THE REGULATION OF CRYPTO-ASSETS IN SOUTH AFRICA WITH PARTICULAR REGARD TO CRYPTO-ASSETS MARKET MANIPULATION

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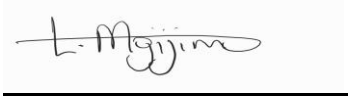
SIGNATURE 

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ABSTRACT

Market manipulation is one of the dishonest means used by unscrupulous investors to make unjustified profits. It is conduct which unlawfully interferes with the normal operations of the markets in order to create false appearances with respect to the trading activity or the price of a financial asset. Market abuse is one of the various challenges plaguing the crypto-assets market, and is one of the financial regulators' priority concerns. This study examines and discusses the problem of market manipulation in crypto-assets, and the need for the enactment of an effective regulatory framework in order to combat this problem and to promote investor protection and safeguard the integrity of the markets. The study finds that South Africa and other countries need to introduce rules in crypto-assets market which aim at regulating the activities of crypto-asset service providers. Currently South Africa has not enacted a comprehensive regulatory framework to address the various illegal uses of crypto-assets. The general approach adopted by South Africa to regulate crypto-assets activities involves subjecting crypto-asset service providers and their activities under the various financial sector laws established to regulate the traditional financial markets. This approach has been criticised as being inefficient in light of the unique risks presented by crypto-assets. The study discusses some of these arguments in detail and concludes by highlighting the need for the adoption of innovative regulations, in the long term, which comprehensively and effectively addressed the various risks presented by crypto-assets which also include market manipulation.

Key words: Crypto-assets, markets, risks, crypto-asset-service-providers, manipulation, regulation, framework, challenges.

ABBREVIATIONS

BCBS	Basel Committee on Banking Supervision
CASP	Crypto-Asset Service Providers
CBDC	Central Bank Digital Currency
CBN	Central Bank of Nigeria
DDoS	Distributed Denial of Service Attack
EMMoU	Enhanced Multilateral Memorandum of Understanding
EU	European Union
FAIS Act	Financial Advisory and Intermediary Services Act 37 of 2002
FATF	Financial Action Task Force
FICA	Financial Intelligence Centre Act 38 of 2001
FIC	Financial Intelligence Centre
FMA	Financial Markets Act 19 of 2012
FMRC	Financial Markets Review Committee
FSB	Financial Stability Board
FSCA	Financial Sector Conduct Authority
FSR Act	Financial Sector Regulation Act 9 of 2017
IFWG CARWG	Intergovernmental Fintech Working Group Crypto-Assets Regulatory Working Group
IOSCO	International Organisation of Securities Commissions
MAR	Market Abuse Regulation
MiCA	Markets in Crypto-Assets Regulations
MiFID	Markets in Financial Instruments Derivatives
VASP	Virtual Asset Service Providers
SADC	Southern African Development Community

SEC	Securities Exchange Commission
US/USA	United States of America
VAITOS Act	Virtual Asset and Initial Token Offerings Act 21 of 2021
VASPs	Virtual Asset Services Providers

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1 CHAPTER 1: INTRODUCTION

1.1 Background of the study

Crypto-assets market manipulation refers to behaviour or conduct which unlawfully influences or interferes with the normal free and fair operations of the crypto-assets markets and, in so doing, creates misleading, artificial or false appearances with respect to the trading activity in a crypto-asset or the price of a crypto-asset.[1] Broadly, the notion of market manipulation is concerned with all unlawful practices which are aimed at deliberately raising, lowering or controlling the price of a crypto-asset.[2]

Unscrupulous traders engage in manipulative practices in order to make quick, unjustified profits by, for instance, interfering with factors which influence the price or value of a crypto-asset in order that the manipulator can procure that asset at a lower price and resell same at a higher price.[3] This study is about a real-life minacious financial problem which should be the concern of all crypto-assets exchanges, investors, financial regulators and various other stakeholders in the broader financial and crypto-assets ecosystem. It highlights that inasmuch as crypto-assets are becoming popular as mediums of exchange and alternative investments, various deceptive and illegal activities such as market manipulation can also be expected to increase,[4] and therefore an appropriate regulatory framework must be developed to control them.

Market manipulation is not a new practice as it has been observed in the traditional financial markets. Countries around the world have enacted various laws to regulate market manipulation in the mainstream securities markets. South Africa's regulatory

[1] The proposed definition for market manipulation in the context of crypto-assets has been adapted from the suggested definitions of "market manipulation" in traditional financial markets to fit the purpose of this study. Putniņš "An Overview of Market Manipulation" in Alexander and Cummin *Corruption and Fraud in Financial Markets: Malpractice, Misconduct and Manipulation* (2020) 16; Lin "The New Market Manipulation" 2017 *Emory Law Journal* vol 66(6) 1253.

[2] See generally Moore and Wiseman "Market manipulation and the Exchange Act" 1934 *University of Chicago Law Review* vol 2(1) 50.

