gain broader acceptance among individuals engaged in local and cross-border remittance. In addition to the above, wider adoption may affect Nigeria's ability to deliver on financial stability thereby undermining the regulatory powers of the state, including the legitimacy to enforce rules within traditional markets and existing markets while certain transactions escape regulatory scrutiny.<sup>107</sup> In extreme cases, the above could diminish Nigeria's reputation among nations with more effective mechanisms for countering the contagion impact of cryptocurrencies. Nigeria's youthful and technology-savvy population, the declining value of the naira, complicated foreign currency markets and greater dependence on foreign currencies and exports are catalysts for a steady increase in demand for disruptive cryptocurrencies. Without adequate regulation of interactions, the above negative implications could become a reality.

A countering argument to the above is that Nigeria must regulate CUI to promote financial stability considering that cryptocurrencies create an alternative means of remittance outside of

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<sup>105</sup> European Banking Authority Opinion (EBA) EBA/Op/2014/08) of 4 July 2014 on Virtual Currencies (2014) 11 <<https://bit.ly/35O5xlx>>19 December 2018. 36

<sup>106</sup> Jaiyeola (n 46)

<sup>107</sup> Increasing cryptocurrency adoption in Nigeria could be attributable to how its architecture limits state control currently. Nzekwe Henry, 'Despite Gov't Warnings against Crypto, Bitcoin Use Continue to Soar in Nigeria' (8 December 2019) <<https://bit.ly/3dtHooG>> 2 January 2020

traditional channels. This suggests that cryptocurrencies satisfy an existing and growing demand. Most importantly, evidence suggests that Nigeria may be unable to enforce a ban on cryptocurrency use considering the avenues available for bypassing regulation. For instance, virtual private networks applied in circumventing the Twitter ban in Nigeria may be used to undermine a widespread ban on cryptocurrencies in Nigeria, leading to a further deterioration into a lawless ecosystem for CUI.<sup>108</sup> This, not the legitimate use of cryptocurrencies, will have a negative impact on financial stability in Nigeria if there is widespread illicit use within more private channels as a result of prohibition.<sup>109</sup>

Essentially, the positive implications of cryptocurrency use including financial inclusion and as a means of creating assets and wealth for Nigerians indicate that an outright ban may occasion more harm than good. Since an outright ban to promote financial stability is untenable, other avenues of regulation as a means to promoting financial stability while CUI continues unhindered in Nigeria much be explored. A comprehensive regulatory regime for CUI will help further Nigeria's financial stability motive while promoting and expanding the avenues for creating wealth and meeting Nigeria's public policy goals including financial inclusion, consumer protection, market integrity and standardisation of rules.

#### 1.4.2 (a) Financial inclusion

A significant proportion of the Nigerian population lacked access to banking services. 39.7% of the adult population as of 2018 have bank accounts.<sup>110</sup> Poor infrastructure and distance

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<sup>108</sup> Prince Osuagwu, '100 days of Twitter ban: Twitter drops market share to 2.8%, Facebook, Instagram gain' (September 2021, *The Vanguard*) 30 September 2021 See more on three Nigerian Twitter ban in Chapter 7

<sup>109</sup> Lessons on the inefficiency of prohibiting cryptocurrencies can be observed from the case in China. See Conghui Chen, Lanlan Liu, 'How effective is China's cryptocurrency trading ban?' (2022) *Financial Research Letters*, 46 <<https://bit.ly/3sN3aLC>> 18 May 2022;

<sup>110</sup> See EFINA, *Enhancing Financial Innovation and Access*, 'Key Findings: EFINA Access to Financial Services in Nigeria 2018 Survey' (11 Dec. 2018) 15 <<https://bit.ly/3x8CMw6>> 22 July 2019; Nigeria is one of the seven countries with the highest unbanked population. See Daniel Makina (Ed.), *Extending financial inclusion in Africa* (2019, Academic Press)

between brick-and-mortar banks and potential customers inhibit financial inclusion in Nigeria. Cryptocurrencies achieve a favourable balance between the cost and ease of access to financial services by leveraging the access of Nigerians to the internet and smartphones. Cryptocurrencies have enabled a significant level of financial inclusion of the unbanked in Nigeria compared with previous attempts such as mobile money which occasioned financial deepening of existing account holders and other informal means of transferring value.<sup>111</sup> The impact of cryptocurrencies as a means of improving financial inclusion is apparent in the above discussion on how Nigerians use cryptocurrencies as a payment instrument. Permitting the use of cryptocurrencies within the confines of a constructive regulatory regime will further improve financial inclusion in Nigeria.

#### 1.4.2 (b) Consumer protection

In addition to the need to provide services to the financially excluded in Nigeria, the protection of existing and inexperienced users is another reason CUI should be regulated. Consumer protection cannot be advanced as a reason for banning cryptocurrencies considering that the use of cryptocurrencies is likely to persist even when banned.<sup>112</sup> Cryptocurrencies serve existing needs/markets in Nigeria. Notwithstanding the CBN's directive to banks to avoid processing cryptocurrency-related transactions in Nigeria, the volume of cryptocurrency transactions continues to soar.<sup>113</sup> Nigeria's prohibition without creating an alternative means of satisfying the local need for a cheaper, secured and more private form of remittance system

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<sup>111</sup> Egena Ode, *Making Co-Creation Work in Mobile Financial Services Innovation: What Capabilities are needed and What Practices Work Best in Developing Countries?* (2018) 33

<sup>112</sup> See the Chinese and Indian examples below

<sup>113</sup> Temitayo Jaiyeola, 'Nigerians beat CBN restrictions, trade N78bn Bitcoin in three months' (Punch, June 2022) <<https://bit.ly/3mzKqMh>> 10 June 2022; Geoff Iyatse 'Young Nigerians defy CBN ban, gamble on risky crypto assets' (Guardian 17 February 2022) <<https://guardian.ng/news/young-nigerians-defy-cbn-ban-gamble-on-risky-crypto-assets/>> 20 April 2022; Jaiyeola (n 46)

may be significant for users.<sup>114</sup> Consequently, consumer protection must be prioritised particularly from illicit actors and scammers proliferating informal channels.<sup>115</sup>

The need is equally apparent when cryptocurrency use is permitted. As one of the principles of financial regulation, consumer protection seeks to even the power imbalance between market actors with greater access to resources and largely unorganised customers.<sup>116</sup> Information inadequacy, bounded rationality, value volatility, confidentiality and data integrity are key regulatory issues touching on consumer protection within CUI. An unregulated market may fail to promote the interests of consumers. Demanding an adequate supply of information, educating investors and increasing clarity on the rules governing CUI are some of the ways to promote consumer protection within cryptocurrency markets. Chapters 4, 5 and 6 discuss the above issues in more detail.

#### 1.4.2 (c) Market integrity

Connected to consumer protection discussed above is the challenge of market integrity raised by cryptocurrency use in Nigeria. An unregulated CUI will inevitably attract subpar actors i.e. market intermediaries and illicit users that not only exploit consumers but also pose a significant danger to the integrity of the market.<sup>117</sup> The promotion of a cryptocurrency market devoid of key imperfections is thus crucial. Inadequate competition, market abuse, market manipulation, insider dealing, unlawful inside information disclosure, poor accountability, inadequate transparency, externalities and systemic and operational risks are key factors

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<sup>114</sup> These are the major benefits offered by cryptocurrencies to Nigerian users similar to their international counterparts. See Florian L'heureux, Joseph Lee, 'A Regulatory Framework for Cryptocurrency', (2020),31, *European Business Law Review*, Issue 3, 423

<sup>115</sup> *Ibid* Iyatse

<sup>116</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) *Journal of financial services research*, Vol.16 (2) 309, 312. See also Chapter 4 for more on this.

<sup>117</sup> Lee (n 78) 95

capable of undermining the integrity of the cryptocurrency ecosystem and user confidence in the markets in Nigeria.

Take systemic and operational risks as an example. Significant prudential issues emerge from the custodial services provided by e-wallet service providers who currently do not have clear obligations to implement the measures governing commercial banks on the security of assets held in their custody. While the blockchain underpinning cryptocurrencies is based on a *trustless* model, this feature does not extend to emerging market intermediaries such as e-wallet service providers and exchanges offering custodial services. These service providers may go bankrupt or fail through other means to release customers' assets on demand. The MT Gox incident illustrates the negative implications of this risk particularly the security of assets in the event of bankruptcy and loss of value through market manipulation.<sup>118</sup>

Cryptocurrency holders in Nigeria should be able to engage in the lawful use of their assets within safe markets devoid of these imperfections to a certain extent, particularly when they interact with intermediaries targeting users in Nigeria. This is a major reason to regulate and not just permit the use of cryptocurrencies in Nigeria.<sup>119</sup> Admittedly, the easiest way to address the highlighted issues is to prohibit cryptocurrencies. However, as the foregoing suggests, the benefits of permitting the use of cryptocurrencies outweigh these challenges. Additionally, the prohibition of cryptocurrencies would only necessitate clandestine use within unmonitored channels considering that the demand for cryptocurrencies persists in Nigeria.

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<sup>118</sup> Janis Sarra Louise Gullifer, 'Crypto-Claimants and Bitcoin Bankruptcy: Challenges for Recognition and Realization' (2019) (2) *International Insolvency Review* 233, 268

<sup>119</sup> Lee (n 78) 95

#### 1.4.2 (d) Standardisation of rules

As illustrated above, cryptocurrency use continues unabated in Nigeria irrespective of the disposition of regulators towards users. While it could be argued that users operate at their own risk and should be prepared for the negative implications of their actions, CUI raises issues beyond the cryptocurrency market. Most prominently, the regulation of similar activities within the traditional financial services sector would be nugatory and possibly illegitimate if transactions mimicking these services within cryptocurrency markets are left unregulated. Take, for instance, the taxation of cross-border remittance and the setting of limits on transfers. The taxation of transactions conducted through commercial banks or reports on suspicious transactions in line with AML/CFT principles may lose its meaning where service providers processing cryptocurrency-related transactions are outside of the regulatory loop. Regulation must be standardised across the board, leaving little or no gaps for actors aiming to escape regulatory scrutiny. Extending the application of existing rules on the areas touched on by CUI will be instrumental for standardisation in financial services policy across the board.

#### 1.4.2 (e) Political implications

In addition to their socio-economic implications, cryptocurrencies have a polarising political effect in Nigeria. Differences in generational values, economic status and political orientation shape opposing viewpoints on their acceptance or prohibition by regulators.<sup>120</sup> While younger Nigerians, predominantly people under the age of 45, prioritise the opportunities and economic potentials which cryptocurrencies offer, older Nigerians find their disruptive nature

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<sup>120</sup> X, 'Ben Bruce, Others Condemn CBN for Closing All Cryptocurrency Accounts' (Sahara Reporters 05 February 2021) <<https://bit.ly/30xHNj4>> 05 March 2021

problematic.<sup>121</sup> The former group has a better understanding of technological products and is at a greater disadvantage in leveraging disruptive technologies.<sup>122</sup> The use of NFT in designing digital arts and the use of cryptocurrencies as investment assets by younger Nigerians constitute examples.<sup>123</sup>

Nigerians with average or below-average income, also within the group in favour of permitting cryptocurrency use, consider that cryptocurrencies offer promising returns for users.<sup>124</sup> This group concludes that prohibiting cryptocurrency use serves the purpose of a small, wealthy and large older population.<sup>125</sup> Beyond the above, other political aspects of the debate are apparent. The use of cryptocurrency as a means of attempting to “take back control” by the politically excluded during the protests against police brutality constitutes an example.<sup>126</sup> It, thereby, raises the need for a regulatory approach that balances the concerns of both sides of the divides highlighted above.

One interesting aspect that emerged from the debates touched on above is their implication for CUI regulation in Nigeria. Primarily, it highlights a potential mismatch of resources among actors in the regulatory arena. On the one hand, the technology-savvy younger generation has limited influence on policy formulation, implementation and enforcement.<sup>127</sup> On the other

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<sup>121</sup> Jaiyeola (n 46). Statistics in the UK show that people under the age of 45 are more likely to own and use cryptocurrencies. See ‘Age groups who own a cryptocurrency in the United Kingdom in 2020’ *Statistica* <<https://bit.ly/3JZg3sS>> 04 November 2021

<sup>122</sup> The Conversation, ‘Why it’s time for adults to accept that Nigerian teenagers have a digital life’ (Jun 14, 2020) <<https://bit.ly/3etjQRT>> 07 May 2021

<sup>123</sup> Ndukwe (n. 84)

<sup>124</sup> X (n 120)

<sup>125</sup> *ibid*

<sup>126</sup> Cryptocurrencies were a significant source for gathering protest funds when commercial banks closed accounts linked to the ENDSARS protests in Nigeria in a bid to cripple protests (September 2020). The political angle of the arguments is not explored further by this research. BBC ‘Cryptocurrencies: Why Nigeria is a global leader in Bitcoin trade’ (BBC News 01 March 2021) <<https://bbc.in/3rOPygk>> 05 March 2021

<sup>127</sup> This encompasses the younger generation, who also make up the politically excluded and poor groups. The Nigerian regulatory landscape is disproportionately occupied by older Nigerians who represent a smaller proportion of the population. See Doris Dokua Sasu, ‘Age distribution of population in Nigeria 2021, by gender’ (1 February 2021) <[www.statista.com/statistics/1121317/age-distribution-of-population-in-nigeria-by-gender/](http://www.statista.com/statistics/1121317/age-distribution-of-population-in-nigeria-by-gender/)> 30 March 2022; Westminster Foundation for Democracy, ‘Not Too Young to Run’ – Nigeria’s youth and politics’



hand, the group with limited expertise *technology-wise* largely shapes policy formulation, implementation and enforcement.<sup>128</sup> Reconciling the views and contributions of these groups, i.e. technical know-how of the former group, and the regulatory experience of the latter will be useful for including excluded groups and the promotion of good CUI regulation in the long run.

The increase in the adoption of cryptocurrencies in Nigeria and the utilities they offer to users in light of the socio-economic situation in Nigeria suggest that prohibiting the use of cryptocurrencies would not be the better course of action.<sup>129</sup> In addition to the reasons advanced above against prohibiting the use of cryptocurrency, enforcing a ban will be difficult considering the distributed and disruptive nature of cryptocurrencies and the availability of censorship circumvention mechanisms.<sup>130</sup> The prohibition of cryptocurrencies by states with better internet censorship infrastructure such as China and India (before India's Supreme Court pronounced on the illegality of the ban) has proven ineffective.<sup>131</sup> The situation in Nigeria is more acute given its limited access to sophisticated tools to police and enforce a ban and the pressing need of users served by cryptocurrency. The ineffective implementation and enforcement of the Twitter ban in Nigeria is an example of the difficulty faced by regulators in

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<https://bit.ly/3IYZ9cm> 30 March 2022; Sandali Handagama, 'Nigeria Protests Show Bitcoin Adoption Is Not Coming: It's Here' (October 21, 2020) <<https://bit.ly/35OJ6g9>> 12 January 2021

<sup>128</sup> Politicians, rich/influential and older Nigerians; The Conversation, 'Why it's time for adults to accept that Nigerian teenagers have a digital life' (Jun 14, 2020) <<https://bit.ly/3etjQRT>> 07 May 2021; Mattia Fosci, Lucia Loffreda Andrew Chamberlain, Nelisha Naidoo, 'Assessing the needs of the research system in Nigeria. Report for the SRIA programme' <<https://bit.ly/2SolXxx>> 07 May 2021, 4 - 5

<sup>129</sup> Jaiyeola (n 46); (n 113)

<sup>130</sup> Daniel Phillips, Scott Chipolina, 'Can A Country Actually Ban Bitcoin?' (14 September 2021) <<https://bit.ly/38F5fm8>> 18 March 2022

<sup>131</sup> See Conghui Chen, Lanlan Liu, 'How effective is China's cryptocurrency trading ban?' (2022) Financial Research Letters, 46 <<https://bit.ly/3sN3aLC>> 18 May 2022; Rain Xie, 'Why China Had to Ban Cryptocurrency but the U.S. Did Not: A Comparative Analysis of Regulations on Crypto-Markets between the U.S. and China' (2019) (2) Washington University Global Studies Law Review 457, 491; Prabhjote Gill, 'Experts fear that a 'ban' on crypto in India will only drive investors to the grey market' (24 December 2021) <<https://bit.ly/3MCuswk>> 18 May 2022; Prabhjote Gill, 'It would be nearly impossible for India to ban cryptocurrencies — here's why' (30 October 2021) <<https://bit.ly/39DKpUm>> March 18 2022; Seth Oranburg, *A History of Financial Technology and Regulation: From American Incorporation to Cryptocurrency and Crowdfunding* (2022, Cambridge University Press); Suchitra Mohanty, Nupur Anand, 'India's top court strikes down RBI banking ban on cryptocurrency' (4 March 2020) <<https://reut.rs/3yRc52x>> 18 March 2022

implementing a ban on disruptive technologies.<sup>132</sup> Similarly, Nigerian users are not deterred by the current restrictions on banks with regard to cryptocurrency-related transactions as they continue to trade in cryptocurrencies without the support of commercial banks.<sup>133</sup>

Nevertheless, the negative implications and other issues raised by cryptocurrencies touched on above cannot be ignored by regulators. This suggests that regulators must seek a desirable balance which permits the use of cryptocurrencies and limits their negative implications in Nigeria. Regulation will not only resolve the core issues touching on consumer protection, market integrity and resilience and distributional justice goals discussed in more detail in Chapters 4, 5 and 6, it will also increase trust within CUI in Nigeria thereby creating greater opportunities for leveraging the technology. Having identified how Nigerians are using cryptocurrencies and why they should be regulated in Nigeria rather than prohibited, it is necessary to evaluate Nigeria's efforts to regulate CUI. The next section presents Nigeria's approach to CUI regulation to date.

## 1.5 Efforts to regulate CUI in Nigeria

Nigeria has made several inconsistent attempts to control CUI and limit its development and widespread implications in Nigeria. Below, Figure 1.2 shows how the adoption and use of cryptocurrencies have progressed in Nigeria while Figure 1.3 summarises the regulatory responses to this. Figure 1.3 illustrates the conflicts and tensions among regulators which, in turn, have generated confusing pronouncements on cryptocurrency use in Nigeria. To an extent, these attempts show a limited understanding of how CUI and cryptocurrency markets operate.

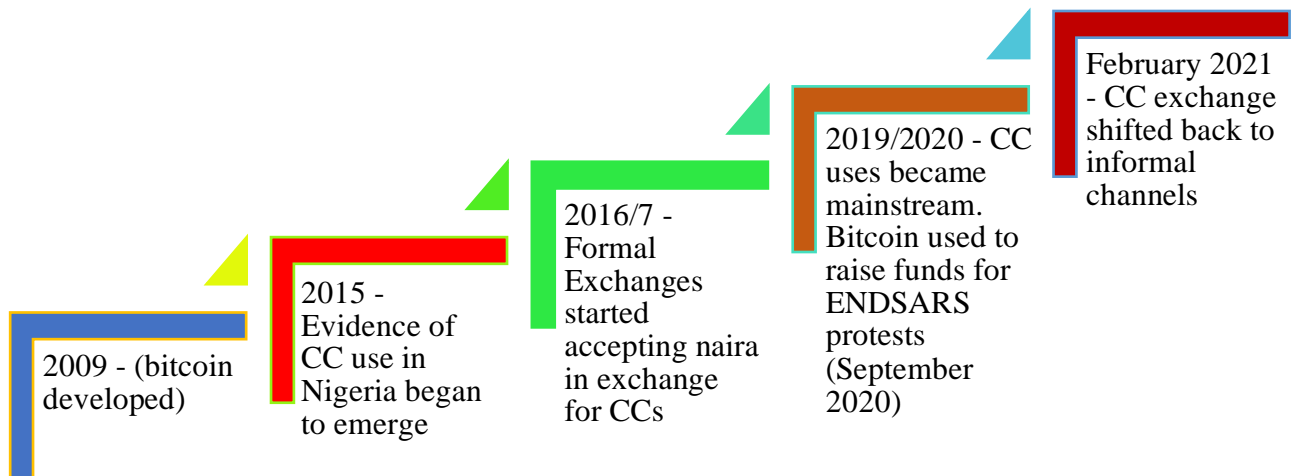
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<sup>132</sup> See more on this in Chapter 7

<sup>133</sup> Jaiyeola (n 46); (n 113)

Thereby, it exemplifies how they should *not* be regulated. The next part explains how cryptocurrency regulation has regressed over time.

Figure 1.2 - The timeline of cryptocurrency adoption in Nigeria<sup>134</sup>



Cryptocurrencies came to the attention of Nigerian regulators in 2016 when bitcoin was adopted as a medium of payment in the MMM Ponzi scheme in Nigeria. This coincided with the period when local and international exchanges started accepting payments in naira.

<sup>134</sup> Source – Author. Cryptocurrencies (CC); Market actors (MA)

Regulatory notices were issued in response to the Ponzi scheme-related activities in 2017. During this regulatory phase, the Central Bank of Nigeria (CBN) stated that cryptocurrencies are not legal tender in Nigeria. It warned users against using cryptocurrencies. It went on to prohibit banks and other financial institutions from transacting in cryptocurrencies. The Securities and Exchange Commission (SEC) issued a similar notice to investors.<sup>135</sup> No other regulatory bodies issued statements on cryptocurrencies during the same period. This is surprising considering that CUI has implications outside of the CBN and SEC's scope of authority. Taxation, commodities, money laundering and consumer protection implications are examples.

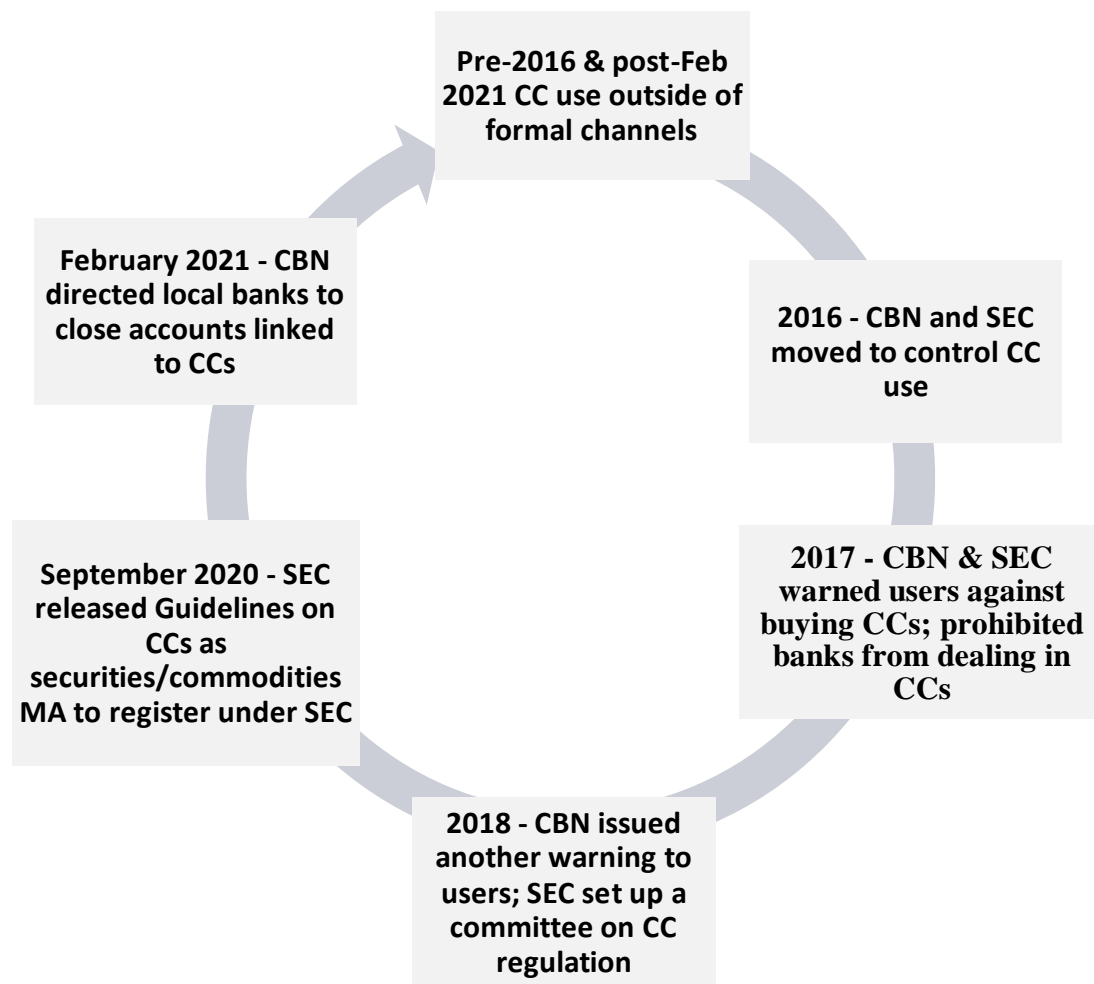
Regulators were not persuaded by the argument that prohibiting banks from processing cryptocurrency-related transactions could stifle innovation and inhibit the growth of cryptocurrency use in Nigeria. Instead, the CBN and the SEC focused on preventing the negative micro and macro-economic implications of cryptocurrencies on the Nigerian financial sector and economy. These regulators admitted that they needed more time to fully understand the implications of cryptocurrencies and their user interactions.<sup>136</sup>

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<sup>135</sup> SEC, The securities and commodities regulator in Nigeria: Public Notice on Investments in Cryptocurrencies and other Virtual or Digital Currencies (2017) <<https://bit.ly/314gsyu>> 25 June 2018; CBN, 'Circular to Banks and other Financial Institutions on Virtual Currency Operations in Nigeria' (2017) <<https://bit.ly/38x7c0D>> 25 June 2017

<sup>136</sup> *ibid*

Figure 1.3 - Phases of regulatory responses to cryptocurrency adoption in Nigeria<sup>137</sup>



The above notices had a negligible impact on the growth of cryptocurrency adoption in Nigeria. Consequently, the CBN issued another notice in 2018 which reiterated its earlier warning.<sup>138</sup> Its main addition to the earlier message was that users engage in cryptocurrencies at their own

<sup>137</sup> Source – Author. Central Bank of Nigeria (CBN), Securities and Exchanges Commission (SEC), Cryptocurrencies (CC)

<sup>138</sup> CBN, ‘Virtual Currencies are not Legal Tenders in Nigeria’ (28 February 2018) <<https://bit.ly/3FK7qQo>> 18 November 2018

risk. The notice also stated that “... exchanges such as NairaEx are not licensed or regulated by the CBN.” Nonetheless, cryptocurrency adoption continued to increase while exchanges held accounts with commercial banks. Technically, commercial banks were not in breach of the CBN’s rule considering that they did not directly engage in the processing of cryptocurrency transactions.

Turning now to the justification for Nigeria’s precautionary approach. This is connected to the size of the Nigerian economy and the possible impact of increased cryptocurrency use. The impact of cryptocurrency use on the Nigerian economy could be devastating if there is a widespread failure. The sophistication of regulators and access to regulatory instruments in Nigeria was also another source of concern. An understanding of the subject of regulation and regulatory capacity is mandatory for better control of cryptocurrency-related activities.

The second phase of regulatory pronouncements on cryptocurrencies in Nigeria did not start until late 2018 and early 2019. This phase was riddled with advancements, retreats and conflicts among regulators. First, the CBN instructed commercial banks to ensure that exchanges banking with them follow due diligence guidelines.<sup>139</sup> Secondly, the SEC inaugurated a committee to investigate cryptocurrency regulation in 2019 and later issued guidelines based on the recommendation of the committee in September 2020. The guidelines categorised cryptocurrencies as commodities and securities. It permitted the operation of cryptocurrencies in Nigeria subject to the registration of operators under Nigerian law.<sup>140</sup>

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<sup>139</sup> Chapter 5

<sup>140</sup> SEC, ‘Statement on Digital Assets and Their Classification and Treatment’ (17 September 2020) <<https://bit.ly/3vifyTx>> 22 September 2020; The Nigerian currency, the naira, was being exchanged with cryptocurrencies in the following websites as of January 2020: <https://bit.ly/2N8nt4O>: <https://bit.ly/3cj9vpd> 10 March 2021

However, less than five months after the SEC issued the above Guidelines, the CBN directed commercial banks to immediately close the accounts of everyone transacting in cryptocurrencies and even enforced sanctions against erring banks.<sup>141</sup> The CBN cited several reasons for this move including the fraudulent diversion of the United States of America's pandemic stimulus packages by fraudsters using cryptocurrencies in Nigeria and other illicit cryptocurrency use.<sup>142</sup> The CBN stated that cryptography methods "prevent oversight, accountability and regulation" and it was necessary to discourage their use in Nigeria.<sup>143</sup> The CBN equally directed banks to place a no-debit order on certain companies' bank accounts claiming that these companies sourced foreign currency illegally to buy cryptocurrencies and foreign securities.<sup>144</sup> However, a Nigerian court granted an order to lift the freezing of accounts with connections to cryptocurrencies.<sup>145</sup> The judgment was premised on the fact that the CBN acted *ultra vires*.<sup>146</sup> The court opined that CBN's directives to banks are not laws in Nigeria and the CBN must operate within the bounds of the law.<sup>147</sup>

The conflicting stances of the SEC and the CBN were confusing for market actors and users in Nigeria. These positions were later reconciled a week after the CBN's notice when the SEC advised the public of the suspension of its intention to regulate cryptocurrencies.<sup>148</sup> These moves, however, raise several questions. Prominent among these is: did the SEC move too fast

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<sup>141</sup> CBN, 'Letter to all Deposit Money Banks Non-Financial Institutions and Other Financial Institutions' (5 February 2021) <<https://bit.ly/3cr6iEh>> 7 February 2021; Dennis Erezi, 'CBN slams ₦800 million fines on banks for flouting cryptocurrency order' (Guardian, 6 April 2022) <<https://guardian.ng/news/cbn-slams-%E2%82%A6800-million-fines-on-banks-for-flouting-cryptocurrency-order/>> 19 April 2022

<sup>142</sup> CBN, Press Release; Response to Regulatory Directive on Cryptocurrencies' (7 February 2021) <<https://bit.ly/3tb5h9Q>> 7 February 2021

<sup>143</sup> X, 'Nigerian court lifts bank freeze on firms accused of buying crypto' Reuters (26 October 2021) <<https://reut.rs/3CjtOPe>> 27 October 2021

<sup>144</sup> *ibid*

<sup>145</sup> *ibid*

<sup>146</sup> *ibid*

<sup>147</sup> *ibid*

<sup>148</sup> Wale Odunsi, 'SEC joins CBN, bans crypto trading in Nigeria' (Daily Post 12 February 2021) <<https://bit.ly/3clGqt9>> 05 March 2021

to regulate without deep consultation with the CBN and other regulators on the implications of its pronouncement?<sup>149</sup>

Shifting towards how Nigerian market actors and users received financial regulators' pronouncements. Commercial banks largely avoided processing transactions with connections to cryptocurrencies in line with the CBN's directives. Conversely, the guidelines and the publicity which accompanied them have failed to discourage existing and new users.<sup>150</sup> Cryptocurrency adoption continues to increase in Nigeria. In support of the increasing adoption, a CBN spokesperson clarified that the CBN's directive does not prevent cryptocurrency use in Nigeria.<sup>151</sup> He affirmed that cryptocurrency adoption is legal.<sup>152</sup> The above position is not entirely valid considering that existing laws affirm the contrary. Chapters 5 and 6 explore this in detail.<sup>153</sup>

Interactions among cryptocurrency users and service providers in Nigeria shifted to informal channels in the absence of formal and legally recognised ones.<sup>154</sup> This development altered the dynamics of CUI. Primarily, CUI started occurring on private platforms like WhatsApp and Telegram group chats, TikTok and Facebook pages and chats.<sup>155</sup> This is problematic for correcting imperfections within CUI because actors within these channels are even less identifiable than those serving customers before the latest directives were issued. The actors

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<sup>149</sup> The answer to this question will depend on the capacity of the SEC and other regulators to control behaviour. Chapter 5 and 6 investigates the adequacy of Nigerian laws and current regulatory capacity

<sup>150</sup> BBC (n 56)

<sup>151</sup> Chukwuemeka Chinazaekpere, 'CBN: Nigerians are free to use Bitcoin, others' (March 20, 2021) <<https://bit.ly/31zO2TP>> 29 March 2021

<sup>152</sup> *ibid*

<sup>153</sup> Chapter 5 argues that cryptocurrency use as a currency is illegal under Nigerian Law

<sup>154</sup> Formal channels refer to services provided by registered exchanges and e-wallet service providers. See 'The 2021 Geography of Cryptocurrency Report: Analysis of Geographic Trends in Cryptocurrency Adoption and Usage' *Chainalysis* (October 2021) 111 <<https://bit.ly/30XwXqq>> 10 November 2021

<sup>155</sup> See *ibid* 111- 112; See also Ohuocha, George (n 52); 'Why crypto is booming in Nigeria despite govt ban' *Premium Times* (6 September 2021) <<https://bit.ly/3cJ5uv2>> 10 November 2021



operating on these platforms are less likely to abide by the *Know Your Customer* (KYC) rule.<sup>156</sup> They are also inadequately motivated to uphold other public interest principles like market integrity and consumer protection.<sup>157</sup> Additionally, these platforms are less secure: security breaches on social media platforms in Nigeria are prevalent.<sup>158</sup> The CBN's recent pronouncement effectively failed to leverage the secured environments managed by formal market actors. Undoubtedly, it sent Nigeria back to the *Wild West* markets of pre - 2017 regulatory phase.

Having explored why Nigeria should regulate cryptocurrencies and the results of its past regulatory efforts, the next question is: how should CUI regulation be approached in Nigeria? The above is the subject of an ongoing debate among scholars. As against libertarians who advocate self-regulation with minimal state intervention, some scholars agree on the propriety of state regulation provided this does not stifle innovation.<sup>159</sup> The aims of regulation, according to the latter group of scholars, are to harness the benefits of cryptocurrencies and respond to their imperfections.<sup>160</sup> Along this line, his thesis argues that Nigeria should regulate CUI to accommodate innovation, limit arbitrage and unfair competition, protect consumers, stimulate market resilience and integrity and achieve distributional justice goals.

In sum, cryptocurrencies and cryptocurrency user interactions are intricate. They occupy a legal grey area. The architecture and disruptive nature of cryptocurrencies generate issues around

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<sup>156</sup> See more on KYC in Chapters 4 and 6

<sup>157</sup> Ohuocha, George (n 52). This thesis argues that public interest principles and public law values underpin *good regulation* of cryptocurrency markets, see more in Chapters 3 and 4

<sup>158</sup> Omolara Oseni, 'Hackers now target WhatsApp Accounts: How to avoid being hacked' (13 September 2019) <<https://bit.ly/3nxUMht>> 15 September 2021

<sup>159</sup> Primavera De Filippi, 'Bitcoin: A Regulatory Nightmare to a Libertarian Dream' (2014) 3 (2) *Internet Policy Review* *Internet Policy Review*; Jay Isaac, *FinTech and Smart Contracts* (2017 Kindle Edition) 3

<sup>160</sup> Hossein Kakavand, Nicolette Kost De Sevres & Bart Chilton, 'The Blockchain Revolution: An Analysis of Regulation and Technology Related to Distributed Ledger Technologies' (2017) 21 <<https://bit.ly/3laO3Xp>> 14 October 2017; Jerry Brito, Peter Van Valkenburgh, 'State Digital Currency Principles and Framework' (Coin Center Report, Coin Center, April 2015) <<https://bit.ly/3rCTLUB>> 14 October 2017

consumer protection, market resilience and distributional justice goals.<sup>161</sup> Current uncertainties include their legality under Nigerian law, identifying the rights and liabilities of users and market actors, determining the applicable laws and evaluating the adequacy of the regulation. Other regulatory issues touch on their cross-border nature and internet governance implications of CUI. The above are compelling reasons why Nigeria should regulate CUI. Nigeria's conflicting attempts at regulation illustrate that the regulation of CUI must be approached with caution. Having presented the context of the research, the next section presents the main question that this research answers.

## 1.6 Research question and objectives

The research question is:

How should cryptocurrency user interactions be regulated in Nigeria?

Academic literature often frames questions about regulation in terms of what it is as against presenting a predetermined position of what it should be. This research builds upon this by identifying the key principles of *good regulation* and suggesting mechanisms for achieving this within CUI. *Good regulation* encompasses the input, process and outcome dimensions of regulation. *Input* refers to a well-formulated body of substantive rules. Chapters 4 and 6 argue that these rules must achieve a balance in promoting the needs of the three major stakeholders in the market, namely, the consumers, market actors and the state.<sup>162</sup>

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<sup>161</sup> The range of overlapping legislation and guidelines in Nigeria is unhelpful in this regard. Chapters 5 & 6, Chapter 7 on how to manage this limitation.

<sup>162</sup> Chapter 4 on what *good regulation* means for CUI and the interests which CUI touches on

The enforcement and implementation of comprehensive rules, as integral aspects of regulation, are driven by *good processes* which incorporate five public interest values namely, legislative mandate, due process, expertise, transparency and accountability and efficiency. Regulatory roles, *in good regulatory regimes*, are allocated to well-positioned actors with access to regulatory instruments. Finally, regulatory outcomes i.e. behaviour modification/sanctions for failure to comply are often met within *good regulatory regimes*. In other words, *good regulation* generally refers to comprehensive laws implemented and enforced by actors with access to the right tools to meet regulatory outcomes. In this thesis, I argue that *good regulation* involves collaborative regulatory efforts of state and non-state/private actors to pursue public interest goals within CUI.<sup>163</sup>

The objectives flowing from the above research question are as follows:

- a. To evaluate the need to regulate cryptocurrency user interactions (CUI) in Nigeria
- b. To identify what *good regulation* for CUI is and ascertain what this will achieve (for users, markets and the Nigerian state)
- c. To critically appraise existing laws' applications to CUI in Nigeria and determine the extent to which these laws meet *good* regulatory outcomes for CUI in Nigeria
- d. To evaluate the adequacy of Nigeria's capacity to regulate CUI
- e. To critically evaluate the different regulatory models and determine the model within which *good* regulatory principles and mechanisms for enforcement and implementation can be established for CUI in Nigeria

## 1.7 Significance of the research

Notwithstanding the ongoing debate on cryptocurrency regulation, the challenges and opportunities of CUI regulation are currently understudied in Nigeria. The first challenge,

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<sup>163</sup> Market fairness is largely underpinned by balancing the interests of all of the actors affected by market interactions. Claudio M Radaelli, Fabrizio De Francesco. *Regulatory Quality in Europe: Concepts, Measures and policy processes* (Manchester University Press 2007) 109

which doubles as an opportunity if effectively managed, is the implication of increased cryptocurrency adoption in Nigeria. As specified earlier, Nigeria occupies the 6th position in a recent ranking of top countries by cryptocurrency adoption.<sup>164</sup> Increased adoption presents an opportunity to leverage technology in solving distributional justice goals such as financial inclusion and taxation.<sup>165</sup> It is, however, problematic that a significant portion of this use occurs outside of the channels which are more amenable to regulatory control in Nigeria.<sup>166</sup> It, thus, raises an urgent need for regulators to understand the urgent need for regulation and stimulate cryptocurrency use within formal channels for better regulation.

Additionally, the ease of accessing the internet in Nigeria and Nigeria's large unemployed youth population present an interesting angle to the significance of this research and, by extension, CUI regulation. Take the ease of accessing the internet as the starting point. A significant proportion of the Nigerian population has access to the internet and can potentially trade cryptocurrencies. In 2020, 41.4% of Nigerians accessed the internet using smartphones.<sup>167</sup> This is projected to increase to 64.9% by 2025. Understanding how to regulate and adopting the right approach to regulating CUI send a positive signal and a sense of increased protection to Nigerians who have the capacity and are interested in using cryptocurrencies.

Furthermore, a high unemployed population coupled with the ease of accessing the internet in Nigeria may cause an increase in internet frauds implicating Nigerians if Nigeria continues to discourage legitimate avenues for developing skills and wealth with the use of cryptocurrencies. Currently, young Nigerians have some connections with internet fraud. The "Nigerian Prince Scam," a type of internet fraud, derived its name from its connection to

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<sup>164</sup> Helms (n 44)

<sup>165</sup> Chapters 5 and 6

<sup>166</sup> See Section 1.3 above

<sup>167</sup> Statistica Research Department, X, 'Mobile internet user penetration in Nigeria from 2015 to 2025' (4 February 2021) <<https://bit.ly/2OPNhUd>> 23 March 2021

Nigerians.<sup>168</sup> Seventy-seven out of the 80 suspects arrested in the “largest online fraud in US history” are Nigerian youth.<sup>169</sup> The pseudo-anonymity of cryptocurrencies makes them a desirable choice for internet fraudsters. The FBI's recent claim on Nigerians' connection with pandemic relief scams illustrates this.<sup>170</sup> Nigeria has not made significant advancements in prosecuting and resolving internet-based fraud cases. This challenge raises the need to explore how to apply regulation in reducing the illicit use of cryptocurrencies while ensuring that culprits are brought to justice in Nigeria.

This research addresses the above issues by going beyond the existing cryptocurrency regulation debate of whether cryptocurrencies can be regulated to examine *why* and *how* Nigeria should regulate CUI. The research also evaluates the extent to which Nigeria's financial sector regulation addresses the issues raised by CUI. After providing an understanding of CUI and establishing the inadequacy of Nigeria's existing financial sector regulatory framework, the research recommends that CUI should be regulated by comprehensive legislation implemented and enforced by state and non-state actors.

Most importantly, there is no comprehensive research that applies regulatory theories to CUI regulation. This research explores regulatory theories to map out *good regulation* for CUI. It draws from the public interest principles of regulation and the five public policy values highlighted above. The research identifies several benefits of good CUI regulation for Nigeria and other stakeholders. First, *good regulation* will bring cryptocurrency use in line with the economic and monetary objectives of Nigeria. Second, it will offer better protection to

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<sup>168</sup> The local influence of internet fraudsters was explored in this article. X, 'Letter from Africa: Why Nigeria's internet scammers are “role models’ *BBC* (23 September 2019) <<https://bbc.in/2OUwS0G>> 22 March 2021

<sup>169</sup> X 'US names Nigerians in massive fraud investigation' (BBC 23 Aug 2019) <<https://bbc.in/2NEFVCd>> 22 March 2021; X, 'Letter from Africa: Why Nigeria's internet scammers are “role models”' (BBC 23 September 2019) <<https://bbc.in/2OUwS0G>> 22 March 2021

<sup>170</sup> CBN (n 67)

consumers by improving market actors' accountability. Third, it will limit the use of cryptocurrencies for illicit purposes and help to bring culprits to justice.<sup>171</sup> It will also promote the financial inclusion of the underbanked population and help the state to achieve its other distributive justice objectives.<sup>172</sup>

In sum, the research makes original contributions to knowledge in the following ways:

1. It advances an understanding of regulatory opportunities and challenges connected with cryptocurrency use
2. It expands upon existing regulatory theories by highlighting the need to focus on user interactions in regulating financial technology markets rather than the technology itself
3. It establishes *why* Nigeria should regulate CUI
4. It applies lessons from regulatory literature to identify what good CUI regulation means
5. The research identifies and classifies key regulatory issues under public interest principles of consumer protection, market integrity and resilience and distributional justice goals
6. It establishes inadequacies in applying financial sector regulation to CUI<sup>173</sup>
7. Finally, it proposes an approach to *good regulation* of CUI in Nigeria

## 1.8 Methodology

The research adopts a doctrinal research approach. It draws from primary sources such as legislation, policies and guidance and secondary sources including journal articles, textbooks, monographs, reports and online resources. It identifies the current state of knowledge to present a world view on cryptocurrency regulation. The thesis equally draws from leading literature, laws and policy documents to answer the *why* and *how* of regulating financial markets, cryptocurrencies and CUI. This approach aids an understanding of how these markets operate and the user interactions underpinning the markets. The thesis also highlights the needs of

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<sup>171</sup> Gabriella Gimigliano, (Ed) *Bitcoin and Mobile Payments; Constructing a European Union Framework*, (2016, Palgrave Macmillan) 207

<sup>172</sup> Chapter 4 considers the benefits of regulation within the context of limiting the regulatory issues which CUI raise.

<sup>173</sup> Major problems include incomprehensive rules, dispersion of regulatory resources between state and non-state actors and inadequate state regulatory capacity.

consumers, market actors and the state for a more robust view of regulation and the formulation of a *good* regulatory framework for CUI.<sup>174</sup>

## 1.9 Structure of the thesis

Chapter 2 defines cryptocurrencies and their functions. In addition to identifying cryptoasset types, it explains that cryptocurrencies are digital representations of monetary value. Their combination of the characteristics of intangible “things” and digital signatures makes cryptocurrencies complex. The complexity of cryptocurrencies is exacerbated by the fact that they have been applied as commodities, securities, or currencies. Their multiple functions raise questions on how to distinguish and regulate their different functions. It equally indicates that the applications of cryptocurrencies touch on uncharted domains of law.

Having provided an understanding of cryptocurrencies and their functions in Chapter 2, Chapter 3 turns to an evaluation of the meaning of regulation and the theoretical underpinnings of the research. It adopts a broad definition of regulation which shifts away from the command-and-control framing of regulation to consider the influence of non-state actors in behaviour modification. Additionally, Chapter 3 explores regulatory models and instruments based on the extent of the state's influence. State and private-centred models of regulation are at the opposite ends of this spectrum while hybrid regulatory models lie somewhere in between. The chapter concludes by echoing the importance of choosing appropriate regulatory models and instruments. It argues that hybrid regulatory arrangements deliver better outcomes in financial markets and technological contexts.

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<sup>174</sup> Gimigliano (n 169) 24

An investigation into *why* CUI should be regulated forms the bulk of Chapter 4's analysis. Chapter 4 considers how the complexities of CUI limit the market's ability to promote public interest principles. It identifies specific regulatory issues under the three public interest principles of regulation, namely, consumer protection, market resilience and integrity and distributional justice goals. Multiple products, complex user interactions across state borders and market interest tensions and conflicts are some of the factors exacerbating the above issues. Consequently, it raises the need to balance the interests of actors by formulating, implementing and enforcing comprehensive rules designed to prevent some of the specific issues raised by CUI.

Having presented the issues raised by CUI, Chapter 5 investigates the regulatory framework with substantial bearing on CUI in Nigeria. Going by the similarities between CUI and the activities within existing financial services, CUI falls within the scope of authority of Nigerian financial sector regulators.<sup>175</sup> These regulators have claimed authority by making policy pronouncements and issuing guidelines on cryptocurrencies.<sup>176</sup> The above is problematic considering that the Command and Control (CAC) approach to regulation, which underpins Nigeria's financial sector regulation, is inappropriate for regulating CUI.<sup>177</sup> The CAC is largely rigid and may not adapt well to the dynamic contexts of cryptocurrency markets and CUI.<sup>178</sup>

Chapter 6 builds upon the discussion in Chapter 5 by evaluating the extent to which the Nigerian regulatory framework addresses each of the issues raised by CUI. The assessment shows that the Nigerian regulatory framework is inadequate. Existing rules are incomprehensive and state regulatory capacity is limited. The latter is largely shaped by a

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<sup>175</sup> These are commodities, currencies and securities. See Chapter 2

<sup>176</sup> They have issued guidelines and, in certain cases, cautioned the public against cryptocurrency use

<sup>177</sup> See Anthony Ogus, *Regulation, Legal Form and Economic Theory* (Oxford 1994) 246

<sup>178</sup> See Chapter 3



mismatch of regulatory control and regulatory resources. State actors are charged with behaviour modification notwithstanding that the resources to effectively modify behaviour are largely within the grasp of non-state actors. Chapter 7 presents solutions to the issues facing CUI regulation by advocating the development of comprehensive legislation implemented and enforced by state actors and regulatory surrogates.<sup>179</sup> In addition to identifying private actors that can act as surrogates, Chapter 7 prescribes constructive interaction, strategic role allocation, conducive conditions and good reporting mechanisms as some of the principles which must underpin Nigeria's model of regulatory surrogacy.

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<sup>179</sup> This includes Internet Service Providers (ISPs) and other intermediaries like exchanges, e-wallet service providers, internet service providers, insurance companies and consumer watchdogs

## Chapter Two

### Cryptocurrencies: Meaning and application

#### 2.1. Introduction

Currency exchange and transactions in intangible assets, such as stocks, bonds or digital futures, are not new. Transactions in cryptocurrencies which combine the characteristics of intangible assets and money are more recent. Cryptocurrencies, the latest addition to the financial market, are digital representations of monetary value which are neither well understood nor appropriately regulated.<sup>1</sup> A clear understanding of cryptocurrencies and their applications is the first step in the investigation of how cryptocurrency user interactions (CUI) should be regulated.

This chapter investigates the meaning and application of cryptocurrency. The remainder of the chapter is structured as follows. Section 2.2 provides a clear background for the discussion that follows by identifying several types of cryptoassets, with a specific focus on cryptocurrencies and specific examples. Section 2.3 classifies payment tokens/cryptocurrencies based on their functions while Section 2.4 distinguishes between fiat currency and cryptocurrencies by drawing from their primary function as forms of money. Section 2.5 explains how cryptocurrencies improve upon the traditional payment system model which they seek to replace. Notwithstanding the above, the complex nature of cryptoassets and cryptocurrencies is a reoccurring theme in this chapter. Section 2.6 concludes the chapter by reiterating that

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<sup>1</sup> European Banking Authority Opinion EBA/Op/2014/08) of 4 July 2014 on Virtual Currencies, (2014) 11 <[www.eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf](http://www.eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf)> 19 December 2018

cryptocurrency use and interactions arising from their use are not only complicated but also occur within uncharted domains of the law. The conceptualisation of different categories of cryptoassets, decentralisation, pseudo-anonymity and a limited number of intermediaries which can be effectively targeted by regulators are major issues exacerbating the situation. This suggests the need for closer regulatory scrutiny and devising solutions to the issues which CUI generates.

## 2.2. Cryptoassets

Cryptoassets refer to a broad category of digital properties created and transferred using cryptography and blockchain technology.<sup>2</sup> They encompass *so-called tokens* and cryptocurrencies/coins.<sup>3</sup> In common parlance, tokens generally refer to objects that represent other “things” and are being honoured by contracting parties as if these parties are dealing with the “things” represented by the token.<sup>4</sup> Ethereum is the pacesetter in terms of digital tokens with broader use beyond payment tokens. The use of the term *token* within the context of cryptoassets started after the term was proposed as a representation of value during Ethereum Virtual Machine's public launch.<sup>5</sup> Consequently, a *crypto-token* refers to a representation of virtual assets which rely on distributed or blockchain technology.<sup>6</sup> They are data entries on the

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<sup>2</sup> Kate Goldman, Arnav Kumar, *A taxonomy of digital assets* (Milken Academy, 2021) 8. Asset generally means anything of value/property capable of being owned and traded. See Merriam Webster Dictionary <[www.merriam-webster.com/dictionary/asset](http://www.merriam-webster.com/dictionary/asset)> 17 March 2022

<sup>3</sup> On why the term “tokenisation” and “tokens” do not aptly describe cryptoasset types considering that they do not represent tangible valuable things but themselves, see Alistair Milne, ‘Argument by False Analogy: The Mistaken Classification of Bitcoin as Token Money’ (November 28, 2018) 5 <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3290325](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3290325)> 22 16 May 2022

<sup>4</sup> Deloitte, ‘Are Token Assets the Securities Tomorrow?’ (2019) <<https://bit.ly/3IUvtxc>> 31 March 2022

<sup>5</sup> Alexander Lee, Brendan Malone, Paul Wong, ‘Tokens and accounts in the context of digital currencies’ (December 2020) <<https://bit.ly/3lxqgC3>> 22 April 2022

<sup>6</sup> Loïc Lesavre, Priam Varin, Dylan Yaga, ‘Blockchain Networks: Token Design and Management Overview’ (February 2021) <<https://bit.ly/3t0QUr6>> 21 April 2022, 73.

blockchain attached to different accounts which must be authorised by parties with the right codes. Authorised entries are then propagated among nodes/users, validated and recorded.<sup>7</sup>

Turning back to cryptoassets, these may be currencies, properties, securities or commodities based on their functions irrespective of what they are called.<sup>8</sup> It is not uncommon to find tokens that do not sit within the confines of either of the asset types discussed below but instead combine the features of multiple token types. These are termed *hybrid tokens*. In addition to the complexities surrounding the determination of the broad categories under which each token falls, hybrid tokens compound the complexity of classifying cryptoassets based on their function. An evaluation of cryptoassets more generally is thus crucial for an understanding of how to regulate CUI. Investment/security tokens, utility tokens, commodity tokens and cryptocurrency/payment tokens are major examples discussed below.<sup>9</sup> The next section examines each of the above and the technology underpinning them.

### 2.2.1. Investment/security tokens

Investment/security tokens are virtual assets with distinctive investment characteristics. These tokens embody obligations and entitlements similar to those represented by existing/traditional shares and investment assets.<sup>10</sup> They generally do not exist independent of the blockchain.<sup>11</sup> Security tokens are secured by cryptography, capable of being stored and transferred on the

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<sup>7</sup> *ibid* 5

<sup>8</sup> See 'Digital Assets and SEC Regulation' (Congressional Research Service, June 2021) <<https://sgp.fas.org/crs/misc/R46208.pdf>> 21 April 2022, 6; Philipp Maume, Philipp Fromberger, 'Regulations of Initial Coin Offerings: Reconciling U.S. and E.U. Securities Laws' (2019) 19 *Chi J Int'l L* 548, 558. This evaluation in the context of cryptocurrencies is returned to in section 2.3 below.

<sup>9</sup> On taxonomy of cryptoassets, see Jens Lausen, 'Regulating Initial Coin Offerings? A Taxonomy of Crypto-Assets' (Research Paper, 2019) <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3391764](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3391764)> 21 April 2022, 1

<sup>10</sup> Lausen *ibid* 3; FCA, 'Guidance on Cryptoassets' (2019) FCA Consultation Paper 19/3 <<https://bit.ly/3uLi4Cf>> 31 March 2022; The rules can be found in the Financial Services and Markets Act 2000 (Regulated Activities) Order 2001

<sup>11</sup> ASIFMA 'Tokenised Securities A Roadmap for Market Participants and Regulators (November 2019) 9 <<https://bit.ly/3MAGBSu>> 18 May 2022

blockchain underpinning them.<sup>12</sup> They represent the interest of holders in crypto-related organisations including voting rights, the right to enjoy dividends and the right to transfer the asset to other individuals.<sup>13</sup> The technology underpinning security tokens permit the automation of ownership management, record of transfers and payment for these services.

Depending on their features, security tokens may be classed as equities/shares, bonds, derivatives or collective investment schemes.<sup>14</sup> Investment assets offered to the public as securities token offerings (STOs) are regulated investments.<sup>15</sup> Although security tokens, more generally, mimic the core features of some of the highlighted traditional securities, they can be quite disruptive with additional layers of features. In some cases, it may be difficult to determine whether a cryptoasset is a security token or not going by the traditional classification of assets.<sup>16</sup> As will be seen below, a utility token can equally qualify as a form of investment/security token where they have distinctive investment features. In this case, they come under the classification of hybrid tokens already touched on above.<sup>17</sup>

Security tokens must be distinguished from tokenised securities which is another securities-related asset with connections to the blockchain.<sup>18</sup> Tokenised security, or title tokens when they represent other types of assets including intangible assets, precious metals, financial instruments, consumables and collectables, represents a new channel for presenting traditional securities.<sup>19</sup> Tokenised securities are dissimilar to security tokens in that the former has other means of representation for instance paper certificates. Tokenised security represents the

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<sup>12</sup> Joseph Lee, Doreen Annette, 'Mapping an Investor Protection Framework for the Security Token Offering Market: A Comparative Analysis of UK and German Law (January 13, 2021) <[https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3765581](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3765581)> 20 April 2022, 2

<sup>13</sup> Lausen (n 9) 10; Deloitte (n 4)

<sup>14</sup> ASIFMA (n 11)

<sup>15</sup> Joseph Lee, *Crypto-Finance, Law and Regulation Governing an Emerging Ecosystem* (Routledge, 2022)101

<sup>16</sup> FCA (n 10) 15

<sup>17</sup> Ibid Lausen 9

<sup>18</sup> Noelle Acheson, 'Security Tokens vs. Tokenized Securities: It's More Than Semantics' (Coindesk, 2 February 2019) <<https://bit.ly/3lqJtB>> 18 May 2022; FCA (n 10) 21

<sup>19</sup> Ibid; see also Lee (n 15) 45

holder's interests in existing assets offered within the traditional stock market. In this sense, they have been described as digitally wrapped traditional securities.<sup>20</sup> While tokenised securities may exist outside of the blockchain, they leverage the benefits offered by the blockchain for greater efficiency in the management of ownership registration and transfers.<sup>21</sup> Transparency, accuracy, security and the permanence and immutability of records are some of these benefits. Nevertheless, the ability of tokenised securities to fully leverage the advantages of the blockchain is significantly limited by the features and rules governing the traditional security they represent.<sup>22</sup>

Tokenised securities, by virtue of being fully backed by underlying assets, are more stable than security tokens which exist mainly on the blockchain. It is however interesting that their stability may make them less attractive to users who wish to exploit the fluctuating value of cryptocurrencies to make quick profits. In most cases, tokenised securities will be governed by existing securities law provided that the underlying assets are established as securities before their tokenisation on the blockchain. This suggests that they may pose a limited challenge to regulators compared with security tokens, Nevertheless, there is limited evidence on the widespread purchase or use of tokenised securities in Nigeria.

Turning now to the means through which security tokens are made available to the public and a potential conduit for regulating interactions. Initial Coin Offering (ICO) is one of the major ways through which security tokens are offered to the public. It bears certain similarities with the offering of shares by publicly listed companies. For instance, it represents invitations made

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<sup>20</sup> ASIFMA (n 11) 9

<sup>21</sup> *ibid*

<sup>22</sup> *ibid*

by crypto start-ups to the public to invest in a new cryptocurrency-based venture.<sup>23</sup> Crypto tokens are then issued in exchange for funds advanced by investors.<sup>24</sup> These tokens are assets that can be sold or exchanged with other crypto or traditional commodities provided the holder finds accepting individuals.

Although ICOs operate in an analogous way to Initial Public Offering of Shares (IPO), certain distinctions are apparent.<sup>25</sup> The stake of holders in the businesses invested in in the former may not be as direct as can be observed in IPOs. Coin holders do not own undivided shares in the assets of the newly launched cryptocurrency company. They own coins with the expectation that their value would increase with wider adoption in the future. Additionally, tokens/coins in ICOs are usually not backed by real assets.<sup>26</sup> Within an ICO, holders are offered promising profits in the form of an increase in the value of units occasioned by broader market adoption. In some cases, this could also include a proportion of the cash flow of the undertaking or future returns.<sup>27</sup> Finally, ICOs are primarily marketed on the internet compared with IPOs which are available within traditional markets with significant links to established stock exchanges.<sup>28</sup> The latter may also be available through the internet for easier access.

ICO has since become a common way of raising funds for new crypto ventures since its advent in 2013 by J.R. Willett.<sup>29</sup> More than 253 ICOs occurred between 2014 and 2017.<sup>30</sup> Token buyback, insider dealing and data protection are some of the issues raised by ICOs. The main

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<sup>23</sup> Saman Adhami, Giancarlo Giudici and Stefano Martinazzi, 'Why Do Businesses Go Crypto? An Empirical Analysis of Initial Coin Offerings' (2018) 100 *Journal of Economics and Business* 64 <<https://doi.org/10.1016/j.jeconbus.2018.04.001>> 14 January 2019.

<sup>24</sup> Ibid Adhami

<sup>25</sup> Maume, Fromberge (n 8) 552

<sup>26</sup> ibid

<sup>27</sup> Deloitte (n 4)

<sup>28</sup> Maume, Fromberge (n 8) 554

<sup>29</sup> Elias Ahonen, 'J. R. Willett launched the first ICO... but still has a day job' (May 4, 2022) <<https://cointelegraph.com/magazine/2021/05/04/jr-willett-launched-first-ico-but-still-has-day-job>> 17 May 2022

<sup>30</sup> Adhami, Giudici and Martinazzi (n 23) 71

issue with the ICO market structure is its decentralised investor base and an increased inability to make market intermediaries more transparent and accountable to their investors for the highlighted issues.<sup>31</sup> Market actors catering to user needs in this market include intermediaries offering related products and services.<sup>32</sup> Exchanges, ICO issuers and crypto-securities advisors are examples.

Decentralised Autonomous Organisation (DAO) is another vehicle and a more secure way through which security tokens are offered to the investing public. DAOs are smart contracts encoded with automated rules governing the issuance, transfer and maintenance of holders' assets.<sup>33</sup> DAOs are *trustless*, open-sourced and automated. Contrary to how traditional corporations rely on the board members and management to function, DAOs operate based on the underpinning protocol, the effort of users in line with this code and the blockchain for proper functioning.<sup>34</sup> The underpinning protocol guarantees unbiased outcomes by ensuring that no member of the organisation ranks above others.<sup>35</sup> To a certain extent, it removes intermediation and discretion of the users suggesting that any course of action that contravenes the code will be invalid and rejected.

Similar to other activities underpinned by blockchain, there is an accurate presentation of each user's interest at every point in time and a permanent distributed record of transactions. Thus, it guarantees the integrity of the system and dispenses with the need for designated record keepers while ensuring that a true representation of transactions is constantly maintained through automation. DAOs have been used to raise funds from investors within the broader international market unhindered by regulatory requirements/bottlenecks which vary across

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<sup>31</sup> Lee & Annette (n 12) 17 & 19

<sup>32</sup> Lee (n 15)

<sup>33</sup> Ibid 10

<sup>34</sup> Laila Metjahic, 'Deconstructing the DAO: The Need for Legal Recognition and the Application of Securities Laws to Decentralized Organizations' (2018) 39 CARDOZO L. REV. 1533, 1542.

<sup>35</sup> Ibid.



jurisdictions.<sup>36</sup> Where issued tokens are representative of an interest in DAOs, they are often not backed by existing or tangible assets. Tokens offered based on a DAO model are securities if they are used to fund projects and generate financial returns for unit holders in consideration of the funds advanced.<sup>37</sup> Similar to other cryptoasset types touched on in this section, DAOs raise significant issues for regulation including investor protection and market resilience and stability.<sup>38</sup> The hack of *The DAO*, which gave birth to *Ethereum* and *Ethereum Classic*, is an indication that DAO may also be vulnerable to external attacks if the underpinning code is defective.<sup>39</sup>

### 2.2.2. Utility tokens

As the name indicates, utility tokens are used in exchange for access to services and goods on the blockchain.<sup>40</sup> Considering that payment tokens may serve similar purposes, the above complicates the ability of holders and other stakeholders to clearly distinguish between utility and payment tokens. The FCA cites a common confusion on the distinction between exchange i.e. cryptocurrencies/payment tokens and utility tokens among respondents.<sup>41</sup> A common way to distinguish between cryptocurrencies and utility tokens is the fact that payment tokens can be used for a wide variety of things beyond their blockchain while utility tokens have their utility and value tied to specific goods and services on the hosting blockchain.<sup>42</sup>

While utility tokens may have a wider use beyond the market, other tokens or currencies are generally not accepted for obligations within the blockchain platform underpinning them. In

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<sup>36</sup> *ibid*

<sup>37</sup> *Ibid* 15; Maume, Fromberge (n 8) 559; SEC, 'Report of investigation' (25 July, 2017) <[www.sec.gov/litigation/investreport/34-81207.pdf](http://www.sec.gov/litigation/investreport/34-81207.pdf)> 18 April 2022 The US SEC consider the tokens with the above features as securities

<sup>38</sup> Lee (n 15) 15, 203

<sup>39</sup> David Siegel, 'Understanding The DAO Attack' (Coindesk, March 2022) <<https://bit.ly/3NzxhhP>> 22 April 2022

<sup>40</sup> Metjahic (n 34); Lausen (n 9) 3

<sup>41</sup> FCA (n 10) 13 Exchange/payment tokens are addressed below

<sup>42</sup> Lausen (n 9) 3, 10

the latter sense, utility tokens can be likened to vouchers (which can also be tokenised with blockchain solutions such as TokenD) used in the purchase of designated goods and services, casino chips in a casino, or gaming points which are the only acceptable form of payment for items on the gaming platform. Unlike payment tokens, utility tokens are not created through mining.<sup>43</sup> They are specific creations of individuals or groups of individuals for use within designated blockchain networks.<sup>44</sup> They also do not represent the stake of holders in the business of the accepting organisation like security tokens.

Utility tokens represent the value ascribed to them by issuers.<sup>45</sup> In addition, the rules governing the use of utility tokens are determined by their creators. While they can be programmed to be transferable, they can also be designed for the sole use of their original owners.<sup>46</sup> Where they are transferrable, they represent good instruments for settling payment obligations.<sup>47</sup> Binance Coin, the only form of payment for goods and services on Binance, is an example of a utility token which is transferable thereby representing a currency accepted as a form of payment for goods and services in the broader cryptocurrency market. Chapter 1, Section 1.3.1 illustrates that utility tokens are currently being used in the music and art industry in Nigeria to create commodity tokens including NFTs on the Ethereum blockchain.

Regulators have an important role in protecting consumers/end-users and ensuring that market actors abide by best practices while they create and use utility tokens. With this in mind, identifying the broad category of assets within which utility tokens fall is crucial for regulation. However, this may be problematic. Utility tokens are generally not investments, but they may also be classed as investments in addition to their utility function if they have certain investment

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<sup>43</sup> Lee (n 15)

<sup>44</sup> Ibid 362

<sup>45</sup> Lee (n 15)

<sup>46</sup> Ibid.

<sup>47</sup> *ibid*

features. In that case, utility tokens may retain their identity as utility and security tokens thereby becoming hybrid tokens according to the US SEC.<sup>48</sup> The UK FCA also noted that specific types may fall under the law governing e-money if certain conditions are met.<sup>49</sup>

### 2.2.3. Commodity tokens

Similar to security tokens, commodity tokens are assets created and capable of being traded on the blockchain. They can equally represent the value of underlying goods such as gold, silver, oil, or even currencies like the USD tether.<sup>50</sup> Holders are assured that the tokens are redeemable for the value of underlying commodities when presented. Commodity tokens, unlike commodity derivatives, do not represent the investment of holders in the underlying assets.<sup>51</sup> In addition to the above, assets that are only represented on the blockchain without traditional equivalents are examples of commodity tokens. NFT is a noteworthy example of the above.

#### 2.2.3 (a) Non-fungible tokens

Non-fungible tokens (NFTs) deserve a mention in this analysis considering that they represent a type of asset with distinctive features capable of falling under several categories of cryptoassets. NFTs evidence the difficulty in maintaining a broad categorisation of cryptoassets for the purpose of regulation without a prior investigation of their utility. They are non-fungible in the sense that they are irreplaceable by other NFTs. Existing examples such as digital paintings and videos are similar to commodities and can be bought or traded by barter like several other items available in the market.

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<sup>48</sup> Maume, Fromberger (n 8) 565; Lausen (n 9) 5

<sup>49</sup> FCA (n 10)

<sup>50</sup> Alexandra Ulmer, Deisy Buitrago, 'Enter the 'petro': Venezuela to launch oil-backed cryptocurrency' (3 December 2017) <[www.reuters.com/article/us-venezuela-economy-idUSKBN1DX0SQ](http://www.reuters.com/article/us-venezuela-economy-idUSKBN1DX0SQ)> 01 April 2022

<sup>51</sup> Lee (n 15) 47

However, no two NFTs are the same. For instance, while a unit of bitcoin mined in 2009 and another one mined in 2020 are similar and either of the two is acceptable as payment in exchange for goods, NFTs have distinctive features, meaning that one NFT cannot be used in place of another. For the above reason, they have been described as collectables and excluded under the definition of virtual assets by the FATF except in cases where NFTs are used for payment and investment purposes.<sup>52</sup> Common examples of NFTs include videos, paintings, arts, gaming, event tickets and tweets.<sup>53</sup> The sale of Jack Dorsey's first tweet for more than 2.9 million US dollars is an interesting example.<sup>54</sup>

NFTs have close links to the development of smart contracts enabled by the Ethereum protocol. Smart contracts generally refer to codified and self-executing terms of agreements on distributed ledger technologies such as the blockchain. In layman's terms, it refers to a computer program that does something if another thing happens. For instance, if a specific individual or node proves the ownership of a digital asset, such as an NFT, in line with the code underpinning its creation on the blockchain, such an individual can exercise acts of ownership on it including transferring the NFT and receiving payments such as royalties.<sup>55</sup> These transactions including transfers and payments of royalties occur on the blockchain underpinning the NFT. The availability of the full trading history, greater liquidity and easy operation across different platforms make NFTs a viable solution for protecting intellectual property.<sup>56</sup> As noted in Section 1.3.1 of Chapter 1, Nigerian artists are leveraging the

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<sup>52</sup> FATF, 'Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers' (October 2021) <<https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>> 17 April 2022, 24

<sup>53</sup> Qin Wang, Rujia Li, Qi Wang, Shiping Chen, 'Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges' 12 <<https://arxiv.org/pdf/2105.07447.pdf>> 2, 31 March 2022.

<sup>54</sup> Taylor Locke, 'Jack Dorsey sells his first tweet ever as an NFT for over 2.9 million' (CNBC) <<https://cnb.cx/3iPdjlV>> 31 March 2022

<sup>55</sup> Flash Loans within which a node can borrow funds which must be paid immediately on Ethereum is another example. This has proven useful in making and profiting from quick trades on the blockchain. See Filippos Dounis, 'DeFi Flashloans: Borrow Millions and Pay Nothing in Advance' (April 2021) <<https://bit.ly/38KmsL1>> 22 April 2022

<sup>56</sup> Wang et al (n 56)

opportunities created by NFT to expand their customer base beyond the shores of Nigeria. A good regulatory model will be useful for maximising the benefits of the cryptoasset while minimising its adverse implications.

#### 2.2.4. Cryptocurrencies/payment tokens

At the early stages of the development of cryptocurrencies post-2009, the main issues raised were their disruptive nature and if they can be regulated. With the development of the more complicated Ethereum Virtual Machine which combined the concepts of scripting, altcoins and blockchain-related protocols for broader utilities, new classes of assets called crypto tokens touched on above started emerging.<sup>57</sup> This brought to the attention of regulators and academics the need to properly conceptualise cryptoasset types for the purpose of determining applicable regulation. Going by their functioning, certain *so-called cryptocurrencies* are no more than security or commodity tokens. This means that the name of a cryptoasset may not be indicative of its true nature and meaning.