[3] Spatt C "Security market manipulation" 2014 *Annual Review of Financial Economics* vol 6(1) 407; see also Lin 2017 *Emory Law Journal* 1253.

[4] Rejeb A, Rejeb K and Keogh JG "Cryptocurrencies in modern finance: a literature review" 2021 *Etikonomi* vol 20(1) 93-118; McIntosh "Crypto Market Manipulation Is Still Alive and Well, Says Orbs' Ilan Sterk" https://www.financemagnates.com/cryptocurrency/interview/crypto-market-manipulation-is-still-alive-and-well-says-orbs-ilan-sterk/ (accessed on 22 June 2023).

framework has evolved over the years to the current Financial Markets Act[5] and the Financial Sector Regulation Act,[6] among others. In traditional financial markets, manipulative conduct has been generally categorised as either insider trading, disclosure based or trade based conduct.[7] Some of the manipulative approaches observed in the crypto-assets markets are not different from those seen in traditional financial markets.

Various crypto-assets market manipulation practices have been identified and categorised. As observed in the traditional financial markets, it is important for the purposes of regulation to adopt a holistic approach in describing and categorising market abuse practices in order to effectively curb same. Taking into account the complex nature of crypto-assets and the fast-paced developments in the industry, such a holistic approach will have to be based on presently available scientific knowledge.[8] Roughly, the various schemes of market manipulation involve conduct that is intended to influence the value of a crypto-asset, or to throw market activity into confusion by, among other things, interfering with demand and supply in respect of a targeted crypto-asset.[9] Some of the identified forms of crypto-assets market manipulation practices include inflated trading volumes,[10] an exchange distributed denial-of-service attack (DDoS),[11] front running,[12] wash trading,[13] insider trading,[14] pump and dump,[15] order spoofing,[16] quote stuffing,[17] and others.[18]

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[5] Act 19 of 2012.

[6] Act 9 of 2017.

[7] Chitimira "A historical overview of the regulation of market abuse in South Africa" 2014 *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad* vol 17(3) 937-971.

[8] Eigelshoven, Ullrich, and Parry "Cryptocurrency market manipulation: A systematic literature review" 2021 *International Conference on Information Systems* 2.

[9] Moore and Wiseman 1934 *University of Chicago Law Review* vol 2(1) 50.

[10] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" in Alexander C and Cummin D (2020) 217.

[11] Abhishta et al "Impact of successful ddos attacks on a major crypto-currency exchange" In *IEEE 2019 27th Euromicro International Conference on Parallel, Distributed and Network-Based Processing (PDP)* 379-384. In any circumstances DDoS attacks are generally regarded as criminal conduct punishable in South Africa in terms of the Cybercrimes Act 19 of 2020.

[12] Daian, Goldfeder, Kell et al "Flash boys 2.0: Frontrunning in decentralized exchanges, miner extractable value, and consensus instability" 2020 *IEEE Symposium on Security and Privacy (SP)*: 910-927.

[13] Chen, Lin, Wu "Do cryptocurrency exchanges fake trading volumes? An empirical analysis of wash trading based on data mining" 2022 *Physica A: Statistical Mechanics and its Applications* vol 586 126405

[14] Verstein "Crypto-assets and insider trading law's domain" 2019 *Iowa Law Review* vol 105(1) 1-60.

[15] Hamrick, Rouhi, Mukherjee et al "An examination of the cryptocurrency pump-and-dump ecosystem" 2021 *Information Processing & Management* vol 58(4) 102506.

[16] Mark "Spoofing and Layering" *Journal of Corporation Law* 2020 vol 45(2) 433-436.

As a way of sampling, one of the abovementioned techniques of market manipulation, the exchange Distributed Denial of Service attack ("DDoS attack"), will be discussed briefly below to illustrate the practical aspects of these abusive practices. DDoS attacks and other forms of market abuse will be explored in further detail later in the study.

A DDoS attack, for purposes of this study, can be described as an attack inflicted on the network system of a crypto-asset exchange by repeatedly sending a large volume of incoming messages (such as services requests), creating significant network traffic which disrupts the normal operability of an exchange.[19] During the subsistence of the DDoS attack, trading activity freezes in the exchange and the price of a targeted crypto-asset is depressed.[20] Combined with a specific trading activity, a DDoS attack enables the attacker to amass a significant number of crypto-assets.[21] If successful, this form of manipulative conduct can be a quick and extremely lucrative instrument to the attacker.

At the time of writing this study, South African law enforcement and regulatory authorities have not handled any case relating to crypto-assets market manipulation. The regulatory authorities are, however, aware of the existence of the threat.[22]

As part of the measures taken to regulate the use of crypto-assets in South Africa, the Financial Sector Conduct Authority (FSCA)[23] has, in terms of section 1 of the Financial Advisory and Intermediary Services Act 37 of 2002 (the "FAIS Act") under the definition of a "financial product", declared a crypto-asset to be a financial product for the purposes of the FAIS Act.[24] This study will show how the recent declaration of a crypto-asset as financial product impacts on the effective regulation of manipulative practices in crypto-

[17] Tse J, Lin X and Vincent D (2012) "AES Analysis: High Frequency Trading – Measurement, Detection and Response" *Credit Suisse, Zürich, Switzerland, Technical Report*.