Consequently, the commonly acknowledged name of each cryptoasset under review often becomes immaterial. Instead, the functionalist approach to defining cryptoasset types is gaining traction among academics and regulators.<sup>58</sup> For example, the FATF and the UK FCA issued guidance and reports on *virtual assets* and *exchange tokens* rather than cryptocurrencies.<sup>59</sup> However, cryptoassets that perform functions other than (or in addition to) a means of exchange are called and listed as cryptocurrencies by exchanges.<sup>60</sup> This section, in line with the aims of

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<sup>57</sup> Vitalik Buterin, 'Ethereum White Paper: A Next Generation Smart Contract & Decentralized Application Platform' 13 <<https://bit.ly/3sxypKO>> 17 April 2022

<sup>58</sup> See Lee (n 15); Sherwin Dowlatabadi, Michael Hodapp, 'Cryptoasset Market Coverage Initiation: Network Creation' Satis Group (July 11, 2018) 24. <<https://bit.ly/3zV9pPx>> 24 July 2019; FCA, 'Guidance on cryptoassets feedback and final guidance to CP 19/3. Policy Statement PS19/22'. (July 2019) <[www.fca.org.uk/publication/policy/ps19-22.pdf](https://www.fca.org.uk/publication/policy/ps19-22.pdf)> 17 April 2022; FATF 'Report; Virtual Currencies Key Definitions and Potential AML/CFT Risks' (June 2014) <<https://www.fatf-gafi.org/media/fatf/documents/reports/virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf>>

<sup>59</sup> FATF *ibid*; FCA (n 10)

<sup>60</sup> Litecoin, BNB and the contentions XRP are examples. See Coinmarketcap, 'Cryptocurrency Prices by Market Cap' <<https://coinmarketcap.com/>> 22 March 2022.

the thesis, evaluates the meaning of commonly acknowledged *cryptocurrencies*, which can also fall under different traditional categories of commodities, securities and currencies.<sup>61</sup>

Commonly known as cryptocurrencies, payment tokens refer to cryptoassets that are created to operate as currencies on blockchain platforms.<sup>62</sup> Also termed as “exchange tokens” by the FCA, cryptocurrencies refer to assets that are used in exchange for goods and services while dispensing with the need for intermediaries.<sup>63</sup> Similar to conventional currencies, they operate as a means of settling financial obligations.<sup>64</sup> The term “cryptocurrency,” is derived from “cryptography” and “currency.” Cryptography is a derivative of the Greek word “kryptos” which means “secret writing.”<sup>65</sup> Currency, on the other hand, refers to money in general use in specific locations i.e. country, state or province.<sup>66</sup> Consequently, a cryptocurrency is a math-based convertible and decentralised virtual currency underpinned by an encryption model.<sup>67</sup> It relies on a secretly written ledger system for recording and completing transactions. Significant stages in the evolution of money include the transition from gold to bank notes and later to fiat currencies. Cryptocurrencies could be the next step in the evolution of money since they serve the purposes of bank notes and money.

Cryptocurrencies can be classified based on the nature of the ledger underpinning them i.e. centralised and distributed (decentralised) ledger systems.<sup>68</sup> Centralised cryptocurrencies are

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<sup>61</sup> Consequently, it advances the meaning of cryptocurrencies as cryptoassets which are predominantly payment tokens that can serve as or even become more popular as speculative investment assets/securities or commodities if regulators classify them as such E.g. XRP. Section 2.3 below considers the functioning of cryptocurrencies as commodities, securities and currencies in more detail. See also O.S. Bolotaeva, ‘The Legal Nature of Cryptocurrency’ (2019) IOP Conference Series: Earth and Environmental Science. 2 <<https://bit.ly/3MGnsyi>> 17 April 2022

<sup>62</sup> Lausen (n 9) 3

<sup>63</sup> FCA (n 10) 4

<sup>64</sup> *ibid*

<sup>65</sup> Nick Furneaux, *Investigating Cryptocurrencies Understanding, Extracting and Analyzing Blockchain Evidence*, (2018 Wiley) 7

<sup>66</sup> Oxford English Dictionary <<https://bit.ly/3rJgW1E>> 22 November 2018

<sup>67</sup> FATF (n 55)

<sup>68</sup> In a decentralised ledger system, everyone controls it, but no individual can exert influence on the entire system. Monia Milutinović, ‘Cryptocurrency’ (2018) Vol.64 (1) *Ekonomika* 105, 112; George Danezis and Sarah

those administered by central controlling institutions. These institutions enable transaction validity and smooth value transmission among users. *Stablecoins* and state-issued virtual currencies are examples of centralised cryptocurrencies.<sup>69</sup> Cryptocurrencies supported by distributed ledgers have information on transactions stored on different servers scattered across the world.<sup>70</sup> They rely on the collaborative efforts of participants to complete, validate and verify transactions. Individuals/groups across different geographic locations can participate.<sup>71</sup>

The level of security of the ledgers underpinning transactions is a distinguishing factor between centralised and distributed cryptocurrencies. Cryptocurrency networks underpinned by central ledger systems are easy targets for hackers considering that all the information relating to the ledgers is kept in one central system.<sup>72</sup> Corrupting files on centralised servers suffices for successful attacks. The reverse is the case for distributed ledger systems which are less susceptible to external attacks due to their distributed nature.<sup>73</sup> The transparency of distributed ledger systems is another advantage. Distributed ledgers are publicly available which means that they are more accessible to users/participants for easy detection of manipulation.<sup>74</sup>

Shifting towards different cryptocurrency products available within the market. “Altcoins,” exist alongside bitcoin, the first cryptocurrency type.<sup>75</sup> Altcoins is the phrase used to describe other cryptocurrencies developed after bitcoin. Litecoin (LTC), XRP (ripple), bitcoin cash

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Meiklejohn, ‘Centrally Banked Cryptocurrencies’ (Cryptology ePrint Archive: Report 2015/502) <<https://eprint.iacr.org/2015/502.pdf>> 4. 22 November 2018

<sup>69</sup> Pax Gold is an example of a gold backed cryptocurrencies while tether USA is an example of a fiat currency backed cryptocurrencies

<sup>70</sup> Ibid Milutinović (n 71)

<sup>71</sup> Ibid

<sup>72</sup> Danezis and Meiklejohn (n 71); Pedro Franco, *Understanding Bitcoin: Cryptography, Engineering and Economics* (2015 Wiley) 5

<sup>73</sup> Ibid

<sup>74</sup> Another reason why fewer users are attracted to centralised ledger systems could be a function of who administers these systems. Centralised cryptocurrencies tend to be in the hands of private individuals/states and since the major attraction for using cryptocurrencies lies in limiting the control of these individuals over financial services, it may be illogical to go back under their control in cryptocurrency markets

<sup>75</sup> This refers to the total number of cryptocurrencies listed in accordance with their market capitalisation. Coinlore, ‘Cryptocurrency list’ (2018) <[www.coinlore.com/all\\_coins](http://www.coinlore.com/all_coins)> 13 November 2018

(BCH), ether (ETH), monero (XMR), zcash (ZEC), neo (NEO), eos (EOS) dogecoin (DOGE) and dash (DASH) are common examples. These types of cryptocurrencies are available within global cryptocurrency markets, including Nigeria. Similar to bitcoin, altcoins depend on cryptography to calculate and assemble the information or data embedded in the blockchain ledger system. While cryptocurrencies rely on similar mechanisms, their algorithms differ.<sup>76</sup>

Altcoins improve upon bitcoin's characteristics.<sup>77</sup> Easier processing of transactions, faster transaction times and improved pseudo-anonymity are key improvements.<sup>78</sup> For instance, litecoin offers faster payment systems in comparison to bitcoin.<sup>79</sup> It also improves upon bitcoin's model by writing the code for a higher number of units.<sup>80</sup> Litecoin's total maximum unit is 84 million compared with bitcoin's 21 million units.<sup>81</sup> Dash offers increased anonymity for users who opt in.<sup>82</sup> It achieves this with an advanced cryptographic technique.<sup>83</sup>

Notwithstanding the improvements offered by altcoins, bitcoin maintains a larger share of the cryptocurrency market. Bitcoin's market capitalisation as of December 2018 was 51.98%.<sup>84</sup> This increased to 69% in January 2021.<sup>85</sup> It shrank to 39.9% on 17 May 2021 and later increased to 42.20 in November 2021.<sup>86</sup> This figure is constantly changing due to cryptocurrency market volatility. Altcoins also tend to be more volatile.<sup>87</sup> Additionally, the size

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<sup>76</sup> Milutinović (n 71)

<sup>77</sup> Michael Anderson Schillig, 'Cryptocurrencies: Development and perspectives' in Iris H-Y Chiu, Gudula Deipenbrock, *Routledge Handbook of Financial Technology and Law* (Routledge, 2021) 324

<sup>78</sup> Milutinović (n 71) 107

<sup>79</sup> Coindesk, 'What is the Difference between Litecoin and Bitcoin?' (2 Apr. 2014) <[www.coindesk.com/information/comparing-litecoin-bitcoin](http://www.coindesk.com/information/comparing-litecoin-bitcoin)> 26 November 2018

<sup>80</sup> *ibid*

<sup>81</sup> *ibid*

<sup>82</sup> Furneaux (n 68) 8

<sup>83</sup> *ibid*

<sup>84</sup> CoinMarketCap, 'All cryptocurrencies', (2018) <<https://coinmarketcap.com/all/views/all/>>: 10 December 2018

<sup>85</sup> Coinmap 'Percentage of Total Market Capitalisation' (2021) <<https://coinmarketcap.com/charts/>> 125 November 2021

<sup>86</sup> *ibid*

<sup>87</sup> This is clear from an in-depth analysis of the data provided on the movements of the major types of cryptocurrencies. E.g. CoinMarketCap, 'Top 100 Cryptocurrencies by Market Capitalization' (2018) <<https://coinmarketcap.com/>> 16 November 2018



of the altcoins market not only shapes the dynamics of the cryptocurrency market but also has certain implications for its regulation. Promotion of competition and improvements in product and service delivery are examples. Chapters 4, 5 and 6 discuss some of these implications.

For a more robust understanding of cryptocurrencies, the rest of this section will examine the meaning and application of bitcoin, ether and monero and the technology underpinning them. These cryptocurrencies have been selected because they are commonly known and used across the world including in Nigeria. The significant differences in the protocols underpinning these cryptocurrencies exemplify the complex nature of the cryptocurrency ecosystem which must be understood for good CUI regulation. Examining bitcoin and its protocol is relevant because it is the model upon which developers build subsequent cryptocurrencies. Its prime position not just as the first cryptocurrency to be developed, but also because it has maintained a larger market share of cryptocurrency market capitalisation was arguably motivating for developers. Monero has been selected because of its increased anonymity feature which makes it a good example of cryptocurrencies that can be used to circumvent regulatory control by illicit actors. Finally, it is necessary to discuss the application of ether because of the unique nature of its underpinning Blockchain, Ethereum. Ethereum is not solely a protocol for powering decentralised cryptoassets, it offers greater utility for the design of applications with use beyond the financial sector.<sup>88</sup>

#### 2.2.4 (a) Bitcoin

Bitcoin is the original concept upon which other cryptocurrencies are built.<sup>89</sup> The US Commodity Futures Trading Commission defines bitcoin as “... a digital representation of value that functions as an instrument of exchange, a unit of account and a store of value.”<sup>90</sup>

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<sup>88</sup> Ethereum is discussed in greater detail in section 2.2.4.(b) below

<sup>89</sup> Franco (n 75) 171

<sup>90</sup> CFTC, ‘A CFTC Primer on Virtual Currencies’ (October 17, 2017) < <https://bit.ly/3kpbVrU> > 21 November 2018, 4

Like several other cryptocurrencies, bitcoin is a value-based payment token represented by public and corresponding private keys. Each bitcoin is constituted of a chain of digital signatures that can be transferred between users. A digital signature comprises a public key/address and a private key. To transfer units of bitcoin, the transaction must originate from the right public key and be signed by a corresponding private key.<sup>91</sup> Signing each transaction with the private key of the transferor and adding the data to the end of the coin completes the transaction.<sup>92</sup>

Every transaction on the blockchain is made up of inputs (debits) and outputs (credit). In line with the accounting principle, for every debit in the account of the transferor on the blockchain, there is a corresponding credit in the account of the transferee.<sup>93</sup> In this sense, the output is a number of unspent units accompanied by specific conditions for transferring these units/unspent transactions output.<sup>94</sup> A combination of a publicly known key and a private key known only to the unit holder means that only persons with matching private keys can access and transfer the relevant units of bitcoins to other users.

Bitcoin, as a decentralised platform for transferring value, is based on distributed ledger technology (DLT). Transactions on the blockchain are collated and recorded in the form of blocks linked to one another in ascending order: the first being the first block to be calculated while the last will be the last block.<sup>95</sup> The ledger derived its name, blockchain, from this. Every block on the blockchain is a combination of smaller transactions/transfers of units. Each of the transactions making up a block is a validated propagation of transfers among nodes i.e.

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<sup>91</sup> Satoshi Nakamoto, 'Bitcoin: A Peer-To-Peer Electronic Cash System 8', (2009) <<https://bit.ly/3t2J1iz>> 20 July 2017

<sup>92</sup> Ibid 2

<sup>93</sup> X, *Mastering Bitcoin* (Second Edition, 2017) 31

<sup>94</sup> Schillig (n 80) 325

<sup>95</sup> Andrea Barroni, 'Bitcoins Regulatory Patterns' [2016] Vol. 32(1) *Banking & Finance Law Review* 47, 51

wallets.<sup>96</sup> New transfer of units of bitcoins between nodes is propagated among other nodes on the network for validation similar to how transfers using the traditional remittance system are validated by banks or SWIFT in the case of international remittance.

Every node that receives the information shares this with other nodes within its network, and soon this information floods the bitcoin network. The nodes all work to verify the transaction by confirming that the transaction is valid. Key considerations include matching public and private keys and ensuring that the units spent account for transaction fees. The transfer must equally be reconcilable with existing records on the blockchain i.e. this coin is not being spent a second time.<sup>97</sup> Nodes arrive at the solutions and this is in turn verified by other nodes as authentic. What happens during and after verification i.e. mining is crucial to the sustainability of the Blockchain. The next paragraph turns to this.

New bitcoin units are mined, i.e. created as a form of reward for validating bitcoin transactions making up one block on the blockchain.<sup>98</sup> The nodes expend computing power and electricity to arrive at the solutions required to create new blocks. Certain nodes, called miners, dedicate more time and effort to this exercise. In most cases, a block on the blockchain will be made up of several transactions. This means that verification of a transaction will not be communicated on the network until several transactions making up a block are verified. Miners have the discretion on which transactions they verify. Considering that miners run their operations like a business, transactions with higher fees are often prioritised.

The bitcoin verification model is based upon a cryptographic hash with increasing difficulty.<sup>99</sup>

The *proof-of-work* algorithm involves hashing the block header and a random number with the

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<sup>96</sup> X (n 96)

<sup>97</sup> *ibid*

<sup>98</sup> A block is made up of a list of transactions and the block header. See Harris Brakmić, *Bitcoin and Lightning Network on Raspberry Pi* (2019, Apress) 15

<sup>99</sup> X (n 96)

*Secure Hash Algorithm (SHA) 256*, a 256-bit long output value, to arrive at a solution that matches a predetermined form.<sup>100</sup> This way, the *proof-of-work* model ensures that each output is authentic without revealing the content of the transaction. Considering that this is a competition on accuracy and speed, winning nodes must maintain an efficient balance between the two. Notwithstanding the difficulty in arriving at solutions required for creating a new block, the *proof-of-work* or solution, is easy to verify.<sup>101</sup>

Other nodes will accept a block when all the transactions in it are valid with no spent units.<sup>102</sup> Acceptance of a block is communicated by nodes suspending further *proof-of-work* on that block and proceeding to build the next block on the blockchain and using the hash of the accepted block as the previous block they are building on.<sup>103</sup> The majority decision has the greatest *proof-of-work* investment and is often represented by the longest chain.<sup>104</sup> The transaction verified and accepted by the majority as illustrated above wins the mining round. After verification, each transaction in the blocks is time-stamped thereby providing a proper record of activities that occur and the specific time they occurred.<sup>105</sup> Since a search for the same block already mined is not rewarded, the system ensures that nodes focus on winning the incentive for mining the next blocks thereby solidifying the broader acceptance of mined blocks.<sup>106</sup> The winning node receives newly mined bitcoin and transaction fees for their successful effort.<sup>107</sup>

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<sup>100</sup> *ibid*; Nakamoto (n 94)

<sup>101</sup> X (n 96) 31

<sup>102</sup> Nakamoto (n 94)

<sup>103</sup> *ibid*

<sup>104</sup> *ibid*, 3

<sup>105</sup> L'heureux, Lee (n 12) 424

<sup>106</sup> Nicolas T Courtois, Marek Grajek, Rahul Naik, 'Optimizing SHA256 in Bitcoin Mining' in *Cryptography and Security Systems* (Springer, Third International Conference, CSS 2014 Lublin, Poland, September 22–24, 2014 Proceedings) <<https://bit.ly/3x1k0sZ>> 23 March 2022, 132, 133

<sup>107</sup> X (n 96) 31

With the mining model, bitcoin currently transfers most of the transaction costs to the system instead of the customers by creating new units of bitcoins as a reward for mining efforts.<sup>108</sup> However, the rewards for calculating transactions on the blockchain will not continue indefinitely since the number of bitcoins, and similarly modelled cryptocurrencies, to be mined is finite. The last unit of bitcoin will be mined in approximately three decades from the date the first bitcoin was mined.<sup>109</sup> A cap on the number of bitcoin units in the future is aimed at limiting the potential for devaluation. This measure was premised on the argument that excess supply of FCs is one of the major causes of their devaluation.<sup>110</sup> The above measure means that higher transaction fees will become payable.<sup>111</sup>

The foregoing touches on three outstanding features of bitcoin and its underpinning Blockchain. First, it eliminates the risks of double spending and counterfeiting. The need for the above is more apparent with the use of currencies represented by digital code i.e. a string of letters that can be copied and transferred to multiple individuals.<sup>112</sup> Double spending is prevented by the underpinning protocol which ensures that only one output/credit transaction is validated and recorded on the blockchain regarding each unit of cryptocurrency transacted.<sup>113</sup> Second, bitcoin prevents the above without relying on intermediation.<sup>114</sup> As identified above, cryptography protocol underpins bitcoin transfers thereby dispensing with the need to rely on

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<sup>108</sup> Sarah Hughes & Stephen Middlebrook, 'Regulating Cryptocurrencies in the United States: Current Issues and Future Directions' (2014) 40 Wm. Mitchell L. Rev.813

<sup>109</sup> Nicolas Wenker, 'Online Currencies, Real-World Chaos: The Struggle to Regulate the Rise of Bitcoin' [2014] Vol.19 (1) Fall Texas Review of Law & Politics 145, 63

<sup>110</sup> Stephanie Lo and J Christina Wang, 'Bitcoin as Money? Motivation' [2014] No. 14-4, Current Policy Perspectives, Federal Reserve Bank of Boston 2. The argument is rather more complex as currency depreciation could occur as a result of other factors. This cannot be dealt with in detail here due to space constraint. Robert L. Hetzel and Thomas A. Lawler, 'The Cause of the Dollar Depreciation' (May/June 1978) Economic Review, 15 <<https://core.ac.uk/download/pdf/6917552.pdf>> 12 May 2021

<sup>111</sup> Lo & Wang *ibid*; Furneaux (n 68) 89 As against existing banking systems, cryptocurrencies do not require physical offices or human capital expenses to operate

<sup>112</sup> Satoshi (n 23)

<sup>113</sup> *ibid*

<sup>114</sup> These are two key issues facing FCs. Double spending refers to using one unit of currency to settle more than one obligation at the same time while counterfeiting refers to copying money illegally.

trusted third parties.<sup>115</sup> This contrasts with FCs which rely on trust in legitimate third parties,<sup>116</sup> the backing of governments,<sup>117</sup> or physical gold.<sup>118</sup>

Third, the integrity of the blockchain, which is embedded in the system in a self-sustaining manner linked to a reward system presented above, is noteworthy. The blind and competitive nature of arriving at the answer to equations and the need for a consensus before a block is added to the blockchain guarantees this.<sup>119</sup> The permanence of transactions is another benefit. Each block added to the blockchain is irreversible. This is not only because it has been verified to be authentic, but also because it was arrived at by the consensus as explained above.<sup>120</sup> Fourth, the record of all transactions, including all the blocks on the Blockchain and the calculations behind them, is stored on multiple servers across the world and publicly available thereby creating an impregnable record of transactions.<sup>121</sup> Finally, the programming language and *script*, used in building bitcoin have been described as Turing incomplete.<sup>122</sup> Although it enables a variety of outcomes through different instructions including the *special if-else* instruction, it does not allow *loop* constructs similar to other programming languages.<sup>123</sup> This measure was to prevent an unending code execution that can exhaust the resources of nodes.<sup>124</sup>

#### 2.2.4 (b) Ether

Several features of bitcoin touched on above are present in other cryptocurrencies including Ether and the technology underpinning them. In this vein, Ethereum, the technology that

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<sup>115</sup> Satoshi (n 23)

<sup>116</sup> Ed Howden, 'The Crypto-Currency Conundrum: Regulating an Uncertain Future' [2015] 29 Emory Int'l L. Rev. 741, 743

<sup>117</sup> Barroni (n 98) 53

<sup>118</sup> Angela Redish, 'Anchors Aweigh - The Transition from Commodity Money to Fiat Money in Western Countries' [1993] Vol. 26, No. 4 Canadian Journal of Economics 777, 778

<sup>119</sup> Furneaux (n 68); L'heureux & Lee, (n 12) 423

<sup>120</sup> Nakamoto (n 94)

<sup>121</sup> Hughes & Middlebrook (n 111). The finality to transactions raises consumer protection issues. Chapters 4 and 6 for more on this

<sup>122</sup> See Brakmić (n 101) 78

<sup>123</sup> Eg. For-each, while-do, loop until which are useful in the smart contract model enabled by Ethereum. See *ibid*

<sup>124</sup> *ibid*

underpins ether, is a blockchain designed to facilitate *trustless* interactions between strangers.<sup>125</sup> However, Ethereum is powered by a more robust programming that allows the creation of applications. Unlike Bitcoin blockchain which tracks transactions (unspent transaction outputs i.e. UTXO), Ethereum is an account-based program which treats assets as balances in accounts. Within the account-based model, the code underpinning smart contracts permits them to hold funds which can be transferred accordingly while the system keeps a record of each account in the network.<sup>126</sup> Conversely, the transfer of cryptoassets in the transaction-based model is identified as Directed Acyclic Graph (DAR) between addresses mapping the link between two or more nodes.<sup>127</sup> As a general-purpose data storage and virtual machine, Ethereum stores data and machine-readable instructions upon which applications can be built.<sup>128</sup>

Ethereum Virtual Machine generates only authentic outcomes through fool-proof means by relying on a *disinterested algorithmic interpreter*.<sup>129</sup> Consequently, Ethereum is a secure transaction-based protocol within which transactions are represented by a valid link between two states of things.<sup>130</sup> An example of a valid link can be found in the trade of goods; the debit of an account to the effect of the contract sum means there must be a corresponding update on the release of goods purchased. A simplified example of this is where the payment of one pound in the slot machine signifies to the trolley hold to release just one trolley at the airport or grocery store. Ethereum permits even more complex transactions on the internet.<sup>131</sup>

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<sup>125</sup> Gavin Wood, "Ethereum: A Secure Decentralised Generalised Transaction Ledger (Berlin Version, 2022-03-09) <<https://ethereum.github.io/yellowpaper/paper.pdf>> 18 March 2022. 1

<sup>126</sup> Horizen Academy, 'UTXO vs. Account model' <<https://bit.ly/3lw6dEa>> 22 March 2022

<sup>127</sup> *ibid*

<sup>128</sup> Schillig (n 80) 329

<sup>129</sup> Wood (128) 1

<sup>130</sup> *Ibid*.

<sup>131</sup> See some examples below

In contrast, an invalid transaction would be where there is an illogical outcome. For instance, with double-spending, the payment of a sum without this being debited from the outgoing account would be invalid. The protocol enables the incremental computation of arbitrary transactions that are stored and chained together in blocks similar to the blockchain mechanism underpinning bitcoin.<sup>132</sup> The *proof-of-work* concept ensures that the *nonce* that wins a mining round has arrived at the most credible outcome on the system before chaining this to existing blocks.<sup>133</sup>

Ether is a payment token operating at the protocol level on Ethereum.<sup>134</sup> The relationship between the two is interesting considering that it illustrates how Ethereum is more than just a payment system platform like bitcoin. While Ethereum is the virtual machine for creating and running decentralised applications, ether is the fuel that powers the machine. Application developers using the Ethereum protocol use ether in exchange for utility tokens on the platform to power their products and services. In this sense, ether bears significant similarity with payment tokens because it is the only acceptable means of paying for transactions including computation services on Ethereum.<sup>135</sup> Essentially, ether aids the smooth functioning of Ethereum and applications developed on the platform. Beyond the above, ether also functions as a form of currency due to its broader market adoption.<sup>136</sup>

Ethereum, with the aid of ether, offers greater utility for a host of applications including decentralised finance (DeFi), identity management, smart contracts (including Decentralised Autonomous Organisations), electronic voting, NFT touched on above and online gaming.<sup>137</sup>

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<sup>132</sup> Wood (n 128) 2

<sup>133</sup> *ibid*

<sup>134</sup> Schillig (n 80) 329

<sup>135</sup> Antonio López Vivar, Ana Lucila Sandoval Orozco, Luis Javier García Villalba, 'A security framework for Ethereum smart contracts' (2021) *Computer Communications*, Volume 172, 13

<sup>136</sup> Coinmap 'Percentage of Total Market Capitalisation' (2021) <<https://coinmarketcap.com/charts/>> 125 November 2021

<sup>137</sup> Vivar et al (n 137) 119



Ethereum is a developer-friendly platform that provides the tools and mechanisms for building decentralised applications.<sup>138</sup> Solidity (argued to be a Turing complete language considering its versatile nature) is the programming language used by developers on Ethereum to develop smart contracts.<sup>139</sup>

Turning now to the mining of ether. A similar *proof-of-work* system that underpins the computation of transactions and issuance of new bitcoin units is replicated with Ethereum considering that nodes/miners complete transactions in a competitive manner. Each mining round is won by the first node to support one series of transactions represented by a block on the chain of blocks. Blocks are similar to journals within which there is a link between first, intermediate and last entries.<sup>140</sup> The reward is in form of new units of ether which are transferred to designated accounts with links to the node(s) that won the mining round(s).<sup>141</sup> Similar to the case with bitcoin, exchanges engage in the business of buying and selling ether in exchange for the Nigerian naira.<sup>142</sup>

#### 2.2.4 (c) Monero

The monero blockchain is a distributed ledger underpinned by an elliptic curve means of calculating transactions under the classification termed *Twisted Edwards Curves*. These curves are faster than other conventional cryptocurrencies in arriving at the solution required to settle transactions and mint new cryptocurrency units.<sup>143</sup> Significantly, monero's protocol with its ring signature distinguishes it from other cryptocurrencies in that it guarantees user anonymity.

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<sup>138</sup> Wood (128) 1

<sup>139</sup> Jiao Jiao et al, 'Semantic Understanding of Smart Contracts: Executable Operational Semantics of Solidity' (2020) 2020 IEEE Symposium on Security and Privacy, 1695 <<https://bit.ly/3wXeAis>> 26 April 2022

<sup>140</sup> Ibid

<sup>141</sup> *ibid*

<sup>142</sup> Chijioke Ohuocha, Libby George, (Reuters, 12 October 2021) 'Crypto trading thrives in Nigeria despite official disapproval' <<https://reut.rs/389yY61>> 24 March 2022

<sup>143</sup> Kurt M. Alonso, Koe, *Zero to Monero: a technical guide to a private digital currency; for beginners, amateurs and experts* (First edition, 2018) (v1.0.0) <<https://bit.ly/3MZsK>> 24 March 2022, 10

Monero's user anonymity makes it problematic for regulators considering that user identity is crucial for information gathering and behavioural modification within known regulatory models.<sup>144</sup>

As the name suggests, a ring signature consists of two elements namely *ring* and *signature*. The network has several rings with an identifiable public key which includes a private key and a string of unconnected public signatures.<sup>145</sup> While an observer/the public can verify that a private key is linked to the public key of a ring with participants drawn from several borders, the public/observer is unable to identify which member of the ring completes a transaction. Monero's *signer ambiguity* feature described above obscures the identity of users, making the decryption of the identity of users almost impossible.<sup>146</sup> However, an inability to link transactions to individuals does not limit the efficacy of the system in any way considering that the public can determine that the transferor/signer is a member of the network without any hint as to their distinct identity.<sup>147</sup>

Beyond the above, the *unforgetability* and *linkability* of transactions ensures are key features worthy of note. The latter ensures that transactions signed by the same private keys are linked together thereby preventing double-spending to a significant extent and providing a record of transactions linked to the same user.<sup>148</sup> Nevertheless, it is impossible to make a link where a user's public key has been deliberately morphed into a different one.<sup>149</sup> The former touches on the security of monero units in that hackers are significantly limited in their ability to access units of monero that are inaccessible to owners who forget their private keys. This feature is common with other cryptocurrencies including bitcoin and ether examined above.

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<sup>144</sup> See Chapter 3 for more on regulatory models

<sup>145</sup> Alonso (n 146)

<sup>146</sup> Ibid. 20

<sup>147</sup> Ibid.

<sup>148</sup> Ibid 21

<sup>149</sup> Ibid.

Notwithstanding that the main market actor offering cryptocurrency/naira exchanges do not offer a similar service for monero users, Nigerians interested in utilising monero can have unfettered access by exchanging bitcoins or ether with these market actors. They can then exchange these bitcoin/ether units with Monero on decentralised exchanges such as *Uniswap* or other P2P platforms. The limited availability of responsible intermediaries in this segment of the cryptocurrency market, among others, should be the core concern of Nigerian financial sector regulators. A discussion on examples of cryptocurrencies is incomplete without touching on the more stable form of cryptocurrencies, i.e. stablecoins. The next section turns to this.

#### 2.2.4 (d) Stablecoins

*Stablecoins* were developed to limit the risks, uncertainties and volatility issues raised by conventional cryptocurrencies otherwise termed *unstable coins*. What, then, are stablecoins? A stablecoin is a virtual currency that can be exchanged between peers. The value of stablecoins is linked to an underlying asset or a basket of assets including but not limited to cryptocurrencies, fiat currencies or any commodity.<sup>150</sup> Contrary to conventional cryptocurrencies, stablecoins offer a higher level of certainty considering that they are backed by real assets and underpinned by algorithms for increasing and decreasing the number supplied in response to market demand.<sup>253</sup> The validity of stablecoins is verifiable independent of the identity of the backing entity.<sup>254</sup> Similar to other cryptocurrency types, they are not issued by central banks.<sup>255</sup>

Two major types of stablecoins are identifiable. Unlike redeemable stable coins that have the backing of collateral and redemption value of the underlying assets, synthetic stablecoins monitor the value of the underlying assets without being redeemable for their value.<sup>151</sup> Instead,

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<sup>150</sup> See Congressional Research Service, 'Digital Assets and SEC Regulation' (June 2021) <<https://sgp.fas.org/crs/misc/R46208.pdf>> 21 April 2022, 6. 16; Goldman, Kumar (n 2) 3

<sup>151</sup> Lesavre et al (n 6) 48

the value of synthetic stablecoins is maintained by their responsiveness guaranteed by their underpinning protocol which controls token supply among others.<sup>152</sup> Synthetic stablecoins are often controlled by reliable intermediaries, groups, or users in accordance with rules directly embedded in the underpinning protocol.<sup>153</sup> In addition to collateralising obligations off the blockchain by backing authorities, on-chain issuance of debt is also performed to regulate supply.<sup>154</sup> Common examples of stablecoins include USDT, USD coin, Facebook’s libra and nairacoin.

Stablecoins may equally fall under different cryptoasset categories, including securities, commodities, commodity derivatives, and units in a collective investment scheme or e-money, depending on their features. Stablecoins can have centralised or decentralised governance.<sup>256</sup> In addition to the above, they can allow hosted or unhosted wallets.<sup>257</sup> As noted in Chapter 1, the use of stablecoins in Nigeria is not commonplace among investors. They have, however, found a level of acceptance with Nigerians engaged in international remittance.<sup>258</sup>

As stated above, stablecoins have been able to offer greater stability by having their value tied to the value of the underlying asset or the promise of the backing entity.<sup>259</sup> However, the FATF maintains a neutral stance on the stability of stablecoins by referring to them as “so-called stable coins.”<sup>155</sup> However, stablecoins have proven themselves to be susceptible to cryptocurrency market volatility considering that USD tether and terra slid below the 1USD which their values are pegged at.<sup>156</sup> Consequently, stablecoins raise similar regulatory issues connected with conventional cryptocurrencies namely consumer protection, market resilience and integrity and distributive justice goals. Additionally, they may be used to facilitate criminal

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<sup>152</sup> *ibid*

<sup>153</sup> *ibid*

<sup>154</sup> *ibid*

<sup>155</sup> FATF (n 55)

<sup>156</sup> Alex Hern, Dan Milmo, ‘Turmoil and panic in crypto market as ‘stablecoin’ slump prompts wider collapse’ (Guardian, 12 May, 2022) <[www.theguardian.com/technology/2022/may/12/stablecoin-tether-breaks-dollar-peg-cryptocurrencies](https://www.theguardian.com/technology/2022/may/12/stablecoin-tether-breaks-dollar-peg-cryptocurrencies)> 17 May 2022

activities.<sup>157</sup> In light of the above, stablecoins service providers should be treated as financial service providers and be made subject to the law governing these entities.

In sum, cryptoassets are all underpinned by the blockchain. However, they vary at the points of detail. Significantly, their names may not be useful in defining their function. Take for instance cryptocurrencies which are also known as exchange or payment tokens.<sup>158</sup> This class of cryptoassets is equally applied as commodities and securities notwithstanding that they are designed to operate as a means of exchange. Section 2.3 below expands on this. Additionally, a cryptoasset can serve distinct functions during its lifecycle.<sup>261</sup> The multiple utilities of cryptoassets attract different scopes of users and market actors catering to user needs. These raise several issues for regulation including those touching on consumer protection, market integrity, competition and distributional justice.<sup>262</sup> In addition to depicting product and service miscellany, the above classification illustrates that regulators must demonstrate an adequate grasp of the typologies and utilities of cryptocurrencies and the ability of users to transact with market actors beyond Nigerian borders.<sup>263</sup> Having examined the meaning and types of cryptocurrencies, it is also imperative to investigate how cryptocurrencies function within markets. This is the discussion to which the next section turns.

### 2.3. Classification of cryptocurrencies based on how they function

As identified in Section 2.2.4 above, the term “cryptocurrency” is predominantly used to refer to payment tokens that may serve other functions which fall under regulated traditional categories of currency, commodity and security. Consequently, referring to a cryptoasset as a cryptocurrency should not be taken as an indication of its sole function as a payment token/currency.<sup>159</sup> This has not been helpful in understanding the point of reference when the

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<sup>157</sup> The FATF identified this as one of the risks raised by stablecoins. See FATF (n 55)

<sup>158</sup> FCA (n 10) 4

<sup>159</sup> See Schillig (n 80) 336; Dirk Zetsche, Ross Buckley, Douglas Arner, Linus Föhr, The ICO Gold

term is used especially since the same cryptocurrency can be defined as different things by different regulators.<sup>160</sup> The foregoing indicates that the meaning of cryptocurrencies is contextual and often shaped by their functions. This section refers to the utility of the *so-called* cryptocurrencies as three major things namely commodities, securities and currencies. The next section explores each of these functions and their significance for the financial services sector and the regulation of CUI. The evaluation suggests that cryptocurrencies may be hybrid tokens where they function as securities or commodities in addition to payment tokens/currencies.

### 2.3.1 Cryptocurrencies: the commodity function

As a commodity, a cryptocurrency unit such as the bitcoin, ether or monero is an intangible asset capable of being owned through purchase or mining and transferred by one party to another as a gift or the subject of a contract of sale. While there is limited evidence on the pronouncement of cryptocurrencies as commodities under existing laws, cryptocurrencies share certain characteristics with items that have been legally recognised as commodities.<sup>161</sup> First, cryptocurrencies have distinctive features and are capable of ownership. However, we must consider the challenge of interpreting intangible technological “things” under the meaning provided by existing legislation. The courts in the cases of *Parks v Alta California Telegraph Co*,<sup>162</sup> and *Breese et al. v. U.S. Telegraph Co* undertook a similarly difficult task.<sup>163</sup>

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Rush, (2019) 60 Harv. J. Intern’l L. For the possibility of stable coins falling under the category of traditional securities, commodities or money see Financial Stability Board (FSB), ‘Addressing the regulatory, supervisory and oversight challenges raised by ‘global stablecoin’ arrangements’ (Consultative Document, 14 April 2020) 8, 41 <[www.fsb.org/wp-content/uploads/P140420-1.pdf](http://www.fsb.org/wp-content/uploads/P140420-1.pdf)> 22 April 2022

<sup>160</sup> Lee (n 15) 52; Luke Conway, ‘The 10 Most Important Cryptocurrencies other Than Bitcoin’ (January 19, 2021) <<https://bit.ly/3esdL8G>> 10 March 2021

<sup>161</sup> The World Economic Forum considers that cryptocurrencies have the features of a commodity and other asset types. See WEF, World Economic Forum Digital Currency Governance Consortium: Vision for 2021 Deliverables (Briefing Paper, January 2021) <<https://bit.ly/3wZD3mb>> 22 April 2022, 30

<sup>162</sup> (1861)13 Cal. 422 (A D)

<sup>163</sup> (1871) 8 N.Y. 132 (N Y)

The major issue in these cases was determining the liability of telegraph companies arising from errors in messages transmitted on behalf of their customers. The determination of the rights of the parties in both cases depended on whether telegraph companies were common carriers or not. Surprisingly, the two courts reached two distinct decisions using the same test. In the former case, the court decided that telegraph companies were common carriers, while in the latter, the court arrived at the opposite conclusion.<sup>164</sup> The decision in *Parks' case* was underpinned by the fact that the telegraph company offers similar services to those rendered by common carriers. The only difference, which was immaterial in the court's view, was how such services are rendered.<sup>165</sup> Conversely, the mode of delivery was the basis for the distinction in *Breese's case*.<sup>166</sup> These conflicting pronouncements provide a useful example of the challenges posed by applying existing rules and categories to the classification of products of technology. Following the logic in *Parks*, courts have commented on the status of cryptocurrencies as commodities. The European Court of Justice (ECJ) in its preliminary ruling on *Skatteverket v Hedqvist* treated bitcoin as a commodity.<sup>167</sup> The ECJ drew its interpretation from Directive 2006/112 Article 24 and Article 2(1) (c).<sup>168</sup> The ECJ considered that the exchange of bitcoins for FCs was a trade-in service and not a supply of goods. Similarly, a UK Judge in *Coinstar Ltd v The Commissioners for Her Majesty's Revenue & Customs* noted that the exchange of bitcoins for FCs is analogous to foreign exchange transfer which is a service.<sup>169</sup> Currencies exchanged in these transactions are treated as commodities. This interpretation, however, may not be definitive since the court's pronouncement in the latter case was to determine the tax payable on exchange transactions.<sup>170</sup> The transactions in question are closer to the performance

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<sup>164</sup> See Gregory N. Mandel, 'Legal Evolution in Response to Technological Change' *The Oxford Handbook of Law, Regulation and Technology* (1st edn, Oxford University Press 2017) 229-231

<sup>165</sup> *Parks* (n 165)

<sup>166</sup> *Breese* (n 166)

<sup>167</sup> (2015) C-264/14 EUECJ 718

<sup>168</sup> *ibid*

<sup>169</sup> [2016] UKFTT 0610 (TC) para. 82

<sup>170</sup> *ibid*

of service than they are to a supply of goods. The question here is: would the courts have arrived at the same conclusion if a purchaser paid a merchant a lesser sum in cryptocurrencies and the merchant instituted an action for the balance?

The interpretation of cryptocurrencies as commodities was also in question in *Commodity Futures Trading Commission v. My Big Coin Pay, Inc. Et al.* A US Federal court stated that commodities include cryptocurrencies. The meaning of commodities within the Commodities Exchange Act of the United States (CEA), is broad enough to include cryptocurrencies. The Act applies to goods, services, rights and interests in present and future items.<sup>171</sup> This, thereby, means that cryptocurrencies fall within the regulatory scope of the Commodities Futures Trading Commission.<sup>172</sup> In reaching the above conclusion, the court compared bitcoin with natural gas which was previously argued not to be a commodity.<sup>173</sup> One of the arguments advanced in support of the above was the fungibility of natural gas. Counsel argued that natural gas lacks sufficient physical qualities to be classed as a commodity.<sup>174</sup> Courts have rejected these arguments and decided that natural gas is, in fact, a commodity.<sup>175</sup>

According to the reasoning of the courts in natural gas cases, items do not have to have a specific number of physical qualities before they can be classified as commodities. Therefore, intangible “things,” such as services, software applications and virtual items such as cryptocurrencies could be commodities. The analogy drawn between cryptocurrencies and natural gas in the above case is interesting considering how it highlights the difficulty of ascertaining the categorisation of cryptocurrencies along with traditional classes of objects based on their physical features or lack thereof. The analogy further describes, albeit under a

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<sup>171</sup> 7 U.S. Code, Chapter 1 - Commodities Exchanges. § 1a (9)

<sup>172</sup> Case 1:18-cv-10077-rwz

<sup>173</sup> Ibid

<sup>174</sup> ibid

<sup>175</sup> *United States v. Brooks*, 681 F.3d 678 (5th Cir. 2012); *United States v. Futch*, 278 F. App'x 387, 395 (5th Cir. 2008); *United States v. Valencia*, No. CR.A. H-03-024, 2003 WL 23174749, at 8 (S.D. Tex. Aug. 25, 2003)



different situation, how courts have attempted to fit technological products and services into existing broad legal categories.

Turning now to how users and market actors treat cryptocurrencies. Market actors treat cryptocurrencies as commodities in line with the above views by offering several products and services with connection to this function. Spot, futures and options on cryptocurrencies futures transactions are examples of these products and services. Spot transactions carry significant risks given the volatility and speculative nature of cryptocurrencies.<sup>176</sup> There are greater risks with futures transactions.<sup>177</sup> Chicago Mercantile Exchange (CME), Binance, Bakkt and Intercontinental Exchange are some of the market actors offering cryptocurrency futures.

In sum, the absence of major physical qualities presents a difficulty in classifying cryptocurrencies as commodities. Courts have, however, looked beyond these limitations and ruled that cryptocurrencies, e.g. bitcoin and ether, fit well within the description of services which are also a form of commodity. Cryptocurrencies could be commodities while the activities connected with their use are also services: a form of commodity. Care must be taken to avoid conflating the two considering that they might have different implications. Each cryptocurrency-related activity must be investigated to show if the underlying instrument is a commodity or if the services relating to it form the basis for their classification as commodities.

### 2.3.2 Cryptocurrencies: the security function

As a form of security, cryptocurrencies share certain similarities with traditional investments or securities like stocks and bonds. In this sense, they represent units of the interest of the holder in a cryptocurrency such as bitcoin. This meaning should not be conflated with security tokens

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<sup>176</sup> See Kraken, 'Bitcoin Futures Trading' <[www.kraken.com/en-gb/features/futures](http://www.kraken.com/en-gb/features/futures)> 25 May 2021; Binance, 'Binance Futures' <<https://www.binance.com/en/futures>> 25 May 2021

<sup>177</sup> Chapter 4 identifies some of the regulatory issues that cryptocurrency uses raise

that are issued to serve as securities or the stake of owners in new or existing crypto-ventures.<sup>178</sup>

While the security status of security tokens may not be in doubt, cryptocurrencies are generally not classed as securities. However, a commonality between the two can be found in how they could both be introduced to the market through an Initial Coin Offering (ICO) touched on in Section 2.2.1 above. An examination of the meaning of securities/investment under the investment and securities law is thus necessary to determine if cryptocurrencies could be termed securities.

The discussion will examine the United States of America's approach to an understanding of investment/securities and Nigeria's Investment and Securities Act (2007) because of the invaluable insights they provide on the securities status of certain cryptocurrencies. The Supreme Court of the United States' pronouncement on the qualities of an investment or security in *Securities and Exchange Commission v. W. J. Howey Co* is relevant to the above. The court laid down four elements which must be present in an investment.<sup>179</sup>

These are:

- a) money investment
- b) common enterprise
- c) expectation of profit
- d) effort of others

The laws of the United Kingdom, Nigeria, Japan and Brazil also consider the above elements as being central to the classification of an asset as a security or an investment.<sup>180</sup> These elements are not present in certain existing cryptocurrencies.<sup>181</sup> Bitcoin, ether, monero and similarly modelled cryptocurrencies are examples. For example, bitcoin lacks the element of "money

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<sup>178</sup> Section 2.2.1 above touches on security tokens

<sup>179</sup> (1946) 328 U.S. 293

<sup>180</sup> Vesna Harasic, 'It's Not Just About the Money: A Comparative Analysis of The Regulatory Status of Bitcoin Under Various Domestic Securities Laws' (2015) American University Business Law Review Volume 3 Issue 3 Article 3, 495, 496; Reuben Grinberg, 'Bitcoin: An Innovative Alternative Digital Currency' [2012] 4 Hastings Sci. & Tech. L.J. 159, 196.

<sup>181</sup> Harasic *ibid*

investment” since it was introduced to the market as a commodity/currency.<sup>182</sup> The element of profit expectation by simply holding the currency contradicts the primary function of bitcoin as a means of facilitating commercial transactions.<sup>183</sup> Conversely, profit expectation is the core reason why certain individuals acquire bitcoin.<sup>184</sup> The use of bitcoin as an investment can be argued to be speculative and not within the accepted meaning of regulated securities.<sup>185</sup>

The same reasoning applies to the elements of “common enterprise,” and “efforts of others.” These are generally absent but could be considered to be present if certain factors and users’ reasons’ for acquiring cryptocurrencies are considered. Accordingly, Grinberg argued that the uncertainty in users’ purpose for acquiring bitcoin indicates that it is a quasi-security instrument.<sup>186</sup> Hinman supported this view by stating that bitcoin and ether are not securities, but other cryptocurrencies could be.<sup>187</sup> The court decided that relying on the effort of the sponsors for an increase in the value of *kin* makes them securities and subject to the control of the US SEC.<sup>188</sup>

Turning now to specific cryptocurrency types which are introduced to the public through an ICO. These could be considered securities considering the similarities between an ICO and the potential presence of the elements highlighted in *Howie*. *Kin* is an example. Accordingly, cryptocurrencies issued through ICOs and having other securities features have been affirmed

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<sup>182</sup> Ibid.

<sup>183</sup> *ibid* 495

<sup>184</sup> E. Udejaja, T. Olusegun, O. Adesanya, A. Edun and S. Zimboh, 'The Effects of Currency Devaluation on Economic Activity in Nigeria' (September 2016) *Economic and Financial Review*, Volume 54 No 3. 37

<sup>185</sup> *ibid*

<sup>186</sup> Grinberg (n 183) 196

<sup>187</sup> Bob Pisani, 'Bitcoin and ether are not securities, but some initial coin offerings may be, SEC official says' (14 June 2018) <<https://cnb.cx/3rETQYH>> 20 November 2018

<sup>188</sup> SEC v. Kik Interactive Inc., 1:19-cv-05244 <<https://bit.ly/3ygJ1RG>> 22 April 2022; Roger E. Barton, Christopher J. McNamara, Michael C. Ward, 'Are cryptocurrencies securities? The SEC is answering the question', (21 March 2022) <<https://reut.rs/3Fm0NEY>> 18 April 2022

to be securities and regulated as such in some jurisdictions.<sup>189</sup> The US SEC stated that cryptocurrencies that are issued to raise capital for projects, businesses or platforms are designated as securities.<sup>190</sup>

While the position of the law regarding *Howie* is helpful for maintaining an objective categorisation of cryptocurrencies as potential securities, the substance and subjective utility of cryptocurrencies are also essential for mapping good regulation. The UK Financial Conduct Authority noted the complexity of the crypto-token market and stated that the substance of the token, and availability for exchange at the exchange market are core considerations for determining whether the regulator treats a token as a security or not.<sup>191</sup> The decision of the court in *kin* above is illustrative.<sup>192</sup> It is common for users to acquire existing cryptocurrencies with proven market history as investment assets which are a form of security. In 2016, around 54% of Coinbase (a cryptocurrency exchange) users deployed bitcoin strictly as an investment. This figure reflects a reduction from the 2015 figure which stood at 64%.

The investment functioning is underpinned by the potential for an exponential increase in the value of cryptocurrencies. A wider adoption or an increase in demand often translates to value appreciation for current holders of cryptocurrencies.<sup>193</sup> Advertisements often key into the above by highlighting the increased potential for high returns when investing in

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<sup>189</sup> Jay Clayton, 'Statement on Cryptocurrencies and Initial Coin Offerings' (2017) <<https://bit.ly/3z5z5HX>> 26 November 2018. In the United Kingdom, the determination of whether ICOs are regulated depends on how such are structured. Where ICOs are structured like Initial Public Offerings (IPOs), they fall within the regulatory mandate of the Financial Conducts Authority. FCA, 'Initial Coin Offerings', (2017) <[www.fca.org.uk/news/statements/initial-coin-offerings](http://www.fca.org.uk/news/statements/initial-coin-offerings)> 26 November 2018; Stephen Timm, 'SEC Ban Puts Brakes on Equity Crowdfunding in Nigeria' (2018) <<https://bit.ly/3hM2Zvg>> 26 November 2018. It is still unclear how an outright ban will impact ICOs due to their similarities with crowdfunding

<sup>190</sup> Costas Mourselas, 'CFTC makes another push to regulate crypto' (Global Capital; London 2018) <<https://bit.ly/3zJzeRP>> 25 September 2018

<sup>191</sup> FCA, 'Guidance on cryptoassets feedback and final guidance to CP 19/3. Policy Statement PS19/22'. (July 2019) <[www.fca.org.uk/publication/policy/ps19-22.pdf](http://www.fca.org.uk/publication/policy/ps19-22.pdf)> 17 April 2022, 33

<sup>192</sup> SEC v. Kik Interactive Inc., 1:19-cv-05244 <<https://bit.ly/3ygJ1RG>> 22 April 2022; Roger E. Barton, Christopher J. McNamara, Michael C. Ward, 'Are cryptocurrencies securities? The SEC is answering the question', (21 March 2022) <<https://reut.rs/3Fm0NEY>> 18 April 2022

<sup>193</sup> Udejaja et al. (n 187) 37

cryptocurrencies compared to traditional investment.<sup>194</sup> Notwithstanding their use as such, bitcoin's potential as an alternative investment asset is highly limited considering its volatility and weak correlation to other global financial assets.<sup>195</sup> The same argument applies to similarly modelled cryptocurrencies.

The above illustrates that certain cryptocurrencies may be securities notwithstanding that they were not designed to operate as such. The ongoing case: *SEC v. Ripple Labs, Inc.* illustrates how securities regulators are looking beyond the commonly acknowledged names of cryptocurrencies to reveal their status under the law.<sup>196</sup> Consequently, cryptocurrencies could be categorised as securities thereby placing them under the security token evaluated above. Prior to their categorisation, they are generally termed cryptocurrencies.

Similarly. The absence of the three key features highlighted in Howie is not fatal to a determination of an asset as a form of security in Nigeria. Certain cryptoasset types can be classified as securities by the Nigerian SEC in line with its power to expand the scope and meaning of securities to accommodate newly developed products. It is crucial to exercise this power where specific cryptocurrency types share greater similarities with existing investment assets or securities. The SEC did the above by clarifying that crypto assets "... whose character qualifies as securities transaction ..." are securities by default and will be regulated as such under Nigerian law.<sup>197</sup> The statement does not clarify what the SEC means by *character*. It, however, states that the scope of regulation includes cryptocurrency reception, transmission

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<sup>194</sup> Grinberg (n 183) 198

<sup>195</sup> Al-Yahyaee, Khamis Hamed, Walid Mensi and Seong-Min Yoon, 'Efficiency, Multifractality and the Long-Memory Property of the Bitcoin Market: A Comparative Analysis with Stock, Currency and Gold Markets' (2018) Finance Research Letters 2 <<https://doi.org/10.1016/j.frl.2018.03.017>> 22 November 2018

<sup>196</sup> SEC v. Ripple Labs, Inc., 1:20-cv-10832; SEC, 'SEC Charges Ripple and Two Executives with Conducting \$1.3 Billion Unregistered Securities Offering' (22 December 2020) <[www.sec.gov/news/press-release/2020-338](http://www.sec.gov/news/press-release/2020-338)> 18 April 2022

<sup>197</sup> SEC, 'Statement on Digital Assets and Their Classification and Treatment' (17 September 2020) <<https://bit.ly/3vm104T>> 22 September 2020

and execution of orders, dealers account, portfolio management, investment advice and custodian or nominee services.<sup>198</sup> The SEC later suspended its intention to regulate cryptocurrencies and the registration of crypto-assets. It is currently unclear if the SEC will proceed with its currency classification when it proceeds with its aim to regulate cryptoassets.

The foregoing demonstrates the uncertainties surrounding the securities status of cryptocurrencies, even though the use of cryptocurrencies as investment assets is commonplace. Admittedly, cryptocurrencies that fall under the purview of securities in their substance must be regulated as such by the Nigerian SEC under the broader category of security tokens discussed in Section 2.2 above. However, no clear parameters for distinguishing certain cryptocurrencies as securities or investments in Nigeria exist at the moment. The contractual rights and obligations of the token holder to share in profit, entitlement to ownership and control of the token issuer, the language used in the white paper introducing the token to the market, the ability to trade and transfer tokens on exchanges and a direct flow of payment from the issuer to token holders are key considerations identified by the UK FCA.<sup>199</sup> The intention of the holders and how they apply their cryptocurrencies within the markets are other ways to determine the security/investment status of cryptocurrencies.<sup>200</sup> Compared to the others, determining *ex-ante* which holders acquire and use cryptocurrencies as securities is problematic. Such a determination would require monitoring users' behavioural patterns before and after acquiring cryptocurrencies.

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<sup>198</sup> *ibid*

<sup>199</sup> FCA, 'Guidance on cryptoassets feedback and final guidance to CP 19/3. Policy Statement PS19/22'. (July 2019) <[www.fca.org.uk/publication/policy/ps19-22.pdf](http://www.fca.org.uk/publication/policy/ps19-22.pdf)> 17 April 2022, 33-4

<sup>200</sup> Pisani (n 190)

### 2.3.3 Cryptocurrencies: the currency function

In line with Section 2.2.4's meaning of cryptocurrencies as a form of money, cryptocurrencies represent an accepted medium of exchange, unit of account and store of value.<sup>201</sup> Cryptocurrencies are payment tokens which are used to settle accounts or past and future obligations.<sup>202</sup> The first cryptocurrency, bitcoin, was designed to operate as a currency. Nakamoto developed bitcoin to fill the gap left by the absence of a *trustless* payment system in the financial system.<sup>203</sup> This is the major factor in support of the perception of cryptocurrencies as a type of currency.<sup>204</sup> The courts support the view that cryptocurrencies are types of currencies.<sup>205</sup> In *Securities and Exchange Commission v. Shavers*, a United States District Court interpreted bitcoin to be a form of "currency".<sup>206</sup> Similarly, the European Court of Justice in *Hedqvist* drew a parallel between cryptocurrencies and foreign currency exchanges.<sup>207</sup>

Additionally, in support of the currency perception of cryptocurrencies is the similarities they share with FCs. The similarities between cryptocurrencies and FCs discussed in Section 2.4 below are relevant to this perception.<sup>208</sup> Beyond their use for remittance which was the focus of Section 2.5 below, the perception of cryptocurrencies as money touches on how most users acquire cryptocurrencies. Although all cryptocurrencies are mined at one point or another, most cryptocurrency users will acquire units through purchase considering that each unit of

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<sup>201</sup> See also Bryan A Garner (ed.) *Black's Law Dictionary* (2009 9th ed.) 440

<sup>202</sup> Jerry Brito, Houman B Shadab and Andrea Castillo, 'Bitcoin Financial Regulation: Securities, Derivatives, Prediction Markets and Gambling' (2014) 144 *Sci. & Tech. L. Rev.* 147 202

<sup>203</sup> Nakamoto (n 94); Schillig (n 80) 325

<sup>204</sup> Angelo Young, 'US Treasury Department: Virtual Currencies (Read: Bitcoins) Need Real Rules to Curb Money Laundering' *International Business Times* (March 22, 2013), <[www.ibtimes.com/us-treasury-department-virtual-currencies-readbitcoins-need-real-rules-curb-money-laundering](http://www.ibtimes.com/us-treasury-department-virtual-currencies-readbitcoins-need-real-rules-curb-money-laundering)> 19 November 2018; Harasic (n 183); Grinberg (n 183) 203

<sup>205</sup> *Skatteverket* (n 170)

<sup>206</sup> *Securities and Exchange Commission v. Shavers* (2013) No. 4:13-CV-416, BL 208180 1, 4 (E.D. Tex.) 3

<sup>207</sup> (n 170)

<sup>208</sup> While Section 2.4 compares cryptocurrencies with FCs, this section explores the monetary use of cryptocurrencies

cryptocurrencies can be mined only once, while they may be sold multiple times. The above is analogous to how states print money once and printed units could be used to transfer value multiple times. Holders can acquire their cryptocurrencies through an exchange of FCs with cryptocurrencies, or the exchange of a cryptocurrency with another cryptocurrency, for instance, bitcoin and ether. In *Hedqvist*, the court affirmed the similarity between FCs and cryptocurrencies in this regard.<sup>209</sup>

The currency view is also reinforced by the fact that some countries have equated the services rendered by exchanges with those of foreign currency exchange (FOREX) dealers, and consequently, bring them under the application of similar laws. For instance, the United States (US) requires that exchanges register as money services businesses with the Financial Crimes Enforcement Network (Fin-CEN).<sup>210</sup> Emerging reports also suggest that the United Kingdom may place similar requirements on exchanges.<sup>211</sup> The US has developed rules for different classes of actors who deal in cryptocurrencies as money.<sup>212</sup> Several other jurisdictions have established that anti-money laundering laws prohibiting the finance of terrorism apply to users and market actors engaged in cryptocurrency transactions.<sup>213</sup> Finally, bitcoin can be purchased and transferred using the bitcoin ATM in Lagos Nigeria.

It is noteworthy that market actors offer products and services connected to the currency function of cryptocurrencies. Exchanges and e-wallet service providers offer collateralised

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<sup>209</sup> 2015) C-264/14 EUECJ 718

<sup>210</sup> These are broadly classed as users, exchangers and administrators. United States Code of Federal Regulations 31 s. 103.41. Lately, the FBI has clarified those exchanges are money transmitters for the purpose of this law. Therefore, they are required to register in most of the states in the USA

<sup>211</sup> UK Government for Science, 'Distributed Ledger Technology: Beyond Block Chain' (A report by the UK Government Chief Scientific Adviser 2016), 26 <<https://bit.ly/36siIsW>> 21 November 2018

<sup>212</sup> Ibid. Broadly classed as users, exchangers and administrators

<sup>213</sup> Application of Fin Cen's Regulations to Persons Administering, Exchanging, or Using Virtual Currencies Regulation 2013, FIN-2013-G001 1 <[www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf](http://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf)> 23 November 2018



loans to users with interest rates calculated on an hourly or daily basis.<sup>214</sup> For example, Binance, an exchange and e-wallet service provider, has a user's guide in the form of a "Loans Manual," as well as a "Loan Service Agreement."<sup>215</sup> Finally, the use of cryptocurrencies as money is common among licit actors who wish to leverage the pseudo-anonymity feature of cryptocurrencies.<sup>216</sup> However, this accounts for a smaller fraction of cryptocurrency use.<sup>217</sup>

In sum, the function of cryptocurrencies as a form of currency/money is significantly limited due to volatility and a finite sum of cryptocurrencies in circulation. This suggests that holders may hoard cryptocurrencies with the expectation that their prices may increase. This is the norm for cryptocurrency holders.<sup>218</sup> Hoarders are of the view that FCs may better serve as money while cryptocurrencies can be applied as a means to guarantee easy returns. The utility of cryptocurrencies as money and the potential for replacing FCs remain limited. Nevertheless, cryptocurrencies were originally designed to function as a type of currency. It is thus crucial to evaluate the distinction between cryptocurrencies and fiat currencies (FC) for a more robust understanding of the concept. This is the discussion that the next section undertakes.

## 2.4. Fiat currencies and cryptocurrencies: an evaluation of their similarities and differences

Considering that fiat currencies (FCs) and cryptocurrencies are different forms of money, it is essential to start by defining money. Money is generally understood to be "... a reliably valuable, divisible and portable form of wealth."<sup>219</sup> Several objects have functioned as money before the inception of FCs. Dates, cowry shells, olive oil, gold, silver and banknotes have

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<sup>214</sup> Binance, 'Crypto Loans' <<https://www.binance.com/en/loan>> 25 May 2021

<sup>215</sup> Binance, 'Binance Loans User Manual' <<https://bit.ly/3ujmo9M>> 25 May 2021

<sup>216</sup> Olga Khariif, 'Bitcoin Criminals Set to Spend \$1 Billion on Dark Web This Year' Bloomberg July 1, 2019, <<https://bloom.bg/3h3Te9R>> 14 April 2020; See more on this in Chapter 3

<sup>217</sup> *ibid*

<sup>218</sup> This is connected with their function as investment assets. See section 2.3.2 above

<sup>219</sup> Keith Roberts, *The Origins of Business, Money and Markets* (2011 Columbia University Press) 21

gained wide acceptance at different points in history.<sup>220</sup> The choice of item, of course, depended on the location.<sup>221</sup> Factors like bulkiness, local needs or lack thereof and inadequate supply limit the utility of these items which were replaced by FCs. Currently, FCs are the most common and widely accepted example of money.

FCs are currencies issued by the central banks of sovereign states. Since Britain left the gold standard in 1931 and the US followed suit in 1971, FCs with broader acceptance in the international community are not backed by commodities. Each unit of FCs is backed with the promise of the issuing entity that the value equivalent to that of the FC presented will be given to the presenter whenever he or she presents the same.<sup>222</sup> Intrinsically, FCs have no value. Rather, they are simply representations of value.<sup>223</sup> In most cases, FCs are represented by paper, coin and electronic/digital equivalents.

In line with the definition of money stated above, each FC's success is underpinned by its ability to function well as units of account, a medium of exchange and, to an extent, a store of value. On the other hand, cryptocurrencies are represented by digital signatures. Unlike FCs, cryptocurrencies lack dual representations but exist solely in digital forms. Cryptocurrencies also do not have the backing of central banks or third parties recognised by states. Table 2.1 below shows the key similarities and differences between cryptocurrencies and FCs.

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<sup>220</sup> Pierre Vilar, Judith White, *A History of Gold and Money*, (1976 London NLB) 26; Meaning can also be drawn from the rule in Pinnell's case where the court ruled on what could constitute consideration. Horse, hawk, robe etc. are all valuable items that can be used as a medium of exchange. (1602) 5 Co Rep 117a

<sup>221</sup> *ibid*

<sup>222</sup> Barroni (n 98) 53

<sup>223</sup> Roberts (n 222) 264

Table 2.1 Comparison between FC and cryptocurrency <sup>224</sup>

Feature	FC	Cryptocurrency
Portability <sup>225</sup>	✓	✓
Divisibility <sup>226</sup>	✓	✓
Value <sup>227</sup>	✓	✓
Anonymity <sup>228</sup>	Depends on the platform	✓
Electronic/digital representation	✓	✓
Issued & backed by a sovereign authority <sup>229</sup>	✓	×
Physical representation <sup>230</sup>	✓	×
Limit in the number of units to be issued. <sup>231</sup>	×	✓
Value stability <sup>232</sup>	✓	×
Function embedded upon ledger system. <sup>233</sup>	×	✓

Any object that functions as money must perform three main functions. These are unit of account, media of exchange and store of value.<sup>234</sup> Items that perform these functions well have wider acceptance within state and international markets. Starting with how well cryptocurrencies perform the three major functions of money namely, unit of account, medium of exchange and store of value. Take the “unit of account” feature as the starting point. This characteristic of money refers to the basis for calculating the value of future obligations.<sup>235</sup> A

<sup>224</sup> Source - Author

<sup>225</sup> Refers to the ease of moving money around due to its representation and light weight Roberts (n 222) 264

<sup>226</sup> This means the ease of dividing currencies into smaller units of value to facilitate different transaction costs. See Grinberg (n 183) 178

<sup>227</sup> This refers to the monetary worth of cryptocurrencies. Gregory N Mankiw, ‘*Macroeconomics*’ (2002 Fifth Edition, Worth Publishers) 76, 78

<sup>228</sup> This means that the identity of the holder is not apparent. See Furneaux (n 68) 232

<sup>229</sup> Nakamoto (n 94) 3

<sup>230</sup> This refers to currencies capable of being touched and transacted in e.g. paper money. Franco (n 75) 3

<sup>231</sup> Wenker (n 112) 163

<sup>232</sup> Ibid.

<sup>233</sup> Derek A. Dion, ‘I’ll Gladly Trade You Two Bits on Tuesday for a Byte Today: Bitcoin, Regulating Fraud in the E-Economy of Hacker-Cash’ [2013] J.L. Tech. & Pol’y 165,168

<sup>234</sup> Nakamoto (n 94) 62

<sup>235</sup> Matthias Doepke and Martin Schneider, ‘Money as a Unit of Account’ (2017) 85 *Econometrica* 1537 <<https://bit.ly/2WAvSSL>> 17 November 2018, 1538

fixed measurement of value indicates a common agreement on the monetary worth of the parties' obligations in the transaction under review. While each unit of cryptocurrency can be a unit of account since a few products quote their prices in cryptocurrency units, this function has not been optimised within cryptocurrency markets.<sup>236</sup> The volatility of cryptocurrencies is a major limitation in this regard.<sup>237</sup> Many merchants do not quote the value/prices of goods in cryptocurrency units due to the uncertainty brought to the fore by their value volatility. Quoting prices in cryptocurrencies requires having an automated mechanism that fluctuates according to volatile cryptocurrency prices.

The above should not be interpreted as suggesting the total failure of cryptocurrencies as a unit of account. They have been able to fulfil this function within their systems. Cryptocurrencies represent units in which future obligations are denominated within the blockchain network. For instance, the reward for the creation of a new block on the bitcoin blockchain is still 12.5 BTC.<sup>238</sup> Finally, some economists have argued that the "unit of account" function of money can be dispensed with in line with the current economic reality provided the other major functions of money are fulfilled.<sup>239</sup> Therefore, the limitation of cryptocurrency as a unit of account may not be fatal to their performance as money.

Turning to their function as a medium of exchange, cryptocurrencies are accepted as the means of payment for goods and services.<sup>240</sup> While the absence of government-backing limits their full acceptance as currencies, merchants, cryptocurrency managers, exchanges, initial coin issuers and miners accept cryptocurrencies as a medium of exchange. Currently, two physical

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<sup>236</sup> Franco (n 75) 32

<sup>237</sup> *ibid.* Volatility is a theme running through this chapter which will be returned to below

<sup>238</sup> Willy Bambrough, 'Bitcoin Halvening Is Two Years Away - Here's What'll Happen to The Bitcoin Price' (May 29, 2018) <<https://bit.ly/3zKydJm>> 6 November 2018

<sup>239</sup> Mankiw (n 230) 76; Franco (n 75)

<sup>240</sup> Franco *ibid.* 32

shops in Manchester, United Kingdom, accept bitcoins.<sup>241</sup> Other examples exist on a much wider scale. Retail giants and stores accept or have accepted payments in, cryptocurrencies worldwide.<sup>242</sup> These include KFC Canada, overstock.com, Subway, Tiger Direct, Dish Network, Expedia, Cheapair.com, Playboy, Microsoft, Digswag, Sakamaonline, Moniebug, Marks Computer Clinic, London Theatre Direct, The Corner Store, Your Sushi Manchester and Fierce Gear.<sup>243</sup> The relative success recorded by cryptocurrencies as media of exchange can be linked to the cheaper transaction fees,<sup>244</sup> faster transactions,<sup>245</sup> wider coverage in terms of geographical spread and its irreversibility or finality to transactions. Finality to transactions means that reversals are impossible considering that verified transactions that have been added as blocks to the cryptocurrency Blockchain cannot be undone.<sup>246</sup>

As a store of value, cryptocurrencies represent the value users ascribe to them as a medium of exchange. Franco explained this by making a connection between the function of money as a medium of exchange and a store of value. He noted that the store of value and medium of exchange are corresponding functions because an object without value cannot operate as a medium of exchange.<sup>247</sup> Consequently, the fulfilment of the medium of exchange function suggests that cryptocurrencies equally serve as a store of value.

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<sup>241</sup> Jonas Chokun, 'Who Accepts Bitcoins as Payment? List of Companies, Stores, Shops' (2018) <<https://bit.ly/315kuZi>> 7 December 2018. To enable easier transactions. In addition, Automated Teller Machines all over the world that convert cryptocurrencies to FCs and vice versa. Two of these ATM are in Manchester. There is also one in Lagos, Nigeria. Coinmap, [December 2018] <<https://bit.ly/319bJxp>> 10 December 2018

<sup>242</sup> Lo & Wang (n 112) 1; Chokun, *ibid*; 'Stores Accepting Ethereum and other Coins', August 2018 <<https://ecoin4dummies.com/stores-accepting-ethereum/>> 7 December 2018; 'Places in Manchester that accept Bitcoins,' <[www.wheretospendbitcoins.co.uk/location/manchester.html](http://www.wheretospendbitcoins.co.uk/location/manchester.html)> 7 December 2018

<sup>243</sup> *ibid*

<sup>244</sup> Brito, Shadab and Castillo (n 205) 147

<sup>245</sup> *ibid* 151

<sup>246</sup> Nakamoto (n 94) 1

<sup>247</sup> Franco (n 93)

However, cryptocurrency as a store of value is challenged by its volatility.<sup>248</sup> For example, bitcoin holders have lost value to fluctuating value.<sup>249</sup> More generally, cryptocurrencies, particularly bitcoin, have maintained an upward value trajectory. In 2010, the value of a bitcoin was 0.0025 cents and in December 2018, its value stood at \$3,594.25.<sup>250</sup> As of 11 November 2021, a bitcoin was worth \$67,000.<sup>251</sup> The challenge of value volatility, though unrestricted to cryptocurrencies, is more acute within these markets. Although FCs are also affected by value volatility, some of them are better able to withstand market forces of demand and supply compared to cryptocurrencies.<sup>252</sup>

A considerable number of FCs equally perform below expectations as stores of value due to their volatility. Nevertheless, these FCs perform better than cryptocurrencies because of their relative stability. Relative stability suffices considering that perfect stability is unattainable. Certain FCs are more stable than others. For instance, FCs like United States of America dollars (USD), British pound sterling (GBP) and Japanese yen (JPY) which are more stable than their counterparts are adopted as benchmarks for trading in other FCs and commodities on an international scale. The foregoing shows that higher value volatility could undermine the ability of cryptocurrencies to function as money.

Cryptocurrencies and FCs share certain similarities which drive their acceptance by the public. As illustrated in Table 2.1 above, these include portability, divisibility, anonymity and value. Taking portability as the starting point, FCs and cryptocurrencies are portable representations of money. Although FCs require little physical space for their storage, they are also available

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<sup>248</sup> Ibid

<sup>249</sup> *ibid*

<sup>250</sup> Bitcoin History, <[https://en.bitcoinwiki.org/wiki/Bitcoin\\_history#Bitcoin\\_in\\_2008](https://en.bitcoinwiki.org/wiki/Bitcoin_history#Bitcoin_in_2008)> 17 December 2018; Coinmarketcap, 'Bitcoin' (2018) <<https://coinmarketcap.com/currencies/bitcoin/>> 18 December 2018

<sup>251</sup> Coinmarketcap, 'Bitcoin' <<https://coinmarketcap.com/currencies/bitcoin/>> 18 November 2021

<sup>252</sup> Mankiw (n 230)

in electronic forms. However, the portability of cryptocurrencies is transformative because they exist solely in digital forms, and require a small memory space while offering more flexibility in how they can be stored or accessed. Cryptocurrencies could be stored on the cloud or in a portable storage device not connected to the internet.

Portability, as an important feature of money, makes it easy to move money from one location to another. This ease is essential for the purpose of trading. Its importance is illustrated by concerted efforts to ensure that every medium of exchange/money developed is more portable than the one it replaces. Portability not only drives the acceptance of money, it equally shapes how money has evolved. For instance, the more portable gold and silver replaced salt. The same principle applies to banknotes that replaced gold, FCs, electronic money, and now cryptocurrencies.

Beyond facilitating easy movement of value across locations, portability also helps reduce transaction costs.<sup>253</sup> For instance, before the creation of FCs, remittance involves moving heavy bags of gold and silver from one location to another. The need to transport value raised several challenges around coordination, security and integrity of assets. Every seller/accepting merchant had to ensure that the precious metals presented by buyers truly represented their stated value. This involved the tedious tasks of measuring assets and verifying their purity.<sup>254</sup> This task shifted to governments and central banks who took over the issuance of money.<sup>255</sup> Cryptocurrencies and electronic representations of FCs are powered by automated means of moving and verifying value.

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<sup>253</sup> Mankiw (n 230) 78

<sup>254</sup> Ibid

<sup>255</sup> Ibid

Divisibility is another similarity between cryptocurrencies and FCs. However, cryptocurrencies offer greater divisibility. Unlike the minimum of 100 units achievable with FCs, bitcoin can be divided up to eight decimal places. Each of these units is called a “Satoshi”.<sup>256</sup> Ether can be divided up to 18 decimal places.<sup>257</sup> This means that obligations can be broken further and quantified at infinitesimal amounts with cryptocurrencies. Users can own and use smaller units of money than those associated with FCs. For example, the payment of 0.23 pence is impossible with the Great Britain pound (GBP), but the equivalence can be achieved with bitcoin or other cryptocurrencies. Although the need to pay such infinitesimal value to anyone could be classed as inconsequential considering the effects of inflation, this can be useful for raising funds through crowdfunding for individuals or causes. The divisibility of cryptocurrencies is also useful, considering that cryptocurrency units capable of being mined in the future are capped. Their divisibility will promote a wider circulation when the final units of these cryptocurrencies are issued in the future.

In addition, the value of a currency must be stable enough to represent known units of account.<sup>258</sup> This is connected to their function as a store of value touched on above. In this sense, the stability of a currency is central to the ability of holders to rely on them as a true representation of value.<sup>259</sup> An unstable currency will stimulate wide speculation which encourages users to hold units of the currency, rather than spend them.<sup>260</sup> Also, the feature of ‘value’ sets money apart from valueless objects. With an acceptable medium of exchange, it is immaterial whether a value is present or merely perceived. Provided that such currency is ascribed a certain unit of value by consensus, it will most likely be accepted as a medium of exchange by those in agreement. Perlman, for example, compared FCs with myths considering

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<sup>256</sup> Grinberg (n 183) 178

<sup>257</sup> ‘Ether – What is Ether?’ <<http://ethdocs.org/en/latest/ether.html>> 7 December 2018

<sup>258</sup> Mankiw (n 230) 78

<sup>259</sup> Ibid

<sup>260</sup> ibid



how both thrive on holders' shared imagination and faith.<sup>261</sup> This understanding underpins the similarities between FCs and cryptocurrencies. Holders of both types of money ascribe value to units and rely on this belief while transacting among themselves.

As suggested above, cryptocurrencies are not as stable as FCs when both are compared over the same period. In 2009 10,000BTC was worth two pizzas. By 30<sup>th</sup> April 2019, a bitcoin unit was valued at \$5,180.<sup>262</sup> This increased to \$18,402.25 in December 2018 and \$67,000 by November 2021.<sup>263</sup> Notwithstanding its general appreciation in value, bitcoin has been known to lose a significant fraction of its value within a day. Notably, it lost almost 14% of its value on the 8<sup>th</sup> of September 2021.<sup>264</sup> However, bitcoin and other cryptocurrency types which have gained wider acceptance, such as ether and litecoin, are relatively more stable than the others.<sup>265</sup>

FCs and cryptocurrencies can be transacted anonymously depending on the platform.<sup>266</sup> While both forms of currency possess key identifiers, such as numbers in the case of FCs and public keys in the case of cryptocurrencies, transactions completed with either of the two may be untraceable depending on the context. Anonymity is possible with FCs on offline platforms. For instance, cash transactions are largely untraceable. Concerted efforts are required to trace cash transactions offline. Equally, law enforcement agents can mark FCs or note their numbers to trace them. Nevertheless, finding these currencies later remains unlikely. On the contrary, online FC transactions are largely traceable. For instance, financial instruments under the FC model, i.e. anonymous companies, could help actors transact anonymously with FCs.<sup>267</sup>

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<sup>261</sup> Morris Perlman, *Macroeconomics* (3rd edition), 1999

<sup>262</sup> Coinbase, 'Bitcoin Price', (April 2019) <[www.coinbase.com/price/bitcoin](http://www.coinbase.com/price/bitcoin)> 30 April 2019

<sup>263</sup> Ibid

<sup>264</sup> X 'Bitcoin to USD Chart' CoinMarketCap < <https://coinmarketcap.com/currencies/bitcoin>> 14 November 2021

<sup>265</sup> EBA (n 1) 8, 19

<sup>266</sup> Furneaux (n 68) 232

<sup>267</sup> Nicholas Lord, Liz Campbell, Karin Van Wingerde, *Corporate Vehicles and Illicit Finance: Policy Recommendations* (2019) <<https://bit.ly/3j2omYG>> 29 April 2019

This brings us to the differences between FCs and cryptocurrencies. Take anonymity as the starting point. Cryptocurrencies are underpinned by open ledger systems. Although transactions can be publicly viewed and traced to holders' e-wallets, the major challenge is that e-wallets could be owned by anyone as they do not have personal identifiers. The pseudo-anonymity feature of cryptocurrencies means that transactions can be traced but it may be difficult to identify the actors behind transactions.<sup>268</sup> Thus, while law enforcement agencies have successfully traced transactions to certain e-wallets, their ability to identify the actors who own these e-wallets remains limited.<sup>269</sup> In some cases, law enforcement agencies have successfully restricted access to these e-wallets but lack the capacity to return illegally obtained funds to their owners. This, among others, is a major complexity and limitation of the cryptocurrency model.

Some of the other differences between cryptocurrencies and FCs have been touched upon above. Unlike FCs, cryptocurrencies are not issued by any central bank or sovereign authority.<sup>270</sup> Neither do they have sovereign states backing their value.<sup>271</sup> Rather, they are mined through a computation process by computer programmers. Consequently, cryptocurrencies enable remittances without the need to rely on third parties like financial institutions. Second, FCs are either represented by paper and coins. They also have electronic versions which are created to facilitate online transactions for improved customer convenience. Conversely, cryptocurrencies exist solely in digital versions.<sup>272</sup> Automated Teller Machines

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<sup>268</sup> Michael Fleder, Michael S. Kester, Sudeep Pillai 'Bitcoin Transaction Graph Analysis' (5 February 2015) <<https://arxiv.org/pdf/1502.01657.pdf>> 20 October 2021

<sup>269</sup> Zoe Kleinman, 'Bitcoin investors: From buying a Bentley to losing it all' (9 February 2021) <<https://www.bbc.co.uk/news/technology-55996412>> 07 May 2021

<sup>270</sup> Nakamoto (n 94) 3

<sup>271</sup> *ibid*

<sup>272</sup> Franco (n 75) 48

(ATM) serve as exchanges which issue FCs equivalence of cryptocurrencies and kiosks for purchasing and selling cryptocurrencies through other means.<sup>273</sup>

Third, there are no restrictions on the unit of FCs capable of being issued, most cryptocurrencies employ unit capping mechanisms.<sup>274</sup> This instruction is embedded in the systems and cannot be bypassed in the future.<sup>275</sup> Finally, FCs can function irrespective of the ledger system utilised, or even without ledger systems. Cryptocurrencies cannot function outside of their ledger systems underpinning them. The blockchain ledger forms an integral part of the cryptocurrency system. This brings us to how cryptocurrencies have altered contemporary commerce by improving ledger systems. The next section provides an overview of cryptocurrencies and the payment system. This explanation is crucial for an understanding of how cryptocurrencies operate as an instrument of the payment system, while they also perform their other functions already touched on in Section 2.3 above.

## 2.5. Cryptocurrencies and the payment system model

To start with, cryptocurrencies alter and improve upon the functioning and management of the ledger system of recording monetary transactions i.e. the traditional remittance system. In a traditional system of remittance, ledgers are documents used by financial institutions to record transactions they complete on behalf of their customers. Through the ledger system and books, banks ensure that each unit of money is spent once. Banks' collective ability to achieve the above is central to the integrity of the financial system. An analogy will be drawn from a typical financial transaction that occurs on the internet to illustrate how traditional ledgers operate below.

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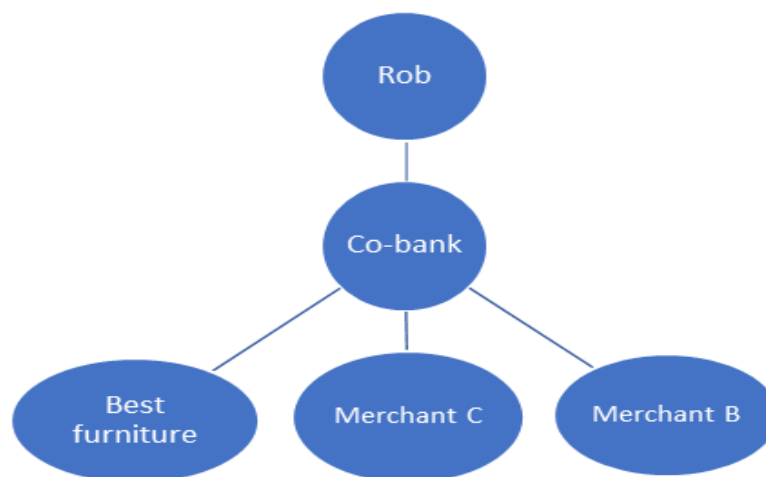
<sup>273</sup> Ibid, Bitcoin ATM Map, <<https://coinatmradar.com/>> 01 May 2019; Ghassan O. Karame; Elli Androulak, 'Two Bitcoins at the Price of One? Double-Spending Attacks on Fast Payments in Bitcoin', 1, <<https://eprint.iacr.org/2012/248.pdf>> 1 May 2019

<sup>274</sup> Wenker (n 112) 163

<sup>275</sup> *ibid*

If an individual, “Rob” has an account with a balance of £20 with a bank, “Co Bank” and uses his bank card to purchase a Coffee Table for £20 from “Best Furniture” on the internet. Rob is, by this purchase, instructing Co Bank to pay Best Furniture a sum of £20. Best Furniture completed the sale because it was certain that Co Bank will make the payment. Rob’s account should be empty after Co Bank makes this payment. Co Bank’s ledger should have this record for easy reconciliation of events. Without the ledger/record, Rob could act dishonestly by continuing to pay for purchases after he has spent the money Co Bank holds on his behalf.

Figure 2.1 – Interaction/payment model under the traditional ledger system<sup>276</sup>



The above tripartite transaction is underpinned by the trust in the traditional remittance system.<sup>277</sup> Best Furniture’s trust is underpinned by the reputation of Co Bank. If Rob does not have the money owed, Co Bank will be responsible for making the payment when it becomes due. Rob’s promise to pay becomes Co Bank’s promise to pay. The ledger system plays a

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<sup>276</sup> Source-Author

<sup>277</sup> The trust in the banking system is reinforced by extant laws which require banks to honour their obligations. Also, contractual laws on the meeting of the minds, consideration in addition to reputational risks of banks not honouring their obligations contribute to the perfect working relationships between banks and their customers. Zuzana Fungacova, Iftekhar Hasan, Laurent Weill, ‘Trust in banks’, (2017) Journal of Economic Behaviour and Organization, 452

crucial role in maintaining constantly updated records of related financial activities. This traditional trust-based remittance model makes transactions between strangers easier.

However, the traditional remittance system is not free from imperfections. In particular, banks or other intermediaries could refuse to process transactions even when customers' accounts are funded. For example, PayPal suspended WikiLeaks accounts after WikiLeaks released some sensitive information on the Web in 2010.<sup>278</sup> Beyond this, local/international law could prevent the processing of transactions under certain conditions. In line with international AML/CFT regulation, Nigeria's cap on funds that could be transferred in foreign currencies is another example.<sup>279</sup> Banks can equally apply their discretion in refusing to process suspicious transactions.<sup>280</sup>

The above and other factors make market actors less attractive to users who prefer greater freedom in how they interact within financial markets. Considering the difficulty of transacting anonymously within the traditional financial sector, people without adequate funds and influence to transact anonymously had limited opportunities to do this. Finally, banks are profit-oriented. There are transaction fees payable for the trust provided by the banks as well as other relevant services. The above limitations may be the price customers pay for the trust provided within the traditional financial sector.

Cryptocurrencies correct the highlighted problems by enabling direct interactions between users. Using Rob's example above, Best Furniture would not be trusting in the bank, but in the integrity of the blockchain system for its payment. The system promotes an increased level of

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<sup>278</sup> Brito, Shadab and Castillo (n 205) 151

<sup>279</sup> The CBN restates this rule in its 2013 Circular to Banks and other Financial Institutions. CBN, 'Section 2 of Money Laundering Prohibitions Act; Duty to Report International transactions of Cash or Negotiable Instruments in excess of \$10, 000 or its equivalent' (2013) <<https://bit.ly/3tTxJxc>> 17 May 2021

<sup>280</sup> *ibid*

trust in financial intermediation while removing the discretion of intermediaries. Rob can be certain that his payment would be processed accordingly. Additionally, Best Furniture does not have to be apprehensive about payment reversal in the future since this is impossible on the blockchain. In addition, transactions are completed without concerns about daily limits or refusal of the system due to restrictions put in place by legal systems (such restrictions are yet to be formulated). Finally, pseudo-anonymous cryptocurrency interactions within the market mean that users can interact freely with others without having to disclose their identities.<sup>281</sup>

Notwithstanding that the design of cryptocurrencies dispenses with the need for intermediaries, a class of market actors catering to emerging needs has started emerging. Although this development has started to erode the benefits of using cryptocurrencies, a significant proportion of the advantages of cryptocurrencies remain intact. The major change is that cryptocurrency users pay transaction fees where intermediation services are provided by market actors i.e. e-wallet service providers, exchanges and miners.<sup>282</sup> However, these fees are smaller than those charged by conventional banks for processing similar transactions.

## 2.6 Conclusions

Cryptocurrencies are a complex class of cryptoassets that are originally designed to improve upon the traditional transaction settlement systems. These FinTech products have since evolved from their currency function to serve as other things. A unit of cryptocurrency could be a currency, commodity or security depending on several factors. Each of these functions shapes CUI and cryptocurrency market dynamics. A core challenge is identifying the meaning of each cryptoasset type ex-ante considering that their name may not be a sufficient indication of their

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<sup>281</sup> See below on examples of different cryptocurrency product providing varying degrees of anonymity

<sup>282</sup> For instance, Binance charges over 0.1% of transacted sum for spot trading fee and as high as 4.5% for instant buys with Debit cards See Binance, 'Trading Fees' <<https://bit.ly/3GuhSgi>> 12 November 2021

market function. The confusion expressed by the respondents to the FCA's study on respondents' understanding of the former's definition of key terms such as utility and payment tokens exemplifies the above.<sup>283</sup> The above makes their regulation complicated and problematic, particularly since a cryptocurrency can present as more than one asset in its lifecycle.<sup>284</sup>

Consequently, it is recommended that regulators look beyond the name of the asset class to investigate their substance for the purpose of determining the applicable law. Finally, the decentralised nature of cryptocurrencies with no responsible intermediaries, pseudo-anonymity and multijurisdictional implications are other issues for regulation. For a more detailed understanding of how these complexities could negatively impact the ability of states to regulate and how some of these issues can be solved, it is imperative to examine the meaning of regulation and explore why and how financial markets are regulated. The next chapter undertakes these tasks.

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<sup>283</sup> FCA, 'Guidance on Cryptoassets' (2019) FCA Consultation Paper 19/3 <<https://bit.ly/3uLi4Cf>> 31 March 2022, 14

<sup>284</sup> See the example above on e-wallet service providers and exchanges who offer futures and spot transactions to users.

## Chapter Three

### What is Regulation? Theories, Models and Instruments

#### 3.1. Introduction

An understanding of regulation is central to the aim of this research i.e. an investigation of *good regulation* for Cryptocurrency User Interactions (CUI).<sup>1</sup> This chapter explores the meaning of regulation. It evaluates the bearing of regulatory theories, models and instruments on good CUI regulation. The remaining part of this chapter is divided into four main sections and structured as follows. Section 3.2 presents definitions of regulation. Section 3.3 explores the three major theories of regulation and their application to cryptocurrency markets and CUI. Section 3.4 evaluates the major models and instruments of regulation and their utility within CUI. Section 3.5 concludes the chapter by reiterating that good CUI regulation must be underpinned by the adoption of appropriate regulatory models and instruments.<sup>2</sup> The overall contribution of this chapter to the thesis is that it highlights that the subject and context of regulation are crucial considerations which must shape regulatory design and the choice of regulatory instruments. The constant evolutionary character of technology means that CUI regulation must be flexible to accommodate changes as they occur.<sup>3</sup> Hybrid regulatory models offer this flexibility.

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<sup>1</sup> These concerns are explored in detail in Chapter 4

<sup>2</sup> *ibid*

<sup>3</sup> See Chapter 4 for the connection between the five public law values and *good regulation*



### 3.2. What is regulation?

Ogus defines regulation as “a sustained and focused control exercised by a public agency over activities that are valued by a community.”<sup>4</sup> This definition focuses on the “command and control” understanding of regulation within which a public agent controls its subjects. Contrarily, Morgan and Yeung take a broader view by considering regulation to be a spectrum. At the narrowest end of this spectrum, regulation refers to states’ “... deliberate attempts ... to influence socially valuable behaviour which may have adverse side effects by establishing, monitoring and enforcing legal rules...”<sup>5</sup> This narrower meaning is similar to Ogus’ definition stated above in that it touches on a one-directional flow of authority and the intentional use of power.

Morgan and Yeung define regulation, in its broadest sense, as encompassing “...all forms of control, intentional or not, imposed by the state or social institutions.”<sup>6</sup> The broader perspective considers the key role of non-state actors in shaping economic and social behaviours. It equally suggests the dispensability of regulatory intent in shaping behaviour. However, could there be regulation in the absence of the intention to regulate? Black’s definition offers more insight into this.

To Black, regulation is “... the intentional use of authority to affect the behaviour of a different party according to set standards, involving instruments of information-gathering and behaviour modification.”<sup>7</sup> This definition highlights three core stages of regulation, namely standard

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<sup>4</sup> Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Oxford) 1 citing Philip Selznick and Philippe Nonet (1978) *Law and Society in Transition: Toward Responsive Law* (Harper and Row, New York) 363

<sup>5</sup> Bronwen Morgan & Karen Yeung, *An introduction to Law and regulation* (2007 Cambridge) 3

<sup>6</sup> *Ibid.* See also Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation* (2012 Oxford University Press) 3

<sup>7</sup> Cited in Robert Baldwin, Martin Cave and Martin Lodge (Eds), *The Oxford Handbook of Regulation*, Introduction (2012) 9 <<https://bit.ly/3ioQ6rp>> 21 May 2019; Julia Black, ‘Decentering Regulation:

setting, information gathering and behaviour modification. These will be returned to shortly. First, we must consider the similarities between this definition and Morgan and Yeung's.

The consideration of regulation as an "intentional use of authority" is the first similarity. Both definitions suggest that unintentional use of authority in modifying behaviour cannot be termed regulation. The modification of behaviour by regulators must occur through the intentional use of authority. The object and subject of regulation in the above definitions are similar. To Black, the target of regulation is "... a different party." Black's definition does not expand on *who* exerts control over *whom*. This imprecision could be interpreted to accommodate the flexibility which Morgan and Yeung consider a necessary element of regulation.<sup>8</sup> Hood et al. equally support the multidirectional flow of authority. Similarly, Moran faults the one-directional framing of the regulation on the basis that it fails to accommodate cases of self-regulatory or hybrid arrangements.<sup>9</sup> While the legitimacy of private regulators may be doubtful, their role in enabling regulation is incontrovertible.<sup>10</sup>

Turning now to the three major stages of regulation highlighted in Black's definition. These are standard setting, information gathering and behaviour modification. Standard setting is the starting point within most regulatory regimes. It is underpinned by the regulator's ability to set appropriate standards to allow for what Hood et al. called "... a distinction between more or

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Understanding the role of Regulation and Self-Regulation in a 'Post Regulatory' World' 2001, 54, Current Legal Problems 136, 142

<sup>8</sup> Morgan and Yeung (n 5)

<sup>9</sup> Michael Moran, Theories of Regulation and Changes in Regulation: The Case of Financial Markets, Political Studies (1986) XXXIV 185. Regulatory roles of non-state actors include driving or participating in articulating the regulated community's interests and formulating policies that deliver them. See Ian Ayres & John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (1992, Oxford) 58

<sup>10</sup> Chapters 5,6 and 7 expand on this

less preferred states of the system.”<sup>11</sup> An understanding of the subject of regulation is crucial to the above.

Second, Black recognises the importance of information gathering in providing regulators with an appreciation of the current and changing states of the system.<sup>12</sup> The regulator’s ability to gather information is equally important at the standard-setting and behavioural modification phases. An inability to gather information undermines the capacity of regulators to modify behaviour. This ability is of equal relevance within CUI. The pseudo-anonymous nature of CUI presents challenges for information gathering, particularly, at the implementation and enforcement stages.<sup>13</sup> This may require the use of appropriate tools to differentiate between compliant and defiant actors. A distinction between compliant and defiant actors is essential to the determination of *how* different regulatory resources should be adapted to modify behaviour.

The modification of the behaviour of the target of regulation is the ultimate purpose of regulation and the third element in Black’s definition. This could be aimed at correcting or limiting the inherent risks within the context of financial market regulation.<sup>14</sup> An identification of compliant and recalcitrant actors is a key aspect of effective behaviour modification as it helps to direct the attention of regulators to where their resources are required the most. Regulators’ ability to enable desirable levels of control underpins the entire process of behaviour modification. Accordingly, Hood et al. note that “any control system” or regulation must encompass some capacity to modify behaviour as appropriate within each of the above stages.<sup>15</sup>

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<sup>11</sup> Christopher Hood, Henry Rothstein and Robert Baldwin, *The Government of Risk: Understanding Risk Regulation Regimes* (2001 Oxford University Press) 23

<sup>12</sup> *ibid*

<sup>13</sup> See Chapter 4

<sup>14</sup> Hood et al (n 11)

<sup>15</sup> *ibid*

What, then, are the bearings of these definitions for the regulation of CUI and cryptocurrency markets? Notwithstanding that the narrower meaning of regulation is desirable for its simplicity, it is not in line with the current understanding of regulation. The meaning of regulation has since evolved to accommodate the advancement and complexities of modern markets which enable a complex web of interactions. These complicated interactions were not in contemplation under the narrower framing of regulation. The dispersion of regulatory tools among state and non-state actors, among others, means that a multidirectional flow of authority between these actors is inevitable.<sup>16</sup>

Consequently, the thesis adopts Black's framing of regulation considering the similarities between CUI and the complicated marketplace envisioned in her broader framing of regulation. Black's definition balances the extremities of Morgan and Yeung's broadest and narrowest meanings of regulation. To reiterate, Black defines regulation as the "... intentional use of authority to affect the behaviour of a different party according to set standards, involving instruments of information-gathering and behaviour modification."<sup>17</sup> Having established the meaning of regulation, the next section investigates regulatory theories.

### 3.3. Theories of market regulation

Some researchers have considered the market system to be a superior organisation with an ability to regulate itself and the interactions among its agents.<sup>18</sup> Markets are assumed to be one of the means for advancing social welfare which dispenses with the need for external stimulation.<sup>19</sup> Smith's invisible hand theory is one of these explanations. The theory suggests

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<sup>16</sup> Morgan & Yeung (n 5)

<sup>17</sup> Black (n 7)

<sup>18</sup> Patrick Selim Atiyah, *The Rise and fall of freedom of contract* (1979) 207

<sup>19</sup> *ibid*

that natural forces regulate activities between buyers and sellers, or between market actors and consumers.<sup>20</sup> These forces ensure that each market actor not only performs his role but equally receives his due. Smith attributed a level of efficiency to the system when he explained how people inadvertently promote public interest efficiently while pursuing private interests.<sup>21</sup> Consequently, the invisible hand theory does not just permit the pursuit of self-interest but also encourages it because this pursuit generates public prosperity.

However, the theory has come under criticism. Primarily, there is no guarantee that markets will attain every public goal or at least those prioritised by the state. Additionally, the factors required to be present for the invisible hand theory to function are often absent.<sup>22</sup> An unrestrained market may produce risks which vary in scale and scope. Frauds on individuals/groups with limited connection to the market, environmental implications, or activities with deleterious effects on state reputation are common risks associated with the use of cryptocurrencies.<sup>23</sup> State regulators have responded to similar risks within existing markets by formulating laws to correct the failure of an unstimulated market to deliver expected outcomes.<sup>24</sup> Regulatory theories offer explanations on how regulation emerges in response to market risks, among others.

Theories of regulation, in addition to explaining how regulation emerges, provide lessons on the aims of regulation.<sup>25</sup> Beyond the above, regulatory theories perform three remarkable functions. First, they identify the actors involved and their role in the emergence of new regulation. Second, they explain the complex interactions between actors prior to the

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<sup>20</sup> Adam Smith, *The Wealth of Nations* (1975 [1776] 1976: 454 [IV.ii.9])

<sup>21</sup> Ibid

<sup>22</sup> Equal purchasing power and perfect market systems are some examples. Joseph Heath, *Morality, Competition and the Firm: The Market Failures Approach to Business Ethics*, (2014 Oxford University Press) 207

<sup>23</sup> These are expanded upon under contextual regulatory issues with CUI in Chapter 4

<sup>24</sup> Ibid

<sup>25</sup> Equal purchasing power and perfect market systems are some examples. Joseph Heath, *Morality, Competition and the Firm: The Market Failures Approach to Business Ethics*, (2014 Oxford University Press) 207

formulation of new regulation and how these relations shape the type of regulation which emerges.<sup>26</sup> Finally, regulatory theories shed more light on how regulatory regimes operate.

Regulatory theories are not independent abstractions. They are influenced by specific contextual factors. Additionally, each theorist's framing of regulation is shaped by their experiences. Individual theorists' experiences are, in turn, shaped by their values and local contexts. For instance, private interest theorists, such as Posner and Stigler, are Americans. The institutionalisation of lobbying in the United States of America has a major influence on their understanding of how regulation emerges.<sup>27</sup> A different view may be held by more conservative states where lobbying is neither common place nor institutionalised. Nevertheless, these factors should not limit their core contributions to the regulatory discourse. The next section examines the three main theories of regulation and their applications to CUI.

### 3.3.1 Public interest theories

Public interest arguments justify regulation as a means of correcting deficiencies in the operation of the market. However, they do not conclude that regulation should correct every market deficiency. Instead, public interest theories argue that regulation should focus on deficiencies with significant connections to the public interest of the state.<sup>28</sup> A core criticism of public interest theories of regulation is that the term “public interest” is nebulous and incapable of an objective explanation. It is often difficult to ascertain what the term means in

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<sup>26</sup> Frances (n 32) 9

<sup>27</sup> Lobbying is institutionalised in America. This is illustrated by the enactment of the Federal Regulation of Lobbying Act as far back as 1946. See Richard A Posner, ‘Theories of Economic Regulation’ (2016) 5 (2) *Bell Journal of Economics and Management Science* 335, <<https://bit.ly/3g9Ycmv>> 1 June 2020; George J Stigler, ‘The Theory of Economic Regulation’ (1971) *The Bell Journal of Economics and Management Science* 3, <<http://hsecon.tripod.com/stigler-regulation.pdf>> 1 June 2020

<sup>28</sup> Frances (n 32). 15; Andrei Shleifer ‘Understanding Regulation’ (2005) 11 (4) *European Financial Management* 439, <<https://bit.ly/2Ti2hf8>> 4 June 2020 444

the abstract. Its meaning is shaped by time, place and societal values.<sup>29</sup> While this vagueness might be essential for regulatory flexibility, it is not without problems. For instance, an imprecise meaning of public interest makes it difficult to distinguish between the pursuit of self-interest by regulators/legislators and the interest of the public. This is even more problematic where an overlap between the two can be observed.

Identifying what “public interest” means within each regulatory context is vital, especially during the stage of regulation design. This will help reduce uncertainties in implementation and enforcement. Such identification is often not the case and this may be deliberate considering that public interest could be shaped by factors not considered at the beginning of the regulatory intervention. Public interest could change as regulation unfolds and herein lies the danger. How will accountability be measured when the motive for regulating changes during a regulatory cycle? For instance, public interest goals, which were the main purpose of regulating cryptocurrencies in Nigeria, have been interpreted to mean different things over a period of five years. First, it was in the public interest to warn the public and prohibit banks from processing cryptocurrency transactions.<sup>30</sup> Second, the move of the Nigerian Securities and Exchange Commission to regulate cryptocurrencies as securities and commodities was underpinned by the public interest goal of promoting innovation.<sup>31</sup> Finally, public interest formed the basis for the CBN directive to banks on closing the accounts of their customers who use cryptocurrencies.<sup>32</sup>

On the surface, the above shows the fluidity of public interest and how it may be difficult to ascertain what the term means in the abstract and in advance. This also raises the question of

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<sup>29</sup> C.J. Friedrich (ed.) *The Public Interest* (1962) cited in Ogus (n 4)

<sup>30</sup> CBN, Circular to Banks and other Financial Institutions on Virtual Currency Operations in Nigeria (2017) <<https://bit.ly/38x7c0D>> 25 June 2017

<sup>31</sup> See more on this in Chapter 6

<sup>32</sup> *ibid*

how states should reconcile competing public interests. For these reasons, clarity must be offered on what public interest means for each stakeholder and each regulatory cycle.<sup>33</sup> Finally, the state must be transparent and accountable to the public on how and when this meaning accommodates other considerations.

States can draw lessons from the commonly assumed ideal notions for the general framing of public interest aims.<sup>34</sup> The guidance offered by the notion of ideal contracts constitutes an example. An ideal contract in an ideal market refers to one in which no individual is left worse off than he would be had he not entered into the contract.<sup>35</sup> This notion is underpinned by the assumption which bears a certain resemblance to Smith's theory.<sup>36</sup> Under this assumption, rational individuals enter into contracts that operate best in their favour. Although this ideal notion is not always the case, it presents a useful example for public interest in regulating market interactions, i.e. the promotion of ideal market interactions. Availability of information, limiting externalities and preventing market exploitation of consumers are relevant factors which must be present for the ideal to hold.<sup>37</sup> Consequently, public interest encompasses the promotion of each of the identified factors in market interactions.

Public interest theories have come under severe criticism for their idealistic perspective. They conflate the *actual* motives for regulation with what those motives *should be*.<sup>38</sup> Public interest theories focus on the latter while failing to satisfactorily account for the inherent power and interest conflicts that characterise regulatory regimes. Notwithstanding that the altruistic

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<sup>33</sup> Chapter 4 examines what these are within cryptocurrency markets

<sup>34</sup> Smith (n 19); Peter D. Spencer, *The structure and regulation of financial markets* (2000 Oxford University Press) 2

<sup>35</sup> *ibid*

<sup>36</sup> *ibid*

<sup>37</sup> The ultimate point of such exercise is an outcome which satisfies the Kaldor-Hicks approach to efficiency. Ogus (n 4) 24; Friedrich August von Hayek. 'The Use of Knowledge in Society.' (1945) *The American Economic Review*, vol. 35, no. 4, 519, 520

<sup>38</sup> Morgan & Yeung (n 5) 17



pursuit of public interest has been successful in certain instances, private interests also shape regulation.<sup>39</sup>

Consequently, the major weakness of public interest theories is their failure to account for the interest of non-state actors, their market role and how this influences what emerges as regulation. Regulators and legislators may pursue self-interests such as job retention, self-gratification, re-election etc. while mapping out a new regulation.<sup>40</sup> This predisposes them to yield to other private interests. According to capture theory, the pursuit of private interests may be obscured in certain instances. This is more dangerous where regulation serves a symbolic purpose. For instance, making rules that achieve nothing to placate those whose interests need to be protected.<sup>41</sup> Regulatory capture undermines the pursuit of public interest when new regulation is being considered.<sup>42</sup> Section 3.2.2 below expands on this.

In sum, public interest theories explain how regulation emerges. These theories are relevant to CUI regulation because they prescribe the purpose of market regulation i.e. the promotion of public interest goals. However, they suffer from some limitations. Primarily, it is difficult to determine the meaning of “public interest” in the abstract. Furthermore, the theories fail to account for the influence of other interests, notably private interests, on what emerges as regulation. Private interest theories address this limitation. The next section discusses private interest theories and their bearing on CUI regulation.

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<sup>39</sup> According to private interest theories

<sup>40</sup> Michael E. Levine and Jennifer L. Forrence, ‘Regulatory Capture, Public Interest and the Public Agenda: Toward a Synthesis’ (1990) *Journal of Law, Economics, & Organization*, Vol. 6, Special Issue: [Papers from the Organization of Political Institutions Conference, April 1990] (1990), 167, 169

<sup>41</sup> Paul J Quirk, *Industry Influence in Federal Regulatory Agencies*’ (2014 Princeton University Press) 17.

<sup>42</sup> Morgan & Yeung (n 5) 43; George Stigler, ‘The theory of economic regulation’ (1971) *Bell Journal of Economics and Management Science*, April 1971, Vol.2, 3

### 3.3.2 Private interest theories

Private interest theories fill a prominent lacuna in public interest theories by highlighting the influence of non-state actors in the emergence of new regulation. The perception of regulation by private interest theorists is based on the apparent divisions and conflicts between the actors who populate the regulatory arena. There are constant tensions between different private interests on the one hand and between these interests and the state on the other. These conflicts are often won by the most influential private interests.<sup>43</sup> Regulatory capture, already touched on in Section 3.3.1 above, is an extreme outcome of the conflicts among interests populating the regulatory arena.

Capture or “special interests” theory highlights that regulation can end up serving the interests of the groups they regulate. With capture, regulation can promote the interests of private and public actors. Where both interests are irreconcilable, the regulation that emerges will promote private interests.<sup>44</sup> Capture thrives in some contexts more than others. The former includes cases where direct regulation is expensive for the state and the regulation of technical products which require the knowledge and experience of experts. This risk is exacerbated by the practice of revolving door, i.e. individuals/experts move from the private sector to the public sector (and vice versa).<sup>45</sup> The situation is even more problematic where private interests have a greater influence within the implementation and enforcement stages of regulation.<sup>46</sup> Under-represented groups i.e. consumers and ordinary citizens are often at a disadvantage.<sup>47</sup>

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<sup>43</sup> Morgan & Yeung (n 5) 7

<sup>44</sup> *ibid*

<sup>45</sup> *Ibid*

<sup>46</sup> Morgan & Yeung (n 5) 68 – 72

<sup>47</sup> *ibid*; Baldwin, Cave, Lodge (n 6) 44. Their underrepresentation is influenced by the dispersed nature of the groups

Although private interest theories agree that the outcome of power tussles between public and private interests influences what emerges as regulation, they are divided on what specific dynamics shape this outcome. Pluralists, mostly American scholars, consider that electoral domination shapes regulatory regimes.<sup>48</sup> They argue that regulation favours groups/a coalition of groups who succeed in the competition for power and election.<sup>49</sup> Corporatists, on the other hand, focus on the scale of private influence in regulatory regimes. They argue that the influence of the dominant groups transcends specific regulatory contexts. Corporatists are of the view that these groups are in a much broader partnership with the state.<sup>50</sup>

Positive theorists explain regulation not only from the perception of those it benefits but also from its general impact on society i.e. consumers, the economy etc. Normative theorists introduce an interesting perspective to the debate by considering the propriety of having private interests drive regulation. The Kaldor-Hicks' perception, which advocates that the aggregate gain from regulatory partnerships should exceed the aggregate loss, forms the foundation of their analysis.<sup>51</sup> Normative theorists, thus, suggest that the outcome of private interests' conflicts could, indeed, be efficient and beneficial.<sup>52</sup>

The foregoing shows that private interests may be political or economic. Both strands of interest are apparent within CUI. The desire for more control and privacy by individuals is part of the motives underpinning the development and use of cryptocurrencies.<sup>53</sup> On the contrary,

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<sup>48</sup> Morgan & Yeung (n 5) 10

<sup>49</sup> Ibid

<sup>50</sup> Ibid

<sup>51</sup> See Ogus (n 4) 72

<sup>52</sup> ibid

<sup>53</sup> Nakamoto's paper introducing Bitcoin highlights this. Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' [2008] 39 Journal for General Philosophy of Science 5. The clash of ideologies cyber paternalists and cyber libertarians on liberties and privacy reflect the political aspects. See Ross W. Bellaby, 'Going dark: anonymising technology in cyberspace' (2018) Ethics and Information Technology 20:189. For arguments in favour of paternalism see A.M. Thomas J. Parkinson, P. Moore, A. Goodman, F. Xhafa and L. Barolli, 'Nudging Through Technology Choice architectures and the mobile information revolution' (2013) Eighth International Conference on P2P, Parallel, Grid, Cloud and Internet Computing

the ability of states to control the activities of their subjects underpins their sovereignty. This desire for control continues to dominate the discussion on CUI regulation. The above pitches libertarians against paternalists. Conflicts between economic interests are equally apparent.<sup>54</sup>

Economic interests are represented by non-state /market actors like exchanges, miners and e-wallet providers. At the other end of the economic spectrum, there are existing financial services providers who consider the disruptive nature of cryptocurrencies detrimental to their economic interests. These include commercial banks, payment services and traditional securities issuers etc. Consumers and groups sympathetic to the plight of consumers engaged in cryptocurrency-related interactions.<sup>55</sup> The political interest of states as issuers of currencies is another example. However, CUI has been largely shaped by private interests. The influence of private interests is more pronounced in states where regulators maintain a *sit-and-wait* approach to CUI regulation.<sup>56</sup> This suggests the need for regulations to intervene and strike an effective balance between over-represented and under-represented interests.

Similar to public interest theories which they seek to refute, private interest theories are not without shortcomings. A major criticism is their flawed assumption that interest groups influence politicians, who, in turn, control regulators.<sup>57</sup> Evidence suggests that there is a limit to the extent to which interest groups and legislators control regulators.<sup>58</sup> In this vein, Baldwin, Cave and Lodge assert that regulators do not always abide by the whims of legislators and the public.<sup>59</sup> They suggest that notwithstanding established processes of political, legal and administrative accountability to legislators, micro-level accountability is rarely enforced on

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<sup>54</sup> See Chapter 4

<sup>55</sup> *ibid* on how market practices and exploitations reflect this need

<sup>56</sup> See Chapter 4 for examples

<sup>57</sup> Baldwin, Cave, Lodge (n 6) 97

<sup>58</sup> *Ibid.* 45; R Barke; W Riker; A Political Theory of Regulation with some Observations on Railway Abandonments (1982) Public Choice, Vol.39, 73

<sup>59</sup> Baldwin, Cave, Lodge (n 6)

regulators. Additionally, the relationships established and maintained between the public, legislators and regulators are complex. Care must be taken in making broad assumptions on the extent of control exerted by one group on the other or how receptive the other group is to such influence. The extent of influence within different regulatory contexts will also differ. The context of regulation, as a core determining factor of what emerges as regulation, is expanded upon by institutionalist theories. Section 3.3.3 below addresses this.

### 3.3.3 Institutional theories of regulation

Public and private interest theories discussed above underestimate the influence of groups and institutional dynamics on regulation.<sup>60</sup> Institutional views fill the gaps left unaccounted for by the above. Institutional theories of regulation are a combination of ideas that consider the influence of the context of regulation. They argue that tools, formal bodies, their norms and interactions have significant implications on what emerges as new regulations.<sup>61</sup> The interactions between established bodies such as regulatory agencies, states and regulated groups significantly shape what emerges as regulation. This section draws from Morgan and Yeung's classification of institutionalist regulatory theories namely tripartism, regulatory space and systems theory.

Tripartism recognises the importance of using organisations in regulatory processes because of their access to regulatory tools like information and expertise. While this encourages capture, their indispensability within regulatory regimes suggests that capture could be the lesser evil. An effective balance is achievable if states devise mechanisms for limiting the possibility of

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<sup>60</sup> *ibid*

<sup>61</sup> Morgan & Yeung (n 5) 53

capture.<sup>62</sup> To this end, tripartism prescribes the involvement of an independent third party, i.e. Public Interest Groups (PIGs), who will act as independent watchdogs in the regulatory process. This reduces the risks of capture but creates other issues. The neutrality of the watchdogs is a key concern because if regulators are not immune to capture, how certain are we that PIGs will be? Ayres and Braithwaite recommend competitively allocated participation slots to these watchdogs to reduce corruption and, ultimately, the capture of PIGs.<sup>63</sup> The extent to which this suggestion solves the problem with the neutrality of PIGs remains unclear.

Turning now to regulatory space theory. This theory presents a broader approach to the role of parties in regulation. It places less emphasis on regulators or regulatory processes but instead concentrates on the impact of the locus of regulation on the emergence of regulation. It expands on how regulatory activities are rooted in institutional dynamics which are, in turn, shaped by contextual differences.<sup>64</sup> Regulatory space theorists argue that contextual differences and institutional dynamics occasionally generate complexities that call for trade-offs between state and non-state actors.<sup>65</sup> Interestingly, this echoes the perception of organised interest aspect of private interest theories and thereby suggests that some of the theories of regulation are not always in conflict.

In addition, regulatory space theory focuses on how resources like information, wealth, hands-on knowledge and experience of actors within private organisations shape regulatory outcomes.<sup>66</sup> This suggests that regulators yield to the views of large and powerful organisations. Practices in which the standard operating rules of private firms become

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<sup>62</sup> Ibid; Ian Ayres and John Braithwaite, 'Tripartism: Regulatory Capture and Empowerment', (July 1991) *Law & Social Inquiry*, Vol.16 (3), 435, 496

<sup>63</sup> Ian Ayres & John Braithwaite *ibid*, 440-2

<sup>64</sup> Morgan & Yeung (n 5) 59; Leigh Hancher, Michael Moran *Capitalism, culture and economic regulation*, (1989 Oxford)

<sup>65</sup> Hancher & Moran *Ibid*

<sup>66</sup> Carolyn Abbot, 'Bridging the Gap: Actors and the Challenges of Regulating New Technology' (September 2012) *Journal of Law and Society* Volume 39, Number 3, 339

institutionalised or even adopted by the state after a period of application constitute examples.<sup>67</sup>

The foregoing shows that regulatory space theory aligns with the broader meaning of regulation which encompasses a multidirectional flow of authority.

The explanation advanced by regulatory space theorists is helpful for an understanding of the complex nature of CUI and cryptocurrency markets. The cross-border nature of cryptocurrencies, their disruptive features and variations in market implications within different contexts are examples of market complexities. Interactions based on the relative power of market actors equally generate complexities within the regulatory space. Cryptocurrency markets have vertical and horizontal dimensions. The vertical dimension encompasses the top-down power relations among actors interacting within the market.

The location of each individual or group within this spectrum is influenced by how powerful they are and the control they assert over others. The power of individuals/groups derives from their access to resources such as information, wealth, expertise or legitimacy.<sup>68</sup> Users/consumers are often at the bottom of this strata while more organised market actors such as miners, exchanges and e-wallet service providers are at the top. The state, by virtue of its legitimacy, could be at the top if it exerts control over market actors and interactions. The state could equally be outside of the strata, where it does not regulate market interactions, but allows the market to self-regulate. Consumers' limited resources and inability to organise place them at a disadvantage in this case.<sup>69</sup>

The horizontal dimension of the CUI regulatory space refers to the relationships among actors across different aspects of the market. Mining, exchange and e-wallet services are some of

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<sup>67</sup> Morgan & Yeung (n 5) 59

<sup>68</sup> See Part 5.5 in Chapter 5 on how non-state actors have applied their access to regulatory resources

<sup>69</sup> See Baldwin, Cave, Lodge (n 6) 44

these aspects. This dimension encompasses the interactions between market actors among themselves or the interactions of the users among themselves on the one hand, and with the regulators on the other, irrespective of whether the state chooses to regulate or not. Both aspects raise issues for regulation. Market resilience and continuity, money laundering and terrorism financing are examples of these. Regulators must properly navigate the complex interrelationships to deliver regulatory outcomes within these contexts. By recognising how institutional dynamics shape market interactions, regulatory space theory enables an understanding of market complexities and the limitations to the powers of the state to regulate without extra support. This understanding is central to mapping out relevant principles and rules for good CUI regulation.

Finally, systems regulatory theory evaluates regulation from an evolutionary angle. It explains the lifecycle of regulation by drawing from the biological explanations of how living organisms self-regulate in response to activities in their environment.<sup>70</sup> Most notably, it provides an alternative to a commonly held belief that self-regulation is derived from the need to rely on non-state actors. In some cases, these needs have been attributed to public actors' inadequate access to regulatory instruments.<sup>71</sup> Systems theory suggests that self-regulation is the starting point of regulation and this is supported by state regulation when the system fails to deliver desirable outcomes.<sup>72</sup>

Turning now to the combined contribution of institutionalist theories to an understanding of how regulation emerges. Institutionalists refocus attention on institutional dynamics that influence the emergence of regulation. Furthermore, institutionalists show that a clear line of distinction is absent between the state, as regulators and non-state actors, as the regulated. They

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<sup>70</sup> Ibid. 69

<sup>71</sup> ibid

<sup>72</sup> Ibid



detract from the perception of the state as the ultimate source of regulation by showing that co-regulation and self-regulation are viable regulatory alternatives. Institutional explanations are useful when considering CUI regulation. They promote a more robust framing of regulation by expanding on the limits to the state's influence on the emergence of new CUI regulation. They equally draw closer attention to the possible utility of PIGs to help limit the impact of capture and thus foster fair CUI if the state favours a hybrid regulatory approach.

In sum, each regulatory theory provides insight into the emergence of regulation, regulatory tools and, in some cases, the goals of regulation. Public interest theories analyse the aims of *good* regulation, while private interest theories account for the role of private interest groups in formulating and implementing regulations. Institutional theories consider the influence of the context of regulation on what emerges as regulation. A significant proportion of the subsequent theories do not suggest that regulation should not be done in the public interest. Contrarily, they identify factors which may undermine this. Regulatory regimes are often explained by more than one theory.<sup>73</sup> Additionally, regulation could progress from one theory of regulation to another at several points in each regulatory cycle.<sup>74</sup> Consequently, a combined reading of the theories creates a more robust understanding of regulation.

This thesis adopts public interest theories of regulation as the foundation of its framing of regulation. Chapter 4 expands on this by presenting laws underpinned by public interest explanations. Beyond the emergence of regulation, public interest should continue to drive the implementation and enforcement of regulation. Lessons should equally be drawn, where relevant, from private interest theories and institutionalism on other factors capable of undermining or improving the effectiveness of regulation. In addition to the above, a broad

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<sup>73</sup> Baldwin, Cave, Lodge (n 6) 81

<sup>74</sup> Ibid

appreciation of regulatory capacity, models and instruments is crucial to the design of *good regulation*. The next section examines these in detail.

### 3.4 Regulatory capacity, models and instruments

Regulatory capacity is central to the determination of the approach of regulators to formulating, implementing and enforcing rules. Inadequate capacity of actors to regulate could undermine the entire regulatory process.<sup>75</sup> An adequate consideration of the capacity to regulate should take the forefront in determining *how* to regulate and *who* regulates. What, then, does regulatory capacity mean? Regulatory capacity refers to the ability of regulators to meet regulatory outcomes using the resources at their disposal. Three factors are relevant to determining regulatory capacity. These are regulatory *actors*, *resources* and *functions*. More generally, regulatory *functions* must be allocated to *actors* with the *resources* to implement these.

Take *actors* as a starting point. Recourse is often had to a wide range of actors for implementing and enforcing regulation. Within the spectrum of elementary and complex regulatory settings, the actors involved in regulation often include three sets of individuals/groups. These are state actors, second parties and third parties to regulation. Second parties are directly affected by regulation and often form part of the regulated group.<sup>76</sup>

Third parties are actors who are not directly affected or connected with market interactions but have a potential role to play in meeting public interest goals.<sup>77</sup> Civil societies, Public Interest

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<sup>75</sup> CBN (n 50)

<sup>76</sup> Carolyn Abbot, 'Bridging the Gap - Non-State Actors and the Challenges of Regulating New Technology' [2012] 39 Journal of Law and Society 329, 331

<sup>77</sup> Neil Gunningham, Peter Grabosky, with Darren Sinclair, 'Harnessing Third Parties as Surrogate Regulators: Achieving Environmental Outcomes by Alternative Means' (1999) Business Strategy and the Environment 8, 211–224

Groups (PIGS) and other Non-Governmental Organisations (NGOs) are examples. The mechanisms at the disposal of third parties to regulation are often softer and more persuasive. Drafting these groups into regulatory processes and empowering them to act as watchdogs will help promote accountability and transparency which are necessary ingredients of *good regulation*.<sup>78</sup> Chapter 4 argues that promoting the above is essential for achieving the right balance between the interests within cryptocurrency markets.<sup>79</sup> The traditional meaning of regulation advanced by Ogus suggests a clear distinction between the actors identified above. This distinction could be more apparent than real in certain cases considering that the relationship between regulatory actors is more complex.

The state is often in charge of allocating functions to other actors within the regulatory arena. These may be other state actors, second and third parties to regulation. Furthermore, there is a multidirectional flow of authority among the highlighted groups. Any of the actors could be the rule-giver or the rule-taker.<sup>80</sup> Besides, positional shifts could occur where either of the two actors on opposing sides starts as the driver of regulation. Where this happens, the state could become the rule-taker while non-state actors become the rule-giver and vice versa.<sup>81</sup> For instance, in the foreign exchange market, states are known to adopt the official currency exchange rates to reflect market realities. Also, Standards and Poor's and Moody's ratings regulate the bonds issued by governments.<sup>82</sup>

Turning now to regulatory *resources*. These are tools applied to modify behaviour. Information, expertise, wealth, authority, strategic positioning and organisational capacity are

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<sup>78</sup> To reiterate, *good regulation* refers to the pursuit of public interest goals and public law values

<sup>79</sup> Market actors versus consumers and how the influence of market actors may influence regulation. See Chapter 4

<sup>80</sup> See section 3.1 above; Morgan & Yeung (n 5) 3; Ogus (n 4) 1

<sup>81</sup> Such distinction is not clear-cut in reality since each divide continuously feeds on the other Ibid. Baldwin, Cave, Lodge (n 6) 81. Shifts become unavoidable where regulatory tools are at the disposal of the regulated actors. Morgan & Yeung (n 5) 4

<sup>82</sup> Black (n 7) 131

examples.<sup>83</sup> The subject of regulation often determines the specific combination of resources required to achieve regulatory outcomes. Each of the above resources may be controlled by different actors.<sup>84</sup> Take, for instance, market and product information which is within the control of non-state actors. Not only that, the cost and quality of access to each of these resources are relevant. It is often desirable to use resources controlled by private actors where these resources are inaccessible to the state.<sup>85</sup>

*Regulatory function* is another key aspect of regulatory processes. Each function is determined by the specific requirements and motives of the stage of regulation under review. At the standard-setting stage, key functions include an identification of what regulation will achieve and the behaviours required to achieve these outcomes. Information, experience and expertise will be helpful for developing comprehensive rules with the above considerations. Key regulatory functions at the implementing stage include educating other consumers and providing information on market behaviour to regulators. Regulatory functions may include acting as watchdogs, enforcing principles, seeking compensation for wronged actors and reducing harm or even acting as a catalyst for law reforms at the enforcement stage.<sup>86</sup> Regulatory functions must be assigned to actors with sufficient control over regulatory resources in *good* regulatory regimes.<sup>87</sup>

It is important to allocate regulatory functions to actors with sufficient access to required regulatory resources. This need is more acute in the regulation of activities related to emerging technologies such as cryptocurrencies. Abbot identified resource asymmetry, regulatory

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<sup>83</sup> Neil Gunningham, Peter Grabosky, with Darren Sinclair, 'Harnessing Third Parties as Surrogate Regulators: Achieving Environmental Outcomes by Alternative Means' (1999) *Business Strategy and the Environment* 8, 211–224

<sup>84</sup> Terrence Daintith, 'Legal Measures and their analysis' in Baldwin et al (n 26) 355

<sup>85</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) *Journal of financial services research*, Vol.16 (2) 309, 314

<sup>86</sup> Neil Gunningham, Martin Phillipson and Peter Grabosky, *Role of govt in facilitating non-state actors* (1998) 219

<sup>87</sup> See more on this below

disconnection and risks and uncertainties as key reasons for engaging non-state actors in regulating new technology.<sup>88</sup> Uncertainties refer to the absence of clarity on the potential risks which new technologies carry for users, the wider market and the state.<sup>89</sup> Regulatory disconnection touches on the rapid development of technologies and the law's inability to catch up due to the lengthy law-making process.<sup>90</sup> The constantly evolving nature of cryptocurrencies makes this challenge significant.

Turning now to models and instruments of regulation. On the one hand, regulatory models are approaches to regulation. Each regulator's choice of model is often shaped by contextual demands and available resources. There are three major models of regulation. These are state, private and hybrid models. It is imperative to note how rare it is to find a strictly private or state-centred model.<sup>91</sup> This classification creates an abstract distinction between the private and public models by focussing on the extent of state control in each model. The extent of state interference in each regulatory model is considered on a sliding scale. Models of regulation with higher state control are classed as state-centred while those with minimal state control are termed private. The hybrid model is somewhere in between both extremes. It encompasses regulatory arrangements in which state and non-state actors exercise regulatory powers.

On the other hand, regulatory instruments are tools used by regulators to achieve the goals of regulation. While several classifications exist, this thesis adopts Morgan and Yeung's five typologies of CAC, competition, consensus, communication/information and code.<sup>92</sup> The instruments commonly adopted by states within each model of regulation and their overall relevance to CUI are examined below. Table 3.1 summarises the discussion below by

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<sup>88</sup> Abbot (n 76) 330

<sup>89</sup> *ibid*

<sup>90</sup> *ibid*

<sup>91</sup> Baldwin, Cave, Lodge (n 6) 81

<sup>92</sup> Morgan & Yeung (n 5) 80 - 105. Each of these will be explained in detail below

presenting models and compatible instruments based on the level of state influence. It is clear from the table that the utility of each instrument is not strictly restricted to the models under which they are discussed. Finally, there are regulatory instruments that do not fit squarely within any of the regulatory models. Code constitutes an example.

Table 3.1 Regulatory instruments (showing the scale of state influence)<sup>93</sup>

<b>Regulatory Instrument</b>	<b>Maximum State influence (State-centred)</b>	<b>Medium State Influence (Hybrid)</b>	<b>Minimum Influence (Private-centred)</b>
Command	*		
Communication /information	*	*	*
Code	*	*	*
Consensus		*	*
Competition			*

### 3.4.1 A state-centred model

State-centred or direct regulatory models encompass regulatory regimes in which the state not only sets the rules but actively ensures that these rules are implemented and enforced.<sup>94</sup> States' increased influence is often observed in the correction of market failures especially when these issues remain unresolved without state intervention.<sup>95</sup> Inadequate resources to effect change or

<sup>93</sup> Source - Author

<sup>94</sup> Ogus (n 4) 258

<sup>95</sup> This view is supported by institutionalists' argument that private regulation is the starting point of all regulatory arrangements. See Section 3.2.2 above. See also John Y. Campbell, Howell E. Jackson, Brigitte C. Madrian, Peter Tufano 'Consumer Financial Protection' (2011) *The Journal of economic perspectives*, 2011-01-01, Vol.25 (1), 91, 93

the lack of motivation on the part of market actors to solve market issues are common reasons for direct state regulation. Direct state regulation is mandatory in the above case to promote a balance in market interests. The regulatory model is expected to enable broader compliance required for behaviour modification within the context touched on above.

The state-centred model is represented by a range of arrangements including direct state provision of economic benefits to the public and formulating rules governing the operation of markets. At the end of the spectrum, the articulation and implementation of public policy objectives are undertaken by state institutions, i.e. ministries, departments, agencies, supranational and international bodies and the courts.<sup>96</sup> On the other end, the formulation, implementation and enforcement of rules for the economic and social prosperity of all are undertaken by the state.<sup>97</sup> Whichever part of the spectrum it falls, state-centred regulation does not exclude all forms of private input. Even within the strictest state-centred regulatory regimes, the state often relies on non-state actors' cooperation in the discharge of regulatory goals. The tools utilised in delivering regulatory objectives under direct regulation include command and control (CAC) and communication/information. Each of these is considered in turn below.

### A. Command and control

The command-and-control (CAC) instrument is a manifestation of direct state control and one of the oldest instruments of regulation. The state takes a central stage, but, in certain cases, consults with other stakeholders before formulating policies/principles. Implementation and enforcement of rules against recalcitrant subjects are undertaken by the state. The enforcement

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<sup>96</sup> Black (n 7) 134

<sup>97</sup> Morgan & Yeung (n 5) 4; Ayres & Braithwaite (n 9) 104

ability of regulators is backed by sanctions in the case of infractions.<sup>98</sup> As this instrument utilises coercive force in achieving outcomes, it relies on the increased ability of the state to detect and discourage non-compliance. The ability of the prescribed punishments to deter non-compliance is equally crucial.<sup>99</sup> It must be more costly for subjects of regulation to breach the rule than to obey it. This way, they may be more likely to take the least costly option i.e. obeying the law. It should be noted that CAC is utilised by states with rulemaking powers. This is often exercised through legislative processes.<sup>100</sup> Examples of command and control (CAC) include setting standards and punishing recalcitrant economic activities, setting limits for cross-border money transfers and demanding registration before operating banking services.<sup>101</sup>

Although CAC may be appropriate within certain regulatory contexts, its utility in the market or economic regulation has been questioned considering how it focuses on the ability of punishment or threat to deter infractions.<sup>102</sup> Creative compliance undermines the ability of CAC to deliver regulatory aims within markets.<sup>103</sup> This refers to complying with the letters of the law while acting in contravention of its spirit.<sup>104</sup> In the same way, CAC is a rigid instrument and may be inappropriate where regulatory flexibility is required. Where CAC derives from direct legislation, standards cannot be adapted quickly in response to dynamic market circumstances. This is a significant problem where technology is at the centre of regulation. It is often difficult to cast prescribed standards of behaviour in stone. Regulating technology

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<sup>98</sup> Robert Baldwin, Colin Scott, Christopher Hood, *A Reader on regulation* (1998 Oxford University Press) 106

<sup>99</sup> Ian Ayres and John Braithwaite, 'Responsive Regulation: Transcending the Deregulation Debate', in Martin Lodge, Edward C. Page and Steven J. Balla (Eds) *The Oxford Handbook of Classics in Public Policy and Administration*, (2015) 564

<sup>100</sup> Baldwin, Cave, Lodge (n 6) 106

<sup>101</sup> Instances where it has been applied to protect the economic interest of vulnerable groups include laws limiting the ability of illiterates and drunkards to enter into contracts and laws implying terms into contracts e.g. the Consumer Protection Acts, Unfair Contract Terms Act, Sale of Goods Acts and Illiterate Protection Laws. See *Ibid.* 107

<sup>102</sup> *Ibid.*

<sup>103</sup> Doreen McBarnett & Christopher Whelan, 'The Elusive Spirit of the Law; Formalism and the Struggle for Legal Control' (1991) *Modern Law Review*, November, Vol.54(6), 848

<sup>104</sup> *ibid*



interactions demands increased flexibility in law modification and application to meet emerging dynamics. Adopting the CAC instrument is not pragmatic within this context.

The issues arising out of the use of the CAC in funds transfer regulation in Nigeria present a compelling example of its limited utility in certain cases. The Central Bank of Nigeria prohibits transfers that exceed the value of 2,000 USD.<sup>105</sup> Commercial banks and other service providers, such as money exchangers and securities, are charged with implementing this rule and reporting transactions which exceed the limit to the CBN. Creative structuring of transactions by customers, with the support of bank workers, means that the letters of the law can be complied with while the issues the law aims to resolve remain.

Furthermore, FinTech actors could replace commercial banks in remittance. Already, cryptocurrency exchanges and e-wallet service providers hold funds and perform remittances on behalf of customers. These service providers operate outside of the control of the CBN. Even if the CBN asserts control over the groups, its enforcement capabilities may be inadequate due to its limited access to requisite resources like information, expertise, wealth and organisational capacities. These key resources are largely controlled by non-state actors.

The CAC instrument has also been criticised for increasing the tendency for corruption. The reason for this is not far-fetched considering that the discretion of the enforcement agents, however limited, is required.<sup>106</sup> The need for technical expertise for formulating standards, detecting and reporting infractions within complex contexts of regulation increases the risks of capture. Essentially, the movement of experts between the state divide and the private sector

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<sup>105</sup> Central Bank of Nigeria (CBN) 'Guidelines on International Money Transfer Services in Nigeria' (June 2014) <<https://bit.ly/3iMIMWT>> 9

<sup>106</sup> Anthony Heyes, 'Expert Advice and Regulatory Complexity' (September 2003) *Journal of Regulatory Economics*, Sep, Vol.24 (2) 119, 120

effectively blurs the dividing line between regulators and industry.<sup>107</sup> This limitation is relevant to CUI regulation considering the imperativeness of technical expertise in cryptography, financial and economic markets. Other limitations of the CAC instrument include the cost of regulation to the state.<sup>108</sup> Aside from the CAC instrument, communication/information is another regulatory instrument that is compatible with direct state regulation. The next section explains this.

## B. Information

Communication or information disclosure helps balance the interests of actors in the market and protect under-represented groups such as consumers.<sup>109</sup> States may demand information under state-centred regulation.<sup>110</sup> In this sense, the state controls what information must be provided and how this should be done. Mandatory disclosure commands producers/sellers to provide product information and educate buyers/consumers. This represents a classic application of the CAC instrument, given that failure to disclose could trigger sanctions. The scale of state participation increases where it mandates information. Information could emanate from market actors.<sup>111</sup> This is discussed under private-centred regulation in Section 3.4.2 below.

The value of mandatory information is twofold. First, it encourages market efficiency and transparency and pressurising producers to abide by best practices.<sup>112</sup> Second and most

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<sup>107</sup> Ibid. The possibility of capture associated with insider-knowledge and experience can be mitigated by third parties as suggested by the tripartism

<sup>108</sup> Anthony Ogus, 'Rethinking Self-Regulation.' (1995) *Oxford Journal of Legal Studies*, Vol. 15, no. 1, 97 <[www.jstor.org/stable/764582](http://www.jstor.org/stable/764582)> 12 March 2019

<sup>109</sup> See more on this in Chapter 4; see also Llewellyn (n 85) 314

<sup>110</sup> Karen Yeung, 'Government by Publicity Management: Sunlight or Spin?' (2006) *The Cambridge Law Journal*, Vol.65(1) 53

<sup>111</sup> In fact, this is more desirable considering that market actors/intermediaries produce information and maintain unfettered access to this. See more in Section 3.4.2 below

<sup>112</sup> Morgan & Yeung (n 5) 96

importantly, information availability is empowering and crucial for making informed decisions.<sup>113</sup> Nevertheless, information alone cannot prevent poor consumer choices. According to the concept of bounded rationality, there are limitations in the cognitive capabilities of humans which undermine the ability of individuals to make the right decisions even when equipped with sufficient information.<sup>114</sup>

Consumers may be unable to process and adequately utilise information about complex financial products or services.<sup>115</sup> A traditional market example, which is echoed within CUI, is how bounded rationality undermines novice investors' ability to fully consider the risks and benefits of cryptocurrencies.<sup>116</sup> Consumers' ability to identify and disbelieve misleading information is crucial. The sizeable proportion of consumer participation in fictitious initial coin offerings (ICO) and non-viable cryptocurrencies shows the impact of bounded rationality within CUI.<sup>117</sup> Therefore, it is essential to promote the supply of information and consumer education where the market does not address these. However, articulating the information that must be supplied is problematic. There are challenges in identifying the actors who must provide market information. Where these actors are identified, their neutrality must be guaranteed?

In sum, the state-centred regulatory model is imperfect in that it is rigid and underpinned by a paternalistic and simplistic approach to regulation. The model represents a one-directional flow of authority and does not sufficiently accommodate the contributions and influence of other actors within the context of regulation.<sup>118</sup> Although the state could consult with stakeholders

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<sup>113</sup> *ibid.* For instance, an almost perfect and constantly updated information about the total number of supply and demand for each product can be verified on the internet. Bill Gates, *The Road ahead* (1996 Penguin)

<sup>114</sup> Hood et al (n 11) 25

<sup>115</sup> Campbell et al (n 95) 94

<sup>116</sup> Etoro, 'Who are Crypto-investors?' May 10, 2018, <[www.etoro.com/blog/market-insights/who-are-the-crypto-investors/](http://www.etoro.com/blog/market-insights/who-are-the-crypto-investors/)> 25 May 2020; Yeung (n 110)

<sup>117</sup> Chapter 4

<sup>118</sup> Market actors and regulated actors

before formulating rules, it remains the primary locus for articulating and enforcing regulatory aims. The state's ability to undertake this task without being supported by private actors is uncertain. Essentially, the state-centred regulatory model is of limited utility within dynamic technological contexts such as CUI where access to regulatory resources and greater regulatory capacity is essential for promoting *good regulation*.<sup>119</sup> The regulatory model at the other end of the spectrum, the private-centred model, solves some of these problems. The next section examines this model and compatible instruments.

### 3.4.2 A private regulatory model

Also known as “decentring”, private regulation or regulation by non-state actors encompasses several forms of regulation which occur voluntarily with limited or no state input. It relies on private machinery and resources in correcting market imperfections. In line with the system's theory, touched on above, it is often the starting point of regulation.<sup>120</sup> Regulation by guilds across various locations and within different ethnic groups in Nigeria are examples. An instance emanating from South-West Nigeria but widespread in the country in financial markets is the *Ajo* or *Esusu* regulated by the Guild of Traders.<sup>121</sup> The practice, termed cooperative, has received legislative approval and is currently regulated by a statutory instrument.<sup>122</sup>

Another instance is the self-regulation of information asymmetry between animal lenders and borrowers within credit-for-product practice in northern Nigeria.<sup>123</sup> By linking returns to output, lenders and borrowers have an equal advantage in shaping the outcome of each

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<sup>119</sup> Abbot (n 76)

<sup>120</sup> Section 3.2.3 above

<sup>121</sup> Toyin Falola, Akanmu Adebayo, *Culture, Politics and Money among the Yoruba* (2017 Routledge). *Ajo* and *Esusu* are market schemes for money contribution

<sup>122</sup> See Nigeria Co-operative societies Act 1993. Laws of the Federation 2004

<sup>123</sup> Adedoyin Soyibo, *Financial Linkage and Development in Sub-Saharan Africa: The Informal Financial Sector in Nigeria* (1996 Overseas Development Institute) 13. Ade Olomola, 'Interlinked Credit Transactions in the Nigerian Rural Credit System'. (1992) Agriculture and Rural Development Department, Nigerian Institute of Social and Economic Research, Ibadan

venture/project. This private regulation stimulates desirable behaviours in participants/members. In most cases, coordinators do not have to rely on external enforcement measures to achieve desirable outcomes.<sup>124</sup>

Private-centred models could equally be with state backing. In this case, it is often not the preference of states, but an unavoidable course of action. Private regulation may be inevitable in some cases where states lack the ability to directly regulate. Private regulation is not always deprived of state input. However, the state occupies a facilitative role when it participates in private regulation. The state's role may include the provision of legislative backing for privately formulated rules and the facilitation of adjudicatory services to maximise the benefits of private regulation. To reiterate, market forces and non-state actors are often the primary sources of principles/rules that govern market interactions. Not only that, non-state actors equally implement and enforce rules/principles. Certain private models of regulation rely on social norms and informal forces to promote behavioural changes.<sup>125</sup> Competition, consensus and communication/information are common instruments within private regulation.

## A. Competition

Competition is a free-market approach that removes the concentration of power and discretion of state regulatory agencies and places these within the control of the market. It equally ensures the dispersion of powers outside of the reach of specific individuals within the market.<sup>126</sup> Competition maximises the utility of market capabilities. Market actors' propensity to compete is often driven by the rewards of competition i.e., increased patronage and profit. Reduced state

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<sup>124</sup> *ibid*

<sup>125</sup> Morgan & Yeung (n 5) 106; Terence Daintith 'Regulation by Contract: The New Prerogative' 1979 *Current Legal Problems*, Volume 32 Issue 1, 41

<sup>126</sup> Ogus (n 4) 22

control in competitive regimes translates to a decrease in regulatory costs, in terms of infrastructure, funds and workforce, to the state/public.

The state however bears limited costs where it facilitates market competition. The role of the state, in this case, is limited to creating and promoting an enabling environment. It performs periodic checks to ensure a healthy rivalry among market actors. For an effective competition, the state must not offer undue advantages to specific market actors. This suggests that competition is an inappropriate regulatory instrument in which the state needs to protect local industries or a sector of the economy. More generally, it is often desirable for states to enhance and not restrict competition.<sup>127</sup> However, on rare occasions, states may discourage or intervene in competitive markets where competition undermines the promotion of public interest.<sup>128</sup>

As suggested above, the reduction of regulatory costs for the state is a key benefit of competition. Interestingly, the cost of private regulation is not transferred to the public through other means. Rather, it is internalised in individual contracts. This reduces the need for the state to resolve the costs as negative externalities.<sup>129</sup> The relaxed role of the state or law in the enforcement of rules is a major limitation of competition. Market actors' rights are often not clearly defined. The rights of consumers and market actors may be unenforceable in the absence of state legalisation. The enactment of laws promoting competitive practices and ancillary rights will reduce this challenge to some extent.<sup>130</sup>

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<sup>127</sup> Llewellyn (n 85) 314

<sup>128</sup> See Onyeka Osuji, 'Asset management companies, non-performing loans and systemic crisis: A developing country perspective', *Journal of Banking Regulation* (Apr 2012) London Vol. 13, Iss. 2, 147, 151

<sup>129</sup> Ogus (n 108). To an extent, the enactment of competition laws such as the Federal Competition and Consumer Protection Act (FCCPA) 2018 has solved some of these issues. Chapter 4 evaluates competition within the context of intra and inter cryptocurrency markets

<sup>130</sup> The Nigerian Federal Competition and Consumer Protection Act (FCCPA) 2018 is an example of laws which gives legitimacy to the rights of actors within competitive markets. The Nigerian Federal Competition and Consumer Protections Act 2018 compared to the dated history of laws which mandate information, or command-based rules

## B. Consensus

Consensus is another instrument that is compatible with private regulation. It involves cooperative relations between regulated groups, on the one hand, and state actors, on the other. Cooperation among market actors is the focus of this section. While competition involves healthy rivalry among market actors, consensus encompasses collaborative arrangements among regulated groups. It involves various forms of cooperative partnerships among regulated actors. Its commencement may be linked with self-made rules (such as codes of conduct/practice) or loosely worded guidelines which enunciate best practices among non-state actors or organisations. As it relies on voluntary collaborations, consensus instrument is largely shaped by self-motivation among private actors, at the initial stage and effective enforcement mechanisms. Self-motivation often emanates from the conviction of regulated actors that compliance is beneficial to them and the continuity of the market within which they operate.

Private regulators operating the instrument of consensus stimulate behavioural modifications by formulating rules and influencing or constraining how partners or members act. Consensus relies on sanctions that are often agreed upon by regulated actors to aid such stimulation.<sup>131</sup> Established mechanisms for implementing and enforcing tailored rules (Code of Conduct) help guide this process. These include exclusion of benefits, withdrawal of licences or even soft law mechanisms like naming and shaming. Here, state participation may be present but is often limited to ensuring that private regulators continue to work towards meeting regulatory outcomes while private regulators are afforded adequate flexibility in how they achieve this.

Consensus draws from the resources of the regulated industry such as wealth, expertise and technical ability. Consequently, it is an appropriate regulatory instrument where technical

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<sup>131</sup> Morgan & Yeung (n 5) 93

expertise is required to effectively understand and regulate user interactions. Cryptocurrency markets are technical. Their regulation requires inputs from experts drawn from economics and technological fields at the least. Consensus is useful for drawing on the expertise and experience of industry actors. Similar to competition, the instrument of consensus helps internalise the cost of regulation within individual contracts.

However, consensus has been criticised for increasing the potential for abuse by non-state actors.<sup>132</sup> Self-regulating agencies' poor record of enforcing their standards against recalcitrant members constitutes examples.<sup>133</sup> Another drawback is traceable to the fact that the increased reliance on self-reporting by non-state actors could promote incomplete and wrong disclosure. This, thereby, calls for increased vigilance by state actors or independent third parties where consensus is adopted in regulation. Even with the above, the risk of collusion between organisations/non-state actors to evade control may not be eliminated.

### C. Information

As suggested under state-centred regulation above, the production of information could be voluntary. While the mandatory provision of information applies under the state-centred approach, voluntary information is compatible with private and hybrid models. The easy access of non-state actors to information derives from their positioning and wealth. Voluntary supply of information has been favoured by states as a placeholder pending the determination of the best regulatory approach to issues.<sup>134</sup> Since information is an integral part of the products offered, consumer preferences often shape the supply of information by market actors. Full

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<sup>132</sup> *ibid.* 99

<sup>133</sup> *Ibid*

<sup>134</sup> Hood et al (n 11)10



disclosure aids market competition as it gives providers an edge over other market actors.<sup>135</sup> Such advantages could be increased consumer trust in their products and/or increased patronage. This, in turn, encourages the production of information among other sellers. Consequently, the provision of information is delivered competitively. The use of information in state-centred and private-centred regulatory models shows its flexibility and adaptability.

In sum, the flexibility of the private regulatory model helps deliver regulatory outcomes in various contexts. Its flexibility equally encourages a level of post-facto protection where the outcomes of market interactions are unknown. This is an advantage from which complex CUI could benefit. The goals, norms and rationales of different actors within complex markets hardly converge. Private market actors, by virtue of their organisation and access to resources, shape markets and could drive regulation at the expense of consumers and other under-represented groups. The imbalance in market powers and interests within CUI presents a greater need for a more desirable balance.<sup>136</sup> This means that private regulatory models may not be the perfect means of delivering good CUI regulation. It is crucial to adopt a regulatory model which combines the positive features of state and private regulation while reducing their imperfections. A hybrid regulatory model is this alternative.

### 3.4.3 A hybrid model

Collaborative efforts among state and non-state actors could offer better results, especially where the subject of regulation touches on areas that may be beyond the state's capacity. The hybrid model combines the positive features of state/private-centred approaches to regulation. It promotes *good regulation* by harnessing non-state actors' access to regulatory resources. The

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<sup>135</sup> This could be the case in an ideal market. See more on an ideal market in Section 3.2 above

<sup>136</sup> See Chapter 4 for more on this

hybrid approach leverages the state's coercive powers and legitimacy and private resources to promote behaviour modification. The actors with the greater capacity, tools and access to resources are charged with discharging regulatory duties. This is backed by the state's resources which often encompass legislation, enforcement and implementation. Consequently, regulation is a product of the interactions between multiple private and public individuals/agencies. With the understanding that the goals, norms, rationale and assumptions of different stakeholders could diverge at some point, to be successful, the hybrid model must place each of these at the forefront of regulation and continuously seek a desirable balance.

Hybrid models of regulation are not perfect considering the legitimacy issues they raise. How can regulators entrusted with performing regulatory duties explain the delegation/allocation of regulatory functions to non-state actors, especially where the public does not sanction this? Legitimacy questions raise concerns of abuse of powers and lack of accountability by private regulators. State actors may address these issues by negotiating regulatory agreements with non-state actors in advance.<sup>137</sup> Prior negotiation suggests the regulatory regime was well-considered and therefore would address issues on accountability, transparency and due process.

Beyond the issue of legitimacy, tensions between state and non-state actors are apparent within hybrid models of regulation. For instance, there is increased tension in the exercise of powers. Drawing the line between the facilitative role and the participation of the state in regulatory activities could be a challenge. This challenge is often brought to the fore by the possibility of capture and the need for the state to prove to the public that they are in charge. Such control is aimed at improving public confidence where non-state actors regulate without being sanctioned to act by the public.<sup>138</sup>

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<sup>137</sup> Morgan & Yeung (n 5) 109

<sup>138</sup> Abbot (n 76)355

Hybrid models of regulation balance the extremes of state and private regulatory models. For this reason and their other benefits, this thesis argues that hybrid regulatory models offer substantial benefits for *good regulation* of complex FinTech products, services and interactions, including CUI. Regulatory surrogacy and enforced self-regulation are examples of hybrid regulatory models. The next section examines enforced self-regulation while Chapter 7 expands on regulatory surrogacy and recommends it as the model within which the principles of good CUI regulation can be formulated, implemented and enforced.

### 3.4.3.1 Enforced self-regulation

Hybrid models vary significantly. Enforced self-regulation (ESR) is an interesting strand which strikes an efficient balance between the extremes of state and private-centred models of regulation. ESR encompasses “mandated”, “sanctioned” or “coerced” self-regulation.<sup>139</sup> ESR leverages private resources and is appropriate where state regulators have limited capacity to regulate or lack adequate access to regulatory resources.<sup>140</sup> ESR facilitates a productive use of hands-on expertise and leverages non-state actors' interest in the well-functioning of the markets to promote *good regulation*. Although the state prescribes mandatory practices for non-state actors, the latter exercises its discretion on the mode of delivery. Mandatory punishment for recalcitrant actors at the instance of the state represents the “enforced” aspect of self-regulation. Mandatory punishments, increased demands for transparency and accountability through self-reporting and periodic checks are some of the measures in place to counter non-state actors' poor self-control.<sup>141</sup> The availability of the above measures is the major advantage of ESRs over private-centred regulatory models.

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<sup>139</sup> Julia Black ‘Constitutionalising Self-Regulation’ (1996) 59 (1) *The Modern Law Review* 27

<sup>140</sup> These include wealth, information, skill, knowledge and expertise

<sup>141</sup> Andrew Dunsire, 'Modes of Governance' in Jan Kooiman (ed.), *Modern Governance: New Government-Society Interactions* (London, 1993) 113

ESR is a better alternative to the state-centred model for the following reasons. First, as stakeholders in the rule formulation stages, actors are more likely to formulate rules which do not demand a significant alteration of how they operate under normal circumstances. This means that they can minimise the costs of regulation.<sup>142</sup> Additionally, self-regulators are more likely to see the legitimacy of the rules which they help formulate and consequently less likely to break these rules.<sup>143</sup> Consequently, ESR limits the potential for creative compliance by permitting private regulators to have some flexibility and qualified autonomy in achieving regulatory outcomes.

ESR can be by principle or rule formulation. The extent of states' input is the major difference between both types. The scale of state participation in ESR by principle formulation is limited to establishing broad principles and standards which guide the behaviours of regulated actors.<sup>144</sup> ESR by principle formulation is applicable where greater flexibility is required. Consequently, the formulated principles must be broadly drawn to accommodate new behavioural patterns.<sup>145</sup> The need to enforce non-uniform standards across industries constitutes an example of situations where ESR by principle formulation would be useful.<sup>146</sup> While flexibility means that some level of uncertainty will be present, this must not undermine the delivery of intended regulatory outcomes. The state may intervene where implementation is observed to be lax.<sup>147</sup> ESR by principle formulation has been adopted in regulating markets, the educational sector and corporate crime control.<sup>148</sup>

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<sup>142</sup> *ibid*

<sup>143</sup> Ayres and Braithwaite (n 9) 108

<sup>144</sup> Julia Black 'Principles Based Regulation: Risks, Challenges and Opportunities' (2007 Sydney) 3 <<http://eprints.lse.ac.uk/62814/>> 1 June 2020

<sup>145</sup> Braithwaite considers how it enables regulatory flexibility within the context of coal mining. See John Braithwaite, John Walker, Peter Grabosky, 'An Enforcement Taxonomy of Regulatory Agencies', July 1987 *Law & Policy*, Vol.9(3), 323

<sup>146</sup> *Ibid*.

<sup>147</sup> Colin S. Diver, 'Optimum Precision of Administrative Rules' in Baldwin, Scott & Hood (105) 220

<sup>148</sup> *Ibid*

Turning now to ESR by constitutive rules, the scale of state participation is higher here in comparison with ESR by principles formulation. The formulated rules guide the operations of market actors. The state could compel actors and representatives of consumer groups within their jurisdictions to draft rules tailored to the specifics of markets. To limit collusion by market actors, the rules emanating from the above must be in line with public interest guidelines as identified by the state. The state regulatory agencies and interest groups act as checks on the self-regulators at the rule formulation stage.<sup>149</sup>

ESR through rules is often not the starting point for regulation. It is arrived at in reaction to the failure of self-regulators to meet regulatory outcomes under self-regulatory/principle-based models. In extreme cases, the state's interference could increase beyond ESR by rules to a CAC model. This extreme occurred in the approach of the Central Bank of Nigeria (CBN) to the regulation of automated teller machine (ATM) transactions.<sup>150</sup> Initially, the CBN adopted a hands-off approach to the operations of ATM but had to increase their level of intervention when banks were observed to be lax in resolving customers' complaints touching on the operation of ATM.<sup>151</sup> The CBN formulated detailed rules on the procedure and time frame within which ATM issues must be resolved. The CBN prescribed punishments for erring banks.<sup>152</sup> These changes altered the disposition of banks towards the treatment of retracted cash complaints.

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<sup>149</sup> See Ayres & Braithwaite (n 9) 106 on the roles of the state and SRAs in self-regulatory regimes

<sup>150</sup> CBN, 'Guidelines on Operations of Electronic Payment Channels in Nigeria' (2016) <<https://bit.ly/3gJRPgJ>> 19 March 2019. Updated in 2020 by CBN, Press Release: CBN Revises Timelines for Dispense Errors, Refund Complaints (2020) <<https://bit.ly/2UnmtwV>> 16 December 2020. See also CBN, 'Regulation on Instant Electronic Funds Transfer Services in Nigeria' (July 2018) <<https://bit.ly/35HNgpX>> 16 December 2020

<sup>151</sup> Victor Uzoho 'Unending bank customers' rip-off over failed transactions' Guardian (04 March 2019) <<https://bit.ly/2TThiUZ>> 16 December 2020

<sup>152</sup> Ibid

Issues of legitimacy, accountability and uncertainty, which are common with private regulation, are some of the demerits of ESR. The backing of state actors and improved vigilance will improve legitimacy and accountability, but not without increasing the costs of regulation. Addressing uncertain outcomes is not easy.<sup>153</sup> Although improving accountability and increasing supervision may help, the results of ESR may not be uniform across the board. Actors may also pursue at the expense of meeting public objectives. Self-regulators will often favour options that minimise their costs and might be less willing to take a more objective stance when faced with conflicts between their dual role as industry actors and self-regulators. This is less problematic where state actors maintain their independence. However, regulatory capture is another issue with ESRs. The supervision and scrutiny by third parties who act as watchdogs will reduce the possibility of capture. The need for watchdogs can be eliminated where the 'code' regulatory instrument is preferred. The next section expands on code as an instrument of regulation.

#### a) Code

"Code" is a modified version of the CAC instrument. However, it does not just require behavioural modification like the CAC, but directly modifies behaviour by limiting the discretion of regulated actors and eliminating the possibility of engaging in proscribed behaviour. Code enables a true representation of precise set standards.<sup>154</sup> This use of code has been leveraged in preventing unauthorised access to copyrighted materials on the internet while

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<sup>153</sup> Scholars have suggested that complete reliance on non-state actors for implementing rules only ensures the compliance of the already compliant. See the text to footnotes 144 - 146. See also Peter Gill, 'Policing and Regulation: What is the Difference?' *Social & Legal Studies*. 2002; 11(4):523, 537; Gary Slapper. And Steve Tombs *Corporate Crime*. (1999, Harlow: Longman) 180

<sup>154</sup> See Chapter 2; Lawrence Lessig, *Code and Other Laws of Cyberspace* (New York: Basic Books, 1999) 53-54; Lawrence Lessig, 'The Law of the Horse: What Cyberlaw Might Teach' *Harvard Law Review*, Vol. 113, No. 2 (Dec. 1999), 501

paid subscribers are granted access. The presence of metal bars on parts of the road where driving is not permitted to prevent driving is another common instance.

Code can be modified. This feature is useful in improving the ability to regulate technology since states can influence the design of code to deliver on public goals among others.<sup>155</sup> Depending on the underlying design, code may be amenable to changes and can thus be integrated into an already existing technology. Consequently, Lessig considers code as being superior to other regulatory instruments and a perfect instrument for regulating cyberspace. Code as an instrument of regulation is currently utilised by the blockchain technology underpinning cryptocurrencies in several ways. The issuance and transfers of cryptocurrencies are governed by code. Code is useful in the three stages of regulation stated in Black's definition of regulation.<sup>156</sup> An understanding of code is crucial for formulating behaviour. There is scope for designing the gathering information on its implementation of standards in certain instances.

However, code has some disadvantages. Primarily, its utility is diminished by over-inclusiveness which is inevitable considering that increased reliance on artificial intelligence eliminates the role of discretion in implementing and enforcing rules. Standards are often drawn in a precise and broad way to prevent loopholes. The foregoing suggests the need to study how code can be effectively used in regulating CUI.

In sum, the context of regulation and access to regulatory resources often shape regulators' choice of models and instruments. Overlaps in the application of instruments are common. For instance, code shares an overlap with the CAC instrument. Additionally, some of the

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<sup>155</sup> Ibid. 535. X, 'Developments in the law - The Law of Cyberspace (1999 May) Harvard Law Review, Vol.112 (7), 1574

<sup>156</sup> Black (n 7)

instruments are compatible and may be found within the same regulatory regime. Voluntary production and dissemination of information are compatible with competition and consensus. Consequently, states often adopt a combination of regulatory instruments to deliver the best outcomes, especially where the subject of regulation is complex.

### 3.5. Conclusions

This chapter advances a broader understanding of regulation which recognises the influence of state and non-state actors in regulation and the multidirectional flow of authority. It demonstrates, through regulatory theories, some of the general and contextual difficulties which could undermine the development of *good regulation*. A combined understanding of the theories suggests that *good* regulatory regimes must proceed with a full grasp of the subject and context of regulation, interests of actors within the regulatory arena and regulatory capacity.<sup>157</sup> *Good* regulation must promote the public interest through adopting the right model and an appropriate blend of regulatory instruments. The implementation and enforcement of comprehensive rules by actors with access to regulatory resources must be prioritised. Complex FinTech contexts of regulation often generate regulatory issues which are beyond the state's regulatory capacity. Hybrid regulatory models offer the flexibility required in these cases. Having provided a general interpretation of regulation, it is necessary to investigate in detail the complexities that shape CUI and some of the regulatory issues they raise. The next chapter undertakes these tasks.

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<sup>157</sup> This encompasses adopting relevant standards, gathering information and changing behaviours



## Chapter Four

# Cryptocurrency User Interactions: Market Interests and Regulatory Issues

### 4.1 Introduction

Cryptocurrency user interactions (CUI) are complicated. Their complexities are exacerbated by conflicting interests of consumers, market actors and the state. Conflicts in the interests of these three groups generate tensions which, in turn, undermine a better functioning of cryptocurrency markets. An examination of the dynamics of markets' interrelationships is crucial to an understanding of the issues which CUI raises for regulation and, ultimately, how best to approach these. This chapter investigates CUI market dynamics and issues for CUI regulation.

The rest of the chapter is divided into six major sections and structured as follows. Section 4.2 investigates the complex nature of cryptocurrency markets, while Section 4.3 identifies other factors exacerbating the complexity of CUI. Section 4.4 identifies the interests within cryptocurrency markets. In addition, this section explores the tensions and conflicts generated among interests. Section 4.5 identifies some of the issues generated by CUI under public interest principles namely consumer protection, market integrity and resilience and distributional justice goals. Section 4.6 draws from the definitions and theories in Chapter 3 and the issues for CUI regulation to map out the core principles of *good regulation* which must be present in CUI regulation. Section 4.7 concludes by reiterating that unstimulated markets often fail to promote public interest goals.<sup>1</sup> Therefore, the facilitation of *good regulation* by the

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<sup>1</sup> Regulation provides a desirable stimulation for meeting these outcomes

state is crucial writing complex CUIs. The overall contributions of this chapter to the thesis include its demonstration of the multiple factors, beyond the complex nature of cryptocurrency touched on in Chapter 2, that exacerbate the complexity of CUI. The chapter also identifies some of the regulatory issues arising from the above.

## 4.2 Understanding the cryptocurrency market

Markets refer to social and economic constructs within which commercial exchanges occur. They create avenues for several actors to meet and interact. Cryptocurrency markets are not fundamentally different from other markets considering that they encompass places where crypto products and services are traded. However, different rules apply to interactions depending on the role of cryptocurrencies within these markets. Two major classifications can be identified. Cryptocurrencies could be the products offered within the market itself, or an element of the market/ the means through which market transactions are facilitated. The next sections examine these in detail.

### 4.2.1 Cryptocurrency as the product offered within the market

This divide refers to cryptocurrencies as the assets/goods offered within the markets. These assets form the basis of market interactions. The commodity and security functions of cryptocurrencies are in line with this classification. Chapter 2's explanation of the types and functions of cryptocurrencies is relevant to this evaluation. The dynamics of cryptocurrency as the products offered within the market divide are constantly evolving. At some point, cryptocurrencies applied as commodities mirror the existing commodities market by appropriately responding to the pulls of demand and supply. Take for instance bitcoin's halving and similar trends in the market which often translate to an increase in the value of bitcoin. The response to market forces in the former follows the pull of demand and supply, but the reaction

to media hype may be described as an artificial response.<sup>2</sup> Increased positive coverage in the media often leads to value appreciation. While this may be observed within existing markets, the impact of news relating to cryptocurrencies is more acute. The move to regulate cryptocurrencies in China and their acceptance in El Salvador had a significant impact on the prices of cryptocurrencies.<sup>3</sup>

Fundamental changes in the operation of cryptocurrencies, which were not considered by their originators, present examples of changing cryptocurrency dynamics.<sup>4</sup> Take, for instance, the development of different cryptocurrency types (equally known as forks) from a parent cryptocurrency. The development of forks is a product technicality that mirrors an internal disagreement within a conventional company, which could lead to the formation of two or more different companies.<sup>5</sup> However, in the case of cryptocurrencies, various products emerge. The development of forks has implications for the value of cryptocurrencies held by users, among others and could trigger further instability within the cryptocurrency network.<sup>6</sup> In addition, competition between these newly formed companies is often driven by consumers' acceptance of their products among others. New forks may attract limited market acceptance. For instance, bitcoin cash and bitcoin gold have not garnered a similar consumer base as bitcoin.

Furthermore, the cryptocurrency market evolved from bitcoin's monopoly in 2011 to a monopolistic competition between other key market players.<sup>7</sup> Leading actors within the market include ether, XRP, litecoin and monero. In addition, during this period, participation in CUI

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<sup>2</sup> Halving refers to the reduction in the rewards of mining. With these forks, notable changes are made to the blockchain protocol without altering the validity of past transactions e.g. separation of Bitcoin Cash from the Bitcoin cryptocurrency

<sup>3</sup> Joe Tidy, 'Fear and excitement in El Salvador as Bitcoin becomes legal tender' (BBC, 7 September 2021) <<https://www.bbc.co.uk/news/technology-58473260>> 20 April 2022

<sup>4</sup> See Chapter 2

<sup>5</sup> On the implication of soft and hard forks on financial stability, see Florian L'heureux, Joseph Lee, 'A Regulatory Framework for Cryptocurrency', (2020), 31, *European Business Law Review*, Issue 3, 423

<sup>6</sup> *ibid*

<sup>7</sup> Rosemary Bigmore, 'A decade of cryptocurrency: from bitcoin to mining chips', *The Telegraph*, 25 May 2018. <<https://bit.ly/3xQeZkw>> 13 April 2020

became more widespread and extended beyond technology experts and enthusiasts. Cryptocurrency use became commonplace among novice investors.<sup>8</sup>

The shifting dynamics characterising the sources of financing start-ups and various forms of cryptoassets, including cryptocurrencies are equally relevant. Dispersed investors are beginning to replace venture capitalists in funding new blockchain/cryptocurrency projects through Initial Coin Offerings (ICO) and to an extent, security token offerings.<sup>9</sup> Sixty per cent of ICO investors are novices.<sup>10</sup> This shapes the dynamics of the resulting market and generates broader issues for regulation. The geographical dispersion of ICOs may generate weak project control structures. The resulting ICOs are fundamentally different from that of conventional investments considering that securities issuers are often governed by specific laws. Second, investor expectations could be more modest considering the limited sophistication of novice investors. More sophisticated investors, such as venture capitalists, are more reluctant to fund non-viable crypto-investment projects.<sup>11</sup> Consequently, novice investor-base may encourage the proliferation of the market with poorly managed and subpar cryptocurrency investment start-ups.

The above increases the risks and impact of investment losses should a widespread failure occur. It thus places an obligation on regulators to protect investors. Already, inadequate protection of cryptocurrency investments has resulted in extensive market exploitations by certain market actors and investment losses.<sup>12</sup> These losses have prompted states, including

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<sup>8</sup> Dimitri Boreiko, & Navroop K. Sahdev, 'To ICO or not to ICO – Empirical Analysis of Initial Coin Offerings and Token Sales' (July 6, 2018) <<https://bit.ly/35Pff7u>> 13 April 2020; Arjun Kharpal, Initial Coin Offerings Have Raised \$1.2 Billion and Now Surpass Early-Stage VC Funding, CNBC (Aug. 9, 2017) <<https://cnb.cx/3gOeGAV>> 28 April 2020

<sup>9</sup> Kharpal *ibid*; Marco Dell'Erba, 'Initial Coin Offerings: The Response of Regulatory Authorities', 14 N.Y.U. J.L. & Bus. 1107 (2018). 1109

<sup>10</sup> Etoro, 'Who are Crypto-investors?' May 10, 2018, <<https://bit.ly/3j6qkZy>> 22 July 2020

<sup>11</sup> *ibid*

<sup>12</sup> *Ibid*. Losses are also caused by security breaches or product failures

Nigeria, to warn the public about the risks of participating in CUI.<sup>13</sup> However, the impact of these warnings on the shifting market dynamics and investor behaviour is uncertain and yet to be felt.

Cryptocurrencies have been tainted by their use for illicit purposes. Regulators' warnings are equally underpinned by the illicit use of cryptocurrency. The illicit aspect of the cryptocurrency market is vibrant.<sup>14</sup> The use of legitimate hedge funds operated within traditional markets to launder money generated from fraudulent ICOs is an example. Ponzi schemes, fraudulent ICOs and subpar commodities are other examples. While it is crucial to identify which of the licit or illicit aspects drives CUI, there is insufficient evidence to determine this. The answer will vary across different local contexts depending on the demand for cryptocurrencies as commodities/securities and factors driving the demand, local regulatory stance on cryptocurrencies and enforcement capabilities.

In sum, this market divide is dynamic, constantly evolving and characterised by uncertainties. Several factors, such as emerging trends, product technicalities, consumer sophistication, change in user base, market actors' sense of responsibility and applicable rules/principles, shape the dynamics of the market. Having examined the dynamics of this cryptocurrency market divide, the next section investigates the role of cryptocurrency as an element of the market.

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<sup>13</sup> SEC, The securities and commodities regulator in Nigeria: Public Notice on Investments in Cryptocurrencies and other Virtual or Digital Currencies (2017) <<https://bit.ly/3l4gsyu>> 25 June 2018; CBN, 'Circular to Banks and other Financial Institutions on Virtual Currency Operations in Nigeria' (2017) <<https://bit.ly/38x7c0D>> 25 June 2017

<sup>14</sup> Etoro, 'Who are Crypto-investors?' May 10, 2018, <<https://bit.ly/3j6qkZy>> 22 July 2020

#### 4.2.2. Cryptocurrency as an element of the market

As an alternative to the market itself, cryptocurrencies could be an element of the market. Cryptocurrencies as an element of the market refer to the means of aiding market transactions. It touches on the currency function of cryptocurrencies and money as a tool for facilitating trade. Chapter 2 illustrates that this utility is in line with the core purpose of creating cryptocurrencies. Bitcoin's originator designed it to serve as an instrument of payment and the payment system.<sup>15</sup> Both of these functions represent cryptocurrency as an element of the market.

Notwithstanding that evidence of the use of cryptocurrency as an element of the market exists, regulatory controls and value volatility undermine their functioning in this regard within licit markets.<sup>16</sup> However, these issues have not deterred the use of cryptocurrencies within illicit markets. Cryptocurrencies are used for the facilitation of trade on the dark web considering that it is easier to evade regulatory control when payments are made anonymously.<sup>17</sup> Illicit use of cryptocurrencies should not taint their existence because these represent a small proportion of the larger market.<sup>18</sup> A recent study reveals that in 2012, 7% of bitcoin-related activity as a means of paying for goods and services was linked to the dark web,<sup>19</sup> and this reduced to just 1% in 2019.<sup>20</sup> While it may be argued that this reduction could be the result of a shift to using other cryptocurrencies with improved anonymity, there is limited evidence to support this viewpoint.<sup>21</sup>

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<sup>15</sup> Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' Bitcoin, (2008)

<<https://bitcoin.org/bitcoin.pdf>> Oct. 25, 2018. See Chapter 2 to understand cryptocurrencies' utilities

<sup>16</sup> See Tim McDonell, 'How Nigerians Beat Bitcoin Scams' 22 January 2018 <<https://bloom.bg/3xSfVVh>> 2 January 2020

<sup>17</sup> Olga Kharif, 'Bitcoin Criminals Set to Spend \$1 Billion on Dark Web This Year' Bloomberg July 1, 2019, <<https://bloom.bg/3h3Te9R>> 14 April 2020

<sup>18</sup> Ibid

<sup>19</sup> Ibid

<sup>20</sup> Ibid

<sup>21</sup> Samuel Haig, '\$15,000 Bitcoin Ransom Rescues Nigerian Chieftain's Kidnapped Daughter' (17 September 2019) <[www.ccn.com/bitcoin-ransom-nigeria/](http://www.ccn.com/bitcoin-ransom-nigeria/)> 01 October 2019; Alicia Naumoff, 'MMM Nigeria: Notorious

Cryptocurrency where it operates as an element of the market is less complex compared with the case with cryptocurrencies as the products offered within the market. The former is largely shaped by the dynamics governing existing currency markets and the banking sector. Anonymity, multiple currencies and wider market reach generate complexities within this market. Cryptocurrencies with improved features are being developed.<sup>22</sup> Certain products are designed as cryptocurrencies, while others are modelled as cryptocurrencies and utility tokens with limited applications. The Binance Coin is an example of the latter. It solely functions as the means to pay transaction fees on the Binance exchange. On the other hand, tether USA was created to facilitate transactions on a blockchain network. Its value is pegged at the value of the US dollars. Consequently, tether USA combines the functions of both fiat currencies and cryptocurrencies to ease financial transactions on the internet.

The “cryptocurrency as an element of the market” divide is evolving at a much slower pace than the “cryptocurrency as the products offered within the market” division for several reasons. First, most states prohibit the currency function of cryptocurrencies thereby inhibiting their wider adoption as a means of payment. Second, the volatility of cryptocurrencies undermines their currency function and makes them less attractive to users in facilitating trade. One exception to the above is the use of cryptocurrencies in facilitating transactions in illicit items given their advantages over conventional money in this regard. Illicit actors may prioritise evading state control above the negative implications of using cryptocurrencies. Apart from the use of cryptocurrencies to facilitate cross-border transactions in states with complex international remittance systems like Nigeria, it will be unsurprising to discover that

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'Ponzi Scheme' Enables Bitcoin for Payments' 12 February 2019 <<https://bit.ly/3h4Y1GO>> 2 January 2020. The proportion of illicit use of cryptocurrency in Nigeria is also unknown due to unavailable data.

<sup>22</sup> With the focus on speed, security and anonymity

illicit activities drive other aspects of this market divide.<sup>23</sup> However, there is limited evidence to conclude this.

In sum, both divisions, “cryptocurrency as the products offered within the market” and “cryptocurrency as an element of the market”, are complicated. The former generates greater complexities in connection to the wider acceptance of cryptocurrencies as securities and commodities and the faster evolution of market products. “Cryptocurrency as an element of the market” is less complicated because it mirrors existing payment systems and the fiat currencies underpinning them. The qualified simplicity of the market divide derives from the limited currency use of cryptocurrencies and the developed payment system landscape across different jurisdictions.<sup>24</sup> Aside from the complicated nature of cryptocurrency markets, other factors add another layer of complexity to CUI. The next section turns to these.

#### 4.3. Factors exacerbating CUI complexities

Factors such as pseudo-anonymity and dispersed markets/consumer base aggravate CUI complexities. Take pseudo-anonymity as the starting point, this refers to the qualified privacy enjoyed by cryptocurrency users while transacting on the internet.<sup>25</sup> The term “pseudo-anonymity” encompasses the various degrees of anonymity offered by different cryptocurrency products/types. Cryptocurrencies such as monero, zcash, dash and verge offer greater anonymity than bitcoin. Pseudo-anonymity is significant because it makes it difficult for third parties to connect users to their assets and activities on the internet.

Pseudo-anonymity is problematic because it challenges transparency and legitimacy within the wider market by limiting access to information on consumer behaviour. This is significantly

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<sup>23</sup> See Section 4.3 below

<sup>24</sup> For instance, market interactions may be governed by rules of the place of business and the residence of the consumer

<sup>25</sup> Michael Fleder, Michael S. Kester, Sudeep Pillai ‘Bitcoin Transaction Graph Analysis’ (5 February 2015) <<https://arxiv.org/pdf/1502.01657.pdf>> 20 October 2021



limiting considering that information gathering is a key aspect of Black's definition of regulation. It also restricts the practicality of existing rules/practices governing business interactions by imposing significant challenges for enforcing and implementing law within CUI. The efficiency of existing mechanisms for enforcing liability is limited within CUI. For instance, attribution and location of defaulters may be challenging.<sup>26</sup>

However, evidence reveals that users can be tracked and identified with the use of technology.<sup>27</sup> Transaction graph analysis and decrypting services can be used to identify the location of individuals. Regulators with access to this technology have successfully identified and prosecuted some illicit cryptocurrency users.<sup>28</sup> However, the expertise and cost of accessing this service may be beyond the reach of some states.<sup>29</sup> For these reasons, there is little evidence of regulators identifying and prosecuting illicit actors in Nigeria where cryptocurrencies have been used in extortion, kidnapping, money laundering, corruption and tax evasion.<sup>30</sup> The above suggests that illicit actors have a viable alternative outside highly regulated commercial banks in the absence of a similar level of control over CUI in Nigeria.<sup>31</sup>

Decentralised cryptocurrency markets across multiple jurisdictions equally exacerbate the complexity of cryptocurrency markets. Aside from the fact that there are limited numbers of responsible intermediaries within decentralised cryptocurrency markets, the dispersion of users

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<sup>26</sup> These include issues with attribution and locating defaulters. This explains the wider acceptance of cryptocurrencies in the illicit market. See Judith Aldridge, 'Cryptocurrency markets and the future of illicit drug markets,' in Decary-Hetu, D & EMCDDA, U (ed.) (2015) *The Internet and Drug Markets*, Insights, vol. 21, Publications Office of the European Union, Luxembourg, 22, 26

<sup>27</sup> On cookies and privacy laws see David L. Baumer, Julia B. Earp, J.C. Poindexter, 'Internet privacy law: a comparison between the United States and the European Union', *Computers & Security* (2004) 23, 400

<sup>28</sup> *United States of America v. Ross William Ulbricht*, No. 15-1815-cr (2d Cir. May 31, 2017); 'AlphaBay: How seven countries worked together to take down the biggest online black market for drugs' (2018) United Nation Office on drugs and Crime <<https://bit.ly/30KjpOp>> 22 October 2021; 'UK Man Jailed for being "guiding man" behind Silk Road drug Use site' (12 April 2019) *Guardian* <<https://bit.ly/2XzgJly>> 22 October 2021

<sup>29</sup> Michael Fleder, Michael S. Kester, Sudeep Pillai 'Bitcoin Transaction Graph Analysis' (5 February 2015) <<https://arxiv.org/pdf/1502.01657.pdf>> 20 October 2021

<sup>30</sup> Haig (n 21); The ease of transfer is another benefit which cryptocurrencies offer over traditional channels Janina Harasim, 'Europe: The Shift from Cash to Non-Cash Transactions' in Jakub Górká (Ed) *Transforming payment systems in Europe* (2016 Springer) 28, 42, 50

<sup>31</sup> On illicit connections of cryptocurrencies, see L'heureux and Lee (n 5) 423; Haig *ibid*

across different states means that they face significant difficulties in converging and altering market dynamics. Market actors are better able to promote their interests because they have better access to resources. While an organised consumer base is crucial for the promotion of consumer interest, it is difficult for users to organise themselves and jointly promote their needs because of limited motivation to act and diverging interests.

Take the use of cryptocurrencies as an example of diverging consumer interests. Consumers use cryptocurrencies for different purposes depending on their location. Consumers in China predominantly use cryptocurrencies for gaming and interpersonal transactions due to local restrictions.<sup>32</sup> Chinese consumers who use cryptocurrencies outside of the highlighted purposes may be reluctant to affirm this publicly for the fear of reprisals. Consumers in developed countries use cryptocurrencies speculatively or as hedging devices against inflation while Nigerian traders use cryptocurrencies to settle payments for wholesale importation.<sup>33</sup> The interests of a cryptocurrency investor resident in China will differ from that of a Nigerian small-scale trader. While both users will prefer prompt settlement of transactions, the Chinese users may be more interested in user confidentiality to enable them to bypass the restrictions in place. Furthermore, the Nigerian trader may prefer stable markets compared with the Chinese investor who may make profits in volatile markets.

Furthermore, dispersed markets equally have implications for local law enforcement.<sup>34</sup> Implementing and enforcing rules by regulators can be challenging considering that regulators' scope of authority is often restricted to state boundaries while CUI is not. Conflict of laws

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<sup>32</sup> Fakhar Shahzad, GuoYi Xiu, Jian Wang, Muhammad Shahbaz, 'An empirical investigation on the adoption June of cryptocurrencies among the people of mainland China' (2018) *Technology in Society*, 55. 34; BBC 'Bitcoin falls further as China cracks down on crypto-currencies' (BBC, 19 May 2021) <<https://www.bbc.co.uk/news/business-57169726>> 29 June 2021

<sup>33</sup> E. Udejaja, T. Olusegun, O. Adesanya, A. Edun and S. Zimboh, 'The Effects of Currency Devaluation on Economic Activity in Nigeria' (September 2016) *Economic and Financial Review*, Volume 54 No 3. 37; This reliance on cryptocurrencies emanates from challenges with accessing United States' dollars (USD) for remittance in Nigeria already touched on in Chapter 1. See also Tim McDonnell, 'How Nigerians Beat Bitcoin Scams' 22 January 2018 <<https://bloom.bg/3xSfVVh>> 2 January 2020

<sup>34</sup> Consumer protection explanations below highlight other implications of a dispersed user base

implications, especially in areas touching on private law, are apparent. Cross-border markets mean that transactions are shaped by different rules and market usages.<sup>35</sup>

Finally, limited rules exacerbate the complexities of cryptocurrency markets and CUI. After a decade since the first cryptocurrency, bitcoin, was introduced to the market, the markets operate within a legal grey area. While formulating, implementing and enforcing comprehensive rules are crucial, the dynamism of cryptocurrencies and CUI means that rules may become outdated as soon as they are formulated. However, exploitative practices and other public policy concerns will continue to occur where market interest imbalance is prevalent.<sup>36</sup> The next section explores the interests which CUI touches on.

#### 4.4 CUI interests: overlaps and tensions

Three distinct interests are identifiable within CUI. These are consumers, market actors and the state. Consumers exist at the lowest and most dispersed end of the spectrum. These are persons who participate within CUI in a personal capacity.<sup>37</sup> The second group comprises market actors which include cryptocurrency developers, miners, exchanges, e-wallet service providers, merchants, cryptocurrency fund managers etc.<sup>38</sup>

Interactions between consumers and market actors drive CUI. The main challenge in consumer/market actor interactions is the imbalance of power. Market actors are better organised. They also have greater access to resources which will help them maximise the

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<sup>35</sup> Mark Schwarz, Legal Status of Crypto in Nigeria, (2018) <<https://bit.ly/30OzUgU>>2 October 2018

<sup>36</sup> The subsequent analysis of mining pools and competition, value volatility and role combination of exchanges and the attendant issues examined below constitute examples

<sup>37</sup> Geoffrey Woodroffe & Robert Lowe, *Woodroffe and Lowe's Consumer Law and Practice* (Ninth Edition, 2013, Sweet & Maxwell) 1

<sup>38</sup> *Ibid.* 22

potential of markets.<sup>39</sup> On the contrary, a considerable proportion of consumers are novices.<sup>40</sup> Even with sufficient information, consumers lack the understanding and expertise to leverage complex CUI.<sup>41</sup> For instance, traders in Nigeria use cryptocurrencies to pay for imported goods notwithstanding that their volatility undermines their utility as a medium of exchange.<sup>42</sup>

The division between market actors and consumers is further widened by information and expertise asymmetry and, in certain cases, dispersed consumer base already touched on above. Both factors further the profit motive of businesses at the expense of consumers.<sup>43</sup> Front running, mining arbitrage and greater representation of market actors in cryptocurrency groups are examples of the above. Take “front-running” as the starting point. With this practice, exchanges leverage advanced transaction information and their expertise in maximising profit. They achieve this by using the Bot trading program to anticipate the bid of users.<sup>44</sup> Exchanges then settle transactions with higher fees even when this is not the best deal for customers.<sup>45</sup> Consumers making lesser bids are often ignored in the process.<sup>46</sup>

Similarly, consumers are disadvantaged by the practice of mining arbitrage. A study on mining shows that miners move between mining for cryptocurrency types based on the profitability of the mining activity at different points.<sup>47</sup> The movement has an impact on the volatility of cryptocurrencies.<sup>48</sup> Soft and hard forks are equally instances that generate conflicts and tensions

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<sup>39</sup> Wealth, information, expertise, organisational capacity etc. See Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press) 27; Sam Peltzman, “The Economic Theory of Regulation after a Decade of Deregulation”, in Robert Baldwin, Colin Scott, Christopher Hood, *A Reader on regulation* (1998 Oxford University Press) 97

<sup>40</sup> See Section 4.2.2 above on the percentage of cryptocurrency market novice investors

<sup>41</sup> Etoro, ‘Who are Crypto-investors?’ May 10, 2018, <<https://bit.ly/3j6qkZy>> 22 July 2020

<sup>42</sup> See Tim McDonell, ‘How Nigerians Beat Bitcoin Scams’ 22 January 2018 <<https://bloom.bg/3xSfVVh>> 2 January 2020

<sup>43</sup> E.g. being organised in the pursuit of their goals. George S. Goodell, ‘Social Responsibility and the Profit motive’ (1972) *Business & Society* Fall. 24-6

<sup>44</sup> *ibid*

<sup>45</sup> *ibid*

<sup>46</sup> *ibid*

<sup>47</sup> Adam Hayes, ‘The Decision to Produce Altcoins: Miners’ Arbitrage in Cryptocurrency Markets’ March 16, 2015, <<https://bit.ly/35MvMJI>> 15 April 2020 5

<sup>48</sup> *Ibid*

between market actors such as miners with greater influence and users.<sup>49</sup> In each of the above cases, the resources of market actors put them at an advantage at the expense of the consumer. This is more problematic considering that consumers are unable to change these practices because they are either unaware of the practices or lack the resources to make changes.

Furthermore, market actors largely populate cryptocurrency interest groups. In Nigeria, for instance, Stakeholders in the Blockchain Technology Association of Nigeria (SiBAN) and the Fintech Association of Nigeria (FintechNGR) have a larger proportion of their membership drawn from market actors. Consumer interest dominant groups do not exist. The limited representation of consumers among stakeholder groups undermines their ability to influence market dynamics or regulation.

States must step in to protect disadvantaged/under-represented groups where a significant market interest imbalance is apparent.<sup>50</sup> Llewellyn argues that consumers, who are largely incapacitated, delegate this task to state actors.<sup>51</sup> As the third major interest affected by market interactions, the state's interest in the market goes beyond consumer protection. It includes income from taxation, financial stability, maintaining market order and advancing the state's motives of financial inclusion.

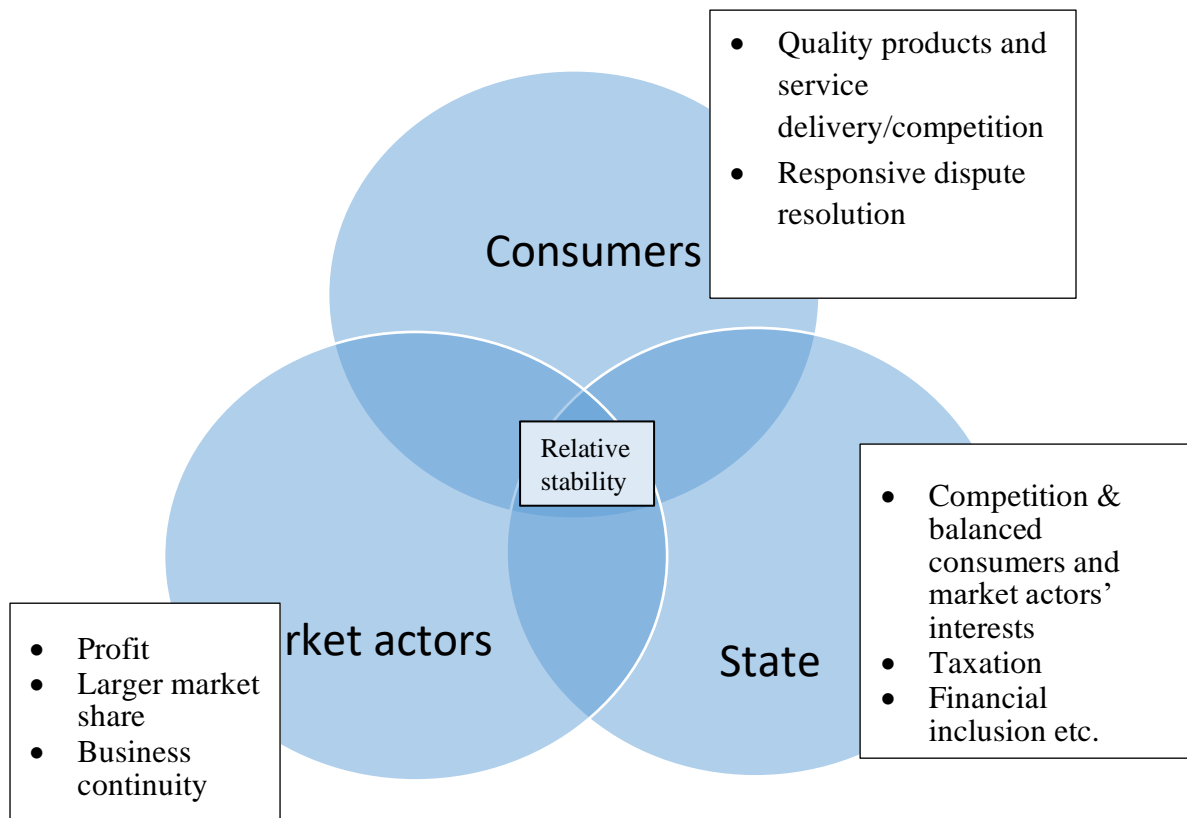
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<sup>49</sup> Bruno Blaise, Christophe Bisiere, Matthieu Bouvard and Catherine Casamatta, 'The Blockchain Folk Theorem' (January 5, 2018). Swiss Finance Institute Research Paper No. 17-75

<sup>50</sup> Geoffrey Woodroffe & Robert Lowe, *Woodroffe and Lowe's Consumer Law and Practice* (Ninth Edition, 2013, Sweet & Maxwell)

<sup>51</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) *Journal of financial services research*, Vol.16 (2) 309, 313

Figure 4.1 – Cryptocurrency market interests<sup>52</sup>



Market interests diverge and converge as illustrated in Figure 4.1 above. Take interest convergence as the starting point. Maintaining stable and orderly markets is a point of convergence for users, market actors and the state. Several points of interest divergence can be observed within the market. First, market actors' profit motive could conflict with investors/buyers' interests in accessing good products at the least cost and the state's public policy goals of balancing the interest of both parties. This could threaten an orderly market if it is not effectively controlled. Second, the interest of illicit actors/buyers of illicit products

<sup>52</sup> Source – author. Key interests of each actor are represented by the bullet points. Occasionally, the interests of market actors and consumers could also converge or diverge. For instance, market actors may dispense with the need for market continuity where there is a significant promise of a one-off profit. The same applies to competition for the state and consumers. While more profit usually means more income for the state through taxation, this may not always be the case. Market actors could move operations to states with reduced taxation obligations or adopt accounting techniques to reduce liabilities and losses. Finally, the promise of returns associated with stability could be a shared goal between certain consumers and market actors. This is a point of tension with the plausible common goal of stability

may equally conflict with the states' public policy objectives of prohibiting illicit activities within its borders. Third, the state's demand for taxation of transactions is a point of divergence among the three groups because it increases the cost of doing business for market actors. This cost is often passed on to consumers.

Additionally, interests vary within each group. Significant interest convergence within the three major groups shapes their classification, not an absolute community of purposes. Take consumer interest as an example. While privacy is a common interest shared by most consumers, the degree to which consumers prioritise this interest varies. A buyer of an illegal drug on the dark web may prioritise his privacy compared with an online grocery buyer. Notwithstanding the above, both consumers' interests in product quality converge.

What, then, are the implications of interest convergence and divergence? Interest convergence among and within groups is not a major concern. Converging interests of the members of a group make it easier for individuals within this group to organise and advance their common goals within the market. Interest convergence across groups means that market activity can satisfy multiple interests simultaneously without necessarily occasioning an increase in costs. For instance, excellent consumer experience arising from the provision of financial services such as e-wallet and funds transfer to the unbanked population in a developing state satisfies the three interests. Consumers have access to financial services while market actors benefit from providing the service. Finally, the state benefits from financial inclusion and income from taxations where this is taxed accordingly.

Conversely, interest divergence is problematic considering the tensions it generates when several interests will compete for control. The tensions generated will be more noticeable where interest imbalance exists in favour of market actors. The above raises a question of whether tensions are more acute within cryptocurrency markets than in other markets. There are several

indications that this may be the case. First, cryptocurrencies are complex. They combine the characteristics of money, securities and commodities and deliver financial solutions. Second, they deliver financial solutions, products and services within a complicated marketplace spanning multiple jurisdictions. Third, several market actors dispersed internationally offer products and services within these markets. Fourth, complex cryptocurrency products are offered to predominantly novice users and investors.<sup>53</sup> Fifth, consumers are not only unorganised, but they equally lack the motivation and ability to organise.

The above suggests that resource and power asymmetry among consumers and the market actors servicing them characterise the marketplace.<sup>54</sup> This asymmetry does not only affect users, it touches on the state's ability to access essential resources for regulation. States have affirmed their limited ability to protect consumers within cryptocurrency markets.<sup>55</sup> Finally, there are limited rules governing transactions within the markets. Consequently, market actors are operating freely in a market devoid of consumer convergence and significant state control.

In sum, cryptocurrency markets are complex. Their complexity exacerbates power and interest imbalance among users, market actors and the state. This imbalance, in turn, generates tensions within the markets. Market actors, as the advantaged group, might be less willing to satisfy consumers and public policy objectives in the absence of motivation by the state. The interest of the states and degree of control over consumers and market actors can be leveraged to enable a balance that promotes fair markets and helps advance the state's economic, social and political goals. Several regulatory issues arise from the complex nature of cryptocurrencies, the pseudo-

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<sup>53</sup> Etoro, 'Who are Crypto-investors?' May 10, 2018, <[www.etoro.com/blog/market-insights/who-are-the-crypto-investors/](http://www.etoro.com/blog/market-insights/who-are-the-crypto-investors/)> 25 May 2020

<sup>54</sup> John Y. Campbell, Howell E. Jackson, Brigitte C. Madrian, Peter Tufano 'Consumer Financial Protection' (2011) *The Journal of economic perspectives*, 2011-01-01, Vol.25 (1), 91, 92

<sup>55</sup> See Chapters 5 and 6



anonymity feature of cryptocurrencies, dispersed cryptocurrency markets and the interest imbalance characterising these markets.<sup>56</sup> The next section identifies some of these issues.

#### 4.5. Issues for CUI regulation

This section draws from the public interest framing of regulation adopted in Chapter 3. It defines regulation as the means to correct market deficiencies and promote the general good embodied by each state's public interest objectives. Public interest objectives are the promotion of market integrity and resilience, consumer protection and social/distributional justice goals. The three principles highlighted above have been advanced by states as policy explanations for regulating financial and commodity markets. The principles also underpin the functions of key financial sector regulators such as the Central Bank of Nigeria and the Securities and Exchange Commission in Nigeria.<sup>57</sup>

Beyond the above, several financial market regulatory instruments identify the above principles as the focus of regulation. The UK's Financial Conducts Authority (FCA) and Nigeria's first regulatory instrument on consumer protection, the Federal Competition and Consumer Protection Act (FCCPA) 2018, constitute examples. The FCCPA's objectives include promoting and maintaining competitive markets, market efficiency, advancing consumers' interest, taxation and promoting the development of the Nigerian economy. The FCCPA also prohibits restrictive business practices and abuse of market power. This thesis adopts the UK FCA's classification, which encompasses consumer protection, market integrity and resilience and distributional justice goals because it provides a clearer framework that matches CUI contexts.

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<sup>56</sup> Chapter 2 explores the meaning and functioning of cryptocurrencies while sections 4.2 and 4.3 of this chapter investigate the complex nature of cryptomarkets and factors exacerbating CUI complexities respectively

<sup>57</sup> Central Bank of Nigeria, 'Statement of CBN Core Mandate' <[www.cbn.gov.ng/AboutCBN/Coremandate.asp](http://www.cbn.gov.ng/AboutCBN/Coremandate.asp)> 17 November 2019; Securities and Exchange Commission 'About SEC', <<https://sec.gov.ng/about/>> 17 November 2019

The next section identifies specific regulatory issues with CUI under the three major public interest goals namely consumer protection, market resilience and integrity and social and distributional justice aims. Inadequate information, bounded rationality, security breaches, data protection and integrity, market manipulation and financial stability are specific regulatory issues with connections to the public interest principles highlighted above. The following discussion takes two approaches in its examination of each of the above issues. The first investigates CUI-based experiences. The second approach draws examples from similar interactions within existing markets which CUI mimics.<sup>58</sup> An evaluation of the regulatory issues raised by CUI is beyond the scope of this work due to space constraints and the need to maintain fluid arguments. The next part identifies regulatory issues which are considered significant to the goal of this thesis and chapter. Table 4.1 identifies the regulatory issues raised within CUI under three main public interest principles.<sup>59</sup> It uses the Weberian conception of ideals to summarise the regulatory issues. This conception presents an ideal situation that regulation should promote and the minimum standards *Vis - a - Vis* the situation within CUI and cryptocurrency markets.

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<sup>58</sup> In cases like trading, banking, investment and merchant services. For instance, the Know Your Customer (KYC) rule

<sup>59</sup> These include regulatory issues that have not been subjected to a detailed examination in the discussion that follows. The environmental implications of mining are examples. See Zack Zimmer, 'Bitcoin and Potosi Silver; Historical Perspectives on Cryptocurrency' (April 2017) *Technology and Culture*, Volume 58, Number 2, 304, 314; M.J., Krause, T. Tolaymat, 'Quantification of energy and carbon costs for mining cryptocurrencies.' *Nat Sustain* 1, 711–718 (2018); See İbrahim Dinçer, Yusuf Bicer, *Integrated Energy Systems for Multigeneration* (2020, Elsevier) 4

Table 4.1 Regulatory issues<sup>1</sup>

<b>Regulatory Principles, Concepts, Goals and Issues</b>	<b>Regulatory “Ideal”</b>	<b>Minimum standards</b>	<b>Market realities &amp; examples</b>
<b>Consumer protection – Information adequacy</b>	Relevant product information is available to users. Expert advice and independent fact-checkers are present.	- implementation and enforcement of laws mandating the provision of information by producers/sellers	- inadequate laws on mandatory information - difficult to identify liable actors
Bounded rationality	Consumers make the best use of such	- average consumer is provided with resources that aid their use of information.	- incoherent laws on limiting the impact of bounded rationality - users/investors display behaviours, e.g. unfounded confidence, suggestive of bounded rationality.
Security breaches	Security of consumers’ assets.	- market actors secure and insure assets held on behalf of consumers	- limited applicable laws across jurisdictions - widespread losses to security hacks
Data protection	All information processors maintain confidentiality.	- laws protect data confidentiality backed by adequate implementation and enforcement means.	- anonymity protects data confidentiality - <i>hacks</i> and illegitimate use of cookies or information gathered undermine this.
Data integrity	Data truly represents facts	- market actors guided by laws prohibiting data manipulation	- Market actors can manipulate data. E.g. MT Gox
Value volatility	Value fluctuation is insignificant	- mechanisms in place to limit economic & legal uncertainty - reduced volatility	- uncertainty means value volatility is not well controlled. - devastating effect on consumer assets e.g. MT Gox bankruptcy

<sup>1</sup> Source - Author

Fraudulent investment schemes	Investments occur in safe markets and assets are protected by the law.	<ul style="list-style-type: none"> <li>- only registered and responsible actors participate in the market</li> <li>- illicit actors are punished</li> </ul>	<ul style="list-style-type: none"> <li>- Limited information on securities issuers</li> <li>- <i>scams</i> proliferate markets</li> </ul>
Security of assets	Consumer assets are safe	<ul style="list-style-type: none"> <li>- laws mandate market actors to insure assets and ensure that they are retrievable by owners</li> </ul>	<ul style="list-style-type: none"> <li>- Anonymous actors</li> <li>- Impact on the security of assets.</li> <li>- Limited insured assets.</li> </ul>
<b>Promotion of market integrity &amp; resilience - Competition</b>	Perfectly competitive markets exist	<ul style="list-style-type: none"> <li>- market products and actors operate without restrictions</li> <li>- market actors such as ICO promoters, exchanges, e-wallet service providers and miners, operate on a level playing field</li> <li>- At the least, the provision of a level playing field for market actors like exchanges, ICO promoters and E-wallet service providers at state level (can be extended to the international scene through regulation at the international level)</li> </ul>	<ul style="list-style-type: none"> <li>- inter &amp; Intra –cryptocurrency network competition exists</li> <li>- market dominated by few known actors</li> <li>- first mover’s advantage and miners’ pooling of resources undermine competition E.g bitcoin’s occupation of a larger market share and Bitmain’s case on pooling of mining equipment.</li> </ul>
Market externalities	Products/services’ price of product/service reflects all costs.	<ul style="list-style-type: none"> <li>-market price reflects the genuine cost of products</li> <li>- externalities that threaten the well-functioning of the market are eliminated</li> </ul>	<ul style="list-style-type: none"> <li>- positive and negative externalities exist e.g. no/little transaction fees by users</li> <li>- environmental impact of mining</li> </ul>
Market abuse/manipulation	Market is free from manipulation/abuse	<ul style="list-style-type: none"> <li>- prohibitions and enforcement mechanisms reduce market abuse at the state (desirable at the international level)</li> </ul>	<ul style="list-style-type: none"> <li>- anonymity helps promote market abuse &amp; manipulation E.g., actors can alter the malleable architecture</li> <li>- limited regulation means uncertain liabilities</li> </ul>

Operational and systemic risks	Major shocks are prevented	<ul style="list-style-type: none"> <li>- market actors operate in distinct industries</li> <li>- follow established prudential rules on operational and systemic risks.</li> </ul>	<ul style="list-style-type: none"> <li>- role combination where exchanges act as e-wallet providers commonplace</li> <li>- limited rules on liabilities. E.g., E-wallet service providers acting as investment agents &amp; exchanges,</li> </ul>
Connections with illicit actors/activities	Identified actors	<ul style="list-style-type: none"> <li>- regulators mandate actors to maintain a register of all customers with KYC principle</li> </ul>	<ul style="list-style-type: none"> <li>- inadequate coverage/patchwork of KYC is applied depending on the location and MA</li> <li>- protected users' identities</li> </ul>
<b>Social and distributional Justice</b> – Financial stability	Independent states control their territory, including the financial industry	<ul style="list-style-type: none"> <li>- legal mechanisms to deliver financial stability in place</li> </ul>	<ul style="list-style-type: none"> <li>- market activities largely occur outside of regulatory sphere</li> <li>- prone to be uncaptured/under-reported</li> <li>- increased adoption could devastate economies</li> </ul>
Financial inclusion	Everyone has equal access to financial services & institutions	<ul style="list-style-type: none"> <li>- infrastructures and minimum costs to access financial services</li> </ul>	<ul style="list-style-type: none"> <li>- inadequate protection for captured individuals</li> </ul>
Regulatory coherence/standardisation of rules	Similar rules and outcomes applicable to similar activities	<ul style="list-style-type: none"> <li>- regulators adopt tools that deliver comprehensive results across the board</li> </ul>	<ul style="list-style-type: none"> <li>- inadequate regulation within cryptocurrency markets compared with existing markets</li> </ul>
Taxation/state revenue	All transactions are taxed irrespective of the medium of payment.	<ul style="list-style-type: none"> <li>- regulatory mechanisms in place to ensure all transactions are taxed equally</li> <li>- limit underreporting/tax evasion through regulatory clarity and effective implementation and enforcement</li> </ul>	<ul style="list-style-type: none"> <li>- Cryptocurrency architecture limits states' ability to effectively tax transactions.</li> </ul>

### 4.5.1 Consumer protection

An identification of who a consumer is is essential for an understanding of the regulatory principle. A consumer refers to anyone who purchases goods for use in a personal capacity. Within the cryptocurrency market contexts, the definition encompasses individuals who hold cryptocurrencies for personal use, i.e. use as investments/speculative investment assets or those who use cryptocurrencies for transactional purposes.<sup>1</sup> The meaning excludes persons who acquire cryptocurrencies for business or commercial purposes.

Llewellyn identifies consumer protection as one of the principles underpinning financial regulation.<sup>2</sup> Consumer protection has equally been advanced as one of the objectives of regulating financial markets by other scholars.<sup>3</sup> This principle is underpinned by the need to maintain fairness in market dealings and prevent the exploitation of consumers as members of an under-represented group.<sup>4</sup> As argued above, several regulatory issues emanate from the novelty of cryptocurrencies, complicated market interactions, market interests and power imbalance. Information inadequacy, bounded rationality, value volatility, confidentiality and data integrity are some of these regulatory issues touching on consumer protection within CUI. Some of these are discussed below.

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<sup>1</sup> G. J. Stigler and C. Friedland, 'What Can Regulators Regulate? The Case of Electricity', (1962) 5 J. of Law and Econ. 1. Cited in Sam Peltzman, 'Towards a more General Regulatory Theory'. (1976) NBER Working Paper No. 133 3

<sup>2</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) Journal of financial services research, Vol.16 (2) 309, 312

<sup>3</sup> John Y. Campbell, Howell E. Jackson, Brigitte C. Madrian, Peter Tufano 'Consumer Financial Protection' (2011) The Journal of economic perspectives, 2011-01-01, Vol.25 (1), 91, 92

<sup>4</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) Journal of financial services research, Vol.16 (2) 309, 313; Consumer Financial Protection Bureau (CFPB), 'Rule Making', < <https://bit.ly/3z5j6ty>> 25 July 2019; Library of Congress, 'Regulation of Cryptocurrency around the World', (2018) <<https://bit.ly/2TdkNWx>> 10 July 2019; See Federal Competition and Consumer Protection Act, 2018 Laws of the Federation of Nigeria

#### 4.5.1.1. Information inadequacy and bounded rationality

The availability of adequate information is one of the features of perfect markets. Within these markets, consumers have sufficient access to credible product information.<sup>5</sup> However, perfect markets rarely exist.<sup>6</sup> Chapter 3 explains why information inadequacy and, in some cases, bounded rationality are key challenges demanding consumer protection. The significant need for information is often apparent, especially within existing stocks and shares markets. The UK PPI scandal and investment fraud were caused by the limited access of the investing public to adequate information.<sup>7</sup> Similar challenges exist within cryptocurrency markets.<sup>8</sup> Information asymmetry, the availability of excess information and misinformation are manifestations of information inadequacy within cryptocurrency markets.<sup>9</sup>

Take information asymmetry as the starting point. It refers to an imbalance in the information available to the two major parties to each market transaction. Market actors have access to adequate information while consumers lack a similar access to information about market products and services. Information asymmetry may relate to market actors' identities/worth and the rules governing rights and liabilities. Minimalistic Initial Coin Offerings' (ICO) disclosure regimes proliferate cryptocurrency markets. There is often limited clarity on the liability of initiators or backers of new crypto ventures.<sup>10</sup> For example, the paper introducing

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<sup>5</sup> Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press). 38; Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 18. Stephen Breyer, *Regulation and its reform* (1982 Harvard University Press) 18, 28; See also Stephen Choi & Jill E. Fisch, 'How to Fix Wall Street: A Voucher Financing Proposal for Securities Intermediaries', 113 (2003) Yale L.J. 269, 28 - 86

<sup>6</sup> Ogus *ibid*

<sup>7</sup> Young Yoon Park, 'Regulator-led Resolution in Mass Finance Mis-selling: Implication of the UK PPI Scandal' (2019) *Journal of East Asia & Intl Law* Vol. 12/No.2 321, 322

<sup>8</sup> See Scott J. Muller, *Asymmetry: The Foundation of Information* (2007 Springer) 1; Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press) 38

<sup>9</sup> Donald Margotta, 'Market Integrity, Market Efficiency, Market Accuracy' (2011) 17 (2) *The Business Review*, Cambridge, 14

<sup>10</sup> Dirk A. Zetzsche, Ross P. Buckley, Douglas W. Arner and Linus Föhr, 'The ICO Gold Rush: It's a scam, it's a bubble and it's a super challenge for regulators', 2017, EBI Working Paper Series 2018 – no. 18. 1, 15

bitcoin as a payment system has insufficient information on the road map for the future of the product and who may be liable in case the bitcoin fails.<sup>11</sup> The limited available information has not been updated in more than 10 years after Bitcoin was introduced to the market.

Inadequate exogenous/market-wide information is equally an issue for regulation. Empirical evidence shows that the immediate price increase of one type of cryptocurrency triggers changes in the price of other cryptocurrencies.<sup>12</sup> An increase or decrease in the price of bitcoin affects the value of other cryptocurrencies. Conversely, bitcoin's value is not affected by volatility in the value of other cryptocurrencies.<sup>13</sup> Information on the co-relativity of cryptocurrency products and services will be helpful for consumers.<sup>14</sup>

Conversely, information overload is another issue. Due to the open-sourced nature of cryptocurrencies and dispersed cryptocurrency markets, excessive unreliable information on cryptocurrencies can be found on the internet. Excess market information is blinding. This induces consumers to act in a certain way.<sup>15</sup> These effects are more prominent among novice users/investors who may not deeply consider the adverse implications of freely sourced material.<sup>16</sup> These individuals may lack the requisite skills and access to resources demanded for eliminating irrelevant information or misinformation. The situation is exacerbated by users'

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<sup>11</sup> Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' Bitcoin, (2008) <<https://bitcoin.org/bitcoin.pdf>> Oct. 25, 2018

<sup>12</sup> Bouri et al *ibid*

<sup>13</sup> *ibid*: Bob Pisani, 'Bitcoin and ether are not securities, but some initial coin offerings may be, SEC official says' (14 June 2018) <<https://cnb.cx/3xKdYdu>> accessed 20 November 2018

<sup>14</sup> Bouri et al studied the inter-relativity among some cryptocurrencies but there remains a wider gap to be filled. See Elie Bouri, Syed Jawad Hussain Shahzad, David Roubaud, 'Co-explosivity in the cryptocurrency market', (2018) *Financial Research Letters*, <<https://bit.ly/3x39z5H>> 10 June 2019; See also Peter D. Spencer, *The Structure and Regulation of Financial Markets* (2000 OUP Premium) 10; John Fry, Eng-Tuck Cheah, 'Negative bubbles and shocks in cryptocurrency markets', (2016) *International Review of Financial Analysis*, 47, 343. See Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press) 138 on whether access to information qualifies as a consumer right

<sup>15</sup> Jill E. Fisch, 'Regulatory Responses to Investor Irrationality: The Case of the Research Analyst' (2006) Faculty Scholarship. Paper 1057. <<https://bit.ly/3xVLAW6>> 69. 5 June 2019. See also Brad M. Barber & Terrance Odean, 'The Internet and the Investor', (2001) 15 *J. Econ. Persp.* 41, 42 Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 18

<sup>16</sup> Fisch, *ibid*



overconfidence induced by online research.<sup>17</sup> Overconfidence may undermine users' ability to rationalise the risks of information manipulation.<sup>18</sup>

In line with the framing of bounded rationality advanced in Chapter 3, consumer participation within cryptocurrency markets in light of the above limitations could be an indication of bounded rationality.<sup>19</sup> Bounded rationality touches on the utility of information.<sup>20</sup> It refers to the limited cognitive ability of individuals or consumers to make rational decisions when confronted with sufficient information on products.<sup>21</sup> Bounded rationality could occur where there exists insufficient information. Investing in assets in the absence of adequate information or roadmaps which justify their market viability indicates bounded rationality. Herding behaviour among investors, which refers to the influence of groups on individuals, is another indicator of bounded rationality within cryptocurrency markets. The growth of cryptocurrencies thrives on the herding model within which inexperienced users adopt cryptocurrencies based on increased trade volumes and not as a result of an individual's rationalisation process.<sup>22</sup> With herding, users equate higher sales volumes with cryptocurrency market viability.

Other signs of bounded rationality exist within cryptocurrency markets. A study shows that users invest for the fear of missing out, overconfidence, endowment effect, loss aversion,

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<sup>17</sup> Ravindranath Madhavan & John E. Prescott, 'Market Value Impact of Joint Ventures: The Effect of Industry Information-Processing Load' (1995) 38 *Academy of Management Journal*. 900; Troy A. Paredes, 'Blinded by the Light: Information Overload and Its Consequences for Securities Regulation', (2003) 81 *Wash. U. L. Q.* 417.

<sup>18</sup> *ibid.*

<sup>19</sup> Blinded optimism or gambling tendencies are other explanations

<sup>20</sup> Hugues Langlois & Jacques Lussier, 'We Know Better, But . . .' in *Rational Investing: The Subtleties of Asset Management* (Columbia University Press, New York, 2017) 168, 170  
<[www.jstor.org/stable/10.7312/lang17734.9](http://www.jstor.org/stable/10.7312/lang17734.9)> 30 June 2020

<sup>21</sup> See Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press); Obryan Poyser Calderón, 'Herding Behavior in Cryptocurrency Markets' Working Paper | November 2018 <<https://arxiv.org/pdf/1806.11348.pdf>>: Herbert A. Simon, 'Theories of Decision-Making in Economics and Behavioural Science' (1959) 49 *Am. Econ. Rev.* 253, 272-273

<sup>22</sup> Ogus (*ibid.*)

anchoring, framing and hindsight.<sup>23</sup> Nigerian users are not different considering that they invest in cryptocurrencies for the fear of missing out and anchoring.<sup>24</sup> In sum, information asymmetry and bounded rationality widen the power imbalance among users and market actors. Regulation must address these issues to correct the power disparities between these actors. The next section turns to fraudulent investment schemes as another issue that regulation must solve.

#### 4.5.1.2. Fraudulent investment schemes

Investing in legitimate or fraudulent crypto-investment has an interesting connection to inadequate information and bounded rationality. Crypto-investments stimulate consumer participation by drawing consumers' attention to the positive impact of value volatility of cryptocurrencies.<sup>25</sup> High volatility could mean a wider profit margin. The issue here is whether consumers equally evaluate the adverse implications of such investments considering that high volatility could mean a high loss margin. The profit potential of crypto-investments mirrors that of gambling which has been argued to involve some level of irrationality.<sup>26</sup> Both activities thrive on risks and uncertainties.

Beyond the risks and uncertainties of partaking in legitimate crypto-investment, Fraudulent High Yield Investment Schemes (FHYIS) expose consumers to scams that may guarantee similar outcomes as the above. Vasek & Moore identified four typologies of crypto-

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<sup>23</sup> Ronald J. Gilson & Reinier Kraakman, 'The Mechanisms of Market Efficiency Twenty Years Later: The Hindsight Bias' 28 J. CORP. L. 715, 724 (2003); Fisch Jill E. Fisch, 'Regulatory Responses to Investor Irrationality: The Case of the Research Analyst' (2006) Faculty Scholarship. Paper 1057. <<https://bit.ly/3xVLAW6>> 69. 5 June 2019, 67. See also Elie Bouri, Syed Jawad Hussain Shahzad, David Roubaud, 'Co-explosivity in the cryptocurrency market', (2018) Financial Research Letters, <<https://bit.ly/3x39z5H>> 10 June 2019, 2

<sup>24</sup> Uwagbale Edward-Ekpu 'Nigeria is now the No.2 bitcoin market on this fast-growing global marketplace' (December 18, 2020) <<https://bit.ly/2SnuDVh>> January 12, 2020; Sandali Handagama, 'Nigeria Protests Show Bitcoin Adoption Is Not Coming: It's Here' (October 21, 2020) <<https://bit.ly/35OJ6g9>> 12 January 2021

<sup>25</sup> SEC Office of the Investor Education and Advocacy, 'Investor Alert: Ponzi schemes Using Virtual Currencies' (SEC Pub. No. 153 (7/13)) <[www.sec.gov/investor/alerts/ia\\_virtualcurrencies.pdf](http://www.sec.gov/investor/alerts/ia_virtualcurrencies.pdf)> 3 July 2019

<sup>26</sup> Neil D. Isaacs, 'Gambling and the Irrational.' *You Bet Your Life: The Burdens of Gambling* (2001 University Press of Kentucky) 37

scams/FHYIS.<sup>27</sup> Two of these typologies are relevant to this evaluation. Fraudulent Initial Coin Offerings (ICO) is the first one. Fraudsters offer newly designed cryptocurrencies to consumers with promises of high returns in these schemes.<sup>28</sup> The uncertainty surrounding the legality and viability of ventures at their initial stages exacerbates the situation for investors. User perception, which remains uncorrected due to insufficient legal pronouncements on the validity of the ICO, raises a presumption of their legitimacy.<sup>29</sup> Fraudulent ICOs are commonplace. A study shows that approximately 78% of ICOs introduced to the market in 2017 were fraudulent. Only 15% succeeded because 4% failed and 3% died.<sup>30</sup> The 15% that succeeded attracted significant dividends for investors. The high returns of the successful ones form the basis for users investing in new crypto-ventures. This is a classic manifestation of bounded rationality.

Ponzi scheme is the second typology of FHYIS identified by Vasek & Moore.<sup>31</sup> While Nigeria has experienced several Ponzi schemes in the past, the MMM Mavrodi Ponzi scheme appears distinct considering how it triggered significant investment losses among Nigerians.<sup>32</sup> The widespread impact of these losses in Nigeria tainted Nigeria's perception of cryptocurrencies. This tainted perception underpins Nigeria's initial cautious regulatory stance on cryptocurrency use.<sup>33</sup> The challenge remains unabated within and beyond Nigeria as several types of FHYIS

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<sup>27</sup> Marie Vasek and Tyler Moore, 'There's No Free Lunch, Even Using Bitcoin: Tracking the Popularity and Profits of Virtual Currency Scams' (2015) 1. Paper delivered at the 19th International Conference on Financial Cryptography and Data Security (FC), San Juan, PR, January 26–30, 2015 <<https://bit.ly/3wXMq4G>> 5 July 2019

<sup>28</sup> Ibid; See also L'heureux and Lee (n 5) 436

<sup>29</sup> Thorsten Koepl, Jeremy Kronick, 'Tales from the Crypt – How to Regulate Initial Coin Offerings' Commentary (Nov 2018) C.D. Howe Institute, Nov 2018, Issue 525, 2.

<sup>30</sup> Sherwin Dowlatabadi, Michael Hodapp, 'Cryptoasset Market Coverage Initiation: Network Creation' Satis Group (July 11, 2018) 24. <<https://bit.ly/3zV9pPx>> 24 July 2019

<sup>31</sup> Marie Vasek and Tyler Moore, 'There's No Free Lunch, Even Using Bitcoin: Tracking the Popularity and Profits of Virtual Currency Scams' (2015) 1. Paper delivered at the 19th International Conference on Financial Cryptography and Data Security (FC) 2; Tyler Moore, Jie Han and Richard Clayton, 'The Postmodern Ponzi Scheme: Empirical Analysis of High-Yield Investment Programs,' in Keromytis A.D. *Financial cryptography and data security* FC 2011 Lecture Notes in Computer Science, Vol 7397. (2012, Springer, Berlin, Heidelberg) 41

<sup>32</sup> See Tim McDonnell, 'How Nigerians Beat Bitcoin Scams' 22 January 2018 <<https://bloom.bg/3xSfVVh>> 2 January 2020; Alicia Naumoff, 'MMM Nigeria: Notorious 'Ponzi Scheme' Enables Bitcoin for Payments' 12 February 2019 <<https://bit.ly/3h4YIGO>> 2 January 2020

<sup>33</sup> Ken Nwogbo, 'Authorities helpless as crypto-currency scams rock Nigeria' (The Guardian, 13 March 2020) <<https://bit.ly/3gYh7RL>> 14 March 2020; See also Nzekwe Henry, 'Despite Gov't Warnings against Crypto, Bitcoin Use Continue to Soar in Nigeria' (8 December 2019)

*scams* continue to thrive within cryptocurrency markets.<sup>34</sup> Users' financial losses and how this undermines market integrity are negative implications of FHYIS for CUI. While FHYIS are criminal offences punishable under different countries' laws, regulators may lack the expertise and access to the heuristic technology required to decrypt the identity and location of actors engaged in anonymised transactions. Adequate expertise and access to certain resources are crucial for modifying behaviour and prosecuting suspects.<sup>35</sup> Value volatility equally raises consumer protection issues within CUI. The next section addresses this.

#### 4.5.1.3. Value volatility

Value volatility raises significant consumer protection issues.<sup>36</sup> The blockchain is designed to prevent transaction reversals. This means that transactions requiring reversals must be governed by arrangements outside of the blockchain. In addition, the shortfall and increase occasioned because of value volatility have consumer protection implications. For instance, who bears the loss or gains of value volatility where transactions fail and the issuance of refunds becomes necessary? Resolving this without ex-ante contractual provisions is problematic.<sup>37</sup> Other consumer protection issues include how to resolve volatility issues arising from wrongful debits or a failure to process transactions. Value volatility has significant connections to unfavourable market conditions as well as limited applicable laws.<sup>38</sup> Research suggests that regulatory clarity has a stabilising effect on cryptocurrency value. The formulation of

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<sup>34</sup> Ibid; Marie Vasek and Tyler Moore', 'There's No Free Lunch, Even Using Bitcoin: Tracking the Popularity and Profits of Virtual Currency Scams' (2015) 1. Paper delivered at the 19th International Conference on Financial Cryptography and Data Security (FC) 2

<sup>35</sup> Privacy/anonymity and dispersed markets are some of the limitations to good control of illicit crypto-investment actors. See more on regulators' capacity in Chapter 6

<sup>36</sup> Exchanges bear the risk of fluctuation. Such as Bitpay and Coinbase. Michal Polasik, Anna Iwona Piotrowska, Tomasz Piotr Wisniewski, Radoslaw Kotkowski and Geoffrey Lightfoot, 'Price Fluctuations and the Use of Bitcoin: An Empirical Inquiry', (2015) *International Journal of Electronic Commerce*, 20(1) 9; Garrick Hileman, Michel Rauchs, *Global Cryptocurrency Benchmarking Study* (2017) 71

<sup>37</sup> E.g. Aliant, an exchange, stipulates that deducted transaction fees i.e. network costs and miner fees, are not refundable. See Aliant, 'Crypto Payment Terms and Conditions', <<https://bit.ly/3dbbe18>> 22 July 2019

<sup>38</sup> Yhlas Sovbetov, 'Factors Influencing Cryptocurrency Prices: Evidence from Bitcoin, Ethereum, Dash, Litecoin and Monero' (January 2018) *JEFA Vol. 2 No. 2* (2018) 2. <<https://bit.ly/3vWckPY>> 17 July 2019

comprehensive rules may render some of the issues raised by the volatile nature of cryptocurrencies moot.<sup>39</sup> However, more than the formulation of comprehensive laws may be required to tackle the prevalent issue of security breaches within cryptocurrency markets. The next section addresses this issue.

#### 4.5.1.4. Security of assets

The security of consumer assets/cryptocurrencies is not guaranteed considering that breaches (hacks) are prevalent within cryptocurrency markets. Hacks upset consumers' confidence in cryptocurrency markets but have not discouraged participation in a major way. Individual hacks have negative implications, but the effects of hacks on exchanges could be more devastating, especially where consumer assets are uninsured.<sup>40</sup> In certain cases, hacks on exchanges have been followed by exchanges' declarations of bankruptcy.<sup>41</sup>

Lack of clarity on the implication of hacks, which is quite commonplace, exacerbates the situation for consumers. A study of selected exchanges revealed that an estimated 47% of smaller custodial exchanges were silent on policies concerning security breaches.<sup>42</sup> Such silence may be an indication of a lack of prior consideration of the eventuality of hacks by the exchange and inadequate protection for consumers against losses caused by hacks.<sup>43</sup> Consumer protection issues in the event of hacks on exchanges include how to apportion losses among

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<sup>39</sup> Ibid; Michal Polasik, Anna Iwona Piotrowska, Tomasz Piotr Wisniewski, Radoslaw Kotkowski and Geoffrey Lightfoot, 'Price Fluctuations and the Use of Bitcoin: An Empirical Inquiry', (2015) *International Journal of Electronic Commerce*, 20(1) 9; Van Alstyne, Marshall. 'Why Bitcoin has value' (2014) *Communications of the ACM* 57.5: 30-32; No. 58091. University Library of Munich, Germany

<sup>40</sup> Ibid: on how exchanges are more susceptible targets for hackers, L'heureux and Lee (n 5) 435; Davey Winder, 'How Hackers stole \$1 B from Cryptocurrency Exchanges in 2018', (2018) <<https://bit.ly/3gPIUDA>> 4 July 2019; Yogita Khatri, 'New Zealand Crypto Exchange Hacked Cryptopia Goes Offline Citing Hack', 2019 <<https://bit.ly/2SWbLx8>> 4 July 2019

<sup>41</sup> MT. Gox's scenario illustrates this. See Piper Alderman, 'The Long Shadow of Mt. Gox', (March 7, 2019) <<https://bit.ly/3gSCDap>> 25 July 2019; Yoshifumi Takemoto, Sophie Knight, 'Mt. Gox files for bankruptcy, hit with lawsuit' <<https://reut.rs/3h0uLCD>> 25 July 2019

<sup>42</sup> Garrick Hileman, Michel Rauchs, *Global Cryptocurrency Benchmarking Study* (2017) 27

<sup>43</sup> Peter D. DeVries, 'An Analysis of Cryptocurrency, Bitcoin and the Future' (2016) *International Journal of Business Management and Commerce* Vol. 1 No. 2. 4

consumers and other creditors of the exchange. Who should be prioritised? Secured creditors are more likely at the top of the pyramid. In that event, what is the position of customers and what remedies are available to them?

Security breaches are not the only way through which consumers can lose access to cryptocurrencies. Consumers can equally lose access when they forget their private keys.<sup>44</sup> Where consumers lose access to their cryptocurrencies in the latter case, such cryptocurrencies continue to exist and may be inaccessible to others. Cryptocurrencies are classed as lost if no one, including the owner, has access to them. Granting sole access to custodians who later become unavailable is another way through which users have lost access to their cryptocurrencies. For instance, a cryptocurrency manager died leaving users without access to their cryptocurrencies since no one else has the keys.<sup>45</sup> This raises the need to educate consumers on the possibility of losing access to their cryptocurrencies and the need to take necessary precautions.

The foregoing analysis raises several issues that touch on consumer protection within cryptocurrency markets. It shows the inability of an uncontrolled market to advance the interests of consumers and the need for regulators to intervene to protect consumers. Increasing the supply of adequate information, educating investors and clarity on the rules governing CUI are some of the ways to promote consumer protection within cryptocurrency markets. Having explored several issues touching on consumer protection which must be resolved by regulation, this chapter now turns to the second public interest principle of market integrity and resilience.

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<sup>44</sup> See Chapter 2 on the meaning and use of private keys

<sup>45</sup> BBC News: Quadriga, Cryptocurrency Exchange Founder's death locks \$140m, (4 February 2019) <<https://bbc.in/3gZuj7D>> 20 December 2019

#### 4.5.2 Promotion of market integrity and resilience

The promotion of market integrity and resilience (MIR) is crucial for the existence of good markets. Market integrity means “unimpaired”, “uncorrupted” and “sound”.<sup>46</sup> Resilience refers to a market's ability to allocate and utilise resources efficiently, survive major shocks and innovatively create solutions when faced with harsh conditions.<sup>47</sup> The term “resilience” is often used in connection with securities regulation but is broadly applicable to other markets where securities are not offered.<sup>48</sup> In broad terms, market integrity and resilience help shape the perception of observers/actors and promote market fairness.

A positive relationship will often inspire cooperation. In this case, MIR occurs without the need for external stimulation similar to Smith’s invisible hand theory.<sup>49</sup> However, achieving market resilience is not easy. It involves controlling structural and behavioural characteristics such as connectivity, rule of law, diversity, cooperation, competition and power dynamics among market actors.<sup>50</sup> States often intervene to promote MIR where the market fails to achieve this. State intervention is commonplace in cases where market failure is underpinned by an imbalance among the interests within the market.<sup>51</sup> Market abuse, lack of competition, operational/systemic risks and limited transparency are factors which undermine the promotion of MIR within cryptocurrency markets. The next sections discuss competition, operational and systemic risks and externalities and their implications for CUI.

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<sup>46</sup> Janet Austin, ‘What Exactly Is Market Integrity? An Analysis of One of the Core Objectives of Securities Regulation’ (July 27, 2016). 2017 8 (2) William & Mary Business Law Review 215

<sup>47</sup> Jeanne Downing, Michael Field, Matt Ripley, & Jennefer Sebstad, *Market Systems Resilience A Framework for Measurement* (2018) 6

<sup>48</sup> See Securities Exchange Act Section 2(a), 15 U.S.C. § 78 (1934)

<sup>49</sup> See Chapter 3

<sup>50</sup> *Ibid.* 9

<sup>51</sup> Section 4.4 expands on this

#### 4.5.2.1. Competition

Competition plays a significant role in the promotion of MIR. It is capable of stimulating a balance in the interest of consumer and market actors, where it is properly harnessed.<sup>52</sup> While competition could be beneficial for MIR, there are cases where it could be detrimental to the promotion of the goal. Competition is beneficial where market actors attract patronage through improved products and services, but detrimental when market actors sabotage others' efforts to gain market advantage.<sup>53</sup> Positive competition which delivers market integrity, stability and resilience by limiting the control or market exploitation by a market faction, should be the focus of regulators. Competition within the cryptocurrency markets can be viewed from the inter-cryptocurrency network and market actors' standpoints.

The inter-cryptocurrency market competition refers to competition among major cryptocurrency types. This market is largely competitive. Each cryptocurrency's market advantage is measured by its market capitalisation, user base and duration of market existence. Free entry and exit, a core feature of competitive markets, is one of the reasons behind the exponential growth of Altcoins. Users' freedom to participate in the markets and move from holding one cryptocurrency type to another underpin cryptocurrency markets.<sup>54</sup>

Furthermore, the newly introduced cryptocurrencies compete well with the older ones.<sup>55</sup> Improved features and better services drive adoption. Bitcoin's larger market share reduction is underpinned by the adoption of Altcoins with better features.<sup>56</sup> The reduction was not about

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<sup>52</sup> Lawrence H. White, 'The Market for Cryptocurrencies' *Cato Journal*, Vol. 35, No. 2 (Spring/Summer 2015) 383

<sup>53</sup> Jeanne Downing, Michael Field, Matt Ripley, & Jennefer Sebstad, *Market Systems Resilience A Framework for Measurement* (2018) 11

<sup>54</sup> Xin Li, Chong Alex Wang, 'The technology and economic determinants of cryptocurrency exchange rates: The case of Bitcoin' (*Decision Support System* 2017) 49, 52

<sup>55</sup> *Ibid*

<sup>56</sup> Neil Gandal & Hanna Halaburda, 'Can We Predict the Winner in a Market with Network Effects? Competition in Cryptocurrency Market', *Games* (2016) 7, 16. 1



bitcoin losing its user base, but an increased adoption of ether by newcomers.<sup>57</sup> For instance, bitcoin's market dominance slid to a new low of 37.84% in June of 2017 while ether and other altcoins gained a larger user base.<sup>58</sup> Interconnectivity, i.e. ease of transfer of cryptocurrencies and market prominence, is one of the key factors driving cryptocurrency market competition. Altcoins that lack in-demand features often fail or lag behind.<sup>59</sup> The foregoing suggests that regulators, if they can, may have a limited or no need to promote competition among cryptocurrencies. The foregoing argument does not apply to competition among market actors. Competition could occur among market actors delivering cryptocurrency-related services. This encompasses actors like miners, exchanges, securities and commodities sellers and e-wallet service providers. Competition among these actors may occur at a local or international level. While international competition may be more apparent, local competition among market actors also occurs. An example of this is the competition between actors offering e-wallet services to a target market or exchanging cryptocurrencies with local FCs, for instance, the Nigerian naira.<sup>60</sup> Competitors leverage reduced transaction fees, faster services and increased privacy to attract customers.

An examination of how competition operates among all types of market actors is beyond the scope of this work. This section uses the mining industry, considering its broader relevance, to demonstrate limited market competition among cryptocurrency market actors. The architecture of cryptocurrencies is underpinned by the principles of competition among miners. Bitcoin's initiator considers competition as crucial to the attainment of transparency and accountability

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<sup>57</sup> *ibid*

<sup>58</sup> Coinmap, Global Market Charts, (2019) <<https://coinmarketcap.com/charts/>> 26 November 2019

<sup>59</sup> *Ibid*. Payment of transaction fees limits the utility of conversion ease since multiple conversions limit profitability. Jeanne Downing, Michael Field, Matt Ripley, & Jennefer Sebstad, *Market Systems Resilience A Framework for Measurement* (2018) 11. Lawrence H. White, 'The Market for Cryptocurrencies' *Cato Journal*, Vol. 35, No. 2 (Spring/Summer 2015) 383; Neil Gandal & Hanna Halaburda, 'Can We Predict the Winner in a Market with Network Effects? Competition in Cryptocurrency Market', *Games* (2016) 7, 16. 1

<sup>60</sup> This includes exchanges with physical offices in Nigeria

within the network.<sup>61</sup> Both objectives are prioritised because they correct the imperfections of FCs, existing remittance models and financial systems.<sup>62</sup>

Nevertheless, perfect competition is currently undermined among miners. Several participants are excluded due to the financial and technical barriers that limit the entry of new and small-scale miners. Mining is an expensive venture which attracts participants with adequate access to resources. Equally, mining is wasteful compared with competition among traditional market actors. The efforts and resources of miners who lose mining rounds go to waste. The reduction in the net profit accruable to miners led to innovativeness among miners.<sup>63</sup> Miners started pooling their resources to win mining rounds and effectively guarantee profits among members of the winning mining pool. Mining pools are clusters of resources contributed by different miners towards the solving of mathematical equations required to create new units of cryptocurrencies. These clusters often share profits made. While this reduces waste, it significantly undermines market competition. Beyond being antithetical to transparency and accountability, pooling mining resources reduces the potential of other miners to win mining rounds.<sup>64</sup> The reduced potential, in turn, discourages new or small-scale miners from participating in mining rounds.

More specific implications of the above practice for existing miners' rights are yet to be seen. It has, however, given rise to antitrust claims.<sup>65</sup> In *United American Corp v Bitmain & Ors*, the claimant argues that mining pools have antitrust implications and asks the court for an order of injunction and damages.<sup>66</sup> The claimant argues that mining pools enable a power concentration

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<sup>61</sup> Nakamoto (n 11). See Chapter 2 on the functions of cryptocurrencies

<sup>62</sup> *ibid*

<sup>63</sup> See Chapter 2 on mining and the reasons behind the creation of cryptocurrencies

<sup>64</sup> Lawrence H. White, 'The Market for Cryptocurrencies' *Cato Journal*, Vol. 35, No. 2 (Spring/Summer 2015) 5

<sup>65</sup> *United American Corp v Bitmain Inc. & Ors*. 1:2018cv25106 File Dec 6, 2018, <<https://bit.ly/3zUc7Vx>> 12 Dec 2019 2. The Plaintiff asserts that distributed mining mechanisms were designed to secure the network's integrity, so concentrations enabled by mining pools contradict this principle because normal market forces only occur where power is decentralised. See also White *ibid*. 8

<sup>66</sup> *ibid*

contrary to the rules of competition that underpin the design of blockchain. That case demonstrates the high evidential burden of proving antitrust violations in cooperative mining agreements.<sup>67</sup> The enforcement of antitrust claims on the practice appears to be stretching the limits of the law. The first question in this instance is whether the claimants have a right to operate within competitive cryptocurrency markets. It is only after this has been affirmed that courts could entertain claims arising from the power concentration enabled by mining pools. Establishing the rights of the claimant in the absence of CUI being brought under the application of specific antitrust laws is impractical.

The implication of mining pools as they touch on MIR is not limited to the miners excluded by the practice. Other stakeholders within cryptocurrency markets are equally disadvantaged by the practice. Mining pool arrangements affect the pricing of cryptocurrencies.<sup>68</sup> Pools may decide to shift attention to a more lucrative cryptocurrency mining, thereby depriving users the access to a core service.<sup>69</sup> It is currently unclear whether stakeholders are capable of rallying against the practice.<sup>70</sup>

In sum, competition is crucial for the promotion of market integrity and resilience. While competition can be observed among major cryptocurrencies, the reverse may be the case for competition among actors rendering cryptocurrency-related services. The provision of a level playing field for market actors like exchanges, ICO promoters and E-wallet service providers may be less difficult. Conversely, promoting competition among miners may be problematic without altering the law on antitrust practices to accommodate these actors. The dispersion of market actors, including miners, across several jurisdictions, exacerbates the situation. Collaboration and cooperation among states on the international scene will be crucial for the

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<sup>67</sup> White *ibid*

<sup>68</sup> Adam Hayes, 'The Decision to Produce Altcoins: Miners' Arbitrage in Cryptocurrency Markets' March 16, 2015, <<https://bit.ly/35MvMJI>> 15 April 2020, 5

<sup>69</sup> *ibid*

<sup>70</sup> *ibid*

promotion of competition among all the actors offering products and services in connection to cryptocurrencies. Having explored competition within the context of cryptocurrency markets, the next section turns to another regulatory issue with significant market integrity and resilience implications i.e. operational and systemic risks.

#### 4.5.2.2. Operational and systemic risks

Operational and systemic risks touch on issues with ineffective internal processes and systems which could give rise to a lack of trust in the systems or loss of assets. Operational and systemic risks may occur within CUI and cryptocurrency markets in two ways.<sup>71</sup> The first relates to the role of exchanges as custodians of consumers' assets. An explanation of how regulators prevent operational and systemic risks within the traditional financial sector will provide more context on this. Prudential regulations and asset insurance are some of the measures applied to limit the potential for operational and systemic risks and reduce their impact when they occur. For instance, insurance of consumer assets helps to minimise losses in cases of unexpected shocks and equally makes market recovery easier and faster. Overall, the market will be more resilient to shocks while its integrity remains intact. Exchanges which offer services similar to those offered by traditional financial services providers are not governed by similar asset insurance and prudential rules. This suggests that the market may not recover quickly in the event of market-wide failure arising out of ineffective internal systems.

The second instance touches on the implications of role combination by cryptocurrency market actors. The same market operator who acts in a custodial role equally engages in the exchange of cryptocurrencies.<sup>72</sup> This operator could be a securities company offering assets to the public

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<sup>71</sup> Control of operational and systemic risks is one of the objectives of securities and commodity markets' regulation. See International Organization of Securities Commissions (IOSCO), 'Objectives and Principles of Securities Regulation' (Sept. 1998) <<https://www.iosco.org/library/pubdocs/pdf/IOSCOPD154.pdf>> 30 July 2021

<sup>72</sup> Transactions between unknown parties where exchanges buy from sellers for sale to buyers.

or investing on behalf of their customers.<sup>73</sup> To maintain the integrity and resilience of the financial sector, regulators ensure that these distinct roles are carried out by different actors, namely commercial banks, foreign exchange operators and securities. This approach is crucial for limiting the potential for the devastating impact of market-wide failure. The motive underpinning traditional financial sector regulators suggests a need to replicate this approach within cryptocurrency markets and CUI. The market-wide shock caused by the MT Gox collapse strengthens the need for regulation in this regard.<sup>74</sup>

#### 4.5.2.3. Market abuse and manipulation

Of equal relevance as promoting competition and control of operational and systemic risks is the prevention of market abuse and its impact on market integrity and resilience. The term “market abuse” is often used to describe artificial activities targeted at misrepresenting market processes or activities. The EU directive on market abuse explains it to include insider dealing, unlawful disclosure of non-public information and market manipulation. It is crucial to limit all the above incidences of market abuse because they distort market activities thereby undermining the well-functioning of the market.

Take insider dealing as the starting point. This refers to the unlawful disclosure of insider information acquired by employees of a company by virtue of their position in the firm for private profit. Insider dealing is mostly associated with securities services aspect of the financial sector and may apply to the securities functioning of cryptocurrencies. The architecture and transparency of distributed ledgers underpinning the blockchain limit insider dealing on established cryptocurrencies, such as bitcoin and ether, to a certain extent.

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<sup>73</sup> Custodial services are within the purview of E-wallet providers. Exchanges providing this is similar to deposit money banks engaging in forex trades

<sup>74</sup> The price drop recorded after MT Gox’s collapse illustrates this effect. Feng Dong, Zhiwei Xu and Yu Zhang, ‘Bubbly Bitcoin’, ‘Bubbly Bitcoin’ (January 2019) <<https://ssrn.com/abstract=3290125>> 5 March 2020. 7; John Taskinsoy, ‘Blockchain: Moving beyond Bitcoin into a Digitalized World’ (2019) <<https://bit.ly/3ifpybI>> 5 March 2020 2

Decentralised ledgers mean that no single entity possesses any information capable of being traded. Nonetheless, the risks associated with insider dealing/trading have already started materialising within CUI and the service industry ancillary to mainstream cryptocurrencies. This includes the exchange aspect of cryptocurrency markets activities where front running, touched on in Section 4.4 above, is an issue.<sup>75</sup> If it can be established that the complex law regulating insider trading in different states applies to claims of front running, there may be issues for regulation bordering on access to resources and information in proving breach.

Furthermore, limited regulation and the architecture of the internet have been leveraged to enable risks greater than those associated with insider dealing. Market manipulation is one of those risks. Market manipulation involves acts targeted at creating false impressions of the true worth or directions of products/services in the market. Misleading information can emanate from collusion by market operators as illustrated by Bitmain's case where allegations of centralising decentralised transactions system were made.<sup>76</sup> Software has been designed to predict trends and manipulate the price of cryptocurrencies.<sup>77</sup> Market manipulation has been attributed to exchanges given that they stand to benefit more.<sup>78</sup> The successful market manipulations by the defunct MT Gox are well documented.<sup>79</sup> It is currently unclear whether incidences of market manipulation could trigger the application of the law considering the silence of regulators on the application of the laws preventing market manipulation within traditional markets. Besides, MT Gox's ability to manipulate the price of cryptocurrencies and

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<sup>75</sup> See also Tom Schoenberg, 'U.S.'s Binance Probe Expands to Examine Possible Insider Trading' Bloomberg (17 September 2021) <<https://bloom.bg/3Dcn854>> 30 September 2021

<sup>76</sup> *United American Corp v Bitmain Inc. & Ors.* 1:2018cv25106 File Dec 6, 2018 <<https://bit.ly/3zUc7Vx>> 12 Dec 2019 2.

<sup>77</sup> L'heureux and Lee (n 5) 440

<sup>78</sup> Weili Chen, Jun Wu, Zibin Zheng, Chuan Chen, Yuren Zhou, 'Market Manipulation of Bitcoin: Evidence from Mining the Mt. Gox Transaction Network' (April 2019) Conference: IEEE INFOCOM 2019 - IEEE Conference on Computer Communications <<https://bit.ly/32OKmlf>> 17 September 2021

<sup>79</sup> *ibid*

the market was because it served almost 70% of the bitcoin market in 2013.<sup>80</sup> It is currently unclear if larger current-day exchanges could do the same now that cryptomarkets are much larger than they were in 2013.

Additionally, as against the situation with insider dealings, the sources of misleading information with market manipulation may not be restricted to persons who hold fiduciary relationships with customers by virtue of their connection with the firms. Culpable individuals in cryptocurrency market manipulation often include experts, analysts or professional advisers. Incidences of market manipulation may include artificial or misleading information aimed at falsifying the value of the underlying assets. Currently, it is uncertain if sufficient measures, architecture-based or otherwise, are in place to prevent recurrences.

The foregoing identifies some of the issues that inhibit fluid CUI. Each of these issues disturbs market stability and resilience. They equally limit the ability of the market to further the interest of consumers, market actors and states.<sup>81</sup> The market-wide implication of these challenges justifies their classification as public goods which state regulators must provide. The overall aim of regulation in this regard is the promotion of good regulation and fluid CUI.<sup>82</sup> Having investigated consumer protection and market resilience and stability issues, the next section explores the final public interest principle, i.e. promotion of social and distributional justice goals.

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<sup>80</sup> Matthew Kimmell, 'Mt. Gox', CoinDesk (22 July 2021) <[www.coindesk.com/company/mt-gox/](http://www.coindesk.com/company/mt-gox/)> 17 September 2021

<sup>81</sup> Anthony Ogus, *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press) 36

<sup>82</sup> Chester S. Spatt, 'Regulatory Conflict: Market Integrity vs. Financial Stability', (2009) *University of Pittsburgh Law Review*. 71. 625, 626

### 4.5.3 Promotion of social and distributional justice

Cryptocurrencies and CUI generate implications beyond the market. These implications touch on social and distributional justice (SDJ) goals of states.<sup>83</sup> SDJ involves the pursuit of just distribution of resources among state subjects. SDJ explanations are not advanced solely. Ogas noted that the promotion of distributional justice shares some overlaps with economic explanations.<sup>84</sup> He identified that the elimination of a market externality under market efficiency grounds such as environmental pollution serves economic and SJD purposes. The imposition of extra costs on market actors delivers distributional justice aims by preventing the transfer of that cost to other members of the society.<sup>85</sup> Such internalisation in contractual cost means that market prices reflect the genuine cost of production. Balancing the interests of all the actors affected by cryptocurrency market interactions, including actors operating within the existing financial services sector which CUI may replace, is an important instance of social and distributional justice. Stated differently, regulatory coherence is essential for maintaining social and distributive justice.

Regulatory coherence underpins the need to enable similar control over interactions within existing and newly emerging FinTech markets. Better Regulation Task Force identified the significance of attaining regulatory coherence.<sup>86</sup> The Financial Services Regulation Coordinating Committee (FSRCC)'s activities are underpinned by consistency in regulation across the board. Implementation and enforcement activities must deliver substantial similarities in regulatory outcomes within different financial services contexts. The transfer of funds on traditional channels and the transfer of funds on the blockchain are examples.<sup>87</sup>

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<sup>83</sup> Hayek explores how the concept has been advanced for all political debates or dictatorial actions. See Friedrich Von Hayek, *Law, Legislation and Liberty: A New Statement of the Liberal Principles of Justice and Political Economy* Vol II (2013, Routledge)

<sup>84</sup> Ibid

<sup>85</sup> Ibid

<sup>86</sup> Better Regulation Task Force (BRTF), *Principles of Good Regulation* (2003 London)

<sup>87</sup> See Chapter 5 for more on the FSRCC



Regulatory coherence or standardisation of rules is a major theme emerging from the need for consumer protection and the promotion of market integrity and resilience examined above.

Aside from the general need for uniformity across the board already raised under the consumer protection and market integrity and resilience headings, regulatory coherence touches on other SDJ factors. Similar treatment of similar transactions, as a general principle of taxation, is an instance.<sup>88</sup> Transactions within the financial services sector must be appropriately taxed irrespective of the medium. To enable this, regulatory clarity is required on the tax treatment of the activities underpinning CUI. The tax treatment of these interactions often depends on what cryptocurrencies are classed as in the regulating country. Three approaches have emerged. First, some states treat cryptocurrencies as commodities/currencies. The treatment of cryptocurrencies as commodities/currencies implies that CUI within the states is not subject to value-added tax.<sup>89</sup> Second, states classify cryptocurrencies as properties. In this case, CUI is taxed on the basis of the principles governing barter transactions.<sup>90</sup> Third, states are silent on the tax treatment of cryptocurrencies, thereby suggesting freedom from liability for tax on CUI.<sup>91</sup>

Determining how to treat cryptocurrencies for the purpose of CUI taxation is less problematic than the identification of taxable transactions, the extent of individuals' taxation liability and the state with jurisdiction in more complex transactions that span across several states. These complexities and lack of clarity on most of the above have been leveraged by users. Individuals

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<sup>88</sup> Anne Michèle Bardopoulos, *E-commerce and the Effects of Technology on Taxation: Could VAT be the Etax Solution?* (2015, Springer) 2

<sup>89</sup> See Library of Congress, 'Regulation of Cryptocurrency around the World', (2018) <[www.loc.gov/law/help/cryptocurrency/world-survey.php](http://www.loc.gov/law/help/cryptocurrency/world-survey.php)> 10 July 2019

<sup>90</sup> E.g. Bulgaria, Israel and Poland. See *ibid*; Australian Taxation Office, 'Tax Determination' (2014) TD 2014/25 <<https://bit.ly/3hhcHEm>> 11 July 2019; Konrad Krasuski, 'Crypto Traders Protest Poland's Tax Decision' Bloomberg (Apr. 9, 2018), <<https://bloom.bg/3hgAWSX>> 12 July 2019

<sup>91</sup> Countries adopting this approach include Bermuda, Belgium, Hungary and Portugal. Library of Congress, 'Regulation of Cryptocurrency around the World', (2018) <[www.loc.gov/law/help/cryptocurrency/world-survey.php](http://www.loc.gov/law/help/cryptocurrency/world-survey.php)> 10 July 2019; Banco de Portugal '*Moedas Virtuais*' <[www.bportugal.pt/page/moedas-virtuais](http://www.bportugal.pt/page/moedas-virtuais)> 12 July 2019; Jon Rawls, *A Theory of Justice* (1972)

use cryptocurrencies based on their potential for helping users avoid tax liabilities.<sup>92</sup> Under-reporting and tax evasion are commonplace.<sup>93</sup> Providing clarity through comprehensive rules and backing this up with implementation and enforcement will improve states' income from CUI. Undoubtedly, international collaborations between states and non-state actors will be helpful in this regard. The markets will equally benefit from this move considering that taxing CUI will help improve the legitimacy of the underlying assets and, by extension, the market.<sup>94</sup>

Other SDJ considerations within CUI exist beyond the need to promote the standardisation of rules across the board.<sup>95</sup> Eliminating extreme poverty or limiting market implications and promoting individual wellbeing are general examples.<sup>96</sup> More specific examples include promoting financial stability, product and service sustainability, state effective control over the economy and financial inclusion.<sup>97</sup> Some of these are examined below.

#### 4.5.3.1. Financial stability

The financial stability of states has been identified as one of the reasons for regulating markets.<sup>98</sup> While this objective is equally linked to economic goals of regulation, this section restricts itself to the SDJ implications of financial stability. Financial stability addresses the contagion implications of unstable markets on the social aspects of the society within which CUI occurs. It relates to how CUI could disrupt the traditional financial services sector they

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<sup>92</sup> *ibid*

<sup>93</sup> Kelly Philipps, 'IRS Nabs Big Win Over Coinbase in Bid for Bitcoin Customer Data' *Forbes*. (November 29, 2017) <<https://bit.ly/3A0il5l>> 12th September 2020; Mordecai Lerer, 'The Taxation of Cryptocurrency: Virtual Transactions Bring Real-Life Tax Implications' (January 2019) *CPA Journal*, New York Vol. 89, Iss. 1 (Jan 2019): 40

<sup>94</sup> L'heureux and Lee (n 5) 442; See also Samantha Douma, *Bitcoin: The pros and cons of Regulation*, (2016, Leiden University Repository) 20

<sup>95</sup> Primavera De Filippi, 'The invisible politics of Bitcoin: governance crisis of a decentralised infrastructure' (2016) *Internet Policy Review* 5 (3) 11. <<https://bit.ly/3z8lAr3>> 11 December 2019, 23

<sup>96</sup> Dworkin noted how collective goals encourage exchanging benefits and burdens within the society rather than maintaining the market status quo. See Ronald Dworkin, *Taking Rights Seriously* (1977) 91

<sup>97</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 19

<sup>98</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) *Journal of financial services research*, Vol.16 (2) 309, 313

mimic through favourable competition. The impact of disruptions caused by CUI will vary in different states. There may be greater risks for smaller economies. A contextualisation of cryptocurrency market capitalisation is relevant to understanding the possible impact of cryptocurrencies and CUI.

As of 20<sup>th</sup> May 2018, the total capitalisation of the cryptocurrency market was \$391.8 billion.<sup>99</sup> The aggregate value of cryptocurrencies appears to be inconsequential compared to \$36.8 trillion, one estimate of the total value of FCs in circulation.<sup>100</sup> The European Banking Authority (EBA) considered the risk of cryptocurrency use disrupting the financial services industry in the EU as being low.<sup>101</sup> The EBA's view is valid considering that the EU's GDP was \$18.8 trillion. Similarly, there is a reduced risk that broader adoption of cryptocurrencies and market-wide failure could devastate large economies. For instance, cryptocurrency market capitalisation represents about 14.85% of the UK's Gross Domestic Product (GDP) in 2017. However, the contrary holds for smaller economies. Cryptocurrency's market capitalisation was equal to Nigeria's GDP in 2018.<sup>102</sup>

Wider adoption may affect Nigeria's ability to deliver on financial stability and its other social and distributional justice goals. Significant disruptions arising out of wider adoption could equally undermine the regulatory powers of the state, including the ability to enforce rules within traditional markets and existing markets.<sup>103</sup> The ability of the naira to steer the economy may be negatively impacted. This disruption and its attendant implications could diminish

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<sup>99</sup> Coinmarketcap graph places the figure at \$391,826,000,000. See Coinmarketcap, 'Total Market capitalization' (19 July 2019) <<https://coinmarketcap.com/charts/>> 19 July 2019

<sup>100</sup> Vic Lang'at Junior, 'How much money is there in the world' (20 May 2018) <<https://bit.ly/3hoTiS5>> 23 July 2019

<sup>101</sup> EBA (EBA/Op/2014/08) of 4 July 2014 on Virtual Currencies (2014) 11 <<https://bit.ly/35O5xlx>> 19 December 2018. 36

<sup>102</sup> International Monetary Fund, 'Report of selected countries and subjects' (April 2019); Worldometer, GDP by Country, (2018) <[www.worldometers.info/gdp/gdp-by-country/](http://www.worldometers.info/gdp/gdp-by-country/)> 29 July 2019

<sup>103</sup> Increasing cryptocurrency adoption in Nigeria could be attributable to how its architecture limits state control currently. Nzekwe Henry, 'Despite Gov't Warnings against Crypto, Bitcoin Use Continue to Soar in Nigeria' (8 December 2019) <<https://bit.ly/3dtHooG>> 2 January 2020

Nigeria's reputation among other nations if other nations have mechanisms in place to limit the contagion effect of cryptocurrencies.

Additionally, the impact of the use of cryptocurrency on the states' ability to maintain stability varies with each state's needs and demography. These issues are more prominent in states with greater dependence on imports.<sup>104</sup> Expensive and complicated cross-border remittances, and inconsistent and constantly changing government policies on foreign exchange drive cryptocurrency adoption in Nigeria.<sup>105</sup> Therefore, it is not surprising that there has been a shift to cryptocurrencies as a means of financing imports. One billion Nigerian naira (NGN) was traded in cryptocurrencies weekly as of 2016.<sup>106</sup> Adoption will continue to grow if these problems persist. Widespread adoption in Nigeria could disrupt Nigeria's financial services sector.

Furthermore, a state's demography, which shapes cryptocurrency adoption, has implications for states' financial stability. A survey conducted by CoinDesk shows that cryptocurrency users are largely young.<sup>107</sup> 18.32% of those who own and actively use cryptocurrencies are over the age of 44.<sup>108</sup> 81.68% of holders are below that age. Take Nigeria as an example of how this might have significant implications on states' financial stability. A large population of literate youth in Nigeria represents a pool of potential consumers who can shape trade volumes and the market trajectories in the future.<sup>109</sup> The threat to Nigeria's financial stability increases with the group's capabilities and access to resources like wealth and cryptocurrency market

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<sup>104</sup> E. Udejaja, T. Olusegun, O. Adesanya, A. Edun and S. Zimboh, 'The Effects of Currency Devaluation on Economic Activity in Nigeria' (September 2016) *Economic and Financial Review*, Volume 54 No 3. 37

<sup>105</sup> See Tim McDonell, 'How Nigerians Beat Bitcoin Scams' (22 January 2018) <<https://bloom.bg/3xSfVVh>> 2 January 2020

<sup>106</sup> See Yomi Kazeem, 'Bitcoin is booming in Nigeria as both business users and speculators rush in' (December 2017) <<https://bit.ly/3vZKLdC>> 2 October 2018; Nzekwe Henry, 'Bitcoin is More Popular in Nigeria & South Africa Than Anywhere Else in The World' (8 November 2019) <<https://bit.ly/3A5orCy>> 2 January 2020

<sup>107</sup> Coindesk, 'New CoinDesk Report Reveals Who Uses Bitcoin' (10 June 2015) <<https://bit.ly/2TTOT1f>> 29 July 2019

<sup>108</sup> See *ibid*

<sup>109</sup> Temitayo Jaiyeola, 'Despite CBN ban, 33.4 million Nigerians trade crypto – Report' (Punch, 18 April 2022) <<https://punchng.com/despite-cbn-ban-33-4-million-nigerians-trade-crypto-report/>> 19 April 2022

information. Solving the issues driving adoption and promoting less disruptive technology will help further Nigeria's financial stability motive. Likewise, a comprehensive regulatory regime will achieve the same.

#### 4.5.3.2 Financial inclusion

Promoting CUI to minimise inequalities has implications for states' SDJ objectives.<sup>110</sup> Financial inclusion is a way to promote equal wealth distribution and inclusive growth and economic development in states with a large unbanked population.<sup>111</sup> It encompasses the availability and equality of access to financial services such as bank accounts and loan instruments. Financial inclusion is often measured by the proportion of individuals with access to financial services at any given time. The banked population in Nigeria stood at 39.7% of the adult population as of 2018. 26.8 % of this figure holds inactive accounts.<sup>112</sup> To understand the link between cryptocurrency markets and financial inclusion, it is necessary to identify factors that limit access to financial services for an understanding of how good CUI regulation accounts for this. Distance between banks and individuals, institutional exclusion and financial costs are catalysts for financial exclusion.<sup>113</sup> Cryptocurrencies eliminate some of these barriers by leveraging existing infrastructure i.e. smartphones and wireless networks which are within the grasp of most Nigerians.<sup>114</sup> The ability of cryptocurrencies to solve some of the challenges of financial inclusion is unequalled. Previous attempts to promote financial inclusion in Nigeria through

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<sup>110</sup> Vic George, Paul Wilding, *Ideology and Social Welfare* (1976) 141

<sup>111</sup> Kidane Mariam Gebregziabher Gebrehiwot, Daniel Makina, 'Macroeconomic Determinants of Financial Inclusion: Evidence Using Dynamic Panel Data Analysis' in Daniel Makina (Ed.), *Extending financial inclusion in Africa* (2019, Academic Press) 168

<sup>112</sup> See EFINA, *Enhancing Financial Innovation and Access*, 'Key Findings: EFINA Access to Financial Services in Nigeria 2018 Survey' (11 Dec. 2018) 15 <<https://bit.ly/3x8CMw6>> 22 July 2019; Nigeria is one of the seven countries with the highest unbanked population. See Daniel Makina (Ed.), *Extending financial inclusion in Africa* (2019, Academic Press)

<sup>113</sup> Makina Ibid

<sup>114</sup> An estimate of 39% of Nigerian adults use smartphones with which they can access cryptocurrencies. The Guardian: Adeyemi Adepetun, '17% of Adult Nigerians don't have Smartphones' (28 February 2019) <<https://bit.ly/2SCIBUF>> 30 June 2021

FinTech failed for one reason or the other. Mobile money which leverages access to mobile phones and the internet is an example. Telecommunications companies are key players on mobile money platforms.<sup>115</sup>

Nigeria's financial regulators prevented the participation of Telecommunications companies (Telcos) because they are not designated financial institutions.<sup>116</sup> Consequently, mobile money services in Nigeria are products of financial institutions. Services on mobile device platforms are linked to existing bank accounts. This link defeats mobile money's core purpose, i.e. providing financial services to the unbanked population. Rather than promoting financial inclusion in Nigeria, mobile money enables financial deepening, while a considerable proportion of the population still lacks access to financial services.<sup>117</sup> The above link has two further implications. First, it occasions an increase in the cost of accessing financial services. Second, it does not solve the issue of spatial distance because users still need to visit *brick-and-mortar* banks to enjoy banking services. In contrast, CUI occurs largely on online platforms. It thereby resolves most of the issues challenging financial inclusion in Nigeria. The protection of the interests of consumers engaging in CUI is crucial for leveraging financial inclusion as a benefit of CUI.

Notwithstanding the above, connections with illicit activities and actors have been advanced as some of the reasons why Nigeria is cautious about maintaining a permissive approach and, by extension, protecting consumers engaging in CUI.<sup>118</sup> A counter-argument is that the use of FC, which is equally used in furthering illicit aims, has not been discouraged.<sup>119</sup> If regulators

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<sup>115</sup> Egena Ode, Making Co-Creation Work in Mobile Financial Services Innovation: What Capabilities are needed and What Practices Work Best in Developing Countries? (2018) 33

<sup>116</sup> EFINA, Enhancing Financial Innovation and Access, 'Key Findings: EFINA Access to Financial Services in Nigeria 2018 Survey' (11 Dec. 2018) 15 <<https://bit.ly/3x8CMw6>> 22 July 2019, 41

<sup>117</sup> *ibid*

<sup>118</sup> CBN, Press Release; Response to Regulatory Directive on Cryptocurrencies' (7 February 2021) <<https://bit.ly/3tb5h9Q>> 7 February 2021

<sup>119</sup> The prevalence of ATM card fraud on the barely literate population confirms these challenges. Johnson Adeoti, 'Automated Teller Machine (ATM) Frauds in Nigeria: The Way Out' (2011) Journal of Social Sciences 27

have not prohibited the use of FC for this reason, doing the same for cryptocurrencies is unjustifiable. Instead, regulators must limit the negative implications of financial technology by controlling market actors and users.

#### 4.6 What is *good regulation* for CUI?

Having evaluated *good regulation*, CUI complexities and regulatory issues, what, then is *good regulation* for CUI? *Good regulation* refers to the minimum requirements of input that every regulatory regime must have regardless of the subject and context of regulation. Beyond the need to achieve the three public interest goals namely consumer protection, market integrity and resilience and social and distributional justice goals, already explored above, certain inputs underpin the promotion of *good regulation*. It encompasses three major considerations namely formulating comprehensive rules, adopting the right model of regulation and selecting an appropriate set of instruments. In addition to the above, certain public law values must be present irrespective of the subject of regulation. These are legislative mandate, due process, accountability, expertise and efficiency.<sup>120</sup>

Take legislative mandate as a starting point. This touches on the legitimacy of regulation and should not be mistaken as being restricted to only democratically elected lawmakers as the source of regulation. Legislative mandate means that the authority to regulate must emerge from the appropriate authorities. State actors are commonly acknowledged as appropriate quarters. Occasionally, legislative mandates may be given to actors with the authority and resources for implementing and enforcing regulation. These may not necessarily be state actors in line with the broader framing of regulation as a multidirectional flow of authority. The

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<sup>120</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 27

primary question for proper identification of actors with legislative mandate is whether these actors have legitimacy by a consensus and state authorisation. Such consensus may be in the form of democratically electing representatives or state backing and market agreement on which actors have the power to regulate. Legislative mandate touches on the public law value of accountability of regulators to those granting them the consensus and authority to act. This presence of legislative mandate in the regulation of CUI is essential. While CUI is currently governed by self-regulation to a certain extent, the absence of legislative mandate has undermined the ability of the market to enable good CUI regulation by, at least, balancing the interest of the three main actors connected to market activities.<sup>121</sup>

Accountability refers to regulators' responsibility to answer to the public or account for their activities. The need for accountability is underpinned by the fact that regulators themselves are tools applied by the public in meeting public policy objectives. Accountability is thus meant to promote a sense of control of regulators by the public. Actual control of regulators and by extension legislators is one of the foundations of public trust in regulatory regimes.<sup>122</sup> In principle, accountability implies that regulators will always comply with their mandate and, where they fail to, those they represent can effectively control them.

However, this implication on the performance of democratically elected representatives and appointed regulators is not always straightforward.<sup>123</sup> Controlling representatives may be delayed especially where rewards take the form of re-election. Arguably, adopting this mechanism to promote accountability is insufficient.<sup>124</sup> This challenge is even more acute

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<sup>121</sup> See Chapter 3 for an explanation of self-regulation

<sup>122</sup> Claudio M Radaelli, Fabrizio De Francesco. *Regulatory Quality in Europe: Concepts, Measures and policy processes* (Manchester University Press 2007) 33

<sup>123</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 28

<sup>124</sup> *Ibid* 39



where non-state actors, who lack public authority, regulate. Competition and consensus are major tools for forcing non-state actors' accountability. State actors equally rely on self-reporting of the regulated actors and periodic reviews to promote accountability. These tools are equally helpful for bridging the knowledge gap between state regulators and regulated actors within CUI. They, however, may not solve the problem of making regulators accountable. Robust and credible mechanisms must be in place to enforce accountability against public and private regulators.<sup>125</sup>

Turning now to due process. The public law value has significant connections to transparency and accountability.<sup>126</sup> Transparency, accountability and due process touch on fairness in implementing and enforcing rules and abiding by the practices of due process in furthering regulatory goals. The demand for due process is relevant to both substantive and procedural aspects of regulation. It involves maintaining fair, accessible and open procedures for the three major regulatory aspects of standard-setting, information gathering and behaviour modification. Due process extends to the need to inquire whether regulation derives from a reasonable exercise of the regulatory powers or abuse of public power and trust.<sup>127</sup> This exercise must be carried out for every regulatory exercise, including activities in the three stages of CUI regulation.<sup>128</sup>

In addition to the need for legislative mandate, transparency and accountability and due process, expertise is crucial for promoting *good regulation*. The role of experts in regulation is even more essential where the subject of regulation is a technical one like CUI. Reliance on

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<sup>125</sup> David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) *Journal of financial services research*, Vol.16 (2) 309, 314

<sup>126</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 29

<sup>127</sup> John A. C. Hetherington, 'State Economic Regulation and Substantive Due Process of Law' (1958-1959) *Northwestern University Law Review* Vol 53. 226, 238

<sup>128</sup> See Black's definition which highlights the three main stages of regulation

experts, who utilise their hands-on knowledge and specialisation, contributes to *good regulation* within technical contexts.<sup>129</sup> Due process fosters public confidence in the regulatory regime. This confidence draws from the knowledge that capable hands are involved in formulating, implementing and enforcing regulation.

The contribution of experts to regulation is not without shortcomings. Primarily, controversies could be generated where conflicting experts' views are apparent. Experts could conflict on the choice of regulation or how regulation could be implemented. This division could be more pronounced where the subject of regulation touches on two distinct sectors/fields. Cryptocurrencies and CUI, which touch on the financial and technological aspects, are examples.<sup>130</sup> Additionally, there are issues with eliminating experts' biases and exploring the right approach to regulation.<sup>131</sup> Finally, communication gaps between expert regulators and the public could make the delivery of regulatory outcomes arduous.

Regulatory efficiency is the fifth principle advanced by Baldwin et al as an essential aspect of *good* regulatory regimes. Efficiency encompasses aspects of regulatory procedure and outcomes. In terms of regulatory outcomes, efficiency refers to ensuring that regulation delivers the best outcomes to regulated actors, i.e. market actors and the consumers within the cryptocurrency market and the public.<sup>132</sup> Additionally, Baldwin et al consider procedural efficiency to include the result of productive efficiency.<sup>133</sup> This refers to the ability of each

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<sup>129</sup> Ian Ayres and John Braithwaite, 'Responsive Regulation: Transcending the Deregulation Debate', in Martin Lodge, Edward C. Page and Steven J. Balla (Eds) *The Oxford Handbook of Classics in Public Policy and Administration*, (2015) 106

<sup>130</sup> The conflict among experts on finance and technology on the question of whether to adopt the prohibitive or permissive stance on cryptocurrency regulation is a key example. See Joe Sommerlad, Cryptocurrencies should be banned because regulating them is too difficult, (The UK Independent, March 2018) <<https://bit.ly/3iwmys7>> 10 June 2021

<sup>131</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 30

<sup>132</sup> Claudio M Radaelli, Fabrizio De Francesco. *Regulatory Quality in Europe: Concepts, Measures and policy processes* (Manchester University Press 2007)

<sup>133</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 30

regulatory regime to achieve set outcomes while incurring the least costs.<sup>134</sup> Essentially, this means the minimisation of waste in regulatory processes.<sup>135</sup> Efficiency must be prioritised to enable good CUI regulation. Efficiency is often determined by how well regulators use the resources within their control in furthering regulatory goals. Allocating regulatory functions to well-positioned actors with the right resources is one of the ways to make regulatory processes more efficient. Limiting waste by preventing duty overlaps is another instance. This will free up regulatory resources for use elsewhere.<sup>136</sup>

Notwithstanding their importance, the five principles addressed above may not be optimally achievable in every regulatory regime. This, thus, suggests the need for effective balancing and trade-offs. In this case, the outcome of the balancing exercise and trade-offs must consider the views and interests of all stakeholders and regulatory aims.<sup>137</sup> The choice of regulatory model (or combination of models), explored in Section 3.3 of Chapter 3, capable of delivering expected outcomes, is central to the promotion of *good regulation*. These must be well embedded in the regulatory regime while placing the economic, social and political needs of the users, market actors and the state in the foreground.<sup>138</sup>

#### 4.7. Conclusions

Most markets, including cryptocurrency markets, are disturbed by imperfections and complexities. Cryptocurrency markets' complexities emanate from how the underlying assets, cryptocurrencies, leverage technology to deliver financial solutions. The architecture

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<sup>134</sup> See *ibid*; Claudio M Radaelli, Fabrizio De Francesco. *Regulatory Quality in Europe: Concepts, Measures and policy processes* (Manchester University Press 2007) 32; See also C.G. Veljanovski. 'Cable Television: Agency Franchising and Economics', in Robert Baldwin, Christopher McCrudden, *Regulation and Public Law*, (1987 Weidenfeld and Nicolson)

<sup>135</sup> Neil Gunningham, Peter Grabosky, with Darren Sinclair, *Smart Regulation: Designing Environmental Policy* (1998) Ch. 3

<sup>136</sup> *Ibid*

<sup>137</sup> Robert Baldwin, Martin Cave, Martin Lodge, *Understanding Regulation: Theory, Strategy and Practice* (2012 Oxford University Press) 38

<sup>138</sup> Chapter one establishes the economic, social and political reasons for regulating CUI

underpinning cryptocurrencies, product miscellany, a dispersed marketplace with no responsible intermediaries, pseudo-anonymity and multijurisdictional implications are some of the factors exacerbating market interest imbalance and CUI complexities. Several regulatory issues emanate from the above. The issues justifying CUI regulation are identified under three public interest principles of consumer protection, market integrity and resilience and social and distributional justice. Each of the above principles brings the state's role as an intermediary to the fore. Additionally, it expands on the need for Nigeria to leverage technology to promote public interest objectives like taxation, financial stability, and financial inclusion. Consequently, Nigeria must limit the negative impact of cryptocurrency markets while it encourages the benefits of CUI. The promotion of *good CUI regulation* is central to the above. *Good CUI regulation* will achieve consumer protection, market integrity and resilience and social and distributional justice goals. To establish how Nigeria can achieve *good CUI regulation*, the regulatory framework applicable to CUI in Nigeria must be investigated. The next chapter does this by presenting an overview of Nigeria's financial sector regulators and laws with a bearing on CUI.

## Chapter Five

# Financial Sector and Cryptocurrency User Interactions: Nigeria's Regulatory Framework

### 5.1 Introduction

This chapter provides an overview of the laws with specific bearing on cryptocurrencies and cryptocurrency user interactions (CUI) in Nigeria. Nigeria does not have a comprehensive regulatory framework relating to CUI considering that this is a new, unique and evolving area of law. However, going by the similarities between CUI and cryptocurrencies on the one hand and regulated services within the existing financial sector on the other, this chapter argues that the former is within the scope of the financial sector regulatory framework. This analysis is not an indication that the laws examined currently apply to CUI in Nigeria except in cases where a contrary view is established. This chapter illustrates that the financial sector framework is underpinned by a command-and-control approach to regulation which may be problematic where the state lacks access to key regulatory resources.

This chapter has 7 major sections. Section 5.2 identifies the major regulatory bodies and their roles. Section 5.3 starts by presenting generic laws applicable to CUI while Sections 5.4, 5.5 and 5.6 present local laws, on investment and banking, securities and commodities respectively, with specific bearing on cryptocurrencies and CUI. Section 5.7 evaluates the role of self-regulatory agencies and practices within the financial services sector. Section 5.8 concludes the chapter by highlighting some of the main limitations within the current regulatory framework capable of undermining good CUI regulation. The core contribution of the chapter is that it illustrates that several regulators with overlapping and sometimes

conflicting, roles and a complex body of fragmented rules govern CUI. Such an intricate regulatory regime may be confusing for the subject of regulation and the public. This is contrary to the concept of *good regulation* for CUI discussed in Chapter 4.

## 5.2 Financial sector regulation in Nigeria

An examination of the regulatory relations among the local, state and federal governments is the starting point. Citizens' interests and rights are legislated on by local, state and federal governments in Nigeria in line with the three main legislative lists as provided for in the 1999 Constitution (As Amended). These are exclusive, concurrent and residual lists. The exclusive list contains matters which are within the purview of federal legislators. Currency and banking are mentioned in the exclusive legislative. Federal and state lawmakers legislate on matters in the concurrent list. Matters on this list include taxation, trade and commerce and exchange control. Consequently, federal government agencies and lawmakers have the power to legislate on the financial sector aspects that CUI touches on.

It is essential to identify the courts with jurisdiction on claims arising from the above. The Federal High Court has exclusive jurisdiction on some claims which may arise. According to section 251 (b & d) of the 1999 Constitution (as amended), these include matters touching on taxation by the Federal Government and matters regulated by the CBN. Subsections (p), (q) & (r) of section 251 grant the Federal High Court exclusive jurisdiction on matters connected with the administration of Federal Government agencies, interpretation of the constitution concerning the above and actions for injunctive relief regarding the validity of the agencies' actions. The decision of the court in *NEPA v Edegbenro*<sup>1</sup> affirmed in *A.B.S.I.E.C. v. Kanu*,<sup>2</sup>

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<sup>1</sup> (2003) F.W.L.R. (Part 139) 1556

<sup>2</sup> (2013) All F.W.L.R (pt. 696) 546

confirms the exclusive jurisdiction of the Federal High Court in matters in which any agency of the Federal Government is named as a party.

From the foregoing and more generally, constituent states/regions do not regulate currencies, securities and consumer-related matters under Nigerian federalism. These are centrally controlled by the federal government through the federal committee of the Financial Services Regulation Coordinating Committee (FSRCC). The apex body is a statutory committee comprised of the heads of all the agencies within the Nigerian financial services industry.<sup>3</sup> The committee was conferred legal status by the 1998 amendment to section 38 of the CBN Act 1991 and started operation immediately.<sup>4</sup>

Represented agencies include the Central Bank of Nigeria (CBN), the Corporate Affairs Commission, the Securities and Exchange Commission (SEC), the Federal Ministry of Finance and the Federal Inland Revenue Services. The Nigeria Stock Exchange and the Abuja Securities and Commodity Exchange are observers within the committee. The committee does not have legislative powers, it performs an administrative and supervisory role by overseeing the implementation of Nigeria's macroeconomic plan and the financial sector regulatory framework.<sup>5</sup> As the central coordinator of Nigeria's financial sector, the FSRCC focuses on closing the regulatory gaps that could be exploited by regulated actors and the public.<sup>6</sup> The committee holds periodic meetings before making key decisions on issues with potential impact on the financial sector.

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<sup>3</sup> Established by Section 44 CBN Act 2007

<sup>4</sup> CBN, 'Supervision' <<https://bit.ly/3wN0Mo3>> 26 May 2021

<sup>5</sup> These frameworks also guide each of the agencies in maintaining daily supervision of the financial services sector they regulate

<sup>6</sup> Section 44 CBN Act 2007

Turning now to individual financial services regulators in Nigeria. The CBN and the SEC, who are members of the FSRCC mentioned above, are key federal government agencies that regulate the financial services that CUI touches on. The CBN supervises financial institutions/banks, while the SEC oversees both the securities and commodities markets. The Federal Competitions and Consumer Protection Commission (FCCC) plays a vital role in promoting public interests within the financial services sector. It focuses on facilitating competition among local service providers while ensuring that priority is given to the protection of the interest of consumers. The Ministry of Finance, Corporate Affairs Commission, Economic and Financial Crimes Commission and the Nigeria Police Force are other agencies with regulatory control over aspects that CUI touches on. The legislation guiding these agencies and their regulatory activities will be returned to shortly.

The foregoing illustrates that several agencies control aspects of the financial sector that CUI touches on. As will be seen much later, this suggests a greater need for stronger collaboration and synchronised regulatory efforts within the financial services sector. Otherwise, risks undermining the well-functioning of the financial services sector may emerge. The banking sector fraud and resulting securities market shocks of 2007 is an example. Egboro suggests that coordinated regulatory efforts may have prevented, or reduced investment losses.<sup>7</sup> Investors subscribed to banks' overpriced assets lost their investments and earning potential.<sup>8</sup> The SEC and other public agencies failed to maintain financial and sector-wide stability caused by inadequate protection of investors' funds.<sup>9</sup> This failure was attributed to the ineptitude of the agencies.<sup>10</sup> Having identified the major sector regulators, this chapter now turns to the specific

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<sup>7</sup> *ibid*; Victor A. Malaolu, Jonathan Emenike Ogbuabor and Anthony Orji, 'The Effects of Global Financial Crisis on Nigeria's Financial Sector and its Implication for Monetary Policy Responses' (May 2014) *European Journal of Economics, Finance and Administrative Sciences* 65:109, 120

<sup>8</sup> See Edwin M. Egboro 'The 2008/2009 Banking Crisis in Nigeria: The Hidden Trigger of the Financial Crash' (2016) *British Journal of Economics, Management & Trade* 12(2): 1, 5

<sup>9</sup> *Ibid*

<sup>10</sup> *ibid*



laws with bearing on CUI. Table 5.1 presents the key legislation and the extent to which they apply to cryptocurrencies and CUI. This table summarises the discussion that follows.

Table 5.1 - Key Financial Sector Laws and their Bearing on CUI<sup>1</sup>

<b>Financial Services Sector</b>	<b>Legislation</b>	<b>The extent of application to CUIs</b>	<b>Comments</b>
-	Electronic Transactions Act (ETA)	General application	Pronounces on the validity of electronic transactions which is similar to the digital representations of currencies (cryptocurrencies)
-	Cybercrime (Prohibition, Prevention, etc.) Act 2015	General application	Provides for the duty of financial institutions to reserve, retain and preserve data and the know you customer (KYC) duty of financial institutions
-	Federal Competitions and Consumer Protection Act (FCCPA) 2018	Limited application	Applied in Chapter 6 under the issue of competition and consumer protection
-	Company and Allied Matters Act (CAMA) 2020	Limited application	Touches on company registration and rendering of periodic returns
-	Economic and Financial Crimes Commission (Establishment) Act (EFCCA) 2004	Limited application	Restricted to CUI as it touches on corrupt practices (see Chapter 6)

<sup>1</sup> Source – Author

-	Corrupt Practices and other Related Offences Act 2000	Limited application	Same as above (see Chapter 6)
	Anti-Money Laundering and Combating Financing of Terrorism in banks and Other Financial Institutions in Nigeria Regulations 2013	Limited application	Restricted to CUI as it touches on money laundering and terrorism financing. (See Chapter 6)
<b>Currency and Banking Regulation</b>	Central Bank of Nigeria Act (CBNA 2007)	Limited application	Scope of the CBN's regulatory control could include cryptocurrency markets as it touches on banking services.
-	Banks and other Financial Institutions Act (BOFIA 2007)	Limited application	Definition of banking business may encompass payment system aspects of CUI
-	Nigeria Deposit Insurance Corporation Act (NDIC Act)	Limited application	Limited to market actors' prudential obligations when accepting deposits.
-	Foreign Exchange (Monitoring and Miscellaneous Provisions) Act	Limited application	The CBN's pronouncement on the non-currency status of cryptocurrencies casts doubt on the application of the Act to CUI

-	Money Laundering (Prohibition) Act (MLA) 2011 (including Regulations)	Limited application	Limited to money laundering and terrorism financing risks within CUI
	CBN's circular to banks on cryptocurrencies	Limited application	Directive may overstretch banks' capacity and does not prescribe punishment for failure to comply with the rules
-	Payment Systems Regulations	Limited application	May apply to the payment systems' aspects of cryptocurrency markets
	Sandbox Regulations	Limited application	Limited to the discretion of the CBN to accept cryptocurrency market operators (as innovators) to test products within the sandbox operation
<b>Investments and Securities Regulation</b>	Statement on Digital Assets (September 2020)	General application	Classes certain crypto assets as securities and indicates rules which govern their application
-	Investments and Securities Act (ISA 2007)	Limited application	Sections defining key concepts like securities and Initial public offers (IPOs) and sections incorporated by the above Statement.
-	Securities and Exchange Commission Rules and Regulations (2013)	Limited application	Touches on cryptocurrency market products similar to securities offered within the existing financial services sector
-	Nigeria Investment Promotion Commission	Limited application	Touches on the duty of the NIPC to promote the investment climate in Nigeria and how cryptocurrencies could be

	Act (2004)		advantageous to this.
<b>Commodities Sector Regulation</b>	Statement on Digital Assets and Their Classification and Treatment (September 24, 2020)	General application	Classes certain crypto assets as commodities and indicates rules which govern their application
-	Investment and Securities Act (ISA 2007)	Limited application	Sections touching on commodities incorporated by the above Statement.
-	Securities and Exchange Commission Rules and Regulations (2013)	Limited application	Paragraphs with bearing on cryptocurrency market products similar to commodities and their derivatives offered within existing financial services sector
-	Commodities Exchange Bill (CEB)	Limited application	Proposed establishment of a Commodities Exchange Commission and removal of commodities derivatives under the control of the SEC

### 5.3. General legislation

#### 5.3.1. Electronic Transactions Bill (ETB, 2015)

The Electronic Transactions Bill (ETB) 2015 deserves a mention here because it clarifies the legality of online transactions in Nigeria. Notwithstanding that the ETB is less detailed on the rights and liabilities of parties to online transactions, its significance for the larger FinTech regulatory debate is that it removes the uncertainties surrounding the legality of online contracts and their enforceability in Nigeria. The ETB's overarching stance is justifiable considering that, to a certain extent, current laws address interactions that online transactions replicate. It thus embraces the much more significant and dynamic aspects of CUI that fall outside of the traditional legal framework.

#### 5.3.2. Cybercrime (Prohibition, Prevention, etc.) Act (2015)

Turning now to criminal legislation with a bearing on cryptocurrency market activities. Cybercrime (Prohibition, Prevention, etc.) Act 2015, in sections 37 and 38, mandates financial institutions and internet service providers to retain an updated record of their customers. The Act reiterates the duties of financial institutions to be diligent and abide by the Know Your Customer (KYC) rule.<sup>1</sup> In addition, financial service providers are required to present data at the request of law enforcement agencies.<sup>2</sup> These rules may apply by extension to service providers performing similar roles within cryptocurrency markets. The Criminal Code, Criminal Act and Criminal laws of states in Nigeria, Economic and Financial Crimes Act and Independent Corrupt Practices Act are other criminal laws with bearing on cryptocurrencies.

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<sup>1</sup> See more on KYC below

<sup>2</sup> Chapter 6 examines some of these laws' application to certain regulatory issues

The provisions of the above laws will not be explored due to time and space constraints. Having presented laws with a general bearing on CUI, the next section identifies the key regulatory bodies and laws in each of the three aspects of the Nigerian financial market that CUI touches on.

#### 5.4. Financial sector regulation in Nigeria: Currency and banking

This section explores key legislation and other sources of law with a bearing on banking and financial services aspects of CUI. The Central Bank of Nigeria (CBN), as the primary banking sector regulator, supervises the issuance of local currencies and the Nigerian banking industry.<sup>3</sup> It discharges its primary duty, i.e. maintaining a safe financial sector in line with the Central Bank of Nigeria (Establishment) (CBN) Act (CBN) of 2007 and the Banks and Other Financial Institutions Act (BOFIA) of 2007. These laws are supplemented by other local and international laws where relevant. The CBN's duties include formulating and enforcing provisions on liquidity and capital adequacy ratio, the appointment of auditors, overseeing the tenure and remuneration of principal financial services officers and monitoring the risk management regimes for financial institutions. The CBN's code of Corporate Governance for Banks and Discount Houses and Code of Corporate Governance for Finance Companies in Nigeria are relevant to the CBN's duty in maintaining a safe financial sector. These documents contain the minimum standards of behaviour that financial institutions must abide by. Failure to meet highlighted standards was one of the reasons for the removal of five banks' chief executive officers in 2009.<sup>4</sup>

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<sup>3</sup> Banks and Other Financial Institutions Act 2007

<sup>4</sup> CBN, 'Circular on Code of Circular on Corporate Governance and Whistle Blowing (May 2014) 4 <<https://bit.ly/2SvHa95>> 27 May 2021

Other laws applicable to the currency and payment system function of cryptocurrencies and CUI include the Nigerian Deposit Insurance Corporation Act (2006), Foreign Exchange Monitoring and Miscellaneous Provisions) Act (1995), Money Laundering and Financial of Terrorism Act (2011). To supplement the gaps that may occur in the provisions of these laws, the CBN issues periodic guidelines and circulars.

#### 5.4.1. Central Bank of Nigeria (CBN Act, 2007)

The CBN Act is a core banking sector regulation with control over cryptocurrency markets and CUI. The CBN provides for monetary policies, banking sector supervision and financial sector stability.<sup>5</sup> The starting point here is sections 15 and 17 of the CBN Act which limit the acceptance of any item/assets, aside from the naira or other foreign currencies, as legal tender in Nigeria. The CBN's circular, which warns Nigerians of the risks of using cryptocurrencies, is in line with these provisions. Cryptocurrencies are not currencies under Nigerian law and could not be treated as currencies by regulators without altering the above law.<sup>6</sup>

The foregoing suggests the need to evaluate the propriety of the CBN's control over cryptocurrencies, which are not currencies under the law and CUI. This need emanates from the use of cryptocurrencies as money or as an instrument for settling remittances. Since it has been established that cryptocurrencies are not money under Nigerian law, the starting point is to consider the status of market actors engaged in CUI as financial service providers. This question is properly posed as follows: can miners, e-wallet service providers or exchanges be

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<sup>5</sup> See generally section 2 of the CBN Act 2007

<sup>6</sup> Central Bank of Nigeria, Circular to Banks and other Financial Institutions on Virtual Currency Operations in Nigeria, 2017, <<https://bit.ly/3wDwcgw>> 17 November 2017



described as banks or similar financial institutions under Nigerian law? The answer to this can be found in the Banks and other Financial Institutions Act 2007.

#### 5.4.2. Banks and other Financial Institutions Act (BOFIA, 2007)

The BOFIA complements the provisions of the CBN Act on banking sector supervision. Similar to the CBN Act, the BOFIA defines a bank to mean any bank licensed under the BOFIA 2007 or other local legislation.<sup>7</sup> The BOFIA goes on to explain what banking business encompasses. Section 66 provides that the banking business involves processing monetary transactions for customers. The processing of monetary transactions encompasses accepting deposits and debiting savings and current accounts.<sup>8</sup> Although cryptocurrencies are not money, can their use for remittance and ancillary services offered by e-wallet service providers and miners be interpreted as the processing of monetary transactions? The answer to the above is not entirely clear. In answering the above, it must be considered whether the activities referred to in the Act could be cumulative. Will market actors who perform some, but not all these functions come under the application of the Act?

Furthermore, Chapters 2 and 4 suggest that exchanges, miners and e-wallet service providers render similar services to market intermediaries accepting deposits and debiting accounts.<sup>9</sup> Chapter 2 identified that E-wallet service providers and exchanges provide custodial services similar to commercial banks by accepting deposits and debiting accounts on behalf of their users. The question is; can it be argued that these market actors perform banking businesses even though the underlying assets are not recognised as currencies? While the activities of the

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<sup>7</sup> Section 60 CBN Act 2007

<sup>8</sup> BOFIA 2007

<sup>9</sup> The latter process payments in cryptocurrencies and offer remittance services similar to the function of SWIFT operators and commercial banks

identified actors may fit within the meaning of banking services, they can be categorised as actors performing banking services only if Nigerian law either recognises a new category of market intermediaries offering custodial and ancillary services to cryptocurrency users.<sup>10</sup>

Alternatively, it may be argued that e-wallet service providers and exchanges could fall under the category of “other financial institutions” in the BOFIA considering that this category includes private ledger services.<sup>11</sup> However, most cryptocurrencies operating on the blockchain are powered by public ledgers.<sup>12</sup> Therefore, these service providers, for instance, miners, are not “other financial institutions” under the BOFIA Act.<sup>13</sup> In addition, companies offering ledger services must be registered under section 58 of the BOFIA to be recognised under Nigerian law. Consequently, unregistered miners and other market actors are not banks or “other financial institutions” under the BOFIA.<sup>14</sup>

Having established that the current BOFIA and the CBN Act do not recognise cryptocurrency market actors and cryptocurrency as legal tender, the legality of engaging in CUI in Nigeria must be queried. Two conflicting views could be established on the legality of transacting in cryptocurrencies in Nigeria. The first is in line with the provision of sections 17 and 20 of the CBN Act. While section 17 restricts the right to issue money in Nigeria in the federal government, section 20 states that the naira shall be the legal tender in Nigeria. The latter suggests that cryptocurrency holders, who use cryptocurrencies as currencies in Nigeria, will be contravening this law.

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<sup>10</sup> Section 2 BOFIA 2007

<sup>11</sup> BOFIA 2007

<sup>12</sup> See Chapter 2

<sup>13</sup> *ibid.* Section 66

<sup>14</sup> *ibid*

The better view will be that transacting in cryptocurrencies is legal, but just not currently captured by the law. In support of this view is the need for a more direct prohibition on engaging in cryptocurrencies as money to validly class them as illegal. Furthermore, this view is compatible with the position of the CBN in its warnings to cryptocurrency holders in Nigeria.<sup>15</sup> In addition, cryptocurrencies serve other transactional purposes. The transactional use of cryptocurrencies could be classed as barter trade which is not covered by sections 15 and 17 of the CBN Act. The major issue with the above is that it may be difficult to maintain a distinction between the legal use of cryptocurrency as an underlying asset in barter trade and the illegal use of cryptocurrencies as money for settling payments.

Notwithstanding the difficulty in concluding that actors connected to CUI fall under the scope of CBN's powers, the currency regulator has made efforts to supervise some of these market actors. The control of the CBN over cryptocurrency markets and CUI is not because holders use cryptocurrencies as money. It is based on the role of the CBN as the primary regulator of the financial services sector and the potential risks of CUI. Primarily, uncontrolled CUI can undermine the ability of the CBN to perform its core duties, considering that cryptocurrencies present regulated actors with viable alternatives with negative implications for the Nigerian economy.<sup>16</sup> Additionally, there are similarities between cryptocurrency-related services and traditional financial services regulated by the CBN.

The failure to recognise cryptocurrencies as money under Nigerian law on the one hand and the CBN's need to regulate cryptocurrency markets based on the similarities between the cryptocurrency payment systems and existing ones on the other, illustrates a significant

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<sup>15</sup> CBN, 'Circular to Banks and other Financial institutions on Virtual Currencies' Operation in Nigeria' (January 12, 2017) <<https://bit.ly/34mIsWy>> 30 July 2020; CBN, Press Release: Virtual Currencies not Legal Tender in Nigeria (February 28, 2018)

<sup>16</sup> Chapter 6 presents specific examples of these

disjuncture in law, policy and practice. The CBN and other financial sector regulators must reconcile the above positions. Remittance through existing financial institutions and the activities of cryptocurrency exchanges are areas where the CBN has asserted control over cryptocurrency market actors in Nigeria.<sup>17</sup> The CBN asserted its authority over CUI by issuing guidelines and making policy statements. Chapter 6 explores the content of some of these guidelines in the context of how they resolve some of the regulatory issues raised by CUI.

#### 5.4.3. Nigeria Deposit Insurance Corporation Act (NDIC Act, 2006)

The NDIC Act which regulates the protection of customers' deposits is another legislation with a bearing on the role of miners and e-wallet service providers. The point of intersection touch on the need to protect customers' funds as a means of balancing the interest of actors interacting within the financial services sector. Section 16 of the NDIC Act directs banks to insure customers' deposits with banks and "other financial institutions." This rule relies on the insurance sector to protect the customers of financial institutions. Having determined that cryptocurrency market operators, currently, are not financial institutions, the above provision and other sections of the NDIC Act are inapplicable until the CBN classes market actors, such as exchanges and e-wallet service providers under financial institutions. The next section considers the bearing of the legislation on foreign exchange on CUI.

#### 5.4.4. Foreign Exchange (Monitoring and Miscellaneous Provisions) Act (FEA, 1995)

The FEA regulates monetary exchanges/transactions within the Nigerian financial sector. The extent to which it applies to CUI depends on whether regulators designate cryptocurrencies as

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<sup>17</sup> See *ibid.* Some of these laws are discussed below

currencies or not. As discussed above, the CBN has excluded the legal tender status of cryptocurrencies in Nigeria. This reduces the extent of the FEA's application to CUI. However, there are overlaps and similarities between CUI and regulated activities. For instance, currency-tracking websites list cryptocurrencies alongside foreign FCs' exchange rates.<sup>18</sup> Additionally, the failure to classify cryptocurrencies as money does not detract from the need to control the activities of those who use cryptocurrencies as an instrument of cross-border remittance in Nigeria, especially considering the need of Nigerian traders for foreign FC to finance the importation of products. To fully understand the issues Nigeria faces regarding the regulation of foreign exchange markets and their implications for cryptocurrency regulation, an examination of Nigeria's complex Foreign Exchange (FOREX) market is necessary.

The FOREX market encompasses market access to foreign currencies and their cross-border transfers. Nigeria regulates a significant aspect of these markets locally. The complexity of the Nigerian FOREX markets derives from the large local demand for foreign currencies and how regulators struggle to control imports while maintaining Nigerian foreign currency reserves. Numerous formal and informal operators cater to the demands for foreign currencies in Nigeria and money transfers. While the law demands that value transfers occur through commercial banks and Money Transfer Operators (MTOs) licensed by the CBN, a considerable number of consumers are served through informal means.<sup>19</sup>

Empirical evidence reveals that the formal sector, populated by commercial banks, serves less than 40% of the market.<sup>20</sup> The informal sector, which has private parties, registered operators

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<sup>18</sup> See Aboki FX, a popular FOREX tracking website. <<https://abokifx.com/>> 28 July 2020. See Chapter 2 for a detailed comparison between cryptocurrencies and FCs

<sup>19</sup> CBN 'Guidelines on International Money Transfer Services in Nigeria Approved' <<https://bit.ly/3fKCwf2>> 28 May 2021

<sup>20</sup> Patrick Olajide; Abdul-Hameed, Adeola Sulaimon, Foreign Exchange Transaction in Nigeria: Determinants of Customer Preferences for Bank and Black-Market Patronage, (Apr 2012) *The Journal of Commerce*; Lahore Vol. 4, Iss. 2, 40

and unregistered Bureau de Change, serves around 60% of the market.<sup>21</sup> The CBN offers cheaper exchange rates to merchants and individuals for specific purposes.<sup>22</sup> These are made available to customers through formal/licenced FOREX operators. Compared with the CBN fixed rate, the interbank and informal market exchange rates respond to shifts in demand and supply. This creates an increased risk of arbitrage by dealers and users.<sup>23</sup>

In line with the FEA, the CBN regulates the formal and certain operators within the informal FOREX market by issuing licences to approved service providers. The CBN equally issues periodic guidelines to operators to maintain market stability and uniformity. The Guidelines' scope of operation and enforcement is limited to operators whom the regulators have the capacity to control. The CBN's approach to reducing consumer participation in the informal market has been through warning the public about the risks of dealing with unlicensed operators.<sup>24</sup> Consumer participation within the black FOREX market continues to thrive notwithstanding these warnings. As stated above, the major reason for the success of the black market and the larger informal sector is that the formal market is incapable of meeting market demands.

Shifting towards the bearing of the above on CUI. The CBN's pronouncement on the non-currency status of cryptocurrencies and the SEC's recent notice on their commodity status clarify that they are not currencies governed by the FEA. The alternative is to consider them as

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<sup>21</sup> See *ibid*: This includes persons carrying cash, community networks, value transfer and bus courier. Informal systems of money transfers similar to the Hawala are also used to circumvent Nigeria's formal controls on money transfers. See Raúl Hernández-Coss, Chinyere Egwuagu Bun, 'The UK-Nigeria: Remittance Corridor Challenges of Embracing Formal Transfer Systems in a Dual Financial Environment' (World Bank Working Paper No. 92, 2007) 26

<sup>22</sup> CBN, 'CBN Exchange Rates' <<https://bit.ly/2SA5B5h>> 02 October 2020. See also CBN, 'Interbank Exchange Rates' <<https://bit.ly/34rHOXW>> 25 September 2020

<sup>23</sup> Customers and Bureau De Change could buy FOREX at a cheap the CBN rate and sell at an increased price in the informal market. See Nike Popoola 'Naira devaluation: BDCs get dollars at N393, sell for N494' (29 May 2021) <<https://bit.ly/3yQHUpN>> 01 June 2021

<sup>24</sup> Alexis Akwagyiram, 'Nigerian central bank warns against using FX black market' (August 2020) <<https://reut.rs/3fUV4JB>> 21 May 2020

money market instruments, regulated by the FEA. Money market instruments listed under section 2 of the FEA include foreign banknotes, foreign coins, travellers' cheques and bank drafts mail or telegraph transfers. Electronic, digital currencies and cryptocurrencies are not listed.<sup>25</sup> Consequently, cryptocurrency exchangers may be excluded from the group of FOREX exchangers, in which case, the FEA becomes inapplicable.

The above leaves a gap which could be exploited in Nigeria's FOREX policy. Cryptocurrencies function as money and are applied in settling cross-border transactions in Nigeria. For this reason, regulators must draw from the FEA's main purposes to make pronouncements on the activities relating to the exchange of cryptocurrencies with FCs and the control of major actors like exchanges and, to an extent, e-wallet service providers. The above is crucial to maintaining a similar level of protection obtainable with the regulation of FOREX activities for users engaged in CUI to close the lacuna in law implementation and enforcement.

Sections 5, 7, 8, 16 and 23 are some of the provisions of the FEA relevant to the above. Take section 8 as the starting point. It identifies the promotion of market efficiency as one of the aims of the CBN's supervision of the FOREX market. In line with this directive, sections 5 and 6 of the FEA empower the CBN to authorise dealers and buyers. This power extends to the CBN's ability to revoke its authorisation in certain circumstances. The FEA defines authorised dealers as banks while authorised buyers are Bureau de Change.<sup>26</sup> Section 7 identifies recognised modes of market dealings and interactions while section 16 requires that authorised dealers and buyers render periodic reports to the CBN. The above provisions should be made applicable to CUI. A failure to reconcile the regulation of exchange-related activities within CUI with existing FOREX activities will undermine the CBN's ability to deliver on its aim

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<sup>25</sup> Although the CBN can expand this list with the approval of the prime minister, the regulator did not take this route with cryptocurrencies. Section 2 (f). FEA 2006

<sup>26</sup> *ibid.* section 41

within FOREX markets considering that the latter provides the public with a viable alternative for escaping regulatory controls. Nevertheless, there is a major challenge regarding the ability of Nigeria to police aspects of cryptocurrency markets which fall within the purview of the FEA. Inadequate access to wealth, organisational capacity and information on regulated activities enabled by the dispersed nature of CUI are some of the limitations facing Nigerian regulators in this regard.

In sum, the FEA appears to focus more on authorised dealers/banks than other market operators. For instance, section 23 of the FEA mandates the CBN's surveillance and access to the record books of authorised dealers concerning the maintenance of domiciliary accounts and associated matters. The FEA does not have a similar provision for authorised buyers and uncaptured operators who cater to a sizeable portion of the FOREX market. Limited regulatory control within this aspect of the market undermines the ability of the CBN to fulfil its regulatory mandate within the more complicated cryptocurrency market and CUI.

#### 5.4.5. Money Laundering (Prohibition) Act (MLA, 2011)

The Nigerian Money Laundering (Prohibition) Act 2011 (MLA) is another core piece of financial sector legislation which has some bearing on CUI. The MLA prohibits the use of proceeds of crime, illegally sourced money and the financing of terrorism.<sup>27</sup> Section 1 of the MLA provides that no person/body corporate shall, except in a transaction through a financial institution, make or accept cash payment of a sum exceeding 5 million naira or its equivalent in the case of an individual or 10 million naira or its equivalent. The major issue here is how

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<sup>27</sup> Section 15 (2) MLA



regulators aim to police and implement this provision within CUI. Persons found to have committed the offence of money laundering will be imprisoned for 7 - 14 years.<sup>28</sup>

Furthermore, the MLA empowers the Securities and Exchange Commission (SEC), National Drug Law Enforcement Agency (NDLEA) and the Central Bank to maintain surveillance on accounts and record transactions suspected to raise money laundering issues.<sup>29</sup> Specifically, section 2 of the MLA mandates the disclosure of daily transactions exceeding \$10 million. There are key issues with applying these provisions to cryptocurrency transactions completed by users in Nigeria.

First, it must be queried whether the MLA applies considering that Bitcoin is not money under Nigerian law? Secondly, assuming the MLA applies, there is a major issue with calculating money transfer limits with volatile Bitcoins and other cryptocurrencies. This touches on the issues with applying existing standards to dynamic FinTech contexts and the need for greater clarity in setting applicable standards. It, thus, suggests the need to identify a currency that serves as a benchmark of value and the relevant time for calculating this value. Third, who will be liable for reporting transactions under the Money Laundering Act where Ade, a Lagos resident, transfers 30 BTC (N 116, 388) through an exchange in Lagos to Abdul in Dubai? The exchange in Lagos may be the actor responsible for maintaining records and sharing the same with the CBN.

However, a layer of complexity is added if Ade completes the transaction through an online exchange without ties to Nigeria. In this case, the exchanges' obligation to report such transactions under Nigerian law becomes untenable in the absence of international

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<sup>28</sup> Ibid section 15 (3)

<sup>29</sup> Ibid section 13

collaboration and reciprocity of obligations. Additionally, Ade could transact through a peer-to-peer (P2P) model. In this case, there may be no identifiable intermediaries that can be responsible for reporting transactions except there are laws placing such obligations on certain actors engaged in P2P transactions or, in extreme cases, internet service providers. Where there is law mandating reporting obligations on ISPs or Ade, this law must be backed by appropriate mechanisms for implementing and enforcing rules.

Finally, section 11 of the MLA, on numbered or anonymised accounts, is particularly relevant to CUI. It criminalises the opening or maintaining of anonymised accounts by persons or organisations.<sup>30</sup> E-wallet service providers catering to Nigerian customers, since they provide custodial services similar to commercial banks, may be subjected to the provisions of the MLA. MLA requires that service providers who serve customers in Nigeria must maintain updated registers that identify their customers. As discussed in Chapter 4 above, pseudo-anonymity is a major challenge for regulators within CUI contexts. Implementing this provision will, however, enable significant benefits for CUI regulation notwithstanding that it compromises one of the clear benefits of cryptocurrencies, i.e. pseudo-anonymity.<sup>31</sup>

Due to the dynamism and constantly evolving nature of the banking industry, the CBN updates its rules and issues regulations periodically to address issues as they emerge in the financial sector. The CBN communicates these updates to regulated actors through circulars. The Anti-Money Laundering and Combating the Funding of Terrorism in Banks and Other Financial Institutions Regulations 2013 is an example.<sup>32</sup> The next sections discuss some of the provisions of this regulation and relevant circulars.

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<sup>30</sup> *ibid*

<sup>31</sup> See Chapter 3 on anonymity as a regulatory issue

<sup>32</sup> CBN, 'Anti-Money Laundering and Combating the funding of Terrorism in Banks and other Financial institutions Regulations 2013' <<https://bit.ly/3fzNZj3>> 11 November 2020

#### 5.4.6. Anti-Money Laundering and Combating the Funding of Terrorism in Banks and Other Financial Institutions Regulations (2013)

Regulation 21 in the above law extends the application of the MLA and the 2013 Regulations to operators who transfer value on behalf of their customers.<sup>33</sup> It provides that the CBN must register and license natural and legal persons who offer this service under the MLA 2011. The above is aimed at bringing these operators within the application of the MLA. The above provision suggests that exchanges providing value transfer services may be under the control of the CBN and other enforcement agencies. It, however, does not resolve most of the issues raised above on the implementation and enforcement of relevant provisions. Similar to the above, the Terrorism Prevention Act 2011 and other relevant laws and regulations which apply to existing financial transactions that CUI mirrors may equally apply by extension to CUI.

#### 5.4.7. CBN's Circular to Banks on Cryptocurrencies

Through this circular, the CBN attempted to regulate CUI at the points of intersection of cryptocurrencies with FCs. The circular focused on exchanges that deliver services connected to the conversion of cryptocurrency to Fiat Currencies (FC) and vice versa, on behalf of their customers. However, the CBN does not assert direct control. Rather, it mandates that commercial banks monitor their customers engaged in the business of exchanging cryptocurrencies and FCs. According to the circular, commercial banks must ensure that these customers have an effective anti-money laundering and terrorism financing controls in their operations.<sup>34</sup>

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<sup>33</sup> Ibid

<sup>34</sup> CBN, 'Circular to Banks and other Financial institutions on Virtual Currencies' Operation in Nigeria' (January 12, 2017) <<https://bit.ly/34mIsWy>> 30 July 2020; CBN, Press Release: Virtual Currencies not Legal Tender in Nigeria (February 28, 2018) <<https://bit.ly/3uponta>> 9 September 2020

Notwithstanding that this, as the first step in controlling the activities of exchanges, represents a step in the right direction, the directive raised more issues than it solves. First, it overstretches the traditional roles of commercial banks in an attempt to control unrestrained actors. It suggests the need for continuous surveillance of the activities of banks' customers. Performing the above function could place banks in situations which are beyond their expertise and resources. Second, the directive is silent on the implication of failure to comply with this directive. Furthermore, what will be the consequence if banks are unaware that their customers are cryptocurrency exchangers?<sup>35</sup> Does this exonerate them from the implications of failing to comply with the above directive? As held by the court in *Rise Vest Technologies Limited and Ors v CBN and Ors*, the court found that CBN directives lack the force of law.<sup>36</sup> This raises the question of the implications of non-compliance for banks.

#### 5.4.8. Nigerian Payments System Risk and Information Security Management Framework (2020)

The Payment System Risk and Information Security Management Framework is another regulatory document issued by the CBN. It applies to the settlement of naira and non-naira transactions involving users in Nigeria. The CBN designed the Framework to guide operators and users of the payment systems across Nigeria.<sup>37</sup> The rules are designed to limit the common risks associated with payment systems in Nigeria. The rules identify systemic risk, credit risk, settlement risk, liquidity risk, operational risk, compliance risk, legal and regulatory risks. It

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<sup>35</sup> Particularly, where cryptocurrency exchanges do not rely on bank channels but transact in cash or where the pattern of transaction with their bank accounts do not suggest details of their businesses

<sup>36</sup> 'Nigerian court lifts bank freeze on firms accused of buying crypto' Reuters (26 October 2021) <<https://reut.rs/3CjtOPe>> 27 October 2021; Bolanle Olabimtan, "A mere circular is not law"; Court faults CBN, unfreezes Rise Vest's accounts' The Cable (26 October 2021) <<https://bit.ly/3ohNMFv>> 21 November 2021

<sup>36</sup> *ibid*

<sup>37</sup> CBN, Nigerian Payment System Risk and Information Security Management Framework' July (2020) <<https://bit.ly/3vwvuBu>> 16 October 2020. 2

reiterates the need for private-public partnerships to mitigate risks to Nigeria’s financial sector, among others.<sup>38</sup> The Framework equally highlights faster and better intra-scheme and inter-scheme dispute resolution measures to promote confidence in Nigeria’s payment system.<sup>39</sup> Notwithstanding that the scope of the Framework includes both local and international currency-based payment systems.

The Framework provides that:

[its] scope ... also **includes** any payment system based or operated in Nigeria that engages in the settlement of non-naira transactions ... and those that operate across the Nigerian borders ... along with their infrastructure providers and the Payment Service Providers (PSPs) that make up these systems. (Author emphasis)

The use of the word “includes” in the above suggests that the highlighted activities are not exhaustive. Although the Framework refers to national payment systems as being within its control, CUI occurs independently of these systems. The framework equally states that it does not apply to physical cash movements and a list of activities which has no similarity with cryptocurrency market-related activities or CUI. Thus, it is unclear if the Framework applies to CUI. And if it does, what operators and aspects of the markets it will apply to are also in question.<sup>40</sup>

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<sup>38</sup> *ibid*

<sup>39</sup> The committee has membership drawn from payment scheme boards, several working groups and representatives of end-users. See *ibid*, Paragraph 5.2 Regulation 10

<sup>40</sup> *ibid*. 2

### 5.4.9 Guidelines on Operations of Electronic Payment Channels

These Guidelines were made in response to the risks inherent in the use of payment solutions.<sup>41</sup> The Guidelines target local electronic payment channel operators and international operators who cater to the local market.<sup>42</sup> It contains several measures aimed at limiting the risks associated with their operation and interaction with consumers and the local economy. Primarily, the Guidelines provide for the licensure of market operators. This places operators under the CBN's supervision.<sup>43</sup> The Guidelines equally have provisions to help mitigate each of the risks identified above. For instance, its minimum standards and technical specifications for web acquiring services are mandatory for the operation of a payment system service.<sup>44</sup>

The principles governing web acquiring services appear to be wide enough to cover operators who transfer cryptocurrencies on behalf of others. This is because the principles accommodate all transfers of monetary value, which accommodates services connected with non-fiat/cryptocurrencies, over merchants' websites.<sup>45</sup> Since the Guidelines apply to payment systems that settle non-naira transactions both within and outside Nigeria, they may apply to cryptocurrencies which undeniably represent monetary value.<sup>46</sup>

#### 5.4.1.0 Exposure Draft of Sandbox Regulation (2020)

The Exposure Draft of Sandbox Regulation 2020 is another significant policy document with a bearing on cryptocurrency markets and CUI. The Regulation's bearing on CUI arises from

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<sup>41</sup> *ibid* 34

<sup>42</sup> The risks include systemic, credit, liquidity, operational, settlement and legal risks. *ibid*

<sup>43</sup> CBN, Guidelines on Operations of Electronic Payment Channels in Nigeria (July 2020). <<https://bit.ly/2Th9nRa>> 07 September 2020. 34

<sup>44</sup> *ibid*

<sup>45</sup> *ibid.* 34

<sup>46</sup> *ibid.* 2

the status of cryptocurrencies as innovative financial products which are the focus of the Sandbox Regulation. The implication of the Regulation for cryptocurrencies and CUI will be returned to shortly. First, we must consider the mischief that the regulation seeks to cure and how it aims to do this.

The Sandbox initiative was conceived to balance the need to encourage innovations and limit the risks of permitting complex innovations within the financial services sector. It is a mechanism for introducing innovations into the local banking sector and economy by testing these within a safe and contained environment in the first instance. The Exposure Draft of Sandbox Regulation 2020 provides for the operation of the Sandbox Testing of financial innovations. The Sandbox operation's mechanisms for safety are threefold.

First, financial innovations are tested on a limited number of consumers considering that it is much easier to control smaller end-users.<sup>47</sup> If properly managed, the lessons from the tests should promote regulatory efficiency when the products are finally introduced into the market. Second, the testing phase is for a specified period. The Guidelines allow a testing period of six months for each product.<sup>48</sup> Finally, increased reporting mechanisms and regulatory scrutiny are present during the project testing phase. The burden of identifying and reducing risks lies on operators.<sup>49</sup> The CBN's role is limited to admitting participants and overseeing the sandbox operation. The Sandbox Regulation is essential for encouraging solutions to financial market needs if properly implemented.

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<sup>47</sup> *ibid*

<sup>48</sup> CBN, Exposure Draft of Regulatory Framework for Sandbox Operations' (June 2020) <<https://bit.ly/3yShLHL>> 2 September 2020. 13

<sup>49</sup> *ibid* 1

Shifting to the possible connection between cryptocurrency markets, CUI and the sandbox, the scope of the Guidelines in this regard is uncertain. While an area of overlap exists given that cryptocurrencies are financial innovations, the Guidelines exclude their application to certain products including those already rejected by regulators.<sup>50</sup> The above exclusion may not apply to cryptocurrencies considering that regulators have not rejected all use of cryptocurrencies but their use as currency. Chapters 2 and 4 note that Nigerian regulators recognise cryptocurrencies as securities and commodities.<sup>51</sup> The implication of a partial acceptance/rejection on the applicability of the above provision is currently not clear.<sup>52</sup> The use of cryptocurrency market-related products which have not been expressly rejected may be allowed if they do not undermine the CBN's ability to promote efficiency within the financial sector.<sup>53</sup>

The foregoing shows a complex web of banking sector rules. It equally shows that cryptocurrency markets and certain aspects of the Nigerian currency and banking regulations share common grounds. This suggests that some of these laws which apply to the latter have a clear bearing on the former. While some of the laws could be argued to apply by analogy, there are grey areas that require specific regulatory pronouncements for clarity. For instance, clarity is needed on the scope of the applications of each of the laws to CUI. The next section turns to the securities sector regulation and its bearing on cryptocurrency markets and CUI.

## 5.5 Financial services regulation in Nigeria: Investments and securities

The regulatory framework for the securities sector is less complicated compared with the banking sector regulation explored above. The Securities and Exchange Commission (SEC) is

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<sup>50</sup> *ibid*

<sup>51</sup> The next section expands on this

<sup>52</sup> The CBN also warned users against the uncertainties of cryptocurrencies. See CBN's warning: CBN (n 34)

<sup>53</sup> These include financial sector stability, fair treatment of customers, money laundering concerns and healthy competition within the payment systems facet of the financial sector. *ibid.* 5



the main regulator of securities and investments in Nigeria. Other regulatory bodies perform ancillary regulatory functions. The Corporate Affairs Commission (CACom) which oversees the general operation of companies in Nigeria is worthy of mention at the beginning of this evaluation. The CACom acts as the gatekeeper to not just securities companies, but all registered companies in Nigeria. Not only does it ensure that securities companies are validly registered under Nigerian law, but it equally monitors registered companies by requiring that these companies fulfil post-incorporation filing requirements in line with the CAC Act 2020.<sup>54</sup> The CaCom also enforces rules on fair treatment of the subscribers of securities companies.<sup>55</sup> To a certain extent, this duty overlaps with the SEC's function as the principal investment/securities regulator. Finally, the Federal High Court and the Investment and Securities Tribunal have adjudicatory powers over matters that touch on securities and investment in Nigeria.<sup>56</sup>

Turning now to the SEC. As the main regulator of the investment and securities markets in Nigeria, the core functions of the SEC include maintaining market stability, improving investor confidence and the protection of investors.<sup>57</sup> The SEC delivers on these by controlling the entry and exit points of securities companies through mandatory registration of products and maintaining surveillance of the activities of securities companies. While the SEC has evolved in response to complex market developments since its creation, its evolution has not matched the level of sophistication of current-day markets. Evidence of regulatory deficiencies can be observed within the Nigerian investment and securities sector.<sup>58</sup> The increase in unfair market

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<sup>54</sup> Section 7(1) Company and Allied Matters Act 2020

<sup>55</sup> *ibid*

<sup>56</sup> *ibid.* section 570; section 274 ISA 2007

<sup>57</sup> Section 13 ISA 2007

<sup>58</sup> On the market realities, see Adelegan OJ and Ariyo 'A Capital Market Imperfections and Corporate Investment Behaviour: A Switching Regression Approach Using Panel Data for Nigerian Manufacturing Firms' (2008) *Journal of Money, Investment and Banking*, Issue 2: 16-38; Arumah Oteh, 'Presentation on the Nigerian Capital Market by the Securities and Exchange Commission for the April 2012' Public hearing organised by the ad-hoc Committee on Capital Market, House of Representatives of the Federal Republic of Nigeria.

practices and the local impact of the capital market crash of 2009 are manifestations of the above.<sup>59</sup> For instance, the latter was driven by inadequate information on investments. The defective investor protection regime also exacerbated the impact of this crisis on investors and the economy.<sup>60</sup>

The SEC recognises the need to strike a balance between the competing goals of promoting innovation and protecting the securities sector.<sup>61</sup> To enable this, the SEC highlights a three-pronged approach. These are promoting market integrity and investor safety, facilitating innovation to serve investor needs and adapting innovation to enhance regulatory supervision and promote regulatory compliance.<sup>62</sup> The need to achieve each of the above within the securities aspects of CUI is apparent. As discussed in Chapter 1, the SEC has passed through three major stages of cryptocurrency regulation in its quests to meet these regulatory objectives within CUI. The first, which is between 2015 and 2019, is characterised by the agency's cautious disposition towards cryptocurrencies and related activities. The SEC's objective of protecting the securities sector was prioritised.

Accordingly, the SEC issued public statements on the potential risks to investors/potential investors.<sup>63</sup> It adopts a "name and shame" approach by publishing the names of businesses involved in cryptocurrency-related ventures on its website in addition to advising investors to

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<<https://bit.ly/3wLMSCA>> 23 September 2020: Godwin Chigozie Okpara, Analysis of Capital Market Performance and the Growth of the Nigerian Economy: A Cointegration Approach (September 2010) Global Journal of Human Social Science Vol.10 Issue 4 (Ver 1.0) 10

<sup>59</sup> Lack of trust in the investment sector and investor apathy in Nigeria were some of the outcomes of the 2007 global financial. See CBN Governor Sanusi Lamido, The Impact of the Global Financial Crisis on the Nigerian Capital Market and the Reforms' (May 27, 2011) <<https://bit.ly/3uqqjS6>> 10 July 2020; Kamaldeen Ibraheem Nageri, Rihanat Idowu Abdulkadir 'Is the Nigerian Stock Market Efficient? Pre and Post 2007-2009 Meltdown Analysis' Studia Universitatis (2019) Vasile Goldis" Arad – Economics Series Volume 29: Issue 3, 56; Mike Ozemhoka Asekome & John Abieyuwa Aihie, 'Stock Market Volatility, Melt Down and Investor Apathy: What Future for the Nigerian Stock Market?' (2017). Advances in Social Sciences Research Journal, (425) 222

<sup>60</sup> Sanusi ibid

<sup>61</sup> SEC, 'SEC innovative objective', <<https://sec.gov.ng/finport/>> July 14, 2020

<sup>62</sup> Ibid

<sup>63</sup> SEC, 'Public Notice on Investments in Cryptocurrencies and other virtual currencies' (January 12, 2017) <<https://bit.ly/34w1YSO>> 25 June 2020

avoid patronising these actors.<sup>64</sup> Similar to the CBN's approach, these warnings are driven by the absence of legislation from which regulators could draw to protect consumers/investors interacting within cryptocurrency markets in Nigeria. This significant gap in legislation limits the SEC's powers to control cryptocurrency markets and CUI. Additionally, in its several warning to the public, the SEC admitted to having an inadequate understanding of how cryptocurrency markets operate and, consequently, lacks the capacity to implement laws within such a complex market.<sup>65</sup>

The second stage, which started after 2018, was characterised by a more accommodating disposition towards cryptocurrencies. This response was driven by the increased adoption of cryptocurrency in Nigeria. The SEC had to reconsider its regulatory disposition towards CUI primarily because of the potentially devastating impact of widespread cryptocurrency use on the securities sector and the economy. A friendlier disposition and clarity on the regulation of CUI could help the SEC leverage FinTech innovations for a more robust securities sector. With the above considerations, the SEC formed the Blockchain and Virtual Financial Assets Working Group in September 2019 to assess the status of cryptocurrencies and the possible ways to regulate CUI.<sup>66</sup> Among others, the working group was given the mandate to deliberate on and develop, a framework for regulating blockchain and cryptocurrencies in Nigeria.<sup>67</sup> This committee made several recommendations. Most significantly, they suggest that Nigeria could only leverage the technology through regulation. They recommend that cryptocurrencies should be classified and regulated as securities or commodities.<sup>68</sup>

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<sup>64</sup> See SEC, 'Re: Activities of An Illegal Operator IBSmartify Nigeria', (26 June 2020) < <https://sec.gov.ng/re-activities-of-an-illegal-operator-ibsmartify-nigeria/>> July 14, 2020

<sup>65</sup> The SEC later inaugurated a committee to help it understand how the market operates and how to regulate cryptocurrencies

<sup>66</sup> Cryptoguru 'Nigeria Capital Markets Authority Accepts FinTech Report Specifying Cryptocurrencies as Securities' (2019) < <https://bit.ly/379WQTW>> December 31, 2019

<sup>67</sup> *ibid*

<sup>68</sup> *Ibid*

In line with the above recommendations, the SEC issued a statement on digital assets, their classifications and treatments. While the statement is not a law, it is a legal instrument with certain legal implications for cryptocurrencies. It specified the laws which apply to cryptocurrencies when they fit the description of traditional securities or commodities. Some of the provisions of the statement are examined below.

### 5.5.1. Statement on Digital Assets and their Classification and Treatment

(September 14, 2020)

The SEC's Statement on digital assets and their classification and treatment describes cryptocurrencies as crypto-assets, i.e. security and commodity tokens.<sup>69</sup> The statement clarifies that current legislation and rules on securities and commodities apply to crypto-assets. The significance of the statement is that it establishes the default security status of crypto-assets until the contrary is proven.<sup>70</sup>

Furthermore, it identifies the need to register Initial Coin Offerings (ICO) and crypto-assets in line with the requirements of existing securities/assets.<sup>71</sup> The statement provides that no ICO or crypto assets must be issued to investors in the Nigerian market unless these have been approved by the SEC.<sup>72</sup> The statement relies on the main securities legislation in Nigeria, the Investment and Securities Act (ISA) 2007 as the primary law on securities aspects of CUI. This suggests that the provisions of the Act which touch on the registration of assets govern CUI in

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<sup>69</sup> SEC, 'Statement on Digital Assets and their Classification and Treatment' (17 September 2020) <<https://bit.ly/3yK9qW5>> 22 September 2020

<sup>70</sup> *ibid*

<sup>71</sup> See Chapter 2

<sup>72</sup> SEC, 'Re: Activities of An Illegal Operator IBSmartify Nigeria', (26 June 2020) <<https://bit.ly/3c64EIA>> July 14, 2020. See also sections 28 and 315 ISA 2007 for products or services that are securities

Nigeria. Other provisions of the ISA may also apply provided it is compatible with SEC's updated regulatory pronouncements.

Consequent to their connection with cryptocurrency markets as identified above, it is important to identify and review the provisions of the ISA 2007 which may apply to crypto-assets. The provisions of the ISA that have a bearing on the SEC's statement will be returned to shortly. The SEC's latest approach to cryptocurrencies and CUI and the facts that inform this position must be highlighted first.<sup>73</sup> The SEC's latest disposition towards cryptocurrencies and CUI was informed by the CBN's ban on certain cryptocurrency-based activities in 2021. The CBN has been consistent in its cautious disposition towards cryptocurrency use since the first time it issued a statement on CUI in 2017. It has been consistent on the fact that banks and financial institutions must avoid engaging in the use of cryptocurrencies or processing cryptocurrency-related transactions. In February 2021, the CBN went a step further by issuing a circular to banks to close the accounts of their customers who render cryptocurrency-exchange services. The CBN did the above while maintaining that it does not outlaw the use of cryptocurrencies in Nigeria. Chapter 6 expands on the validity of this position under Nigerian laws.

However, the above circular represents a significant hindrance to the adoption and use of cryptocurrency within formal channels in Nigeria.<sup>74</sup> The vital role of exchanges within cryptocurrency markets and their ability to help promote safer CUI in Nigeria are significantly undermined if they cannot own bank accounts. Additionally, the circular was irreconcilable with the SEC's move to regulate cryptocurrencies as securities and commodities. It thereby raises the need for better coordination among regulators already touched on in section 5.2 above. A week after the CBN issued the above circular, the SEC issued a notice on its intention

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<sup>73</sup> See Chapter 1 for the SEC's previous statements on cryptocurrencies

<sup>74</sup> See *ibid*

to discontinue its earlier plan to regulate crypto-assets. Having explained why the SEC suspended its intention to regulate crypto-assets and CUI, this evaluation now explores the provisions of ISA that would be applicable under the SEC's statement on crypto-assets. The sections also identify provisions that have a bearing on CUI regardless of the intention of the SEC to suspend the regulation of crypto-assets and CUI. This exercise is necessary considering that the use of cryptocurrencies as securities in Nigeria is currently not illegal. Finally, the failure of the SEC to act has limited bearing on the applicability of the ISA, an existing legislation in Nigeria, to CUI.

### 5.5.2. Investment and Securities Act (ISA, 2007)

Section 13 of the ISA 2007, which empowers the SEC to register businesses who issue securities/investments before they could issue securities in Nigeria, is the starting point. Additionally, part VIII-A of the ISA addresses the registration of securities of public companies and Collective Investment Schemes. Part VIII- C prescribed punishment for corporate bodies who contravene the rules on registration and operation. Parts IX provides for public offers, sale of securities and invitations to the public. Part IX of the ISA applies to the conduct of securities business while part IX – governs trading in securities. Each of the above provisions is relevant to the securities treatment of cryptocurrencies.

A combined application of the ISA 2007 and the Company and Allied Matters Act (CAMA) 2020 suggests that securities companies could either be private or public depending on the number of their shareholders and the company's capital.<sup>75</sup> The ISA focuses on the operations of public securities companies. Considering that the cap for private companies is 50

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<sup>75</sup> See sections 19 and 24, CAMA 2020; See also Part B of the ISA 2007

shareholders, most crypto asset companies potentially fall under the public company divide.<sup>76</sup> Besides, the increased cost of engaging in crypto assets businesses and the spread of investors are areas of commonality with public investment companies. The risks of complicated ventures that bring about the convergence of multiple dispersed investors are some of the reasons why the ISA has detailed legislation and a robust supervision regime for public companies.<sup>77</sup> For instance, the widespread impact of the failure of public investment companies on the securities sector is a significant risk that regulators aim to prevent.

In addition to the general provisions in the ISA on securities companies, specific provisions are contained in PART VIII - B - sections 60 – 65. The part on “Corporate Responsibility of Public Companies covers issues ranging from “systems of internal control” to “disclosure of quarterly earnings forecasts” by listed public companies.<sup>78</sup> To maintain a comprehensive regulatory regime within the constantly evolving securities sector, the SEC modifies and gives life to the provisions of the Act issuing rules and regulations periodically. The SEC’s issuance of periodic guidelines is backed by the ISA 2007. Some of the regulations issued by the SEC in the exercise of the above power that are of greater relevance to the regulation of cryptocurrencies and CUI are examined below.

### 5.5.3. Securities and Exchange Commission Rules and Regulations (2013)

The SEC’s rules and regulations apply to all participants within the securities sector. The constantly evolving nature of the securities sector means that the SEC updates rules to resolve regulatory issues as they emerge. Easing regulatory processes, clarifying issues and accommodating new activities within the securities sector are some of the reasons why the SEC

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<sup>76</sup> See *ibid* section 19

<sup>77</sup> Section 13 ISA 2007

<sup>78</sup> *Ibid* sections 61 & 64

has updated its rules in the past. While the SEC makes these rules and regulations in consultation with market representatives and other stakeholders, regulated actors are responsible for keeping themselves abreast of the latest rules and implementing them as published by the SEC.<sup>79</sup>

In 2013, the SEC published new rules on securities exchanges, market operators, offers, collective investment schemes and mergers and acquisitions.<sup>80</sup> The SEC's amendment on the rules on electronic offerings is noteworthy considering that cryptocurrencies could overlap with existing securities offered through electronic means. The amendment places the coordination, operation and implementation of the SEC's rules on security offerings on registered Eligible Service Providers (ESPs).<sup>81</sup> It also charged ESPs with maintaining the integrity and security of the system.<sup>82</sup> The similarities between cryptocurrencies and electronic shares may be advanced in support of the argument that the above rules should apply to CUI. Certain issues are brought to the fore if the above provision applies to CUI. One of the key questions is whether the status of ESPs is restricted to the class of actors backing Initial Coin Offerings (ICO). Additionally, to what extent can the SEC maintain effective control over the securities aspects of CUI considering that not all cryptocurrencies/crypto-assets are introduced to the market through ICOs?

#### 5.5.4. Nigeria Investment Promotion Commission Act (NIPC Act, 2004)

The NIPC Act is another piece of legislation that is related to the securities aspects of CUI in Nigeria. The NIPC Act established the NIPC to attract and promote investments in Nigeria.

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<sup>79</sup> SEC, SEC's Rules and Regulations, 2013 <<https://bit.ly/3wO1TDG>> 29 October 2020

<sup>80</sup> *ibid* 1

<sup>81</sup> SEC, New Rules and Sundry Amendments as of October 14, 2019, <<https://bit.ly/3c3kzYj>> 29 October 2020

<sup>82</sup> *ibid*



The NIPC achieves this by assisting investors in initiating investment opportunities. It also develops and oversees measures capable of improving the investment climate in Nigeria.<sup>83</sup> The role of the NiPC raises the risk of conflict between regulators. This manifests where the NIPC maintains a positive disposition towards cryptocurrencies and their use while other agencies are more cautious in accepting crypto-asset investments. The SEC's directive that crypto-assets market operators must register and abide by local rules constitutes an example. The above conflicts with the interest of the NIPC's duties, particularly the duty to assist investors in establishing businesses in Nigeria.

Conflicting messages confuse the public. Take, for instance, the NiPC's mandate of promoting investment, including cryptocurrency start-ups.<sup>84</sup> The NiPC considers the location of Bitcoin Automated Teller Machines (ATM) in Nigeria a positive event for the Nigerian investment climate.<sup>85</sup> The above view is in direct conflict not only with the disposition of the SEC towards cryptocurrency-related activities but also with the regulatory pronouncements of the CBN on cryptocurrencies. The introduction of Bitcoin ATM to ease access and conversion of FCs and cryptocurrencies touches upon the CBN's role as the regulator of payment systems. It also touches upon the SEC's regulation of the securities sector. Both the CBN and the SEC had repeatedly warned the public against using cryptocurrencies while the former demanded that banks avoid dealing in cryptocurrencies. The conflicting aims of the NIPC, on the one hand, and the CBN and SEC, on the other, highlight a point of tension among regulators. The above raises the need to develop mechanisms for reconciling regulatory conflicts.

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<sup>83</sup> Section 4 (b) NIPC Act 2004

<sup>84</sup> NIPC, 'Bitfxt Raises N5.45 billion to Develop Cryptocurrency Infrastructure' 19 February 2020  
<<https://bit.ly/3fB1MWu>> 09 October 2020

<sup>85</sup> NIPC, 'Firm Launches First Bitcoin ATM in Nigeria' (July 14, 2020) Sourced from Daily Trust Newspaper.  
<<https://bit.ly/3vEg8ek>> 9 October 2020

In sum, the securities sector regulation that applies to CUI is less complex than the banking and currency regulation examined in the previous section. The securities regulatory framework presents some uncertainties surrounding the application of existing rules to certain aspects of CUI. Beyond the complexities, regulatory conflicts are also apparent within securities' regulatory framework. The conflicts between the NIPC and the SEC on the one hand and that between the SEC and the CBN on the other are examples.

## 5.6. Financial services regulation in Nigeria: Commodities

The commodities sector encompasses a vast number of commodities traded in Nigeria and the markets within which they are traded. Several agencies regulate the commodities sector. The agency in charge is often determined by the type of commodity under review since commodities may be pure or derivative. The Nigeria Agency for Food Drugs Administration Control (NAFDAC) and SON are regulators of different pure commodities. The Federal Competitions and Consumer Protection Commission (FCCPC) has an overarching regulatory scope on commodities where activities touch on consumer protection.

Turning now to commodities derivatives. These encompass specific financial instrument types such as bonds, interest rates, stocks, currencies traded within the forex market and spot and futures contracts of commodities. Cryptocurrencies share certain similarities with financial instruments highlighted above. Consequently, the Nigerian regulatory framework for financial instruments will be the focus of this section.

The SEC, which supervises the securities sector, is the major regulator of the commodities derivatives markets in Nigeria. Similar to its aims in the securities market, the SEC promotes commodities market stability, growth and development. It works to prevent systemic risks or

limit their impact should they occur. The role of the SEC also includes the promotion of distributional justice motives within the securities market.<sup>86</sup> However, the degree of the SEC's supervision of both securities and commodities sectors is not uniform. The limited level of the SEC's success in regulating the derivatives market is commensurate with its limited focus on the sector. The rules on financial or currency-based commodities are inadequate. The SEC's warnings on cryptocurrencies illustrate its limited focus on the commodities derivatives market. The warning merely identified that cryptocurrencies are not securities under Nigerian law, it fails to comment on these aspects of CUI and cryptocurrency markets.<sup>87</sup> However, this initial position was slightly departed from in 2020 when the SEC, in its statement on virtual assets, classed cryptocurrencies as securities or commodities. There are still limited pronouncements on the cryptocurrency derivatives markets like cryptocurrency swaps and futures in the SEC's 2020 statement.

Having identified the regulators charged with regulating the commodities sector in Nigeria, the next section now turns to policy pronouncements and regulatory provisions with bearing on cryptocurrencies as commodities. The SEC's Statement on Digital Assets and Their Classifications is the starting point.

### 5.6.1. Statement on Digital Assets and their Classification and Treatment

(September 24, 2020)

The SEC classifies crypto-assets that lack securities status as commodities. The statement draws from the connections between crypto-assets and the commodities offered within the

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<sup>86</sup> These are in line with public interests in the commodities market. See Technical Committee on Commodities Trading Ecosystem, 'A Report on Commodities Trading Ecosystem in Nigeria' (2018) 45 <<https://bit.ly/3z3dPDI>> 01 06 2021

<sup>87</sup> SEC, The securities and commodities regulator in Nigeria: Public Notice on Investments in Cryptocurrencies and other Virtual or Digital Currencies (2017) <<https://bit.ly/3l4gsyu>> 25 June 2018

Nigerian market. The statement added that crypto-assets include non-fiat virtual currencies, utility tokens or “non-security tokens.”<sup>88</sup> Significantly, the SEC attempts to bring crypto commodities under regulatory control by mandating their registration. The statement clarifies that only crypto assets which qualify under the SEC’s definition of commodities are registrable. There is a pre-registration requirement that operators must comply with. Operators must file initial documents to help the SEC determine the status of the products under review as commodities or securities. A determination that the assets are commodities means that their operators can proceed to register them with the SEC.

The statement also highlighted that derivatives and collective investment funds of crypto assets, security tokens and utility tokens are specified investments or collective investment schemes that must be registered with the SEC.<sup>89</sup> These products are bound by the principles and rules established by the ISA 2007 and the SEC Rules and Regulations.<sup>90</sup> Considering its relevance to the SEC’s treatment of crypto assets, this analysis now turns to the provisions of ISA 2007 on commodities.

### 5.6.2. Investment and Securities Act (ISA, 2007)

As stated above, the ISA does not contain extensive provisions on commodities.<sup>91</sup> The word “commodity” is mentioned only four times in the 165-page legislation and each of these occurrences has connections to securities. The ISA’s sparse provision on commodities and their derivatives is not entirely problematic considering that the ISA defines securities as financial

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<sup>88</sup> SEC, ‘Statement on Digital Assets and Their Classification and Treatment’ (17 September 2020) <<https://bit.ly/3fAuB5f>> 22 September 2020

<sup>89</sup> *ibid*

<sup>90</sup> *Ibid*

<sup>91</sup> The Technical Committee on Commodities Trading Ecosystem (n 86). 46

products and services which include commodities derivatives.<sup>92</sup> Different rules may apply at the products' points of detail.

To counterbalance the legislative gaps which may occur, the Act empowers the SEC to issue guidelines to market operators whenever required. While the exact number of guidelines that the SEC has issued on commodities market/operators is entirely unclear, the frequency with which these rules and principles are issued is disproportionate to the number of directives issued on investment and securities. Some of the SEC's rules and regulations on commodities are examined below.

### 5.6.3. Securities and Exchange Commission Rules and Regulations (2013)

The SEC updated its Rules and Regulations on commodity derivatives in December 2019. The amendment defines the parties to a derivatives contract and expands on the process for registering contracts on behalf of exchanges and clearing members, i.e. registered banks. The document prescribes rules guiding clearing and settlements while it empowers exchanges to make rules for derivatives trading.<sup>93</sup> It reiterates the duty of participants to provide accurate information and places surveillance obligations on exchanges.<sup>94</sup> The violation of any of the rules attracts a monetary penalty.<sup>95</sup> The SEC's statement on the treatment of virtual assets indicates that the rules have a bearing on cryptocurrency derivatives markets. These implications, considering the SEC's suspension of its plan to regulate cryptocurrencies and CUI, remain unclear.

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<sup>92</sup> Section 315, ISA 2007

<sup>93</sup> EC's Rules and Regulations, 2013 < <https://bit.ly/2UX81w0> > 29 October 2020. Rules 5, 6 and 11

<sup>94</sup> *ibid.* Rules 7 and 8

<sup>95</sup> *ibid.* 13

#### 5.6.4. Commodities Exchange Bill (CEB) (2015)

The Commodities Exchange Bill, which is currently at the Second Reading stage at the Nigerian House of Representatives, also has implications for crypto-commodities. The creation of a commodities exchange commission is one of the CEB's significant contributions to the regulation of commodities. This means the removal of commodities regulation from the SEC's control. The driving force behind this change could be the inadequate legal coverage of the commodities sector while under the SEC's supervision. The Bill consolidates the rules on commodities and their derivatives to provide a more robust financial services sector. This means that crypto-commodities and their derivatives will be under the purview of the CEB and within the scope of the Commodities Exchange Commission when the CEB becomes law.

Beyond the body of rules identified above, other legislation like the Company and Allied Matters Act (CAMA) 2020 and the Federal Competition and Consumer Protection Act (FCCPA) 2018 equally apply to certain aspects of the commodities derivatives market. The FCCPA promotes competition and consumer rights in the commodities derivatives market. The Corporate Affairs Commission (CAC), which regulates companies and their interactions with shareholders, performs these functions in the Nigerian commodities sector. The CAC requires periodic self-reporting for companies to monitor their operations. These laws will continue to apply to cryptocurrency derivatives and CUI in Nigeria except if there is a shift in the above position through the enactment of new legislation or amendment of old ones.

In sum, the commodities sector in Nigeria has not been subjected to the same level of regulatory scrutiny as the securities sector. This could be one of the reasons for its underdeveloped state. The enactment of the Commodities Exchange Bill is a significant step towards regulating commodities and commodities derivatives. Vesting control in a specialised agency as the above

will help facilitate subject matter proficiency among regulators, promote an understanding of crypto-commodities market interactions in Nigeria and, ultimately, *good CUI regulation*.

The above discussion does not present every legislation that CUI touches on in Nigeria. Some of the legislations that have been left out include Federal Competitions and Consumer Protection Act (FCCPA) 2018, Company and Allied Matters Act (CAMA) 2020, Economic and Financial Crimes (Establishment) Act (EFCCA) 2004 and Corrupt Practices and other Related Offences Act (CPRO) 2000. Chapter 6, which evaluates the adequacy of Nigerian laws in solving the issues for CUI regulation, will draw from the provisions of the highlighted laws. In line with this thesis' framing of regulation, private actors equally contribute to the effectiveness of regulation. The next section identifies non-state actors with regulatory powers and their role in the regulation of the Nigerian financial services sector.

### 5.7. Financial services sector: The regulatory role of non-state actors

Notwithstanding that Nigeria's financial sector regulatory model is largely state-centred, non-state actors complement state regulation or, at the least, give effectiveness to state regulation.<sup>96</sup> This section examines the role of industry/private actors in this regard. Additionally, considering that CUI spans several jurisdictions, there is scope for cross-border collaboration and the input of international agencies in promoting public interests. International and regional agencies that have exercised a degree of control over financial services and CUI on the international scene are also identified in this section. Starting with private actors in Nigeria, the next sections classify these actors in line with the three major financial services aspects that CUI touches on namely banking, securities and commodities.

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<sup>96</sup> See Chapter 3

### 5.7.1. Banking sector industry groups

Several professional bodies and trade groups influence banking sector regulation by setting standards for members and effecting behavioural change. These bodies often apply soft law mechanisms in changing the behaviour of their members. In certain cases, these bodies sanction erring members while also shaping products and services. The Chartered Institute of Bankers in Nigeria (CIBN), Association of Senior Staff of Banks (ASSB) and Association of Bureau de Change Operators of Nigeria (ABCON) are prominent industry actors in the Nigerian banking sector. The sections below examine the functions of the CIBN and the ABCON that touch on CUI.

#### 5.7.1.1. Chartered Institute of Bankers (CIBN)

The Chartered Institute of Bankers in Nigeria is a company limited by guarantee established in 1976 to promote and preserve the principles of “truth and honesty” within the Nigerian banking sector. The agency has membership drawn across the Nigerian banking sector. It acts as the gatekeeper to the Nigerian banking profession by determining standards that an individual must attain to become a member and taking away the membership of individuals who act in contravention of the ethics and rules of the body. Its functions include promoting banking education in Nigeria and fostering a sense of mutual loyalty among bankers in Nigeria.<sup>97</sup>

Additionally, the Chartered Institute of Bankers in Nigeria Act 2007 provides for the establishment of an investigative panel to discipline members who breach its rules. It also established a Chartered Institute of Bankers of Nigeria Disciplinary Tribunal to adjudicate on

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<sup>97</sup> CIBN ‘Corporate Information’ <<https://bit.ly/3igqOvD>> 04 June 2021



cases referred to it by the investigative panel.<sup>98</sup> The punishments for breaching the provisions of the CIBN Act range from the offender's name being struck off the registry to fines or imprisonment.<sup>99</sup> The role of CIBN within cryptocurrency markets draws from its connection to the banking business in Nigeria and the role of bankers in giving effect to CBN's directives. As expected, the CBN and the CIBN have a similar attitude to cryptocurrency use and regulation in Nigeria.<sup>100</sup> This means that CIBN members who help exchanges avoid detection and escape the closure of accounts as mandated by the CBN will be contravening the CIBN Act. This act could trigger the imposition of punishments by the CIBN.

#### 5.7.1.2. Association of Bureau De Change Operators of Nigeria (ABCON)

Bureau de change (BDC) operators are prominent actors within the financial services sector. They serve a larger aspect of the foreign exchange market in Nigeria. BDC are closer to the customers and are thus well-positioned to give effectiveness to the due diligence principle. Registered BDC operators have been instrumental in the implementation of the CBN's Foreign exchange policy where this is well articulated. However, the rules which govern the members of the association and their ability to promote a safe FOREX exchange regime in Nigeria remain unclear.

The decentralised nature of the market and dispersed practitioners is a major challenge facing the association. Nevertheless, it has shown promising signs in its quest to overcome these challenges. For instance, it recently applied for the CBN's permission for the ability to register an institute to educate its members. The impact of the proposed institute on Nigeria's foreign

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<sup>98</sup> Section 13 (7) CIBN Act 2007

<sup>99</sup> Section 19. Ibid

<sup>100</sup> CIBN, Communique issued at the end of the seminar titled 'Emergence of new frontiers for Banking and its legal implications' (2017) 4, 7 <<https://bit.ly/3z2mq3>> 04 June 2021

exchange market may be minimal considering the proliferation of black-market operators or actors with informal affiliations with registered operators. The drive towards registering members on an electronic platform will help distinguish between fake and real members.<sup>101</sup> The increased transparency offered on online platforms could be leveraged to reduce the attractiveness of dealing with unregistered actors.

Bureau de Change operators perform similar functions with cryptocurrency exchanges within existing FOREX markets. The local knowledge within the grasp of Bureau de Change on the Nigerian FOREX terrain and collaborations with regulators are essential resources that could help promote public interest principles within CUI as it touches on the role of exchanges. Primarily, cryptocurrency exchanges can draw from the experience of this association in understanding the challenges and opportunities arising from serving Nigerian customers for the purpose of promoting good CUI regulation. For this to happen, the association must first establish and publish principles governing its operations and members. It must also adopt proper mechanisms to discourage the practice of unregistered actors parading themselves as registered operators.

### 5.7.2. Securities industry groups

Industry groups within the securities sector also influence market behaviour by controlling their members in a bid to shape how services are delivered and which products are available within the markets. Industry actors within the securities sector include the Nigerian Stock Exchange (NSE), Association of Investment Advisers and Portfolio Managers (AIAPM), Association of Issuing Houses in Nigeria (AIHN), Fund Managers Association in Nigeria and the newly

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<sup>101</sup> Emmanuel Abara Benson, 'ABCON automates Nigeria's Bureaux De Change, promises better services' (Nairametrics, 6 Feb 2019) <<https://bit.ly/2RoBugQ>> 04 June 2021

proposed Chartered Institute of Securities and Investment Management (CISIM) which will replace the Chartered Institute of Stockbrokers (CIS). The functions of the NSE and the Association of Investment Advisers and Portfolio Managers (AIAPM) and their implications for CUI in Nigeria are examined below.

### 5.7.2.1 Nigerian Stock Exchange (NSE)

The Nigeria stock exchange delivers self-regulatory roles within the securities sector. It was replaced by The Nigerian Exchange Group (NEG) in 2021. Its role encompasses investor protection, regulating dealers on the floor of the exchange and disciplining illicit dealers.<sup>102</sup> The NGX Regulation Limited (NGX REGCO) is a subsidiary of NEG that is in charge of shaping market practices by promoting sound business practices. The regulatory subsidiary operates in accordance with internal rules. Supervision Priorities 2021 is one of the sources of guiding principles. This document highlights the need to better educate consumers and market operators.<sup>103</sup> It lists technology, market integrity, operations and emerging trends as its regulatory focus.<sup>104</sup>

Emerging trends touch on financial technology collaborations. Unregulated products and fraud detection are some of the issues highlighted under the market integrity heading.<sup>105</sup> These were identified in Chapter 4 as regulatory issues within CUI and cryptocurrency markets. The SEC's classification of crypto assets as securities implies that some of these provisions may apply to CUI. The NGX REGCO adopts a combination of persuasive and punitive measures in modifying the behaviour of licenced operators. A breach of insider dealing rule attracts

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<sup>102</sup> See Nigerian Stock Exchange (NSE), Rulebook of the Nigerian Stock Exchange' 2015 <<https://bit.ly/3wVCicd>> 23 September 2020

<sup>103</sup> NGX Regulations Limited 'Supervision Priorities 2021' 3 <<https://bit.ly/3fPN7qD>> 04 June 2021

<sup>104</sup> *ibid* 5

<sup>105</sup> *ibid*

sanctions while the body is less forceful in implementing compliance with global standards for securing investor assets.<sup>106</sup>

#### 5.7.2.2 Association of Investment Advisers and Portfolio Managers (AIAPM)

The Association of Investment Advisers and Portfolio Managers (AIAPM) is the largest organisation of investment portfolio managers in Nigeria. Its membership is drawn from practitioners within the Nigerian investment sector. Its core functions include regulating members to enable a safe investment environment for investors in Nigeria. The IAPM promotes professionalism among its members by establishing standards and enforcing the same. It also offers services and products that will help promote good regulation and help members transform the securities sector into a world-class standard.<sup>107</sup> Investment advisors will play an even more vital role within overly complicated and volatile cryptocurrency markets.

Beyond the above, the cross-border nature of the market suggests that greater risks may be involved with holding cryptocurrencies. While exchanges may advise and warn customers on which assets to trade in and those to avoid, they lack the experience and autonomy to replace investment managers. The experience of seasoned investment managers will help promote individuals' understanding of the risks of using cryptocurrencies. Additionally, exchanges that act as securities issuers cannot be relied upon to offer unbiased and comprehensive advice on the products they offer. The major challenge to enabling this support is the adequacy of investor managers' understanding of cryptocurrency markets and their products. This could be improved upon with sufficient periodic training of investor managers.

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<sup>106</sup> *ibid* 6

<sup>107</sup> IAPM 'about us' <<http://www.aiapm.org/About-Us>> 04 June 2021

### 5.7.3. Commodities sector industry groups

Considering that the commodities sector has not developed at the same pace as securities in Nigeria, fewer industry actors regulate the actors and market activities. The Nigerian Commodities Exchange and Commodities Brokers Association are prominent private actors within the commodities industry. These bodies' functions touch on the pure commodities aspect. The Nigeria Stock Exchange and the Fund Managers Association of Nigeria (FMAN) also perform similar regulatory functions within the commodities derivatives markets in Nigeria. Some of these functions have been discussed under Section 5.1.2 above.

### 5.7.4 Emerging cryptocurrency industry groups

In addition to the above self-regulatory bodies, key industry actors have started emerging in Nigeria. Fintech Association of Nigeria (FintechNGR) and Stakeholders in Blockchain Technology Association of Nigeria (SiBAN) are two significant industry actors. Their roles are examined in turn below.

#### 5.7.4.1 Stakeholders in the Blockchain Technology Association of Nigeria (SiBAN)

SiBAN is one of the first cryptocurrency-related industry groups to emerge in Nigeria. Its membership is drawn from traders, miners, experts, professionals, educational institutes, regulators, enthusiasts and students.<sup>108</sup> It aims to adopt self-regulatory practices to deliver consumer education and boost market confidence while promoting innovation.<sup>109</sup> To educate consumers, the association publishes key cryptocurrency-related events on its website. For instance, the association, after investigating claims, publishes “scam alerts” which publishes the name of culprits including details on how they target cryptocurrency users.<sup>110</sup> SiBAN uses

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<sup>108</sup> See SiBAN, ‘About us’ <<https://siban.org.ng/about-us/>> 07 October 2020

<sup>109</sup> SiBAN ‘Vision, Mission and Objectives’ <<https://bit.ly/3fEb2sN>> 07 October 2020

<sup>110</sup> SiBAN, ‘Beware of Goldman Capital’ (24 September 2020) <<https://bit.ly/3i7uhN7>> 07 October 2020

this tool to limit the future reach and impact of similar fraudulent activities. In addition to the above, SiBAN keeps members informed on other latest events in the cryptocurrency and blockchain ecosystem.

SiBAN's efforts and regulatory activities must be applauded. However, several factors may limit their efficiency in the future. For instance, its ability to balance possible conflicting interests of members remains unaccounted for considering that its membership encompasses groups, such as consumers/investors and market actors, with incompatible interests. Chapter 4 expands on the effect of conflict of interests and tensions generated among consumers, market actors and the state within CUI. Finally, beyond exposing fraudulent actors, it is currently unclear how the agency intends to shape the behaviour of actors outside of their scope of membership within the cryptocurrency ecosystem. Nigeria's legislative mandate empowering private actors, such as the SiBAN, to enforce the rights of innocent parties or even act as catalysts for change in law may be helpful in this regard.

#### 5.7.4.2 Fintech Association of Nigeria (FintechNGR)

FintechNGR is a self-regulatory body established to help facilitate the development of the FinTech industry in Nigeria.<sup>111</sup> It acts as an interface between government agencies, such as the CBN and the SEC on the one hand, and the public on the other as a means to bridge the gap in understanding and knowledge of FinTech products, services and their regulation. Its aims are crucial for the formulation, implementation and enforcement of *good regulation* of CUI considering the complexity of cryptocurrency products. Its membership is drawn from 18 sectors of the Nigerian economy including the financial services sector, researchers, academic institutions and legal practitioners. The FinTechNGR's repository of resources and body of

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<sup>111</sup> FintechNGR <<https://fintechng.org/>> 20 August 2021

experts can be leveraged in understanding complex and dynamic cryptocurrency products as they evolve.

### 5.7.5 International agencies

The cross-border scope of cryptocurrency markets contributes largely to the difficulty with their regulation, particularly as it touches on regulating international actors serving users in Nigeria. Consequently, CUI regulation will benefit from the resources and cooperation of cross-border/regional organisations. The international communities of regulators are yet to advance a common approach to virtual currency/cryptocurrency market regulation. However, a limited level of collaboration can be observed across regional and international regulatory landscapes. Financial Action Task Force (FATF), European Union Agency for Law Enforcement Cooperation (EUROPOL) and European Banking Authority (EBA) are prominent actors on the international regulatory scene. The contributions of each of the above bodies to the regulation of cryptocurrencies on the international scene are highlighted in turn below.

#### 5.7.5.1 Financial Action Task Force

The Financial Action Task Force (FATF) is an inter-governmental agency that seeks to eliminate money laundering and terrorism financing and their implications on society through their policies and measures on anti-money laundering and combating the financing of terrorism (AML/CFT).<sup>112</sup> The emergence of cryptocurrencies represents a turning point for policing money laundering, terrorism financing and similar vices on an international scale considering how they create a pseudo-anonymous tool for perpetrating money laundering across a vast

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<sup>112</sup> FATF, 'Who we are' <<https://www.fatf-gafi.org/about/>> 04 June 2021

cross-border market devoid of adequate regulatory control. The FATF has responded to some of the issues raised by cryptocurrency use and, in 2019, the broader category of virtual assets.

After investigating how to limit money laundering and terrorism financing within these markets, the FATF published a series of guidance on the application of money laundering rules to CUI. The FATF guidance/publications pronounce on the relevance of AML/CFT measures within cryptomarkets. The recommendations therein aim to help national regulators understand and design appropriate responses to cryptocurrencies and other classes of virtual assets.<sup>113</sup> They also seek to guide virtual assets service providers on their obligations to limit the risks of money laundering and financing of terrorism (ML/FT) within cryptocurrency markets.<sup>114</sup>

The FATF guidance issued in 2015 was followed by a revised version in 2019 to account for the risks of ML/FT raised by new classes of “virtual” assets.<sup>115</sup> To further illustrate the rapid evolution of technology and regulators playing catch-up, the 2019 guidance was updated in 2021. This updated version clarifies the expansive definition of constantly evolving virtual assets. It also addresses some of the issues raised by stablecoins, P2P transactions, licensing service providers and their role in implementing the travel rule. Broadly, the guidance reiterates the potential impact of cryptocurrencies and highlighted virtual assets in the fight against money laundering and other illicit market activities.<sup>116</sup> The FATF guidance recommends a

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<sup>113</sup> FATF, ‘Guidance for a Risk-Based Approach: Virtual Assets and Virtual Asset Service Providers’ (2019) <[www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf](https://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf)> 06 April 2022 7

<sup>114</sup> *ibid*

<sup>115</sup> Financial Action Task Force Guidance, ‘Virtual Currencies Key Definitions and Potential AML/CFT Risks’ (June 2014) 9 <<https://bit.ly/3wT50KL>> 04 June 2021; FATF, ‘Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers’ (June 2019) <<https://bit.ly/3wPTm35>> 02 February 2021

<sup>116</sup> FATF, ‘Virtual Currencies Key Definitions and Potential AML/CFT Risks’ (June 2014) 9 <<https://bit.ly/3wT50KL>> 04 June 2021



risk-based approach to eliminating money laundering concerns with virtual assets and cryptocurrencies.<sup>117</sup>

Nigeria is neither a member nor an observer of the FATF. However, Nigeria is affiliated with some observer organisations of the FATF such as the World Bank, Africa Development Bank, Basel Committee on Banking Supervision, Interpol, International Monetary Fund and United Nations. Nigeria's connection to these agencies suggests that the FATF may indirectly shape Nigeria's approach to money laundering regulation. Furthermore, Nigeria could draw lessons from the FATF's approach to limit the impact of illicit use of cryptocurrencies. For the above reasons, some of the recommendations of the FATF's guidance will be touched on below.

As identified above, cryptocurrencies raise money laundering issues considering that they promote pseudo-anonymous transactions across borders in the absence of sufficient regulatory scrutiny.<sup>118</sup> Take, for instance, dash, monero and verge which enable strictly anonymous transfers among users without the potential for identifying users.<sup>119</sup> The protocol powering these cryptocurrencies achieved greater anonymity by preventing a connection between the identities of the users/holders but instead links the public keys to hidden addresses.<sup>120</sup> Cryptocurrencies, including stablecoins, are within the contemplation of the FATF's guidance on virtual assets.<sup>121</sup> It is immaterial that the latter may be centralised, unlike conventional

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<sup>117</sup> FATF, 'Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers' (October 2021) <<https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>> 17 April 2022

<sup>118</sup> Christophe Schinckus, Canh Phuc Nguyen and Felicia Hui Ling Chong, "Are Bitcoin and Ether Affected by Strictly Anonymous Crypto-Currencies? An Exploratory Study," (2021) *Economics, Management and Financial Markets* 16(4): 9, 10.

<sup>119</sup> *ibid*

<sup>120</sup> *ibid*

<sup>121</sup> *ibid*

cryptocurrencies. The fact that they might permit hosted or unhosted wallets or be issued by private parties means that they offer great potential for illicit actors.<sup>122</sup>

With the above factors in mind, the FATF identified several ways in which money laundering issues are exacerbated by the use of cryptocurrencies within the financial services sector.<sup>123</sup> Considering that the effectiveness of anti-money laundering laws is underpinned by properly identifying customers and tracing financial transactions, anonymity risk is key among the concerns raised by the FATF. By virtue of their anonymity and cross-border markets, they may be used to layer and mask the source of illicit funds. The FATF equally considered the volume of untraceable transactions that could occur outside of regulatory scrutiny problematic.<sup>124</sup> It went on to identify their cross-border effect and the fast evolution of the technology as key concerns for limiting money laundering with cryptocurrencies.<sup>125</sup> Western Express International, Silk Road and Liberty Reserve are cases where money laundering risks with connections to cryptocurrencies have manifested.<sup>126</sup>

The FATF proposes a risk-based approach to limiting money laundering and financing of terrorism with a particular focus on cryptocurrencies capable of triggering higher risks.<sup>127</sup> The first significant change brought about by the 2015 FATF Guidance was to bring cryptocurrency market intermediaries, including e-wallet service providers, exchanges, ICO issuers and decentralised application operators engaged in the transfer of value and payment processors, within the definition of financial institutions.<sup>128</sup> This means that ancillary market activities and

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<sup>122</sup> FATF, 'Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers' (October 2021) <<https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>> 17 April 2022

<sup>123</sup> FATF Report, "Virtual currencies key definitions and potential AML/CFT risks" (June 2014) <[bit.ly/3ihLySK](http://bit.ly/3ihLySK)> 9.

<sup>124</sup> *ibid*

<sup>125</sup> *ibid*

<sup>126</sup> *Ibid* 10-12

<sup>127</sup> FATF, "Guidance for a risk-based approach: virtual currencies" (June 2015) <[3ihLySK](http://bit.ly/3ihLySK)> 6

<sup>128</sup> *ibid*

interactions are regulated activities. Money transmission, payment systems, cryptocurrency ATM/vending machines, commodities and securities are highlighted examples of cryptocurrency products and services.<sup>129</sup>

Under the guidance, market actors in member states must apply enhanced due diligence measures, record-keeping and suspicious transaction reporting, particularly with decentralised virtual currencies/cryptocurrencies and related products and services.<sup>130</sup> State actors must ensure that they have efficient enforcement measures in place and sanction erring market actors.<sup>131</sup> The Guidance identifies that international cooperation will be useful for tackling the challenges brought about by the cross-border nature of cryptocurrency markets.

Notable pronouncements in the guidelines include the need to monitor certain transactions. Transactions above the threshold of 1000 USD/euros for “occasional transactions” including those made using cryptocurrency kiosks or ATM must be conducted in line with customer due diligence under existing AML/CFT rules.<sup>132</sup> The purpose of this rule is to fill the gaps caused by the ease of processing remittance across multiple cryptocurrency platforms pseudo-anonymously compared to traditional financial intermediaries. The need to identify customers’ beneficial owners, the purpose and nature of the relationship between parties to a transaction are also worthy of mention.<sup>133</sup> In addition, countries are advised to identify the risks associated with countries from which transactions originate, with a particular focus on countries with weak measures on AML/CFT, prominent organised crime sector, subject to ongoing

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<sup>129</sup> FATF, ‘Guidance for a risk-based approach: virtual currencies’ (June 2015) </3ihLySK> 6

<sup>130</sup> See Chapter 2 on the distinction between centralised and decentralised cryptocurrencies.

<sup>131</sup> FATF, ‘Guidance for a Risk-Based Approach: Virtual Assets and Virtual Asset Service Providers’ (2019) <www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf> 06 April 2022

<sup>132</sup> FATF (n 115)

<sup>133</sup> *ibid*

sanctions/measures and with a history of unsatisfactory policies on AML/CFT.<sup>134</sup> In the above cases, enhanced due diligence, and implementation of the travel rule may be required.

Travel rule, i.e. Recommendation 16, refers to the FATF provision which recommends that service providers collect comprehensive data on the identity of parties to a cryptocurrency transaction and the nature of the relationship between these parties.<sup>135</sup> This information, including name, public key, wallet address and location, must be shared amongst service providers for greater efficiency across the board. The identification of the customer, IP addresses and accessing other corroborating information through blockchain analytics or the Internet are examples of how this can be achieved.<sup>136</sup> Although these provisions appear possible in principle, the use of location masking software may undermine the service provider's ability to access reliable information on the above.

Additionally, there are outstanding issues on how P2P transactions could occur without service providers responsible for implementing the above provisions. In response to the issues raised by P2P transactions, the Guidance noted that P2P transactions are not within the purview of the FATF's AML and FT controls.<sup>137</sup> The above stance of the FATF is explicable considering that the FATF model of regulation targets market intermediaries, not customers themselves, and there are no responsible intermediaries to conduct customer due diligence and report suspicious transactions within the P2P market. However, there is the need to devise the means to regulate interactions within this segment of the market because illicit transactions are more prevalent within the P2P sector compared with transactions made through intermediaries.<sup>138</sup> Already, there is evidence of significant use of key cryptocurrencies such as bitcoin, ether and

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<sup>134</sup> Ibid 50

<sup>135</sup> Ibid 57

<sup>136</sup> Ibid 51

<sup>137</sup> Ibid 18

<sup>138</sup> FATF, 'Second-12-Month-Review-Revised-FATF-Standards-Virtual-Assets-VASPS' (July, 2021) <<https://bit.ly/3y1DAGh>> 17 April 2022, 3

tether on a P2P basis. This is independent of the potential for greater use of cryptocurrencies with enhanced privacy features. Illicit activities within this market divide may increase with greater regulatory scrutiny within the intermediary-dominated markets.<sup>139</sup>

In this vein, the guidance identified the challenges posed by the potential for illicit use, especially where transactions shift to these platforms to avoid state control. The FATF recommends that countries understand the ML/FT risks raised within these platforms.<sup>140</sup> States are advised to continue to monitor the risks in a forward-contemplating manner with a particular focus on accessibility, transparency, transaction fees and security.<sup>141</sup> However, the above may not resolve key issues raised by P2P transactions. To put the problem in proper perspective, the exact size of the P2P market is not clear even with the use of blockchain analytics controlled by private parties/non-state actors.<sup>142</sup> How, then, can states monitor the risks raised within this market, especially with more private cryptocurrencies such as monero? This equally illustrates a potential challenge in determining how such a market can be controlled when significant ML/FT issues are identified.

Beyond the above, the FATF recognises that local realities touching on each of the above issues will differ on a state-by-state basis.<sup>143</sup> As a result, it recommends that states approach risk-based regulation of cryptocurrencies with this awareness in the foreground. Irrespective of each state's reality, the FATF recommends cooperation among regulators for reducing the risks of ML/FT with cryptocurrencies.<sup>144</sup> Licensure of market intermediaries and oversight are good steps in the right direction in the war against illicit activities, including ML/FT within the

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<sup>139</sup> *ibid*

<sup>140</sup> *Ibid* 19

<sup>141</sup> *ibid*

<sup>142</sup> *ibid* 3

<sup>143</sup> FATF, "Guidance for a risk-based approach: virtual currencies" (June 2015) </3ihLySK> 6

<sup>144</sup> *Ibid* 8; FATF, 'Guidance for a Risk-Based Approach: Virtual Assets and Virtual Asset Service Providers' (2019) <[www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf](http://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf)> 06 April 2022, 19

cryptocurrency ecosystem.<sup>145</sup> Cross-border cooperation among stakeholders, i.e. market intermediaries, regulators/policy-makers and law enforcement agencies, is mandatory for a more robust AML/CFT regulation.<sup>146</sup> A similarity of rules across borders will be helpful in this regard.

Finally, the FATF recommends increased vigilance if states decide to prohibit the use of cryptocurrencies or choose not to regulate cryptocurrencies to protect consumers or facilitate the attainment of distributive justice goals. States must have mechanisms in place to limit the ML/FT risks and other illicit use of cryptocurrencies in clandestine markets.<sup>147</sup> As indicated above, the above recommendations, particularly the substantive rules and the need for oversight of market intermediaries, are invaluable to Nigerian regulators for limiting the illicit use of cryptocurrencies.

#### 5.7.5.2 European Banking Authority (EBA)

The EBA is a regional actor which has been actively involved in exploring a *good* regulatory framework for cryptocurrencies and CUI on the international scene. The EBA's opinion on virtual currencies is a significant document that considers the impact of cryptocurrency use on the European Union's economy.<sup>148</sup> The EBA classifies the risks associated with cryptocurrency markets under six main headings. These are risks to users, non-user market participants, financial integrity, existing Fiat Currency (FC) payment systems, service providers and states' financial integrity. The opinion recommends several approaches to regulating cryptocurrency markets. Its significant contribution to the cryptocurrency market regulatory debate is the

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<sup>145</sup> *ibid*

<sup>146</sup> *ibid*

<sup>147</sup> *Ibid* 9

<sup>148</sup> European Banking Authority (EBA), 'EBA Opinion on 'virtual currencies' (Opinion EBA/Op/2014/08) of 4 July 2014 on Virtual Currencies, 2014) 11  
<<https://bit.ly/3cbNFoa>> 19 December 2018

recommendation for a consistent regulatory approach across Europe.<sup>149</sup> A consistent regulatory approach within the international community is equally desirable. However, this may be difficult to achieve.

### 5.7.5.3. European Union Agency for Law Enforcement Cooperation (EUROPOL)

The EUROPOL is an agency of the European Union that aids EU member states in their fight against cybercrime, terrorism and other serious crimes. This agency has held several conferences on enforcing and implementing laws on illicit users of cryptocurrencies.<sup>150</sup> With the help of EUROPOL, states have been able to trace illicit actors and enforce their local laws against them.<sup>151</sup> This suggests that the European Union could be the first regional body to develop a cohesive regulatory framework on virtual currencies.<sup>152</sup> There are no corresponding bodies in Africa for Nigerian regulators to leverage. The development of a regional policing body on cryptocurrency markets and related crimes thus seems farfetched.

In sum, the foregoing builds upon Chapter 3 by identifying the role of non-state actors in regulating or, at the least, giving effect to regulation. It exposes the need to harness the strategic positioning of non-state actors and their access to regulatory resources in promoting *good CUI regulation*. Wider collaboration among state and non-state actors across state lines is crucial. Regulatory surrogacy offers the framework within which the resources and positioning of these actors can be optimised for the promotion of *good regulation*. Chapter 7 expands on this.

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<sup>149</sup> Ibid 45

<sup>150</sup> EUROPOL, 'Press Release: Cryptocurrency Experts Meet at Europol to Strengthen Ties between Law Enforcement and Private Sector', (14 June 2019) <<https://bit.ly/3icUPMW>> 20 November 2020

<sup>151</sup> Ibid

<sup>152</sup> Silvia Amaro, 'The EU announces its first ever plan to regulate cryptocurrencies' (CNBC, 24 September 2020) <<https://cnb.cx/3wKreOS>> 19 November 2020

## 5.8 Conclusion

Several laws and policy documents have implications within CUI and cryptocurrency markets. Where these laws and policy documents fail to specifically pronounce on CUI-related issues, they provide lessons that could be drawn from in promoting good CUI regulation. A patchwork of regulations and guidelines on cryptocurrency markets and CUI has also started emerging to close the gaps left by incomprehensive or vague laws. While the guidelines offer greater flexibility compared with legislation, they often lack the force of positive laws.<sup>153</sup> This plurality means that the treatment of cryptocurrencies across various aspects of the financial sector contrasts sharply with one another. Significantly, multiple state agencies implement the laws and policy documents with bearing on cryptocurrency markets and CUI thereby generating conflicting and confusing perspectives. While bank regulators prohibit banks from engaging in cryptocurrencies, securities and commodities regulators permitted their use under stringent conditions. Regulators' scope for effectively modifying behaviour within complicated and dynamic CUI is limited by incoherent regulatory approaches.

Finally, Nigeria's regulatory framework relies on the Command-and-Control instrument under the state-centred regulatory model explored in Chapter 3. Non-state actors have a limited regulatory role notwithstanding their influence within the financial services sector. While the foregoing illustrates a subpar framework for CUI, a conclusion cannot be drawn until an evaluation of the extent to which these laws and policy pronouncements solve the issues raised by CUI has been conducted. The next chapter undertakes this task.

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<sup>153</sup> See 'Nigerian court lifts bank freeze on firms accused of buying crypto' Reuters (26 October 2021) <<https://reut.rs/3CjtOPe>> 27 October 2021



## Chapter Six

# Cryptocurrency User Interaction Issues: An Evaluation of the Adequacy of Nigerian Law and Policy

### 6.1. Introduction

Chapter 5 investigated Nigeria's regulatory framework relevant to cryptocurrency markets. This chapter builds upon that analysis by assessing the adequacy of the framework for CUI issues identified in Chapter 4. Chapter 4's minimum standards of regulation relevant to each regulatory issue in Table 6.1 below guide this evaluation. The evaluation is broadly categorised under the three public interest goals identified in Chapter 4 namely consumer protection, market resilience and social and distributional justice. This chapter identifies a range of challenges but does not engage in an in-depth analysis of the challenges due to space constraints. These challenges require further and deeper analysis elsewhere in the future. Among others, the chapter raises the need for clarity on the classifications of cryptocurrencies and comprehensive laws on the rights and liabilities of users and market actors.

The remaining part of the chapter is divided into four major sections. Sections 6.2, 6.3 and 6.4 evaluate the adequacy of Nigerian laws on issues of consumer protection, market integrity and resilience and distributional justice respectively. This evaluation suggests that the current regulatory framework and rules are inadequate for the delivery of minimum standards of regulation and, by extension, *good regulation*. Section 6.5 concludes the chapter by highlighting the need for a more comprehensive body of rules and improved regulatory capacity for the promotion of *good CUI regulation* in Nigeria.

Table 6.1 classifies compliance with minimum standards as “inadequate”, “partially adequate” and “fully adequate”. The level of compliance is classed as “inadequate” where laws applicable to CUI are not comprehensive. Existing financial sector rules form the basis for comparison. Where rules are incapable of delivering similar outcomes within CUI and the existing financial sector, these rules are classed as inadequate. For instance, the need for attribution of information is not problematic within existing markets because market actors operate under states’ control and apply KYC. The contrary applies within dispersed cryptocurrency markets with largely pseudo-anonymous actors. For this reason and issues with implementation and enforcement, information requirements are currently inadequate within CUI.

To be adequate, the rules on attribution must be comprehensive. This encompasses the need to accommodate a wider class of responsible actors to meet the minimum standards within existing markets and CUI. Consequently, a “fully adequate” level of compliance exists where comprehensive substantive laws are implemented and enforced by regulators and these exercises solve the mischief that regulation aims to solve within existing regulatory contexts.

“Partially adequate” level of compliance exists somewhere in-between the opposite ends of the spectrum. This is often characterised by comprehensive laws whose effectiveness is undermined by limited regulatory capacity for proper enforcement and implementation. Table 6.1 below summarises the adequacy of existing laws within CUI.

Table 6.1 – Adequacy of existing laws within cryptocurrency markets and CUI <sup>1</sup>

<b>Public Policy Principle and regulatory ideal</b>	<b>Nigerian Laws</b>	<b>Level of compliance with regulatory ideals and need for improvements (if any)</b>
<b>Consumer protection</b>		
Information adequacy	Federal Competition and Consumer Protection Act 2018 and sector-specific laws like the Banks and other Financial Institutions Act (2007) and the Investment and Securities Act (2007) require adequate information	<b>Inadequate</b> <ol style="list-style-type: none"> <li>1. Need for detailed rules on attribution.</li> <li>2. Regulators’ enforcement abilities need further improvement.</li> </ol>
Protection against fraudulent investment schemes	ISA (2007) & Securities and Exchange Commission (SEC) Rules and Regulations 2013 - mandate registration of products and market operators and supervision of the markets	<b>Inadequate</b> <ol style="list-style-type: none"> <li>1. Need for extending the use of investor protection funds to crypto-assets</li> <li>2. Improved supervision of investor protection funds</li> </ol>
Security of assets	Investment and Securities Act (ISA) (2007) - demands a separation of consumer/investor and market actors’ assets.  The Securities and Exchange Commission’s designated Eligible Service Providers are charged with maintaining the integrity and security of assets of investors both online and offline.	<b>Partially adequate</b> <ol style="list-style-type: none"> <li>1. Challenges with/poor record of punishing erring actors</li> <li>2. Inadequate supervision of market actors within existing markets renders the prospects of better regulatory performance within complex cryptocurrency markets doubtful</li> </ol>
<b>Market integrity and resilience</b>		

<sup>1</sup> Source - Author

<p>Competition</p>	<p>Federal Competition and Consumer Protection Act 2018 - demands market competition and prohibits antitrust practices</p> <p>ISA (2007) - maintains a level playing field for all market actors within the same sector.</p>	<p><b>Inadequate</b></p> <ol style="list-style-type: none"> <li>1. Both laws are incapable of correcting non-competitive practices among specific market actors like miners, securities issuers and exchanges who may serve Nigerian users but operate within broader and borderless cryptocurrency markets</li> <li>2. Nigeria does not have the capacity to enforce the rules within cryptocurrency markets which extend beyond Nigeria's borders</li> </ol>
<p>Operational and Systemic Risks</p>	<p>ISA (2007) - Limits factors that predispose markets to operational and systemic risks.</p> <p>SEC's September 2020 regulation on crypto-assets and market operators - lays regulatory requirements down for operators and mandates compliance with current rules of minimising operational and systemic risks</p> <p>Banks and Other Financial Institutions Act (BOFIA) 2007 – provides that banks and financial institutions must abide by best practices</p> <p>Central Bank of Nigeria Act 2007 - mandates CBN to maintain a market free from operational, systemic and other risks</p> <p>Federal Competition and Consumer Protection Act 2018 - rules on competition also help limit systemic risks</p>	<p><b>Inadequate</b></p> <ol style="list-style-type: none"> <li>1. The criteria for identifying regulated actors within cryptocurrency markets remain unclear.</li> <li>2. Silent on how crypto-asset operators who target Nigerian users will be determined, especially where their activities are not directly linked with the state or its currency -naira</li> <li>3. Inadequate capacity to control actors within licit and illicit markets.</li> </ol>

<p>Market abuse/manipulation</p>	<p>Investment and Securities Act (2007) - prohibits securities market abuse.</p> <p>BOFIA 2007 - ensures that banks and financial institutions abide by best practices</p> <p>FCCPA 2018 - prohibits practices that limit the markets' ability to function well</p>	<p><b>Inadequate</b></p> <ol style="list-style-type: none"> <li>1. Unresolved issues include linking unfavourable practices to corporate actors and enforcing the rules on actors that cater to users in Nigeria but operate within a borderless market.</li> <li>2. Reduced regulators' ability to implement the remedies recommended by section 106(5) of ISA.</li> </ol>
<p>Connection with illicit market/actors</p>	<p>Criminal Code Act Cap C38 LFN 2004 and Penal Code (Northern States) Federal Provisions Act (No. 25 of 1960) - prohibit and prescribe punishments for criminal activities in Nigeria</p> <p>EFCC ACT - prohibits financial and other illicit market activities</p> <p>MLA 2011, AML Regulations 2013 - prescribe due diligence for financial institutions.</p> <p>Cybercrimes Act 2015 highlights crimes connected with computer use or conducted with computers, e.g. manipulation of data. Also mandates service providers to preserve data and intercept communication where a court order is issued.</p>	<p><b>Partially Adequate</b></p> <ol style="list-style-type: none"> <li>1. Laws appear to be up to date but need for clarity on criteria for identifying regulated actors</li> <li>2. Regulators' ability to investigate and enforce rules, particularly in cross-border cases, appears limited.</li> </ol>
<p><b>Promotion of social/distributional justice goals</b></p>		
<p>Financial stability</p>	<p>CBN Act mandates the CBN to improve financial stability.</p> <p>ISA - mandates the SEC to promote sector-wide stability</p>	<p><b>Partially adequate</b></p> <ol style="list-style-type: none"> <li>1. Inability to balance innovation with financial stability, CBN and, to an extent, the SEC made attempts to limit cryptocurrency use but struggle to enforce the rules</li> <li>2. Notwithstanding that CBN and other financial regulators have limited capacity to enforce stability principles within cryptocurrency markets,</li> </ol>

		they have recorded some progress in separating cryptocurrency markets from the existing financial sector. A wider cryptocurrency adoption may undermine this ability in the future
Financial inclusion	<p>CBN Act - CBN is charged with promoting financial inclusion</p> <p>CBN Committee on financial inclusion - formulated some strategies which focus on payment systems, agency banking, client empowerment and linkage models to promote FI</p>	<p><b>Inadequate</b></p> <ol style="list-style-type: none"> <li>1. The Financial Inclusion Committee of 2014 focused on existing/traditional infrastructure but failed to consider how financial innovation could improve FI. Even if the commission considered this, it is handicapped by CBN's cautious approach towards recognising cryptocurrency as a payment system.</li> <li>2. Regulators' prohibitive stance will limit the attainment of financial inclusion with cryptocurrencies</li> </ol>
Regulatory coherence and taxation	<p>ISA &amp; SEC September 2020 Regulation for Virtual Currencies - recognised cryptocurrencies as commodities and securities to bring them under the application of the ISA and other financial sector rules</p> <p>CBN Act and CBN regulations - Money market and banking sector operators must be registered. Banks must ensure that exchanges abide by AML/CFT rules</p>	<p><b>Inadequate</b></p> <ol style="list-style-type: none"> <li>1. An incoherent and complicated body of rules. E.g. Notwithstanding that CBN rejected the currency status of cryptocurrencies, Bitcoin ATM While CBN regulates ATM and it directed commercial banks to regulate their customers who act as exchanges. The question here is who regulates Bitcoin ATM in Nigeria and how does this affect the established duties of public financial sector agencies?</li> <li>2. The SEC has a dual framework of commodities and currencies for cryptocurrencies. The key question includes who regulates/should regulate cryptocurrencies which are financial instruments that do not fit into the above framework? E.g. Cryptocurrencies held strictly for transactional purposes. Can a clear distinction be maintained between the above and cryptocurrencies held as securities?</li> <li>3. Regulatory statements are unclear about the tax treatment of cryptocurrency transactions.</li> <li>4. Regulatory capacity to enforce the above appears limited.</li> </ol>

## 6.2 CUI: Consumer protection under Nigerian laws

This section examines some of the laws in Nigeria which help advance the public interest goals of consumer protection. The Federal Competition and Consumer Protection Act (FCCPA) 2018 is an important piece of legislation in this regard. Chapter 5 identified the FCCPA in connection with the promotion of competition and consumer rights within the commodities derivatives market. Section 104 of the FCCPA provides for the supervening implication of the Act in all matters relating to consumer protection and competition. Consequently, the rest of this chapter will draw from its other provisions.

Beyond the FCCPA, other laws promote consumers' interests in different financial sector aspects connected with CUI. For instance, the Investment and Securities Act (ISA) protects investors while the CBN Act and the Banks and Other Financial Institutions' Act (BOFIA) protect the interest of bank customers. Section 30 (1) (b) of the BOFIA, for example, directs the CBN to protect the interests of consumers of banks' products and services, specialised banks and other financial institutions.<sup>1</sup> Some of these laws require information disclosure and the security of consumer assets. They also prohibit fraudulent market dealings and implement rules that help limit value volatility. Nigerian laws on each of the above are analysed in turn below.

### 6.2.1. Information inadequacy

Section 114 of FCCPA 2018 addresses consumers' right to adequate information.<sup>2</sup> The FCCPA does not establish a general right to information but provides for the right to certain information in highlighted instances. These include the right to information on price, product or trade

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<sup>1</sup> BOFIA Act 2007

<sup>2</sup> FCCPA 2018

description.<sup>3</sup> Significantly, the FCCPA provides that information must be presented in plain and unambiguous language.<sup>4</sup> The above aims to promote the availability of adequate information to help consumers make the right decisions. Improving their understanding of the characteristics and defects of products will help promote the above.<sup>5</sup>

Since consumers are often represented by many individuals with different cognitive abilities, this raises the question of the scope of consumers within the contemplation of the FCCPA. The answer to the above will help define the type of information required considering that it is implausible for the FCCPA to mandate the provision of information that will be understood by every consumer. The FCCPA adopts an objective standard in this regard by making the “ordinary consumers” with “average literacy skills” the beneficiary of the regulation. Market actors must provide information in simplified form. Within the contemplation of the FCCPA, the above suffices to assist consumers’ measurement of the value and utility of goods and services.

What, then, does “average literacy skills” mean within the Nigerian context? Nigeria has a significant illiterate population on a national scale.<sup>6</sup> Its adult literacy rate in the English language stood at 57.9% as of 2010.<sup>7</sup> The figure is higher for any language. This is represented by 71.6% of the adult population. The latter may be irrelevant considering that only a few products provide information in other languages. The need to evaluate the adequacy of using “average literacy skills” as the standard in Nigeria still exists considering the asymmetry in literacy rates between Northern and Southern Nigeria. Southern Nigeria has a higher literacy

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<sup>3</sup> Ibid section 115

<sup>4</sup> Ibid Section 114

<sup>5</sup> Ibid

<sup>6</sup> The literacy rate as of 2018 is % 60.02. See UNESCO, ‘Education and Literacy’, (2020) <<http://uis.unesco.org/en/country/ng>> 09 September 2020

<sup>7</sup> Nigerian Bureau of Statistics, “The National Literacy Survey” (June, 2010) 8 <<http://nigerianstat.gov.ng/download/43>> 18 November 2020



proportion compared with Northern Nigeria. The exclusion of a larger proportion of the northern divide while accommodating more consumers from the south must be questioned.

Beyond requiring information in plain language, the FCCPA prohibits the dissemination of information calculated to mislead consumers by producers, importers, distributors, retailers, traders or service providers.<sup>8</sup> This provision is largely relevant to CUI considering that a significant number of cryptocurrency market-related scams represent successful attempts to publicise information calculated to mislead.<sup>9</sup> However, applying the above provisions to CUI examples may not deliver the expected outcomes. The requirement that the misleading representations must be “made public” by its annexed to the product or service, is rather limiting.<sup>10</sup> This is rarely the case within cryptocurrency markets. Misleading statements are not always annexed to the goods or services.

The above challenge also touches on the significant question of attribution. The significance of attribution is linked to the dispersed nature of cryptocurrency markets and their dynamics. Primarily, the FCCPA governs the activities of “undertakings.”<sup>11</sup> According to section 167 of the FCCPA, these encompass persons involved in the production, trade of goods or provision of services. It is then problematic that the source of misleading information within cryptocurrency markets may extend beyond the above class of individuals. This could encompass current or prospective holders who stand to benefit from fluctuating cryptocurrency value i.e. speculators who benefit from selling assets in a volatile marketplace. Additionally, the architecture of the internet and cryptocurrencies render the task of making a connection between misleading information and products/ services difficult. The situation is exacerbated

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<sup>8</sup> Section 123 FCCPA 2018

<sup>9</sup> Neil Gandal, JT Hamrick, Tyler Moore, Tali Obermana ‘Price manipulation in the Bitcoin ecosystem’ (2018) *Journal of Monetary Economics* 9586–96, 87.

European Union, Regulation (EU) No 596/2014 of the European Parliament and of the Council

<sup>10</sup> Section 123 (c) FCCPA 2018

<sup>11</sup> *Ibid* section 167

by the ease of masking information sources on the internet.<sup>12</sup> Consequently, market actors can benefit from misleading information provided by other individuals.

The internet has been a tool for the dissemination of misleading information on products and services. This raises the question: is this issue more problematic within cryptocurrency markets? The answer to the above is in the affirmative. Authentic information about products and services could be found in designated places under normal circumstances because regulators often charge identifiable actors with this function. Consumers could rely on originators/promoters to furnish reliable information on products/and services. Diligent consumers may have access to an authentic pool of information online. The contrary holds for cryptocurrencies. For instance, the identity of Bitcoin's originator remains unknown more than a decade after its introduction to the market.<sup>13</sup>

In addition, the FCCPA imposes a duty on market actors to correct consumer misapprehension. Section 125 (1b) is significant for cryptocurrency markets where market actors could benefit from misleading statements made by others. However, this provision does not adequately address the issue. Its major limitation is that it requires a clearer connection between the seller/producer and the maker of the statement. The determination of apparent connection within offline transactions is different from the determination in online transactions. While it is hard to make a connection between cryptocurrency speculators and promoters, the latter could benefit from misleading information provided by the former. The above provision needs to be updated to reflect the realities within cryptocurrency markets. This update must consider

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<sup>12</sup> Stefano Grazioli, 'Where Did They Go Wrong? An Analysis of the Failure of Knowledgeable Internet Consumers to Detect Deception over the Internet' (2004) *Group Decision and Negotiation* 13, 149, 150. <<https://rdcu.be/b7HuV>> 25 September 2020

<sup>13</sup> Pete Rizzo, '10 years ago today, Bitcoin Creator Satoshi Nakamoto sent his final message' *Forbes* (26 April 2021) <https://bit.ly/3krmf1M> 21 October 2021

factors like currently unidentifiable market actors and the duty of identifiable promoters and originators to renounce misleading information provided by speculators.

The Banks and Other Financial Institutions Act (BOFIA) (2007) and Investment and Securities Act (ISA) (2007) also complement FCCPA in protecting consumers' right to adequate information. Their role is more apparent where inadequate information touches on banking and securities products and services. For instance, sections 23 and 25 of BOFIA 2007 provide for the display of information on interest rates and the publication of consolidated statements. The ISA also has information requirements in the issuance of a prospectus. It equally prohibits the dissemination of misleading statements.<sup>14</sup>

The role of the Corporate Affairs Commission (CA) in discouraging the presentation of inaccurate company reports and financial statements is also relevant.<sup>15</sup> In line with Chapter 4, which noted how adequate information enhances the ability of investors and consumers to make rational decisions, the FCCPA and the ISA require that market actors educate consumers and investors.<sup>16</sup> In addition to general consumer protection, there are specific laws on other issues such as fraudulent investment schemes. This next section explores this.

### 6.2.2. Fraudulent investment schemes

The SEC is charged with eliminating investment frauds and punishing offenders.<sup>17</sup> It does this by mandating the registration of securities issuers in Nigeria. It also monitors market actors' post-registration to ensure that they abide by its rules. Sections 13 (g), 38 (1) (b), 39 and 45 of ISA highlight securities operators' obligations and the SEC's supervisory functions. Section

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<sup>14</sup> Sections 107, 108, 164 and 165 ISA 2007

<sup>15</sup> Section 406 CAMA 2020

<sup>16</sup> Antony Ogus *Regulation, Legal Form and Economic Theory* (1994 Clarendon Press); Mike Ozemhoka Asekome & John Abieyuwa Aihie, 'Stock Market Volatility, Melt Down and Investor Apathy: What Future for the Nigerian Stock Market?' (2017). *Advances in Social Sciences Research Journal*, (425); section 157 ISA, 2007

<sup>17</sup> *Ibid* section 13 (aa)

69 requires that the SEC's consent must be sought before operators invite the public to invest in any venture. The SEC guidance on cryptocurrency market operators equally reiterates the above requirements.<sup>18</sup>

Beyond the general provisions stated above, the ISA has more specific provisions which demand transparency and accountability as means to help limit the incidences of fraudulent investment schemes. Section 40 of ISA instructs capital market operators to maintain separate trust accounts for clients at all times.<sup>19</sup> In addition, the ISA criminalises misleading investors and disseminating speculative information or information acquired by an insider. The ISA went on to prohibit fraud on investors.<sup>20</sup> It also identifies investors' remedies for illicit actions of market actors. Such actors must refund investors' funds with interest. The SEC is equally empowered to take over investment businesses if it considers this necessary.<sup>21</sup> Section 116 prescribes compensatory remedies for victims.

In addition, the ISA enhances access to justice by establishing a specialised investment and securities tribunal. The tribunal has the power to adjudicate on investment-related disputes to enable faster dispensation of justice in investment cases.<sup>22</sup> Finally, the ISA complements the above provisions on investor protection by mandating the establishment of an Investor Protection Fund by each securities exchange/capital trade where market actors become insolvent.<sup>23</sup> The above requirement is often flouted by capital market operators.<sup>24</sup>

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<sup>18</sup> SEC, 'Statement on Digital Assets and Their Classification and Treatment' (17 September 2020) <<https://bit.ly/2VdWybz>> 22 September 2020

<sup>19</sup> Section 41 provides punishment for contravening this provision.

<sup>20</sup> Ibid sections 107, 108 and 110.

<sup>21</sup> Sections 45, 49 & 68. ISA 2007

<sup>22</sup> Ibid section 274 & 284

<sup>23</sup> Ibid section 198

<sup>24</sup> Arumah Oteh, 'Presentation on the Nigerian Capital Market by the Securities and Exchange Commission for the April 2012' Public hearing organised by the ad-hoc Committee on Capital Market, House of Representatives of the Federal Republic of Nigeria. <<https://bit.ly/3wdqmSp>> 23 September 2020

Notwithstanding the robustness of the above provisions on limiting fraudulent investment schemes and their impact, they are tailored to the dynamics of the existing securities market. As previous chapters, particularly Chapters 2 and 4 have shown, cryptocurrencies and cryptocurrency markets are different and more complicated. The anonymity feature and dispersed nature of cryptocurrency markets exacerbate the situation. For instance, dispersed markets mean that market actors may be less ascertainable. This also touches on whether actors are qualified to offer securities. Actors could hide under cryptocurrency market dispersion to offer securities to unsuspecting investors.

Going by the limitations in the above provisions, the SEC has failed to significantly limit the exploitation of investors within existing markets. The SEC's approach needs to change significantly if the above provisions are to have any real impact in protecting consumers within more complicated cryptocurrency markets.<sup>25</sup> Security of assets and value volatility are other regulatory issues that Nigerian law addresses. The next section applies relevant sections to each of these issues.

### 6.2.3. Security of assets and value volatility

Aside from mandating adequate information and criminalising fraudulent investment schemes, Nigeria promotes the security of investors' assets through other means. The registration of individuals' assets against their names and issuance of investment certificates are some of these. Equally, the ISA mandates the payment of dividends into verified investors' accounts. The SEC attempted to extend the application of these provisions within online contexts by first

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<sup>25</sup> See CBN Governor Sanusi Lamido, 'The Impact of the Global Financial Crisis on the Nigerian Capital Market and the Reforms' (May 27, 2011). 7 Presented at the 7<sup>th</sup> Annual Pearl Awards and Public Lecture <<https://bit.ly/3hFXKfn>> 10 July 2020. Kamaldeen Ibraheem Nageri, Rihanat Idowu Abdulkadir 'Is the Nigerian Stock Market Efficient? Pre and Post 2007-2009 Meltdown Analysis' *Studia Universitatis* (2019) Vasile Goldis" Arad – Economics Series Volume 29: Issue 3, 56. Mike Ozemhoka Asekome & John Abieyuwa Aihie, 'Stock Market Volatility, Melt Down and Investor Apathy: What Future for the Nigerian Stock Market?' (2017). *Advances in Social Sciences Research Journal*, (425) 222. See Chapter 4 for further details

identifying “designated Eligible Service Providers” as service providers responsible for implementing securities laws. The SEC then charges these persons with securing investors’ assets.<sup>26</sup> ESPs are also responsible for maintaining the integrity of securities offered online.

In addition to the above, the ISA adopts proactive measures on securing investors’ funds. Section 197 mandates operators to maintain separate accounts for clients’ funds, while section 198 gives the SEC supervisory powers. The SEC also has the power to investigate and assume the control of investment activities previously controlled by fraudulent operators. Some of these rules will apply considering the default classification of cryptoassets as securities by the SEC.<sup>27</sup> Enforcing the same within dispersed cryptocurrency markets is problematic. The SEC’s Statement on Digital Assets and their Classification and Treatment’s requirement for the registration of securities in Nigeria will be helpful to an extent. The challenge is how to enforce the rules against securities issuers who actively focus on avoiding regulatory control. As stated above, permitting investors to pay for cryptocurrencies with other FCs with no connection to the Nigerian naira increases the complexity. Further clarity is thus required on how the SEC intends to secure cryptocurrency holders catered to by these actors.

Turning to how Nigerian regulators can solve the issue of value volatility. The volatility of cryptocurrencies exists on a much larger scale and may be beyond the regulatory control of Nigerian regulators. Chapter 2 identifies regulatory clarity as a catalyst for reduced volatility margin.<sup>28</sup> Regulatory clarity will be useful for newly created crypto-assets within state contexts provided clarity on the rights and obligations of parties is prioritised. Pegging the value of cryptocurrencies with more stable FCs is also helpful in minimising volatility margins. The

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<sup>26</sup> SEC, New Rules and Sundry Amendments (October 14, 2019) <<https://bit.ly/2VgKINL>> 29 October 2020

<sup>27</sup> SEC, ‘Statement on Digital Assets and Their Classification and Treatment’ (17 September 2020) <<https://bit.ly/36iPdtm>> 22 September 2020

<sup>28</sup> See Florian L’heureux, Joseph Lee, ‘A Regulatory Framework for Cryptocurrency’, (2020),31, European Business Law Review, Issue 3, 423, 439; See also Raphael Auer, Stijn Claessens, Regulating Cryptocurrencies: Assessing Market Reactions, (2018) BIS Quarterly Review 51, 55

tether US and USD Coin are examples. These cryptocurrencies have more stable values because of existing regulatory clarity on the underlying FC.<sup>29</sup> However, this might not occasion a significant change, where clarity is offered on a state-by-state basis. Finally, reducing the tensions and conflicts between the cryptocurrency market interests is essential for good CUI regulation. The above must be supplemented by solving other public interest principles of regulation.

In sum, Nigerian laws on consumer protection apply to CUI. Some of these laws require improvements. Primarily, there is the need for clarity on attribution and the link between the maker of misleading information and product sellers are examples. Improved regulatory capacity to implement and enforce regulation on online activities is equally imperative. This touches on the fact that the above rules have been implemented by regulators on offline activities. The dynamics of online interactions within dispersed and global marketplaces are different. Regulatory sophistication is required to gather information, implement and enforce laws. A different combination of regulatory tools is relevant within online platforms compared with their offline counterparts. Having examined Nigerian laws on consumer protection, this chapter now turns to the regulatory issues raised under the principle of market integrity and resilience.

### 6.3 Market integrity and resilience

Market integrity and resilience is the second public interest principle that regulation should promote within cryptocurrency markets. This section applies Nigerian laws which promote market integrity and resilience to cryptocurrency market issues that touch on this. The

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<sup>29</sup> By shaping the legitimate expectations of actors engaged in CUI, regulatory clarity will reduce the currently wide volatility margin. See Chapter 4

promotion of competition, prevention of market manipulation and illicit use of cryptocurrencies are the regulatory issues touched on below.

### 6.3.1. Competition

The FCCPA 2018 is Nigeria's primary legislation on market competition. The Act prohibits antitrust law violations by limiting restrictive market practices. The FCCPA's provisions are relevant to the possible antitrust implications of mining pools.<sup>30</sup> Mining pools help create powerful market groups/actors who often occupy a dominant market position. Section 70 prevents the abuse of the dominant position by a market actor.<sup>31</sup> The section seeks to prevent market actors from unilaterally acting without considering the interest of consumers and other actors. While section 70 (2) (c) prohibits exclusionary acts, which mining could be, it permits these provided the technological benefits and pro-competitive gains outweigh its anti-competitive effects.<sup>32</sup> Mining pools are known to reduce mining waste. They do not have a significant impact on consumer interests considering that the solution to each equation is constant with or without mining pools. Thus, mining pools may contravene section 70 where their negative effects outweigh their benefits. Currently, the contrary seems to be the case.

In the alternative, section 59 which prohibits agreements in restraint of competition may apply to mining pools.<sup>33</sup> Subsection (2) (C) excludes activities that control the production of goods, services, markets, distribution and technical development.<sup>34</sup> Similar to the case above, not all cooperative agreements are prohibited. Cooperative agreements that deliver better outcomes for the market and consumers are allowed. Mining pools can be argued to be one of these. A countering argument could be advanced that mining pools create stronger entities with an

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<sup>30</sup> See Chapter 4

<sup>31</sup> FCCPA 2018

<sup>32</sup> *ibid*

<sup>33</sup> *ibid*

<sup>34</sup> *ibid*



increased ability to influence cryptocurrency markets' outcomes. They achieve the above by limiting the ability of non-cooperative miners to exist profitably within the market.<sup>35</sup>

Mining pools located in Nigeria may be legal if they continue to limit mining waste without affecting mining outcomes and consumer interests. If mining pools are permitted under Nigerian laws, constituent actors must seek the consent of the FCCPC before pooling resources. The same arguments apply to other cryptocurrency market actors and exchanges. Section 30(c) of the CBN Act empowers the CBN to “promote competition in the financial system [and] maintain public trust and confidence in the use of financial services in Nigeria.”<sup>36</sup> Similarly, paragraphs 3.4.7.3 and 2.4.7.4 of the Guidelines on operations of electronic payment channels in Nigeria prohibit *Point of Sale* or *Mobile Point of Sale Scheme* from abusing dominant position or engaging in antitrust activities.<sup>37</sup> Notwithstanding that competitive markets are prioritised, they can be dispensed with where non-competitive practices offer more benefits than negative effects. The above law however does not account for cross-border cooperative agreements considering that mining pools may have participating actors located across several states. Enforcing the provisions against these actors may be challenging.

### 6.3.2. Market abuse and manipulation

Intricately connected with market competition is the need to limit market abuse/manipulation within cryptocurrency markets. The SEC and several other regulators promote securities and commodities markets free from manipulation and abuse. The ISA, Banks and other Financial Institutions Act (BOFIA) 2007 and FCCPA 2018 have provisions targeted at eliminating market abuse and manipulation. This encompasses the prevention of insider dealing, manipulative practices and other harmful market practices. Take the ISA as the starting point.

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<sup>35</sup> See Chapter 4

<sup>36</sup> CBN Act 2007

<sup>37</sup> CBN, ‘Guidelines on Operations of Electronic Payment Channels in Nigeria’ <<https://bit.ly/3yk2EFs>> 10 November, 2020

Section 106 approaches securities market manipulation from an inducement standpoint.<sup>38</sup> It provides that no one should participate, directly or indirectly, in actions calculated or likely to alter the price of securities to induce others to buy these securities.<sup>39</sup> An overarching provision such as the above encompasses every activity that induces investors to participate in investment schemes. It remains unclear if this section is wide enough to accommodate every instance of market abuse among cryptocurrency actors serving Nigerian users.

Section 106 provides that:

A person shall not effect, take part in, be concerned with, or carry out, either directly or indirectly, two or more transactions in securities of *a body corporate* being transactions which have, or are likely to have the effect of raising or lowering the price of securities of the body corporate on a securities exchange or capital trade point with intent to induce other persons to purchase, sell or subscribe for securities of the body corporate or of a related body corporate.<sup>40</sup>

The reference to “body corporate” in the above is limiting. It implies companies incorporated under Nigerian laws. Notwithstanding that this meaning can be expanded to cover companies incorporated in other jurisdictions provided certain conditions are satisfied, it raises an issue on the reach of the application. Additionally, establishing the beneficial owners of corporations, especially with multijurisdictional entities, may be problematic. Cross-border cryptocurrency markets exacerbate this challenge. Primarily, how will regulators police the market to enforce the above provisions considering the issue of pseudo-anonymity without inter-state collaboration?

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<sup>38</sup> ISA 2007

<sup>39</sup> *ibid*

<sup>40</sup> *ibid*

In addition to the above, section 106 of ISA which prohibits market manipulation has limited bearing on cryptocurrency markets considering that they are more amenable to manipulation compared with existing securities markets.<sup>41</sup> Intra-cryptocurrency manipulation could be caused by users with significant cryptocurrency holdings. For instance, a Litecoin holder could make a series of transfers without actual change of ownership to increase trading volumes. This could stimulate expected market perception by increasing consumer interest and purchases. These are activities conducted outside of a “body corporate”. Consequently, section 106 does not apply to incidents of market abuse like those claimed in the *Bitmain American Corp’s* case and those that occurred in the *MT. Gox’s* case.

Furthermore, investors’ remedy for contravening section 106 as provided for in section 106 (5) is the nullification of the manipulative transaction.<sup>42</sup> The question this raises is, how will transactions be nullified on the blockchain which is programmed to prevent reversals? Also, how does such nullification benefit investors? Additionally, regulators' ability to implement the above remains uncertain. The dispersed nature of cryptocurrency markets beyond one state’s borders is limiting in this regard.

The SEC also promotes markets free from manipulation through non-state actors. The NSE is an example. As a self-regulatory body, the NSE maintains the integrity and stability of the securities market. It encourages issuers on its platform to abide by best practices. To supplement NSE’s efforts, the SEC’s Department of Market Surveillance and Investigation uses widespread surveillance mechanisms alongside a whistle-blowing regime to deter infractions.

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<sup>41</sup> *ibid*

<sup>42</sup> *ibid*

A significant proportion of the above provisions and measures applies by extension to cryptocurrency markets and CUI. Their effectiveness on cryptocurrency use is uncertain considering the limits to regulatory control of online activities spanning across multiple countries. Similar to other regulatory issues examined above, the registration of market actors under Nigerian law should limit the uncertainty to an extent. Eliminating manipulative practices within markets also touches on limiting the possibilities and impact of operational and systemic risks. The next section turns to operational and systemic risks.

### 6.3.3. Operational and systemic risks

The impact of operational and systemic risks extends beyond securities, currencies and commodities markets that CUI touches on. For this reason, regulators focus on reducing the possibilities of operational/systemic risks through several measures. The above relates to the CBN's role as Nigeria's banker and principal financial sector regulator. The CBN issued several warnings and guidelines aimed at reducing the widespread operational and systemic impact of CUI in Nigeria. In line with the CBN's duty to encourage responsible conduct by banks, it prohibits banks from participating or supporting customers who participate in cryptocurrency markets.<sup>43</sup> In addition, the guidance on loans and interest rates and the liability of bank officials for violations are relevant to CUI. This touches on exchanges' practice of granting customers loans governed by unconventional rules for trading purposes. For instance, loans advanced by exchanges often attract interest calculated on an hourly or daily rate, thereby creating greater risks of default.<sup>44</sup>

The CBN's latest guidance on interest rates on lending does not offer much help on the above. While the Guide to Charges by Banks, Other Financial and Non-Bank Financial Institutions

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<sup>43</sup> Section 30, BOFIA 2007

<sup>44</sup> Binance, "How to use Binance Loans" <<https://bit.ly/3w1BzAr>> 06 July 2021

states that this should be negotiated by banks and their customers, it mandates financial institutions to call the attention of lenders to their right to negotiate.<sup>45</sup> The contrary seems to be the case with exchanges, the interest rates are presented on a “take it or leave it” basis, leaving little or no room for negotiation. Furthermore, the CBN increases or reduces interest rates based on the liquidity and stability demands of the economy. This raises the need to reconcile the practice of exchanges serving Nigerian users with the CBN’s position. Beyond consumer protection issues, the propriety of the practice with users located in Nigeria considering Nigerian laws guiding interests is not clear.<sup>46</sup> Additionally, to what extent can the CBN enforce guidance on exchanges that operate outside of the country but cater to Nigerian users?

In addition to maintaining a fair, efficient and transparent market, the SEC is charged with preventing systemic risk within the securities and commodities markets.<sup>47</sup> To achieve this, the SEC is empowered to register and supervise market operators.<sup>48</sup> In line with this, the SEC’s statement required the operators of existing crypto-assets to file their registration documents within three months from the date of the regulatory guidelines.<sup>49</sup> The SEC suggests that it might require operators to establish Nigerian offices, but may exempt operators registered in a country that has a reciprocity agreement with Nigeria or is part of the International Organisation of Securities Commissions (IOSCO).<sup>50</sup> The notice suggests that all crypto asset service providers are under the control of the SEC. This approach raises other critical issues. First, does the term “all service providers” encompass those who do not offer digital assets directly but support cryptocurrency market activities ancillary to these e.g. miners and e-wallet service providers?

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<sup>45</sup> CBN, Circular to all Banks, Other financial and Non-Bank Financial Institutions - RE: Guide to Charges by Banks, Other Financial and Non-Bank Financial Institution” FPR/DIR/GEN/07/042 (20 Dec. 2019) <<https://bit.ly/3xu8qo4>> 07 July 2021 8 & 30

<sup>46</sup> This is in light of the fact that the CBN releases interest rates which should guide banks’ lending on a weekly basis. See CBN, “Deposit and Lending Rates in the Banking Industry” <<https://bit.ly/3hLeamK>> 06 July 2021

<sup>47</sup> Section 13 (k). ISA 2007

<sup>48</sup> See section 13 d, g & h. ISA 2007. See also section 2 BOFIA 2007

<sup>49</sup> SEC, ‘Statement on Digital Assets and Their Classification and Treatment’ (17 September 2020) <<https://bit.ly/3dZBThO>> 22 September 2020

<sup>50</sup> *ibid*

Also, how does the SEC aim to enforce rules against miners who do not need to have a presence in Nigeria to serve cryptocurrency users in Nigeria?

Other issues undermine the promotion of integrity and resilience within cryptocurrency markets. The practice of role combination among market actors is one of these. Chapter 4 explained this in detail.<sup>51</sup> An example of this is cases where exchanges act as commercial banks, securities issuers and currency exchangers. Nigerian regulators and laws effectively maintain a separation among financial services providers to limit the possibility and impact of operational and systemic risks. The disregard for role separation within CUI must be addressed by regulators.

Finally, the concern on the ability of regulators to enforce the above rules within cryptocurrency markets is also applicable regarding limiting operational and systemic risks. While registration of market operators is helpful, this depends significantly on Nigerian investors' willingness to patronise registered operators. A desirable outcome is achievable where registered operators compete favourably with their unregistered counterparts. Connections with illicit actors and activities also undermine the promotion of market integrity and resilience. Nigerian laws with bearing on this are the focus of the next section.

#### 6.3.4. Connections with illicit activities/actors

Several laws apply to criminal activities in Nigeria. These include Cybercrime (Prohibitions, Preventions Etc.) Act (CA) 2015, Economic and Financial Crimes Commission (Establishment) Act (EFCC) 2014, the ISA 2007 and the Nigeria Police Act 2020. Take the CA as an example. The provisions of sections 14, 15 and 16 which prohibit fraud-related offences committed with computers are relevant.<sup>52</sup> These provisions apply to incidences of

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<sup>51</sup> See Chapter 4

<sup>52</sup> Cybercrime (Prohibition, Prevention, etc.) Act 2015

fraud with connections to cryptocurrencies and their user interactions. This includes unlawful access to e-wallets and cold storage i.e. CD ROM, hard disks and memory sticks. Similarly, section 30, which prohibits the manipulation of Point of Sale (POS) terminals and ATM, applies to Bitcoin and other cryptocurrencies ATM. Finally, section 11 which prohibits the interception of electronic messages, email and electronic money transfers could apply where illicit access to cryptoassets occurs through an interception. The integrity of the blockchain architecture renders the application of the above unnecessary.<sup>53</sup>

Beyond the above, the monetary use of cryptocurrencies raises the risk of money laundering and terrorism financing. Cases of kidnapping and ransom demand in cryptocurrencies in Nigeria abound.<sup>54</sup> For these reasons, Nigerian legislation on the prevention of criminal activities is applicable. The Money Laundering (Prohibitions) Act (MLA) 2011 and the Anti-Money Laundering and Combating the funding of Terrorism in Banks and other Financial Institutions Rules 2013 are which prohibit money laundering and terrorism financing are key relevant laws.

Take the Know Your Customer (KYC) principle as the starting point. Section 3 (1) (a) of the MLA 2011 provides that financial and non-designated financial institutions must “identify a customer ... using identification documents as may be prescribed by regulation.”<sup>55</sup> Section 3 (1) (b) requires banks and financial institutions to “... verify the identity of that customer using

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<sup>53</sup> See Chapters 2 and 4 on the integrity of the blockchain

<sup>54</sup> For evidence of illicit connections with cryptocurrencies, see Pavel Polityuk, ‘Kidnappers release cryptocurrency boss after receiving £750,000 ransom in Bitcoin’ *Independent* (30 December 2017) <<https://bit.ly/2SUug51>> 1 October 2019. See also Matthew Beedham, ‘\$840,000 Bitcoin ransom plot foiled, kidnapped crypto traders rescued; Captors demanded and 80 Bitcoin ransom’, (15 July 2019) <<https://bit.ly/36iXGNd>> 1 October 2019; see Jose´ Parra Moyano, Omri Ros, KYC Optimization Using Distributed Ledger Technology, (2017) *Bus Inf Syst Eng.* 5 9 (6) 411, 412

<sup>55</sup> Money Laundering Prohibitions Act 2011 (As Amended)

reliable, independent course documents, data or information ...”<sup>56</sup> Better implementation and enforcement of the above within CUI may help promote safer markets.<sup>57</sup>

Nevertheless, the efficacy and practicality of the above within cryptocurrency markets must be analysed considering the significant difference between the existing banking and financial sector and cryptocurrency markets. Notably, key actors within the financial sector i.e. commercial banks and other financial institutions are closely monitored. Regulators’ control over banks and financial institutions is linked to the licensing regime and several means of punishing recalcitrant financial institutions. Financial institutions are required by law to assist regulators in the prevention and detection of money laundering by granting the latter access to their records.<sup>58</sup> The fear of attracting punishments for contravening established rules helps to stimulate financial institutions’ compliance with the above and other laws touching on KYC.

The contrary is the case within cryptocurrency markets. Regulators’ limited leverage against cryptocurrency markets’ actors undermines their ability to implement and enforce due diligence rules. This significantly undermines the fight against money laundering and terrorism financing on a wider scale. Even where regulators have leverage, applying KYC to CUI may not generate expected outcomes. KYC, as applied under offline transactions, requires physical verification of customers’ identities. Nigerian bank officials often visit customers’ residential addresses to ascertain that they truly live there. There is limited evidence to suggest that cryptocurrency market actors do the same.

Furthermore, the regulation and operation of FinTech companies offering payment and banking services entirely online may be relevant. “Challenger banks” offer online banking services to

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<sup>56</sup> *ibid*

<sup>57</sup> For views on the ineffectiveness of AML/CFT laws in preventing predicate offences and flows of illicit finance, see Ronald F Pol, “Anti-money laundering: The world's least effective policy experiment? Together, we can fix it “(2020) Vol. 3 Issue 1 Policy Design and Practice 73

<sup>58</sup> Sections 7, 8, 10, 13 & 15 MLA 2011 (As Amended)



customers. Kuda is the pioneer in Nigeria. Notwithstanding its mode of delivering services, Kuda Bank still abides by KYC principles and other regulatory controls in Nigeria. Customers without Bank Verification numbers and established identities are highly limited in what transactions they can complete with their accounts.<sup>59</sup> For instance, Kuda Bank does not process transfers from accounts without BVN and verified customer identities according to the CBN rules.<sup>60</sup> The above is possible because the CBN can enforce and implement KYC rules on Kuda Bank as a registered operator. A similar approach to exchanges or other market operators will be helpful.

There are significant limitations to the promotion of due diligence and preventing AML/CFT within cryptocurrency markets with the above in the absence of operators' registration or links to Nigeria. Even where the KYC is mandated upon cryptocurrency market actors, certain factors may undermine its effectiveness. Take pseudo-anonymity discussed in Chapter 4 as an example. Pseudo-anonymity implies that the funds in an e-wallet could belong to anyone. The risk increases significantly in the absence of physical verification which applies in the case of challenger banks. Online identity verification raises an issue regarding the integrity of the process. For instance, the identity of an anonymous owner may be different from the identity of the person whose details have been submitted for verification.<sup>61</sup> Pseudo-anonymity of cryptocurrency users, combined with synthetic biometrics or "fraud as a hire" service, has been applied to undermine the effectiveness of KYC within CUI.<sup>62</sup>

Most importantly, while KYC is useful where sufficiently implemented, it does not solve all the issues connected with user pseudo-anonymity. The utility of the KYC is limited to when

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<sup>59</sup> Kuda, "We Updated Our Account Rules: Everything you need to know about Kuda account levels, rules and limits." <<https://bit.ly/36kK2cr>> 8 July 2021

<sup>60</sup> See *ibid.* Challenger banks also raise AML/CFT issues based on its links with existing commercial banks who must open up their data to these new FinTech companies

<sup>61</sup> *ibid*

<sup>62</sup> Britany Allen, 'How Consumers—and Fraudsters—are Circumventing ID Verification on Crypto Sites' (July 2021) <<https://bit.ly/3CtvCVF>> 21 October 2021

an exchange of FC for cryptocurrencies is done initially. It is not useful when cryptocurrency units disappear into the web of transactions on the blockchain and the market. For instance, the initial identification becomes pointless when transfers are made to users maintaining accounts with e-wallet service providers with less stringent KYC rules. Devising creative measures to ensure that the KYC delivers similar outcomes on online and offline platforms is a starting point. Such adaptation could be in the form of relying on measures like the BVN or outsourcing the verification exercise to actors with closer proximity to customers in Nigeria.

In addition to the above laws, the Criminal Code Act Cap C38 LFN 2004, Penal Code (Northern States) Federal Provisions Act (No. 25 of 1960), Independent Corrupt Practices Commissions Act (ICPC Act) 2000, Economic and Financial Crimes Commission (Establishment) Act 2004 (EFCC Act) 2004 and State Criminal laws also govern criminal activities in Nigeria. Applying some of these to CUI is problematic. The Nigerian law on theft illustrates this difficulty. To start with, the law is not comprehensive enough to resolve the issue of unlawful access to cryptocurrencies. Its restrictive wording allows illicit individuals to easily circumvent the provisions by engaging in systematic theft or other crimes.<sup>63</sup> Section 390 of the Criminal Code Act defines theft as “...fraudulently tak[ing] anything capable of being stolen, or fraudulently convert[ing] to [one’s] own use or the use of any other person, anything capable of being stolen.”<sup>64</sup> Without a doubt, cryptocurrencies are capable of “being stolen” considering that they have the requisite qualities identified in case law.<sup>65</sup>

Justice Ademola in *Adewusi v. The Queen* highlights the imperativeness of ownership or possession of the property that is alleged to be by someone other than the accused at the time

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<sup>63</sup> Alan Brill, Lonnie Keene, ‘Cryptocurrencies: The Next Generation of Terrorist Financing?’ (Spring & Fall 2014) *Defence against Terrorism Review* Vol. 6, No. 1. 25

<sup>64</sup> Criminal Code Act Cap C38 LFN 2004

<sup>65</sup> (1963) 2 SCNLR <<https://bit.ly/36JGgJG>> 22 July 2020; *Onagoruwa v. State* (1993) 7 NWLR (Pt. 303), 38. <<https://lawcarenigeria.com/olu-onagoruwa-v-the-state/>> 22 July 2020

of stealing.<sup>66</sup> Proving who owns cryptocurrencies at the time of theft may be challenging considering the pseudo-anonymity feature. Proving ownership may be easier in cases where exchanges or e-wallet service providers can verify the claims of the purported owner. The contrary is the case where cryptocurrencies are stored in cold storage or maintained solely by the owner online.

Additionally, theft claims are often hard to resolve due to limited hard evidence to prove prior ownership and theft.<sup>67</sup> It is thus unsurprising that there are limited attempts to prosecute cryptocurrency theft notwithstanding growing concerns about theft.<sup>68</sup> The above rules are only helpful if regulators can enforce them. The investigative and enforcement capabilities of law enforcement agencies within technical contexts are relevant to discharging this obligation. Regulators' capabilities are further limited by the cross-border nature of cryptocurrency markets. Actors from jurisdictions outside of Nigeria could be involved in the theft of cryptocurrencies belonging to Nigerians or vice versa. This requires Nigerian law enforcement agencies to thoroughly investigate and bring accused persons both within and outside Nigeria to justice. How, then, can law enforcement agencies achieve this?

The SEC's statement which mandates the registration of market actors who target cryptocurrency users in Nigeria may be helpful regarding the above.<sup>69</sup> However, it raises the question of how regulators will implement and enforce rules against culprits. Regarding illicit actors, Cybercrime (Prohibition, Prevention, etc.) Act 2015 empowers law enforcement

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<sup>66</sup> Timothy F. Yerima, Olubayo Oluduro, Criminal Law Protection of Property: A Comparative Critique of the Offences of Stealing and Theft in Nigeria (2012) *Journal of Politics and Law* Vol. 5, No. 1; March 2012

<sup>67</sup> Alan Brill, Lonnie Keene, 'Cryptocurrencies: The Next Generation of Terrorist Financing?' (Spring & Fall 2014) *Defence against Terrorism Review* Vol. 6, No. 1. 7, 25

<sup>68</sup> See Chapter 4. See also Olga Kharif, 'Hackers Have Stolen About 14% of Big Digital Currencies' (L.A. Times, January 18, 2018) <[www.latimes.com/business/la-fi-bitcoin-stolen-hackers-20180118-story.html](http://www.latimes.com/business/la-fi-bitcoin-stolen-hackers-20180118-story.html)> 30 July 2021

<sup>69</sup> SEC, 'Statement on Digital Assets and their Classification and Treatment' (17 September 2020) <<https://bit.ly/3yGcYaR/>> 22 September 2020

agencies to enter into mutual assistance arrangements with foreign nations. The Act permits the extradition of the accused where this is necessary.<sup>70</sup>

While collaboration among states should help limit the challenges with combating illicit activities to an extent, such cooperation and collaboration must be extended to market actors to enable a more robust system of protection. Chapter 3 shows the benefits of collaborating with non-state actors considering the limitations to the traditional command and control regulation. The role of market actors in limiting illicit activities includes lending their resources to state actors during investigation and enforcement.<sup>71</sup> Requests from the USA and the UK for access to the records of exchanges and e-wallet service providers to identify tax avoiders and calculate their liabilities are constitute.<sup>72</sup> The next section applies Nigerian laws to the issues raised on the promotion of social and distributional justice.

#### 6.4 Promotion of social and distributional justice

Several financial sector laws and policies in Nigeria help promote social and distributional justice goals. Some of these laws and policies have a direct bearing on CUI. Take standardisation of rules or regulatory coherence as the starting point. The preceding sections evidence incoherent legislation and a lack of coordination among regulators. Gaps which could be exploited to circumvent the laws are apparent. In certain cases, limited clarity is confusing for market actors and users. Take, for instance, the limited clarity on the tax treatment of cryptocurrency transactions compared with similar transactions within the Nigerian financial sector. Examples of taxable transactions which must be classified include remittance on cross-border trade, local remittance, taxation on trade profits etc. Without clearer rules on how

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<sup>70</sup> Sections 50, 51 & 52 Cybercrime (Prohibition, Prevention, etc.) Act 2015

<sup>71</sup> Chapter 6 answers the 'how' question in detail

<sup>72</sup> Kelly Philipps, 'IRS Nabs Big Win Over Coinbase in Bid for Bitcoin Customer Data' Forbes. (November 29, 2017); Mordecai Lerer, 'The Taxation of Cryptocurrency: Virtual Transactions Bring Real-Life Tax Implications' (January 2019) CPA Journal

existing taxation laws apply to CUI, the promotion of the SDJ goals of regulatory cohesion may be undermined.

Nigeria needs to provide a more coherent framework on the role of exchanges that deliver banking services and crypto securities service provider who deliver function which mirrors the role of traditional securities companies. The CBN's directive to banks to close the accounts of exchanges after the SEC started regulating them as service providers in the crypto-asset industry reflects an incoherent regulatory framework. Comprehensive principles must be combined with a coherent regulatory landscape for *good CUI regulation*. The Financial Services Regulation Coordinating Committee (FSRCC)'s role in improving inter-agency coordination within Nigeria's financial sector is crucial to the above. In line with Chapter 4, financial stability and financial inclusion are social and distributional justice goals which must be promoted by Nigeria. The next sections evaluate the adequacy of Nigerian laws on these.

#### 6.4.1 Financial stability

The Central Bank of Nigeria Act (CBN Act), Bank and Other Financial Institutions Act (BOFIA), the Stamp Duties Act and the Investment and Securities Act (ISA) are key legislation. The Central Bank, the Securities and Exchanges Commission and other regulators also issue periodic guidelines to help promote financial stability. The CBN, as the nation's banker, bears a significant regulatory burden in maintaining financial stability. Section 2 (d) provides that one of the principal objectives of the CBN is to "... promote a sound financial system in Nigeria."<sup>73</sup> The agency discharges this duty by protecting the Nigerian currency, controlling the influx and outflow of capital and providing general oversight of the banking

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<sup>73</sup> CBN Act 2007

sector.<sup>74</sup> This is in line with section 2 (b) of the CBN Act which states that “... the primary objects of the [CBN] shall be to maintain external reserves to safeguard the international value of the legal tender currency.”<sup>75</sup> Nigeria’s foreign reserve balance is relevant to the financial stability goal considering that it provides Nigeria with sufficient foreign FCs to pay for the importation of essential needs. Maintaining sufficient foreign FCs’ reserves also helps Nigeria to satisfy its other local demand for foreign FCs.

Increased cryptocurrency adoption in Nigeria, especially where this occurs outside of the control of regulators, undermines the CBN’s ability to do the above in two ways. First, the fact that CUI occurs outside of the CBN’s control suggests that the CBN may lack access to income denominated in cryptocurrencies. Second, such access, where it exists, will be of limited use considering Nigeria’s cautious stance on cryptocurrency use within the formal financial services sector. Additionally, Nigeria’s foreign reserve is denominated in recognised foreign FCs like the United States dollars, the Great Britain pounds etc. Currently, there is no consideration for cryptocurrencies. This view is grounded in sections 15 and 17 of the CBN Act 2007, which prohibits the use of unauthorised currencies in Nigeria.

The CBN has adopted certain measures in limiting the negative impact of cryptocurrencies on Nigeria’s financial stability. It started by attempting to insulate the banking industry against potential risks.<sup>76</sup> The CBN has prohibited licensed financial institutions from engaging in processing cryptocurrency-related transactions. The CBN is empowered to enforce sanctions against offending actors within the banking sector. It is currently unclear how the CBN aims to detect infractions given that illicit actors could devise other means of escaping scrutiny.

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<sup>74</sup> CBN, ‘Nigerian Payment System Risk and Information Security Management Framework’ July (2020) <<https://bit.ly/3AENIdL>> 16 October 2020; CBN, Guidelines on Operations of Electronic Payment Channels in Nigeria (July 2020). <<https://bit.ly/3xtIRDz>> 07 September 2020. 34

<sup>75</sup> CBN Act 2007

<sup>76</sup> Currencies are either Nigerian or foreign under the CBN and BOFIA Acts, but cryptocurrencies are neither. Chapter 2 examines this in detail

Furthermore, the CBN has affirmed the application of existing rules with a bearing on the financial stability of CUI and cryptocurrency market actors. The CBN charged commercial banks with the control of exchanges by ensuring that they act in line with existing rules. These include rules prohibiting money laundering and terrorism financing measures.<sup>77</sup> Irrespective of the above warnings, Chapter 1 indicates that cryptocurrency use shows no sign of reducing. Cryptocurrency use in Nigeria has not had a significant impact on the Nigerian banking sector. It is too early to determine if this will be the case when cryptocurrency use increases in Nigeria.

In addition to the CBN, the SEC also plays a pivotal role in fostering financial stability. Its financial stability obligation is restricted to the securities and commodities aspect of the financial sector. Section 13 (k) of the ISA 2007 requires the SEC to maintain fair and orderly markets as a means of enabling securities and larger market stability. The SEC does this by registering securities issuers, monitoring their operations and punishing recalcitrant actors. Other agencies aside from the CBN and the SEC also help promote financial stability in Nigeria. These include the Nigeria Deposit Insurance Corporation, Corporate Affairs Commission, Federal Inland Revenue Services and the courts.

#### 6.4.2 Financial inclusion

Financial inclusion is another distributional justice goal that *good CUI regulation* must address. Chapter 4 explains financial inclusion as the equality of access to financial products and services. Cryptocurrency markets help to promote financial inclusion by easing access to affordable financial products and services. Several measures have been advanced and implemented to promote financial inclusion in Nigeria. In 2012, the CBN formulated the

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<sup>77</sup> CBN, 'Circular to Banks and other Financial institutions on Virtual Currencies' Operation in Nigeria' (January 12, 2017) <<https://bit.ly/3hsNoAl>> 30 July 2020; See also Chapter 5. Part 5.2.

National Financial Inclusion Strategy. The strategy was revised in 2018.<sup>78</sup> The revised strategy identified four factors essential to the delivery of financial inclusion as payment systems, agency banking, client empowerment and linkage models. Cryptocurrency platforms are an example of payment systems.<sup>79</sup> Cryptocurrency platforms as payment systems connect customers to affordable financial products and services while eliminating the need for agency banking. Consequently, cryptocurrencies solve most of the issues which limit customers' access to financial services as identified by the strategy documents. Nigeria is aware of the potential of financial technology in promoting financial inclusion.

The Nigerian Financial Inclusion Strategy board is aware of the potential that FinTech offers for financial inclusion. It identified benefits that the Sandbox Operation of the CBN provides for the drive towards financial inclusion.<sup>80</sup> The exposure draft of the Sandbox Operation Guidelines also establishes that financial inclusion is one of the goals driving the initiative.<sup>81</sup> However, it remains unclear whether the Guidelines apply to CUI or cryptocurrencies. Further clarity is required in this regard.

Beyond the above, the CBN has also introduced several regulations to promote FinTech use within safe environments. These include the registration and supervision of payment system service providers like payment terminal service providers, payment solution service providers, mobile money operators, agents and payment service banks etc. The CBN's prohibitive stance on cryptocurrencies shows that cryptocurrency market actors are not qualified for registration under any of the above categories.

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<sup>78</sup> CBN, National Financial Inclusion Strategy (Revised) (October 2018) <<https://bit.ly/3qXeDGo>> 2 September 2020. 1

<sup>79</sup> See Chapter 2 on the application of cryptocurrencies

<sup>80</sup> *ibid*

<sup>81</sup> CBN, 'Exposure Draft of Regulatory Framework for Sandbox Operations' (June 2020) <<https://bit.ly/3xvPSDE>> 2 September 2020. 3



What, then, is the implication of this omission for individuals whose sole access to financial products and services has been through cryptocurrencies? Are these individuals not entitled to similar protections offered to bank customers? The disparities between the protection offered to cryptocurrency users and their counterparts in the financial sector also touch on the issue of incoherent regulation already discussed above.

## 6.5 Conclusions

This chapter in its application of Nigerian financial sector laws and rules to CUI established mixed results. Although certain laws and guidelines apply to aspects of CUI, several gaps are apparent. These gaps include consumer protection issues connected with information inadequacy and insufficient protection for the investing public. Also, existing rules are incapable of promoting market integrity and resilience. The laws on payment systems need to be more comprehensive. For instance, there is a need for clarity on the role of miners and e-wallet service providers and how market actors can better improve the security of assets within their custody. Finally, the technology backing CUI can be leveraged to deliver distributional and social justice goals like financial inclusions, financial stability and regulatory coherence. A combined understanding of Chapter 5 and this chapter suggests that Nigeria's current command and control approach to regulation is incapable of promoting public interests within cryptocurrency markets. Non-comprehensive rules, dispersed market actors/operators, pseudo-anonymity and limited regulatory capacity are significant issues with the existing framework. The latter touches on the inability of state actors to solely undertake regulatory tasks without access to key regulatory resources.<sup>82</sup> It thus illustrates how Nigeria should *not* regulate CUI. This raises the question; how should Nigeria regulate CUI? The next and concluding chapter answers this question.

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<sup>82</sup> See *ibid*

## Chapter Seven

### Conclusions

#### 7.1. Regulating cryptocurrency user interaction in Nigeria: The challenges

This chapter argues that cryptocurrency user interactions (CUI) in Nigeria should be regulated through the adoption of legislative rules implemented and enforced by both state and surrogate regulators.<sup>1</sup> The above conclusion draws from previous chapters' analyses of cryptocurrencies, CUI and regulation. Chapter 2 shows that cryptocurrencies were designed to resist interference, including regulation. Chapter 4 illustrates that the complicated nature of markets where CUI occur exacerbates the implication of the above. Cryptocurrency market interest imbalance, connections with illicit activities, cross-border implications and the improved ability of actors to escape legal liabilities are key issues that must be solved by *good* CUI regulation.

*Good regulation* encompasses the input, processes and outcomes aspects of regulation. *Input* refers to substantive rules which promote public interest principles of regulation namely consumer protection, market integrity and resilience and social and distributional justice goals. *Regulatory processes* must incorporate public interest values of legislative mandate, due process, expertise, transparency, accountability and expertise. Finally, regulatory input and processes must deliver predefined aims/*outputs*.

Other specific issues raise the need for CUI regulation in Nigeria beyond those highlighted above. For instance, Chapter 4 argues that increased cryptocurrency adoption and CUI have a significant bearing on Nigeria's ability to steer its economy. Cryptocurrencies are alternatives

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<sup>1</sup> *Good regulation* refers to meeting regulatory outcomes by adopting the right regulatory approach, processes and tools. See Chapter 1 (surrogate regulators can be drawn from the regulated groups/market intermediaries and third parties to regulation i.e. public interest groups and non-government organisations See more on this below

to existing financial services which allow users to evade regulatory control.<sup>2</sup> Chapters 5 and 6 equally expose other inadequacies in Nigeria's financial sector regulatory framework. In some cases, finding applicable laws is challenging. Where they exist, Chapters 5 and 6 show substantial gaps in implementation and enforcement within CUI and cryptocurrency markets.

Nigeria's fragmented financial sector regulatory framework is also problematic for the regulation of CUI. Chapters 5 and 6 show that different laws apply to the multiple functions of cryptocurrencies in Nigeria. This fragmentation produces a complicated web of rules, regulatory conflicts and tensions which undermine Nigeria's ability to regulate CUI. The impact of these tensions and conflicts is already being felt. Chapters 5 and 6 present evidence of Nigeria's inconsistent regulatory approaches towards cryptocurrencies and CUI.<sup>3</sup> The above is confusing for cryptocurrency users and the public. Consequently, Chapter 6 concludes that the existing regulatory framework in Nigeria cannot promote *good* CUI regulation.

This chapter concludes the thesis by recommending how Nigeria should regulate CUI. The rest of the chapter is structured as follows. Section 7.2 expands on the need to formulate comprehensive laws and rely on surrogates' support in implementation and enforcement where necessary. Section 7.3 evaluates regulatory surrogacy while identifying the actors that may act as surrogates. Section 7.4 highlights the principles and considerations which must underpin Nigeria's model of SR while section 7.5 raises concerns for future research. Section 7.6 concludes by highlighting the wider implication of the research for regulation within and beyond Nigeria.

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<sup>2</sup> See Chapter 4 for more examples

<sup>3</sup> Nigeria's latest approach is both prohibitive for banks and cautions for users. According to a survey with participants drawn across the world, 32% of participants are Nigerians who admit to owning and using cryptocurrencies Katharina Buchholz, 'How Common is Crypto?' (11 February 2021) <<https://bit.ly/3qAg6AA>> 5 March 2021; Vanguard 'Nigerians' appetite for Bitcoins grows despite ban' (29 March 2021) <<https://tinyurl.com/4bkwp37>> 31 March 2021

## 7.2 Good CUI regulation?

This thesis' evaluation of *good regulation* encompasses three components namely input/principles, processes and instruments.<sup>4</sup> Chapters 3 and 4 argue that good CUI regulation must promote three core public interest principles namely consumer protection, market integrity and resilience and social and distributional justice goals. In addition, Chapter 3 explores some of the regulatory instrument(s) and processes which states may adopt to regulate. It argues further that even with comprehensive laws/principles, inadequate regulatory capacity to implement and enforce these will undermine the promotion of *good regulation*. Chapters 5 and 6 build upon the above by evaluating the adequacy of existing financial sector laws, processes and instruments in solving some of the regulatory issues raised in Chapter 4. These chapters found Nigeria's existing financial services regulatory framework to be inadequate for the promotion of *good* CUI regulation. The next sections present the implementation and enforcement of the law with the support of surrogates as a good way to regulate CUI in Nigeria.

### 7.2.1 Rule formulation

As noted above, Chapters 5 and 6 demonstrate that existing laws with significant bearing on CUI and their aims are incongruous. This conflicts with Chapter 3's argument that regulatory standards/rules must mimic market needs to enable good regulation. To formulate comprehensive rules, regulators must understand the three fundamental distinctive features that account for the complicated nature of CUI namely cryptocurrency types, functions and markets. The discussion below addresses each of these points.

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<sup>4</sup> These components are in line with the reasoning of Gunningham and Grabovski (and adopted by Abbot) Neil Gunningham, Peter Grabovsky, *Smart Regulation: Designing Environment Policy I* (Clarendon Press 1998): Carolyn Abbot, 'Bridging the Gap - Non-State Actors and the Challenges of Regulating New Technology' [2012] 39 *Journal of Law and Society* 329 See also Chapter 6.

Take the need to understand different cryptocurrency types as the starting point. The variations in the features of different cryptocurrencies have implications for their market dynamics. Chapter 2 presents evidence showing that cryptocurrencies that are backed by state Fiat Currencies (FCs) and tangible assets, like gold, are less volatile compared with other cryptocurrencies.<sup>5</sup> This suggests an increased need to solve volatility issues in cryptocurrencies that are not backed by assets. For instance, the state could mandate product insurance for cryptocurrencies, which are not backed by assets, to diminish the impact of volatility on consumers. Chapter 2 also shows that cryptocurrencies with longer market existence, like bitcoin and ether, lead market trends. This means that volatility in the price of bitcoin and ether affects the prices of other cryptocurrencies. Accordingly, rules targeted at controlling bitcoin and ether's volatility may have a market-wide impact.

Turning to cryptocurrency functions, Chapter 2's analysis of the several market functions of cryptocurrencies is relevant to formulating rules. A uniform approach will undermine the promotion of *good regulation* considering that Chapter 2 identified that different cryptocurrency functions raise different issues. Regulators must formulate different rules tailored to the diverse needs arising from the divergent functions of cryptocurrencies. This, however, is not an easy task. It calls for a detailed understanding of each function and the issues they generate now and in the nearest future. Regulating from the above viewpoint is underpinned by states' acceptance of cryptocurrencies based on their three functions. The acceptance of cryptocurrencies as commodities and securities is less problematic given that this does not have significant implications for accepting states' sovereignty. Recognising and, therefore, regulating them as currencies is, however, challenging. Excluding El Salvador, no

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<sup>5</sup> Ayten Kahya, Bhaskar Krishnamachari, Seokgu Yun, "Reducing the Volatility of Cryptocurrencies -- A Survey of Stablecoins" (2021) <<https://ui.adsabs.harvard.edu/abs/2021arXiv210301340K/abstract>> 10 November 2021

other countries treat cryptocurrencies as legal tender.<sup>6</sup> Nigeria does not accept the treatment of cryptocurrencies as currencies considering that Nigerian law reserves the right to issue currencies in the Nigerian state.<sup>7</sup>

Prohibiting the use of cryptocurrencies as currencies in Nigeria conforms to the provisions of the CBN Act. However, this may be difficult if their use as an instrument of payment settlement is permitted. Chapter 2 shows that the function of cryptocurrencies as an instrument of payment settlement is linked with their currency function. How, then, can the regulation of cryptocurrency as an instrument for settling payments be reconciled with current laws which fail to accord currency status to cryptocurrencies? Unless these laws are amended to authorise the application of cryptocurrencies as elements of the payment system while excluding their currency treatment, leveraging cryptocurrency-based payment systems is untenable. Regulating cryptocurrencies as commodities, not currencies, based on their payment system function is an alternative worth considering. In this case, their use as a payment system instrument will be governed by barter rules.

Third, an understanding of how cryptocurrency market dynamics shape the behaviour of users and market actors is also vital to formulating comprehensive rules.<sup>8</sup> Chapter 4's exploration of the conflicts and tensions among cryptocurrency market interests is illustrative. Not only does it suggest the need to formulate rules which balance competing interests, but it also highlights that overlapping interests may demand limited regulatory scrutiny.<sup>9</sup> The above also touches on the role of market actors, their multiple functions, access to regulatory resources and the state's ability to facilitate compliance.<sup>10</sup> Rules tailored to each actor's capabilities for implementation

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<sup>6</sup> Joe Tidy, 'Fear and excitement in El Salvador as Bitcoin becomes legal tender' BBC 7 (September 2021) <[www.bbc.co.uk/news/technology-58473260](http://www.bbc.co.uk/news/technology-58473260)> 25 10 2021

<sup>7</sup> Sections 17, 18 & 20 (2) CBN Act 2007; See also Chapters 2 and 6

<sup>8</sup> See Chapter 4 or how conflicts in market interest generate tensions

<sup>9</sup> See *ibid*

<sup>10</sup> See Section 7.3 below for more

and enforcement are crucial. Overall, there must be mechanisms in place to prevent the abuse of market actors' powers. Formulating rules which exclude this ability is essential.

Existing laws, where relevant and comprehensive, should continue to apply to CUI. This includes modifying existing principles to fit novel cryptocurrency-related situations when necessary. The above should be combined with newly formulated rules where modifying existing rules will not solve CUI issues. Overarching public interest principles namely consumer protection, market integrity and resilience and distributional justice goals must guide the laws formulation process. Consistency of rules across financial services, where possible, must be prioritised for *good CUI regulation*.<sup>11</sup>

Non-state actors' expertise at all the stages of regulation, including the principle/rules formulation stage is crucial given that it will improve the legitimacy and, more importantly, acceptability of the rules which emerge. Chapters 5 and 6 illustrate how Nigeria has relied on the expertise and input of non-state actors at the principle formulation stage in the past. Nigeria's financial regulators' release of exposure drafts of regulations after their initial consultation with stakeholders for more input from the public is an example.

The input of stakeholders, such as exchanges and miners, state regulators, independent experts, academics, consumers and non-governmental organisations (NGOs), is invaluable at the standard-setting stage. Encouraging participation from consumer groups, experts, watchdogs and other private standard-setting bodies will promote a more balanced outcome.<sup>12</sup> The legislature may confer rights by enacting laws agreed upon by stakeholders during the consultation stage. Finally, the courts as independent arbiters give form to legislative intent by

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<sup>11</sup> Financial Stability Board, Regulation, Supervision and Oversight of 'Global Stablecoin' Arrangements Final Report and High-Level Recommendations' (13 October 2020) 17 <<https://bit.ly/3ecIup6>> 13 July 2021

<sup>12</sup> Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (1992)

interpreting these laws and acting as a check on the powers of regulators.<sup>13</sup> Having explored the need for comprehensive rules formulation, the next section now turns to implementation and enforcement.

### 7.2.2 Implementation and enforcement of rules

Chapter 3 establishes that regulatory capacity is essential for better enforcement and implementation of comprehensive rules. Inadequate regulatory capacity significantly undermines the promotion of good regulation. Access to regulatory resources is central to regulatory capacity. Chapter 3 identifies these as information, wealth, expertise, organisational capacity and legitimacy. The actors with greater access to each of the above resources vary depending on the context. Section 3.4.2 in Chapter 3 illustrates that actors' access to regulatory resources derives from their positioning and wealth. Take for instance non-state actors' greater access and control over information on transactions/products, information on market risk indicators, features of successful cryptocurrencies and common consumer mistakes. Non-state actors' access to the above is because they have regular interactions with users in comparison with the state.

What, then, is the broader implication of private access to regulatory resources? Primarily, access to essential regulatory resources significantly shapes the state's choice of regulatory model. For instance, Chapter 3 argues that a state-centred regulatory approach is incompatible with regulatory contexts in which non-state actors have substantial access to regulatory resources. The state's ability to enforce rules is significantly limited within the above context. Self-regulation would be a better approach to regulation. However, Chapter 3 illustrates that

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<sup>13</sup> 'Nigerian court lifts bank freeze on firms accused of buying crypto' Reuters (26 October 2021) <<https://reut.rs/3CjtOPe>> 27 October 2021



self-regulation, as an alternative to state-centred regulation, is imperfect.<sup>14</sup> The apparent interest imbalance within CUI renders the attainment of fair outcomes with self-regulation problematic. Chapter 3 argues that hybrid regulatory models offer the benefits of state-centred and self-regulation without compounding their risks.

Drawing from the utility of non-state actors in the regulation of the financial services sector evidenced in Section 5.7 of Chapter 5, this thesis proposes a specific type of hybrid model of regulation to supplement Nigeria's inadequate access to resources and, by extensions, regulatory capacity. The thesis advocates legislation which should be enforced and implemented by the state and surrogate actors where state actors lack the capacity and resources to achieve good CUI regulation. In line with Chapter 3, information, code and consensus regulatory instruments are compatible with hybrid regulatory models, including surrogate regulation (SR).<sup>15</sup> While surrogate regulation may not solve all of the issues connected to the regulatory capacity of Nigerian state actors, it is a good starting point to improve Nigeria's ability to regulate CUI by leveraging private access to regulatory resources in implementing and enforcing the law. The next section evaluates surrogate regulation as a means to facilitate *good* CUI regulation.

### 7.3 Surrogate regulation

Surrogate regulation or regulatory surrogacy (SR) is a specific blend of the hybrid regulatory model explored in Chapter 3. It represents a formal way of harnessing the resources of non-state actors, including the target of regulation and, occasionally, third parties to regulation without totally relinquishing state actors' control. Chapter 3 illustrates that private actors often have better access to key regulatory resources like information, wealth, expertise, authority and

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<sup>14</sup> It raises legitimacy, transparency and accountability issues. Bronwen Morgan & Karen Yeung, *An introduction to law and regulation* (Cambridge 2007) 106

<sup>15</sup> See Table 3.1

organisational capacity. SR reduces the problem of resource asymmetry, a major limitation to good CUI regulation in Nigeria, by providing the regulatory framework for facilitating the use of private access to the above resources to enable a more robust system of implementation and enforcement of rules.

SR is a less interventionist approach to regulation compared to state-centred models currently applicable in Nigeria's financial services sector. Within the SR model, the state allocates regulatory functions to non-state actors demanding that the latter uses its resources to further public policy objectives.<sup>16</sup> Although surrogates retain more control over how they use their resources in furthering public policy goals, the state does not relinquish its other regulatory powers.<sup>17</sup> State actors retain their oversight functions and can intervene where surrogates fail to perform their duties or meet regulatory outcomes.<sup>18</sup> State actors must have sufficient knowledge about the subject of regulation and how the industry works, expertise and skill to facilitate compliance within the SR model.

SR is not a new concept. Regulation of financial services in the United Kingdom shares certain similarities with SR.<sup>19</sup> Examples of SR also exist within Nigeria's banking sector. Banks have applied their resources and strategic positioning to enforce laws and support the state in meeting public policy objectives on several occasions.<sup>20</sup> For instance, SR has facilitated faster detection and resolution of financial crimes in Nigeria. The Economic and Financial Crimes Commission

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<sup>16</sup> Such as expertise, organisational capacity, information and authority. Julia Black, 'Enrolling Actors in Regulatory Systems: Examples from UK Financial Services Regulation' (2003) *Public Law*, 63

<sup>17</sup> Neil Gunningham, Martin Phillipson and Peter Grabosky, *Role of govt in facilitating non-state actors* (1998) 222

<sup>18</sup> Black (n 16)

<sup>19</sup> See Alan Page, 'Financial services: The self-regulatory alternative' in Robert Baldwin and Cristopher McGrudden (Eds) *Regulation and public law* (Weidenfeld and Nicolson 1987).

<sup>20</sup> See Chapters 5 and 6 for more on how the CBN charged commercial banks with the role of regulating exchanges

(EFCC) has traced crime syndicates by simply following the connections established with the help of banks' records.<sup>21</sup>

Beyond just reporting suspicious activities for anti-money laundering and combating the financing of terrorism purposes, banks, in lending their resources to public purposes, have denied customers access to their accounts based on suspicion of illicit activities in Nigeria.<sup>22</sup> And when these customer/crime suspects visit banking halls to make complaints about their inability to access their accounts, bank employees have been known to apply "delay tactics". These delays often provide law enforcement agencies with sufficient time to arrest suspects while they wait for their complaints to be resolved.<sup>23</sup> Another example of SR is apparent in the demand for annual returns filing by Nigerian banks before opening accounts for/granting loans to corporate entities/registered businesses. The Corporate Affairs Commission (CAC) has limited measures in place to enforce its mandatory provisions on annual returns but relies on private entities/other government agencies as gatekeepers into the business world for the facilitation of compliance.

Turning now to the utility of SR within CUI. Abbot's analysis regarding the use of surrogates in regulating emerging technologies is illustrative.<sup>24</sup> She highlighted resource asymmetry, uncertainties and regulatory disconnect as key reasons for regulating through surrogates.<sup>25</sup> These factors, which Chapter 3 evaluates in more detail, are recurring themes in this thesis.<sup>26</sup> Regulating through surrogates solves each of the above issues to some extent. Take resource

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<sup>21</sup> *Guaranty Trust Bank v. Mr. Akinsiku Adedamola* (2009) CA/L/1285/15

<sup>22</sup> See *Blaid Construction Limited & Anor. v. Access Bank Plc.* FHC/ABJ/CS/132/2019: See also *Governor, Central Bank of Nigeria V. Bolatito Rachael Oduala & 19 others* Suit No: FHC/ABJ/CS/1384/2020

<sup>23</sup> It is problematic that the above approach focuses disproportionately on certain groups while it fails to bring organised criminals and political elites to justice. A more comprehensive approach to AML/CFT needs to be developed.

<sup>24</sup> Abbot (n 4) 329 Gunningham et al advanced regulatory surrogacy as a means of regulating the environment. See Gunningham et al (n 4) 21

<sup>25</sup> See Chapters 3 and 5 on hybrid models of regulation and the role of non-state actors respectively

<sup>26</sup> See also Chapters 2, 4, 5 and 6

asymmetry as the starting point. Industry actors, as surrogates, have access to regulatory resources. Their increased access to regulatory resources provides surrogates with a better understanding of market behaviour. Chapter 3 illustrates that allocating regulatory roles to actors with adequate access to resources will be useful for achieving regulatory outcomes. The above example regarding greater private access to information on market behaviour shows that non-state actors/surrogates may be well equipped to inform and educate consumers. They can also advise or lend their resources to promote a better appreciation of emerging market trends and consumer behaviour as means of limiting the implications of resource asymmetry.

SR is also helpful for minimising the challenge of regulatory disconnection. Collaborating with market actors who have greater access to updated information, knowledge and expertise on technology and market regulation provides a continuing connection between state actors, the industry and other stakeholders.<sup>27</sup> Chapter 3 highlights that third parties to regulation, as the third leg of the regulatory tripod, equally have a leading role in calling the state's attention to issues demanding regulatory attention and responses as they emerge.

In addition, SR can help limit the impact of uncertainties and risks associated with CUI. Chapter 3 explains that proper identification and promoting an understanding of the significant issues as they emerge are ways to approach these risks. The record of daily interactions with users and other market actors will provide a constantly updated pool of information on emerging uncertainties and risks. The state's oversight of surrogates and access to the pool of information will help it devise the means to limit the impact of uncertainties. Constantly updated state actors are better equipped to lead further collaborations with surrogates/market actors on how to solve issues raised. Finally, collaborating with surrogates will also help solve the challenge of expertise asymmetry among state actors and surrogates.<sup>28</sup> The above, of

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<sup>27</sup> Abbot (n 4) 336

<sup>28</sup> *ibid* 330

course, requires better mechanisms for information/knowledge sharing between surrogates and state actors. Consequently, the presence of a conducive environment and conditions for the above arrangement to thrive is crucial.<sup>29</sup>

There are other benefits of SR for CUI regulation in Nigeria beyond solving the challenges with resource asymmetry, regulatory disconnection and uncertainties and risks. The state's reduced cost of regulation is an example. The SR model requires limited state resources and expertise. SR helps to internalise the costs of regulation within the industry. This makes the model less expensive to the state and the public compared to direct state regulation. Finally, SR limits waste in other ways by preserving states' regulatory resources for use elsewhere.<sup>30</sup>

Although SR may be cheaper for the state, the reverse is the case for surrogates. Why, then, should surrogates lend their resources to the promotion of public goals and good regulation, especially if they will incur higher costs while doing this? One argument is that surrogates may significantly benefit from the regulatory model as it promotes the continued existence of fair markets. Competitive advantage, enhancement of corporate image and greater consumer acceptance are other benefits to surrogates.<sup>31</sup> However, other stakeholders also benefit from SR without incurring additional costs like surrogates. Consequently, the better argument is that surrogates should supplement regulation because they are well-positioned to internalise the cost of regulation and factor this into the price of cryptocurrency-related goods and services.

Notwithstanding the above, surrogates may be less willing to lend their resources to the promotion of public interest objectives. This is more problematic where surrogates and state actors are not unanimous in their definitions of public interest, or which public interest must

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<sup>29</sup> See below on conducive conditions as one of the considerations for surrogate regulation

<sup>30</sup> Ayres & Braithwaite (n 12) 103

<sup>31</sup> Gunningham et al (n 17) 236

be prioritised where conflicts are apparent.<sup>32</sup> The impasse between Twitter and Nigeria illustrates this challenge. Nigeria banned Twitter in June 2021 claiming that the tech giant lends its platforms to the promotion of civil and political discord in Nigeria.<sup>33</sup> Twitter affirmed that protecting the freedom of expression and derogating from this under certain circumstances are public interest objectives that they are obliged to promote. However, Nigeria considers the need to prioritise the public interest of political stability. While Nigeria agrees that the aims identified by Twitter are also public interest aims, Nigeria wishes to have a greater influence on when and how this freedom can be implemented/waived.<sup>34</sup> Consequently, Nigeria directed internet service providers (ISPs) to deny users access to all Twitter platforms to give effect to the ban.<sup>35</sup> However, users in Nigerian continued to access Twitter platforms while using Virtual Private Networks (VPN).<sup>36</sup>

The above suggests that Nigeria must exercise sufficient control over market actors and continuously evaluate the willingness of surrogates to deploy their resources towards achieving public aims. This evaluation will help Nigeria intensify or relax its regulatory activities or even find alternatives in response to market behaviour and demands. While relaxing regulatory activities and the role of state actors is less problematic, intensifying them may well be. The latter could occasionally mean going beyond facilitation to mandate compliance, as evidenced by the Twitter/ISP case cited above. Chapter 3 shows that facilitative arrangements are less expensive and preferable to forcing specific use of private resources.<sup>37</sup> Nigeria must prioritise the latter and only resort to the former in the absence of a better alternative.

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<sup>32</sup> See Chapter 3 on the broader issue of what public interest means. Terrence Daintith, 'Legal Measures and their analysis' in Baldwin & anor. (n 19) 355

<sup>33</sup> Prince Osuagwu '100 days of Twitter ban: Twitter drops market share to 2.8%, Facebook, Instagram gain' (September 2021, The Vanguard) <<https://bit.ly/3olBGLK>> 30 September 2021

<sup>34</sup> *ibid*

<sup>35</sup> *Ibid*

<sup>36</sup> *ibid*

<sup>37</sup> Some of the demerits on the CAC instrument apply

However, surrogates may not always rebuff state supervision and access to their resources. Less resistance could occur, especially where public interest aims significantly overlap with surrogates' interests. Even where this is the case, Nigeria must investigate surrogates' motives for lending their resources to regulation. Where surrogates' motives are incompatible with that of Nigeria, regulators must ensure that this does not significantly undermine their performance and ability to meet regulatory outcomes. Having established the meaning of SR, the next question is how, then, can SR be implemented in Nigeria? The next section turns to this.

### 7.3.1 Implementation of surrogate regulation

State regulators must target actors capable of enhancing the impact of regulation for the purpose of allocating regulatory functions. This need arises from the major theme emerging from the preceding chapters' analysis, i.e. the difficulty in solely regulating a decentralised innovation such as cryptocurrencies by the state. Regulators must then allocate functions to these actors and provide regulatory oversight. Allocating highlighted functions at the initial stage is useful for understanding *how* private resources may be applied towards the attainment of public interest objectives. It is equally useful for determining *the extent* to which surrogates can perform public functions in line with established standards/principles with minimum state supervision.<sup>38</sup>

The state may equally require access, with the backing of an enabling law, to private actors' resources where this is essential for enhancing the effectiveness of regulation. Nigeria's access to resources and functions allocated to private actors can be increased or decreased according to its needs for the purpose of maintaining oversight. State regulators and surrogates can also rely on resources within their control to allocate or suggest the allocation of more roles to other

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<sup>38</sup> Gunningham et al (n 23) 221

stakeholders within cryptomarkets. Beyond solving current regulatory concerns, these resources would be useful in mapping future directions for the regulation of disruptive technological and financial services/products.

Which actors, then, can act as surrogates in Nigeria and within cryptocurrency markets more generally? Exchanges, e-wallet service providers, Internet Service Providers (ISP), third-party insurance companies, ICO issuers, decentralised application operators engaged in the transfer of value, NGOs, Public Interest Groups (PIGs) and consumer watchdogs are examples. The role of some of these actors will be returned to shortly.

First, it is necessary to touch on other considerations, including the different levels of difficulties the state may face in charging these actors with regulatory responsibilities and which regulatory functions *can* and *should* be allocated to private actors. For instance, it may be less difficult to include ISPs, exchanges, insurance companies and consumer watchdogs (who have significant ties to Nigeria, i.e. targeting or representing Nigerian users or having physical offices in Nigeria) as surrogates. The reverse is the case for miners, considering that they are more a decentralised group of people/nodes who operate within an international scene devoid of state control.

Primarily, miners have limited interactions with users compared to the other actors identified in this thesis. Inadequate control of miners may be inconsequential as long as other major market actors are well accounted for in the regulatory regime. Consequently, capturing them within the SR model may not be a priority. However, it is desirable to account for the role of miners in a comprehensive regulatory regime for several reasons, including those touching on limiting the environmental implications of mining. Effective control of miners will significantly depend on how successful regulators are in incentivising the cooperation of these actors and international collaboration among regulators.



Turning now to which functions can be allocated to surrogates. Role allocation must be underpinned by each surrogate's access to regulatory resources. For instance, actors with better access and control over information on transactions and the patterns of cryptomarket user behaviour are well-positioned to inform and educate consumers, the larger society and other market actors on the risk indicators in products and their level of compliance with existing guidelines. The role of FintechNGR in educating the public about cryptocurrencies more generally in the absence of more credible materials in Nigeria is an example.<sup>39</sup> The information at the disposal of private companies on blockchain analytics which places them in a better position to assist law enforcement agencies in the detection and investigation of cryptocurrency-related crime is another example.<sup>40</sup> State actors can draw from this to identify what incentive or punishment would encourage or discourage certain behaviours for better enforcement of rules. Data and synthesised information can also be shared with state actors or other surrogates to help improve how they perform the functions allocated to them.

Third parties to regulation, who influence market behaviour through persuasion and other subtle means, equally have a crucial role to play. There are limited examples of third parties to regulation within the cryptocurrency market space in Nigeria. However, there are several NGOs within the broader aspect of consumer protection that may be useful in the interim. Consumer Advocacy & Empowerment Foundation, Consumer Benefits & Rights Initiative, Bank Customers Association of Nigeria, Consumer Right Organization and Consumer Rights Awareness Advancement & Advocacy Initiatives are examples.

In addition to the above, there is scope for incentivising the participation of private parties with a specific focus on cryptocurrencies. Bodies engaged in blockchain analytics touched on above

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<sup>39</sup> FintechNGR <<https://fintechng.org/>> 20 August 2021; See more on FinTechNGR in Section 5.7.4.2 Chapter 5

<sup>40</sup> FATF, 'Second-12-Month-Review-Revised-FATF-Standards-Virtual-Assets-VASPS' (July, 2021) <<https://bit.ly/3y1DAGh>> 17 April 2022, 3

are examples of third parties with resources useful for meeting public policy goals.<sup>41</sup> Primarily, third parties to regulation can act as watchdogs to enable a balance in representation within the market while they monitor the compliance of market intermediaries with public interest principles. If the state permits, they can enforce principles against recalcitrant actors and seek compensation for wronged consumers. This would be instrumental in reducing harm or even setting the law reform process in motion with regard to new risks that may emerge.<sup>42</sup>

The foregoing indicates the presence of high levels of flexibility and variation in terms of what different surrogates *could* or *should* do. The SR model inevitably would create varying levels of burden for different private actors. It raises some questions on the factors that would influence the allocation of varied responsibilities to different surrogates. The quantum of regulatory role allocated to each surrogate would depend on several factors including their access to regulatory resources, role in the market, willingness to act and the risks of regulatory capture. State regulators' ability to maintain oversight and promote transparency, due process and accountability must also shape the type of roles allocated to surrogates. Finally, the allocation of regulatory roles must be conducted with the need to uphold public trust in the foreground.

It is essential for state regulators to devise effective means of incentivising the cooperation of actors, particularly those charged with greater regulatory responsibilities. For instance, requiring market intermediaries to share information about the behaviour of consumers with third parties to regulation including NGOs may be more burdensome to the former because of how this may occasion extra costs or negatively affect their profit motive. Periodic endorsement of these intermediaries for their cooperation by NGOs or recognition by the state is one of the

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<sup>41</sup> See sections 5.7.4 of Chapter 5 for more

<sup>42</sup> Gunningham et al (n 23) 219

ways to incentivise cooperation. Publicly identifying non-cooperative intermediaries would achieve a similar outcome.

To reiterate, the SR model, as a framework for developing, implementing and enforcing rules/principles of good regulation, cannot operate in a vacuum. It should be governed by comprehensive rules already touched on in Section 7.2.1 above. Additionally, Nigeria can draw from the wealth of existing rules in mapping out guidelines for the operation of these actors. For instance, the FATF's guidance for the operation of market intermediaries including exchanges is useful for limiting the illicit use of cryptocurrencies including the risks of money laundering. The FATF's recommendation on the need for ties to the local economy in the form of significant management presence, resident managers and local financial ties to permit state actors greater influence on cryptocurrency service providers is relevant.<sup>43</sup>

Other key considerations include a risk-based approach to regulation, licensure of service providers, interagency cooperation, preventive measure e.g. customer due diligence, suspicious transaction reporting, application of existing money laundering sanctions to emerging offences, confiscation of property and proceeds of money laundering and financing of terrorism, speedy resolution of investigations and effective reporting mechanisms.<sup>44</sup> In light of the utility of several FATF principles and recommendations on oversight highlighted above, what, then, is the difference between SR and the model recommended by the FATF? The next section expands on this.

### 7.3.2. Surrogate regulation and the FATF model

Differences and areas of overlap are apparent between the two regulatory approaches. Take the differences as a starting point. The FATF approach is largely underpinned by the command

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<sup>43</sup> FATF, 'Guidance for a Risk-Based Approach: Virtual Assets and Virtual Asset Service Providers' (2019) <[www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf](http://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf)> 06 April 2022, 23

<sup>44</sup> *ibid*

and control (CAC) model. It prescribes the positioning of law enforcement agencies at the forefront of regulation. These actors are charged with investigating non-compliance and visiting sanctions on erring service providers. Chapter 3 discussed the core limitations of this model of regulation.<sup>45</sup> The mechanisms at the disposal of the state include post-facto sanctions if infractions are detected. This approach is appropriate where state actors have access to key regulatory resources for easy and timely detection of infractions. In particular, limited regulatory capacity makes the situation more acute within the Nigerian context where a significant number of infractions may go undetected. Chapters 5 and 6 illustrate that Nigeria's cryptocurrency regulatory landscape is characterised by a level of dissonance between regulatory issues on the one hand, and the access of states to regulatory resources and the ability to achieve public policy aims unaided on the other hand. Consequently, a CAC approach to regulation as suggested by the FATF may not promote optimum results in Nigeria.

In addition, third parties to regulation, particularly NGOs, consumer watchdogs and mass media, have a greater role in balancing competing interests within the SR model. The FATF guidelines did not offer specific clarity on the role of third parties in regulating market interactions and intermediaries. The SR model takes the FATF recommendation further by envisaging a role for third parties in the regulatory framework, particularly in developing countries with a developing regulatory landscape on FinTech services and products.

However, an area of overlap is apparent since the FATF calls for collaboration among regulators generally, and with private actors on certain issues. The FATF restricts collaboration to information sharing, educating competent authorities, conducting outreach with the private sector regarding the risks posed by P2P transactions and to an extent informing service providers of the need to avoid *tipping off* the suspect of an ongoing investigation regarding the

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<sup>45</sup> See chapter three for the limitations of this model of regulation.

issues raised by virtual assets.<sup>46</sup> It equally recommends a level of support from self-regulatory agencies in information-sharing and facilitating contact.<sup>47</sup> SR spans a broader regulatory context by demanding the specific use of private resources on a wide range of regulatory issues beyond the illicit use of cryptocurrencies.

The role of the NFIU in limiting the prevalence of TF and ML, on the one hand, and access to resources for implementing this role, on the other, is an area of overlap. This is because reporting requirements on suspicious activities lie at the crux of SR. The FATF recommendation on the need for supervision by a public agency (including the NFIU) can be reconciled with the SR model in the sense that state agencies retain a form of control in the allocation of regulatory functions, evaluating the information gathered and supervising surrogates. Enforcing sanctions where surrogate actors' implementation of rules is observed to be lax is another means through which the state affirms its superiority. Additionally, greater transparency and accountability of surrogates to the agency performing oversight functions are core requirements of the SR model. This goes beyond the main requirement within the FATF model which relies significantly on self-reporting and occasional checks.

Furthermore, the FATF recognises the implication of different national contexts, experiences of countries and their private sector. Therefore, it recommends that these factors shape the implementation and enforcement of the guidelines by states.<sup>48</sup> This brings into focus the pervading dissonance between regulatory functions and resources in Nigeria illustrated by the analyses in Chapters 5 and 6. Limited access of state actors to regulatory resources makes SR a better approach to CUI regulation compared to the state-centred FATF framework. With SR,

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<sup>46</sup> FATF (n 40) 39; FATF, 'Guidance for a Risk-Based Approach: Virtual Assets and Virtual Asset Service Providers' (2019) <[www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf](http://www.fatf-gafi.org/media/fatf/documents/recommendations/RBA-VA-VASPs.pdf)> 06 April 2022, 51

<sup>47</sup> FATF, 'Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers' (October 2021) <<https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>> 17 April 2022, 47

<sup>48</sup> *ibid* 8, 9

Nigeria's limited access to key resources including information, wealth and expertise is not as limiting considering that regulators leverage access to private resources in implementing and enforcing rules. The performance of oversight functions by state actors and enhanced transparency measures, including periodic reporting and spot checks by state actors, will be essential for maintaining a good regulatory regime for CUI.

In sum, SR is new, different and expansive considering that it covers a broader context of regulation than the prohibition of money laundering and terrorism financing. SR provides a framework for developing adequate responses to regulatory issues connected to consumer protection, market integrity and resilience and distributive justice goals. It leverages private access to regulatory resources for good regulation while ensuring that an independent state regulator(s) oversees the activities of surrogates for improved accountability and transparency. Potential surrogates include market intermediaries facilitating exchanges between cryptocurrencies and other classes of virtual assets and fiat currencies, between cryptocurrencies. Other examples include actors who facilitate cryptocurrency transfers, custodial services and those engaged in the provision of financial products and services related to any of the above. Third parties to regulation including consumer groups, non-governmental organisations and mass media are also captured in the SR model of regulation considering the utility of their resources in limiting the imbalance in the interests of consumers, market intermediaries and the state. The next section presents examples of how some of these actors can help foster good CUI.

### 7.3.3 Surrogate regulators?

#### **Exchanges**

By virtue of their position as gatekeepers of cryptocurrency markets, exchanges are central to the promotion of fairness and integrity within these markets. Online and physical exchanges

act as the main entry and exit routes into and out of the cryptocurrency ecosystem. In addition to physical offices, online platforms that facilitate the transfer of traded cryptocurrencies are included within the definition of exchanges. Conversely, platforms, where P2P users publish offers and bids, may be excluded if they only facilitate the meeting of willing buyers and sellers.<sup>49</sup> Exchanges' control over regulatory resources like information, authority, expertise, wealth and organisational capacity in the case of larger exchanges makes them good surrogate regulators for modifying market behaviour on a larger scale.

Similar to the practice in Sweden, included exchanges should be treated as financial institutions and mandated to comply with reporting suspicious activities considering that they offer services similar to commercial banks.<sup>50</sup> The CBN directive on customer due diligence, i.e. KYC applicable to financial institutions, is an example of how regulators can effectively leverage the strategic positioning and information of exchanges to regulate CUI.<sup>51</sup> This can be taken a step further by applying the FATF recommendation on operating a licensing regime for exchanges.<sup>52</sup> Licensing exchanges that operate within Nigeria, or serve users in Nigeria, would create a stronger link with Nigeria and an avenue for identifying the actors responsible for implementing the provisions of the law. The above can be built upon by demanding that these service providers report and share information on suspicious activities and risk indicators with the state to facilitate more cautious market interactions. A public record of compliant exchanges could be a useful tool for discouraging a sizeable number of consumers from patronising non-compliant exchanges considering the attendant increased accountability, transparency and

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<sup>49</sup> *ibid*

<sup>50</sup> *Ibid.* 48; See also Chapters 1, 4, 5 and 6. These services include money exchange services, processing of transfers and accepting deposits

<sup>51</sup> See Chapters 5 and 6

<sup>52</sup> FATF, 'Guidance for a Risk-Based Approach to Virtual Assets and Virtual Asset Service Providers' (October, 2021) <<https://www.fatf-gafi.org/media/fatf/documents/recommendations/Updated-Guidance-VA-VASP.pdf>> 17 April 2022, 44

higher levels of protection. In essence, more users will be brought within the safety net of regulation.

Exchanges will record significant benefits from this arrangement. For instance, complying with Nigerian rules could be a catalyst for improving exchanges' customer base.<sup>53</sup> The desire of compliant exchanges to protect their records and attract more licit customers incentivises cooperation with the state agency providing regulatory oversight. Nevertheless, reports indicate that customer due diligence and suspicious activity report by exchanges have helped to displace illicit actors considering how this erodes the privacy feature of cryptocurrencies. The movement of unwilling actors to other jurisdictions will be beneficial overall for a more accountable and transparent financial system in Nigeria.

Notwithstanding the regulatory gains that may accrue from the above arrangement, exchanges as surrogate regulators will not eliminate all forms of regulatory issues within CUI in Nigeria. The ability to exchange cryptocurrencies through informal exchanges, decentralised exchanges and P2P transactions means that certain interactions may not be captured by regulation. One way of reducing the number of consumers engaging in transactions on the highlighted platforms is to ease the restrictions on the facilitation of cryptocurrency transactions by commercial banks in Nigeria. User interactions within the more formal market may be encouraged by allowing commercial banks to process cryptocurrency transactions linked to registered exchanges.

Notwithstanding the limitations regarding the functioning of exchanges as surrogate regulators, it represents a good starting point in discouraging interactions with unregistered service providers, while regulators continue to develop a more comprehensive approach to limiting informal interactions. The identification of actors behind subsequent transactions after the

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<sup>53</sup> This was the case in Sweden, see *ibid*, 48



initial exchange of cryptocurrencies and fiat currencies is a good example of a crucial regulatory function outside of the purview of exchanges.<sup>54</sup> The gap which this occasion underscores the importance of e-wallet service providers in promoting a more robust regulatory regime.<sup>55</sup>

## **E-wallet service providers**

E-wallet service providers are well-located with access to the resources required for monitoring transfers between e-wallets. Their resources include expertise, authority and, to an extent, organisational capacity. In line with the FATF recommendation on the creation and utility of financial intelligence units in states, Nigeria can mandate the deployment of the resources of e-wallet service providers for the detection and reporting of suspicious activities to law enforcement agencies, including the NFIU. For greater transparency, this could be combined with periodic reports of transactions made available to the agency with oversight functions. Having the right principles in place to guide e-wallet service providers will be helpful in this regard. Implementation of the risk-based approach of the FATF and modifying due diligence principles to suit the dynamics of CUI in Nigeria, including their use for cross-border remittance and as a hedge against the value of the naira, is essential in this regard.

However, cryptocurrencies were created to evade regulatory control and users have applied them in this way in Nigeria.<sup>56</sup> This suggests that the ability of e-wallet service providers as surrogate regulators may be limited. The possibility and ease of maintaining multiple e-wallets with different service providers may be problematic for linking several transactions to an identifiable user. The efforts of regulators may be undermined by e-wallet service providers operating outside of Nigeria who fail to adequately scrutinise the identity of users, flag and

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<sup>54</sup> This refers to cryptocurrency swaps/purchases

<sup>55</sup> A market actor can act in both capacities in some cases.

<sup>56</sup> See Chapter 1

report suspicious transactions. Additionally, certain cryptocurrency users, i.e. those using cold storage, will not be captured by e-wallet service providers (as surrogate regulators).<sup>57</sup> The possibility of P2P transfers of cryptocurrencies stored in cold storage equally suggests that this class of users may interact seamlessly outside of formal channels captured by regulators.

Although the above examples indicate the potential for facilitating illicit activities with cryptocurrencies while escaping regulatory scrutiny, they are not fatal to the utility of the SR model considering that similar risks exist within the traditional financial services sector.<sup>58</sup> Actors have been able to operate outside of the confines of the law while furthering illicit activities.<sup>59</sup> Common examples include storing cash at home, paying for goods and services in cash and using corporate vehicles to mask the source and ownership of funds.

### **Internet service providers (ISPs)**

Internet Protocol (IP) address is one of the means through which the actors behind cryptomarket-related transactions and their location can be identified and monitored. Therefore, the resources of Internet Service Providers (ISP) who facilitate connections to the Internet on a broader scale include information, wealth, organisational capacity and expertise. This suggests that they are invaluable to the promotion of good CUI regulation. The role of ISP, as gatekeepers on the Internet, has been applied in preventing access to illicit websites and censoring the consumption of information and entertainment. Prevention of access to websites that infringe on copyright or promote child pornography, obscenity, hate speech and national security are common examples.<sup>60</sup>

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<sup>57</sup> See Chapter 2

<sup>58</sup> For an example of how the payment of bribery in cryptocurrencies by simply handing over a cold storage device see Alex Sprake, Nick Lord 'Cryptocorruption: What hit series 'Billions' tells us about how cryptocurrency could be misused' (23 May 2018) <<https://bit.ly/3NkULXD>> 17 May 2022

<sup>59</sup> OECD, 'Illicit Financial Flows from Developing Countries: Measuring OECD Responses' (2014) <[www.oecd.org/corruption/Illicit\\_Financial\\_Flows\\_from\\_Developing\\_Countries.pdf](http://www.oecd.org/corruption/Illicit_Financial_Flows_from_Developing_Countries.pdf)> 28 March 2022 26

<sup>60</sup> M. Eneman, "A critical study of ISP filtering of child pornography" (2006). ECIS 2006 Proceedings. 209. <<https://aisel.aisnet.org/ecis2006/209>> 28 March 2022

As the channel through which market interactions occur, ISP can help limit the access of consumers to illicit markets or websites in accordance with established regulatory standards/mandates. For instance, regulators can limit public access to the web addresses of key unlicensed/unregistered market actors by mandating ISP to filter and prevent access to their web pages. State regulators can provide ISP with constantly updated *black* and *white lists* of service providers to assist ISP in this regard. Nigeria's order to the main ISPs operating within the country regarding the Twitter ban that lasted for more than seven months is an example of how the resources of ISP have been applied to promote public policy aims. While a negligible portion of internet users in Nigeria still had access to Twitter by using "Virtual Private Networks," the engagement of users in Nigeria on Twitter reduced significantly while the ban lasted.<sup>61</sup>

The above suggests that the ability of ISP to effectively control or restrict market activities may be undermined when actors use identity masking applications. Nevertheless, substantial control can still be achieved considering that a significant percentage of actors would not have the need and resources to mask their identities. However, like many of the other surrogates, ISPs may lack the legitimacy to act. This concern can be remedied by the state negotiating the agreement in advance and integrating transparency and accountability mechanisms into the process to promote public trust.

## **Consumer watchdogs**

While each of the above actors performs roles connected to their market functions are profit-oriented, consumer watchdogs represent an under-represented group i.e., consumers. Consequently, they are central to achieving the right interest balance, since other interests

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<sup>61</sup> Prince Osuagwu '100 days of Twitter ban: Twitter drops market share to 2.8%, Facebook, Instagram gain' (September 2021, The Vanguard) <<https://bit.ly/3olBGLK>> 30 September 2021

impacted by CUI, i.e., the state and market intermediaries organically have a more prominent presence, resources and role in the regulatory exercise.<sup>62</sup> Consumer watchdogs, as the third leg of the regulatory tripod, are well-positioned to exert pressure, in line with regulatory aims, on other market actors, state and consumers. Their function would be to monitor the activities of market intermediaries, including their interactions with users and to call into question any activity or interaction capable of undermining defined regulatory aims. This can include exerting pressure on state actors where their oversight of other surrogates is observed to be lax.

They have an increased ability to shape market behaviour by virtue of their access to key regulatory resources including information, expertise and legitimacy. For instance, consumer watchdogs' convergence, knowledge about the issues facing consumers and access to information on trends and market patterns can be used to bridge the gap left by information asymmetry. They may also institute court actions against erring actors if empowered to act by the state.<sup>63</sup> Considering that these actors may have limited access to technical products/services information, there is the need for the state to demand adequate information sharing by market intermediaries to bolster the ability of consumer groups to further limit the impact of information asymmetry.

## **Other stakeholders**

Industry actors including SiBAN, Fintech NGR and other emerging actors who already engage in a soft form of regulation will be more useful as surrogate regulators considering their access to industry information and a pool of members with expertise on cryptoassets and financial services. The vast scope of membership of these actors can be harnessed for the provision of

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<sup>62</sup> See Chapter 4

<sup>63</sup> Private individuals in Nigeria are currently allowed to prosecute criminal offences by obtaining Attorney General's Fiat. See *Alhaji Salihu Wukari Sambo v Capt Yahaya Douglas Ndatse (Rtd) and Others* (2013) LCN/5842(CA) See also section 381(d) of the Administration of Criminal Justice Act

useful unbiased information to the public and state on the latest developments in the cryptocurrency and larger cryptoasset markets.

In addition to the above, professionals such as lawyers, auditors and accountants, who by virtue of the connection to actors more predisposed to licit and illicit market activities, social media influencers and innovators can also be required to lend their resources, i.e. information and expertise to regulators.<sup>64</sup> In addition to the above, it is crucial to have recourse to surrogates beyond Nigeria.<sup>65</sup> Several international standard-setting and policy implementing organisations have helped promote fair markets on the international scene.<sup>66</sup> The resources of these actors can be leveraged to provide safe cryptomarkets.

Although the above identifies how private resources may be useful in promoting good CUI, the role of state actors as the main facilitator of the process is apparent. State actors, by virtue of the mandate of the public, among others, have a role to play in driving core aspects of rule enforcement and oversight functions including defining principles and enforcing sanctions against offenders for the purpose of legitimacy. State actors must maintain their independence and be diligent in discharging their duties to promote greater public trust in the regime. The role of state actors may be relaxed when it is established to a significant extent that surrogates are well equipped and motivated to perform their functions with limited state oversight. Even when this is established, there must be effective mechanisms in place, in terms of detection and deterrent, for surrogates who do not meet expected regulatory outcomes.

Significantly, as noted above, the cross-border implications of CUI are problematic, even when regulated with the support of surrogates. For instance, SR may not fully account for

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<sup>64</sup> FCA, 'Guidance on Cryptoassets' (2019) FCA Consultation Paper 19/3 <<https://bit.ly/3uLi4Cf>> 31 March 2022

<sup>65</sup> See Chapter 6

<sup>66</sup> These actors include the Basel Committee on Banking Supervision (BCBS) International Organisation of Securities Commissions IOSCO, International association of insurance Regulators, Financial stability Forum, Financial Action Task Force FATF, Interpol

international interactions where market intermediaries catering to Nigerian users have limited local ties. Nigeria can address this by requiring the registration and licensing of international intermediaries serving Nigerian customers.<sup>67</sup> However, policing and enforcing this requirement can be challenging. This brings to the fore the function and the regulatory utility of ISPs, already touched on above, as interfaces through which cryptocurrency users interact with market actors.

In addition, regulatory collaboration on the international scene is crucial for a more robust regulatory regime that closes the gaps that are not accounted for by regulation on a state-by-state basis. To enable this, there is the need for information sharing, communication and international cooperation in implementation and enforcement among state regulators in line with the FATF recommendation.<sup>68</sup> Cross-border surrogates will also be helpful in regulating CUI on the international scene.

Regulating through surrogates will reduce the impact of inadequate regulatory capacity of the state, but the arrangement is far from perfect considering the common weaknesses it shares with self-regulation. It raises concerns about regulatory capture, legitimacy, accountability, transparency and public trust.<sup>69</sup> Accountability and transparency can be improved upon by increased state scrutiny and oversight already touched on above. Unscheduled periodic checks, mystery shopping and external audits are mechanisms at the disposal of state actors for evaluating surrogates' level of compliance with the law.<sup>70</sup> Prior or retroactive state legitimation would remedy the issue of legitimacy.<sup>71</sup> This can be in the form of legislators enacting laws

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<sup>67</sup> FATF (n 40) 23

<sup>68</sup> Ibid 33

<sup>69</sup> See Chapter 3; Abbot (n 25)

<sup>70</sup> Mystery shopping involves regulators presenting themselves as users and demanding services that touch on the limits of surrogates' powers to observe how surrogates would respond. This would be useful for detecting loopholes in the law and regulatory regime.

<sup>71</sup> *ibid.*356

that sanction the ability of private actors to perform these highlighted functions to give legislative effect to the exercise of regulatory functions by non-state actors.

Finally, uncoordinated regulatory efforts would undermine the full potential of SR.<sup>72</sup> Thus, an increased risk of inconsistencies in implementation, enforcement and inability to predict how surrogates would act in different situations are its notable shortcomings.<sup>73</sup> To counter this, key stakeholders must be guided by a roadmap on how they would deliver regulatory outcomes within their respective organisations. Admittedly, there would still be some novel situations that are not within the contemplation of regulators. This is where the flexibility offered by SR becomes invaluable. Periodic reports, within which surrogates provide explanations on what they did in novel situations to meet regulatory outcomes, can be rendered thereby creating a body of resources for mapping the future directions of regulation. Sharing these reports with state actors and other surrogates would foster transparency and accountability.

#### 7.3.4. Overlaps, tensions and interdependencies among surrogates

Second and third parties to regulation touched on above offer significant utility for CUI regulation. The function of each surrogate regulator will be informed by the regulatory resources within their control and their position/function in the market. Market actors such as exchanges, e-wallet service providers and ICO issuers are good agents for improving financial inclusions, ensuring the security of assets and curbing illicit use of cryptocurrencies including money laundering and terrorism financing risks. On the other hand, third parties to regulation such as consumer watchdogs and ISPs offer greater utility for promoting user literacy and the interest of consumers. The above suggests that different surrogates perform distinct regulatory functions.

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<sup>72</sup> RCEP, cited in Abbot (n 25). 337

<sup>73</sup> Neil Gunningham, Peter Grabosky, with Darren Sinclair, *Smart Regulation* (1998) 105

However, areas of overlaps, conflicts and interdependencies in regulatory functions are apparent. A broad area of overlap is the need for third parties to regulation and market intermediaries to limit the illicit use of cryptocurrencies. Another area of overlap is the need for customer due diligence by e-wallet service providers and exchanges. Access to information within the control of market intermediaries useful for consumer watchdogs and NGOs in discharging their duties is an area of interdependency. Tensions could arise from the fact that market actors such as e-wallet service providers, exchanges, ISP and professionals such as auditors, solicitors, etc. have access to wider information on market trends and consumer behaviour necessary for the promotion of resilient markets. Demanding access to such information may hamper the profit potential of market intermediaries considering that information asymmetry benefits this group of actors. This could generate tensions. Therefore, it suggests the need for an umpire who ensures that the activities of surrogates are harmonised and that surrogates act in consonance with the purposes of regulation. The umpire must be able to pronounce on the type and volume of information that surrogates can lawfully withhold and that which may be demanded legitimately by third parties to regulation for promoting transparency and accountability.

The question is which agency (or agencies) performs regulatory oversight? Nigeria's current regulatory approach, explored in Chapters 5 and 6, is divergent. Multiple agencies including the Central Bank of Nigeria, the Securities and Exchange Commission, Investment Promotion Commission, Consumer Protection Commission and the Economic and Financial Crimes Commission perform oversight functions within the traditional financial services sector that CUI touches on.<sup>74</sup> Each agency relies on multiple pieces of legislation in the discharge of its

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<sup>74</sup> See Chapters 5 and 6



mandate. This arrangement has been characterised by tensions, conflicts and, to an extent, inefficiency.<sup>75</sup>

The conflicts, tensions and inefficiency in the current Nigerian financial sector regulatory framework raise the need for a better and more structured alternative. A converging model in the form of a joint task force or a central specialised agency that regulates the surrogates will solve some of the limitations in the current regulatory model. The former may involve self-regulatory agencies, private actors and state regulators, including law enforcement agencies. Examples of such joint task forces include the UK's Joint Money Laundering Intelligence Taskforce, National Economic Crime Centre and the Joint task force deployed in fighting terrorism in Nigeria. This model may be less disruptive and at minimal financial and manpower cost to the state. It could be an avenue within which regulatory roles can be allocated formally and supervised among surrogates.

In the alternative, a new agency may be created to regulate the activities of surrogates. Divesting existing agencies of their oversight function over cryptomarkets, where this is practicable, and placing this with a specialised agency will send the signal required to boost consumer and market confidence. The agency's core mandates would be to provide regulatory oversight on surrogate regulators and promote consistency, legitimacy, transparency and accountability.<sup>76</sup> With the right mechanisms and tools, it would be easier and more efficient for one agency to provide oversight. The accountability process would also be easily managed with a central coordinating agency compared with where distinct functions on various aspects of cryptomarkets are performed by different public agencies. Additionally, a central agency

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<sup>75</sup> See *ibid*

<sup>76</sup> *ibid* 25 on how the creation of special bodies improved efficiency within a regulated sector.

presents an opportunity for more effective collaboration between private actors and state regulators.

Knowledge sharing is a significant benefit of this arrangement. Access to information and other regulatory resources of private actors and a specific focus on a specific strand of financial technology, i.e. cryptocurrencies by one agency, improves regulators' expertise and understanding of cryptomarkets and CUI. The expertise of regulators and the bank of information on market behaviour, for instance, are key resources that can help transform Nigeria's ability to better meet its regulatory outcomes within and beyond FinTech markets. Regulators in other sectors can draw lessons from this approach to improve the effectiveness of regulation on a broader scale.

In addition to creating opportunities, establishing a new specialised agency raise challenges for regulators.<sup>77</sup> Resistance and non-cooperation by existing agencies are significant concerns where a sole agency performs regulatory oversight. Existing agencies being divested of their oversight functions may be reluctant to relinquish powers to a specialised agency. They could also refuse to cooperate fully with the agency. Non-cooperation may also incline towards an extreme where existing agencies sabotage the efforts of the new agency just to prove that the agency is inconsequential. Getting existing agencies to recognise the benefits of divesting them of their powers and the overall benefit of this move for regulating the financial sector would limit this challenge to an extent. Additionally, appointing members of existing agencies to the newly established agency could help curb rivalry.

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<sup>77</sup> Organisation for Economic Co-operation and Development, 'The OECD Report on Regulatory Reform Synthesis' (1997) 29 <[www.oecd.org/gov/regulatory-policy/2391768.pdf](http://www.oecd.org/gov/regulatory-policy/2391768.pdf)> 18 May 2022. In fact, the implication of state creation of new agencies in other sectors has not been perfect. See OECD, 'Specialised Anti-Corruption Institutions: Review of Models: (Anti-Corruption Network for Eastern Europe and Central Asia, 2009) 33, 35 <[www.oecd.org/corruption/acn/39971975.pdf](http://www.oecd.org/corruption/acn/39971975.pdf)> 18 May 2022

## 7.4. Nigeria's model of surrogate regulation: Regulatory design principles

So far, this thesis has advocated the promotion of public interest principles for *good* CUI regulation.<sup>78</sup> Sections 7.2 and 7.3 above identify that formulating behavioural standards and rules with input from all stakeholders and SR will promote *good* CUI regulation. The state, as the facilitator of the regulatory process, must also promote the five public law values discussed in Chapter 4.<sup>79</sup> However, SR is a complicated exercise. Failure to approach the exercise with caution can be devastating for the state, consumers and market actors. Further research will help map out the detail of the arrangement but, first, what principles and considerations must underpin Nigeria's model of SR? Several themes apparent from the above discussions are the starting point. The themes and the core principles and considerations that must underpin Nigeria's model of SR are:

1. Strategic role allocation
2. promotion of conducive conditions
3. constructive interaction with surrogates,
4. and appropriate reporting mechanisms/access to information

Each of the former principles and considerations is discussed below in turn.

### 7.4.1 Strategic role allocation

As explored under state-centred regulation in Chapter 3, the state has the legitimacy to allocate roles and facilitate private participation. Nevertheless, Chapter 3 shows that the state can be the rule-taker in some cases. This means that surrogates can also allocate roles where this will promote good CUI regulation. Whoever oversees allocation must allocate functions based on the surrogate/regulator's access to regulatory resources. The twitter example and the bank's role in helping to resolve financial crimes are good examples of where access to resources

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<sup>78</sup> See Chapters 4, 5 and 6

<sup>79</sup> These are legislative mandate, due process, expertise, efficiency and transparency and accountability.

forms the basis of role allocation. The role of ISPs in the latter is relevant to CUI. ISPs have the resources and strategic positioning to grant or deny access to specific websites offering cryptocurrency-related services. The use of code as an instrument of regulation has a significant bearing on such use of resources.<sup>80</sup>

Other considerations necessary for strategic role allocation include an understanding of the capacity and willingness of surrogates to act touched on above.<sup>81</sup> Independent third parties who are themselves not the subject of the regulation will play a crucial role in holding other surrogates accountable.<sup>82</sup> The role of third parties in demanding accountability is helpful for promoting a form of balance in representation. Chapter 4's argument on the increased significance of balancing the interests that CUI touches on illustrates the above need. Third parties to regulation can influence market behaviour through persuasion or by providing unbiased information to consumers.<sup>83</sup> They may also enforce laws and seek compensation for wronged consumers, reduce harm, or even set the law reform processes in motion.<sup>84</sup> To promote certainty across the board, strategic role allocation must be backed by appropriate and clear performance measurements aimed at guiding surrogates' activities and outcomes. For increased compliance, key stakeholders' agreement on the measurements is crucial. Nevertheless, strategic role allocation is of limited utility in the absence of conducive conditions for surrogates to thrive. The next section turns to this.

#### 7.4.2. Conducive conditions

Conducive conditions refer to the provision of the structural and legal support which surrogates require to perform their functions. This means integrating SR with existing regulatory

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<sup>80</sup> *ibid*

<sup>81</sup> See the text accompanying notes 32 to 36

<sup>82</sup> See *ibid* on second and third parties to regulation

<sup>83</sup> Abbot (n 4) 332

<sup>84</sup> Gunningham et al. (n 17) 219

approaches and activities by enacting enabling laws for legitimisation purposes. Additionally, states may empower or even subsidise the regulatory activities of third parties. Granting third parties the power to institute actions against recalcitrant surrogates/market actors is an example of the latter. Finally, the state and stakeholders must develop appropriate performance measurements to guide surrogates' activities and outcomes across the board. This will equally promote uniformity and certainty of expected outcomes.

### 7.4.3 Constructive interaction

Collaboration, which exists at the core of SR, calls for constructive interaction between the state and surrogates on the one hand and among surrogates on the other. The state as the facilitator must creatively allocate roles and ensure that actors implementing and enforcing regulation are mutually reinforcing.<sup>85</sup> The relationship between the Nigeria Deposit Insurance Commission, Chartered Institute of Bankers in Nigeria and commercial banks in Nigeria in protecting banks' customers illustrates how these regulators are mutually reinforcing. NDIC's access to wealth and information and CiBN's control over its members are leveraged in banks' supervision and, by extension, protection of customers' deposits. In case of bank failure, the NDIC refunds customers while the CiBN and other agencies sanction culpable members/actors.

Furthermore, mandating a private interface is an instance of constructive interaction among the state, surrogates and users.<sup>86</sup> Insurance and auditing of surrogates' accounts are examples. For instance, requiring the insurance of the interest of consumers may encourage market actors like exchanges and e-wallet service providers to engage in safer practices and be more transparent. This will shape market products and consumer behaviour. For instance, insurance companies can demand higher premiums for higher risks and uncertainties and lower premiums for

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<sup>85</sup> Abbot (n 4) 340

<sup>86</sup> This draws from Abbot's example see *ibid* 349

activities involving more certainty thereby making it less attractive to deal in products with greater risks and uncertainties. Finally, Nigeria must understand that SR heightens the potential for regulatory capture. It must provide clear mechanisms for preventing capture and assessing the risk regularly.<sup>87</sup> Chapter 3 suggests that empowering NGOs and Public Interest Groups (PIGS) to act will help hold state and market actors accountable.

Beyond the above, the extent of the state's influence in SR is also relevant. Gunningham et al are of the view that less intrusion/coercion by state actors is preferable.<sup>88</sup> Greater flexibility, reduced cost to the state and stimulating a sense of belonging in surrogates are some of its benefits.<sup>89</sup> For least state intrusion, Nigeria may only provide surrogates with expected outcomes in line with the principles. After observing the extent to which surrogates are willing to meet regulatory objectives with minimum state supervision, state actors could increase/decrease regulatory focus in line with the demands.<sup>90</sup>

#### 7.4.4 Appropriate reporting mechanisms and access to information

The foregoing suggests the need for accurate information about the risks posed by CUI, a record of surrogates' interactions with state/other market actors and users and other regulatory practices. This repository of information will better help the state to understand which incentives (or punishments) encourage or deter certain behaviours. The state's access to information on how surrogates meet regulator outcomes is a gold mine for mapping the future directions of CUI regulation and the regulation of other FinTech products.

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<sup>87</sup> See *ibid* 356 and Chapter 3 on capture.

<sup>88</sup> Gunningham et al (n 17) 221: For other benefits of regulatory surrogacy, see Jay A. Sigler and Joseph E. Murphy, *Interactive Corporate Compliance: An Alternative to Regulatory Compulsion*, (Quorum 1989) See also Abbot (n 4). 342, 351

<sup>89</sup> Gunningham et al *ibid*; Abbot (n 4) 341

<sup>90</sup> Abbot *ibid* 341; Ayres and Braithwaite (n 12)

The foregoing underscores the need for accurate reporting mechanisms of market interactions and surrogates' activities. This encompasses what approaches are better and why. Also, adequate reporting mechanisms and information sharing will address the need for transparency and accountability in hybrid regulatory models established in Chapter 3. This will help improve public trust.<sup>91</sup> Unscheduled periodic checks, mystery shopping and external audits are other mechanisms for scrutinising and encouraging the efficiency of regulatory surrogates.

In addition to the above, surrogates may need to grant state actors access to other resources within their control to promote a more robust understanding of the implementation and enforcement processes. Nigeria's access to private resources can increase or decrease according to technical or market needs. However, surrogates may be unwilling to grant others unfettered access to some of their resources. In this case, the state must incentivise participation by applying financial incentives or others.<sup>92</sup>

Nigeria, as the facilitator of the regulatory exercise, must work to resolve tensions and interdependencies connected with SR.<sup>93</sup> In addition to providing financial incentives for willing surrogates, Nigeria can mandate participation by requiring market interactions through designated market actors/surrogates. Nigeria must continue to update its knowledge and understanding of the subject and context of regulation.<sup>94</sup> Flexibility and responsiveness to changing market need considering the rapid evolution of FinTech products must underpin SR.

In summary, surrogate regulators will supplement Nigeria's capacity to promote good CUI regulation. However, the exercise is complicated. More research is needed to map out specific

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<sup>91</sup> Abbot *ibid* 353

<sup>92</sup> On the importance of incentivising good behaviour in financial regulation see David T Llewellyn, 'Financial Regulation: A Perspective from the United Kingdom' (1999-12) *Journal of financial services research*, Vol.16 (2) 309, 314

<sup>93</sup> Centralising regulatory functions on cryptocurrency markets and CUI is worth considering to reduce conflicts and tension. See Chapters 5 and 6 on conflicts and tensions among regulators.

<sup>94</sup> Abbot (n 4) 335, 337

roles the state may allocate and to whom they may allocate these roles. Further research is also required to understand the interactions between surrogates among themselves on the one hand and surrogates and state regulators on the other.

## 7.5 Suggestions for future research

This research does not answer every question touching on cryptocurrency and CUI regulation. It restricts itself to interactions involving cryptocurrencies that lack states or tangible assets' backings. Notwithstanding that some of the arguments in this thesis may have bearings on interactions linked to digital assets tied to tangible properties such as stablecoins or Central Bank Digital Currencies (CBDCs), these are not the focus of this research. More research is required to identify *good regulation* for stablecoins and CBDC user interactions.

Second, Nigeria recently launched its Central Bank Digital Currency (CBDC). Reconciling Nigeria's position as a market actor with its role as the regulator/facilitator of SR is challenging. The question is: can Nigeria maintain its independence as a regulator/facilitator of public policy objectives among surrogates? Further research is required to explore how Nigeria can balance its role as a service provider and unbiased regulator.

Third, this research shows that the use of internet footprint masking software may undermine regulators' ability to detect and punish certain illicit activities. Regulatory surrogates may be ill-equipped to eliminate opportunities for crimes like money laundering practices by actors who mask their identities online within a dispersed cryptocurrency market. This is unsurprising considering that illicit activities, including money laundering, continue to evolve while the law plays catch up. Efforts are ongoing on the regional and international scene to find solutions to



the illicit use of cryptocurrencies.<sup>95</sup> More research is needed to understand how to tackle the issues raised by the dark web connections of cryptocurrencies. It will be equally interesting to determine the extent to which regulatory surrogates can help promote good regulation in the above cases.

The implication of regulatory surrogacy on the privacy feature of cryptocurrencies could be problematic for illicit actors. At the minimum, it may discourage the use of cryptocurrencies for regulated interactions. Alternatively, it could lead to the displacement of illicit actors, thereby creating a new market for more private platforms such as P2P transactions and the use of cold storage. Consequently, there is a need to determine how to measure the effectiveness of SR vis-a-vis the FATF/CAC model of regulation. Would compliance with each of the rules as can be seen in the FATF AML/CFT model suffice? Or is there a need to measure outcomes in terms of an increase in the number of consumers who have occasioned better outcomes by being educated by consumer groups, for instance? The above questions and more should be the subjects of future research.

Finally, regulating cryptocurrencies raises questions about Nigeria's limited control over actors operating beyond its borders. This touches on conflicts of laws principles, among others. This research does not investigate how to resolve the issue of incompatible laws and enforcement procedures in other jurisdictions. It does not explore in detail the logistical concerns in enforcing claims against international actors with a minor connection to Nigeria.<sup>96</sup> It, however, suggests the need for collaboration with states and market actors as one of the means to resolve this issue. Further research is needed to establish how SR can help improve the ability to regulate within this context.

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<sup>95</sup> See Chapter 6; See also EUROPOL, *Press Release: Cryptocurrency Experts Meet at Europol to Strengthen Ties between Law Enforcement and Private Sector* (14 June 2019) <<https://bit.ly/3icUPMW>> 20 November 2020

<sup>96</sup> In form of registered business addresses or registered agents

## 7.6 Concluding remarks

The novelty and disruptive nature of cryptocurrencies and CUI explored in Chapter 2 make their regulation difficult. The decentralised nature of cryptocurrency with a limited number of responsible intermediaries, pseudo-anonymity and multijurisdictional implications are common factors which exacerbate the situation. An understanding of the dynamics of fragmented, constantly evolving and complicated cryptocurrency markets is central to regulators' ability to shape market behaviour and interactions.<sup>97</sup> Formulating comprehensive rules is the first step towards CUI regulation. Essentially, the dispersion of regulatory resources beyond the grasp of state actors raises the need for collaboration with non-state actors in enforcing and implementing comprehensive rules.

Regulating through surrogates leverages access to regulatory resources held by non-state actors to protect consumers, improve market resilience and integrity and achieve distributional justice aims of regulation. The state facilitates and legitimises the allocation of regulatory roles to surrogates. The five public law values, namely legitimacy, due process, accountability, expertise and efficiency must be prioritised for good CUI regulation. Finally, conducive conditions, strategic role allocation, constructive interactions and information sharing and adequate reporting mechanisms are the principles that must underpin Nigeria's model of SR. SR has wider implications for CUI regulation beyond state borders. International regulators and market intermediaries on the international scene can help improve and provide more robust rule-making processes, implementation and enforcement across international landscapes. Cooperation between public and private actors across borders is crucial to the above.

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<sup>97</sup> Antony Ogus, *Regulation, Legal Form and Economic Theory* (Oxford 1994) 11

Similar to the FATF model, SR would enable a pervasive surveillance infrastructure which contradicts the major aim of cryptocurrency. The SR model would also occasion more costs to private actors including cryptocurrency users in exchange for minimum benefits. The FATF affirmed that the shortfall of increased regulation within the cryptoasset space would be that illicit activities start to shift into more private infrastructure as these emerge. This thereby suggests that to an extent, increased regulation would occasion the compliance of the already compliant and the displacement of illicit actors.

Turning now to the broader implication of this research. Its suggestions for CUI regulation are equally relevant to FinTech products' regulation and other aspects of Nigeria's financial sector. Involving all stakeholders in each of the stages of regulation will provide state actors with an understanding of efficient and less expensive ways to meet regulatory aims. The above can equally shape Nigeria's decision to adopt regulatory surrogates in solving the challenge of inadequate regulatory capacity within other technical sectors such as energy, environmental, agriculture and transportation. Finally, the evidence and analysis presented in this thesis are useful for countries with similar complicated cryptocurrency markets and CUI in their regulatory pursuits.<sup>98</sup>

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<sup>98</sup> Particularly countries with an underbanked population and complex remittance systems

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