[18] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 217.

[19] Id 220.

[20] Id.

[21] Id. See also Eigelshoven, Ullrich, and Parry 2021 *International Conference on Information Systems* 10.

[22] FSCA Newsletter (2021, June) https://www.fsca.co.za/TPNL/fsca%20Newsletter2/3.html (accessed on 19 June 2023).

[23] The FSCA is one of the regulators of market conduct established as such in terms of the Financial Sector Regulation Act 9 of 2017.

[24] Declaration of a crypto-asset as a financial product under the Financial Advisory and Intermediary Services Act GN 1350 *GG 47334.*

assets markets in South Africa. The study will further investigate the role of the FSCA in dealing with market manipulation in crypto-assets, and the effectiveness, appropriateness or adequacy of the current traditional regulatory framework to address crypto-asset based market abuse. This entails investigating the standards that crypto-assets exchanges are expected to uphold in the endeavour to curb manipulation.

While the importance of embracing a globally coherent regulatory framework in order to alleviate the difficulties associated with the regulation of manipulation of the markets in crypto-assets is highlighted, the study will recommend that South Africa, in line with the approach thus far followed, should consider adopting a regulatory framework that is more aligned with the recommendations of the Financial Stability Board ("the FSB") and other international standards-setting bodies in dealing with crypto market manipulation. Furthermore, as a provisional measure, the study will argue that the declaration of crypto-assets as financial products should be construed in a manner that enables the regulation of manipulation of markets in crypto-assets by applying, as far as possible, the principles that are similar to those applicable in traditional financial markets and securities.

As will be seen further on in this study, the absence of a common definition and classification of crypto-assets among law enforcement authorities contributes significantly to the difficulty of regulating market manipulation.[25] The South African Intergovernmental Fintech Working Group Crypto-assets Regulatory Working Group (IFWG CARWG) prefers a characterisation of crypto-assets which is consistent with international characterisations and takes cognisance of their use. It has accordingly adopted a definition of a crypto-asset which defines it as a "digital representation of value that is not issued by a central bank, but is capable of being traded, transferred or stored electronically by natural and legal persons for the purpose of payment, investment and other forms of utility; applies cryptographic techniques and uses distributed ledger technology."[26]

[25] Sotiropoulou, and Gucrossed "Bitcoin and the challenges for financial regulation" 2017 *Capital Markets Law Journal* vol 12(4): 466–479.

[26] Intergovernmental Fintech Working Group Virtual Currencies Regulatory Working Group *Position Paper on Virtual Currencies* (2020) 16.; see also South African Reserve Bank, National Payment System Department Position Paper on Virtual Currencies number 02/2014 2.

Crypto-assets can be broadly categorised as decentralised or centralised, and some are convertible to fiat money, goods or services but others are not convertible.[27] Due to their design and interaction with fiat currency, decentralised convertible crypto-assets deserve more regulatory oversight since they pose a greater threat of systemic risk and are more susceptible to price manipulation.

In light of the fact that the size of the crypto-assets markets is forecasted to continue growing as crypto-assets continue to attract the interests of big institutional investors and information about crypto-assets disseminates, concerns over risks to financial stability have arisen.[28] At the time of writing, the number of the different types of crypto-assets available in the market was estimated to be some 25 760 and the global crypto-asset market capitalisation was approximately US$2.05 trillion, [29] with the potential of reaching and exceeding US$3 Trillion as was seen in November 2021.[30] As large sums of money continue to flow into the crypto market it is imperative that authorities in South Africa and other jurisdictions set up measures to ensure the continued integrity and efficient functioning of financial markets in order to secure financial stability and safeguard the rights and interests of investors by combating market manipulation among other risks.

Some commentators have asserted that crypto-assets markets are susceptible to manipulation particularly because there is a lack of consistent regulation across jurisdictions and sometimes amongst regulatory authorities of the same country.[31] The Financial Action Task Force ("FATF"), as did the World Economic Forum, highlighted the challenges that come with a lack of consensus regarding key definitions and regulatory approaches in crypto-assets and made recommendations for regulators to ponder upon.[32]

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[27] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 206.

[28] Graves S and Philipps D "The 10 Public Companies With the Biggest Bitcoin Portfolios" https://decrypt.co/47061/public-companies-biggest-bitcoin-portfolios [accessed on 11 June 2023].

[29] coinmarketcap.com/ (accessed on 13 September 2024).

[30] Maheshwari R "Why Is the Crypto Market Rising Today?" forbes.com/advisor/in/investing/cryptocurrency/why-is-crypto-going-up/ (accessed on 15 June 2023).

[31] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 212.

[32] Financial Action Task Force Report on Virtual Currencies Key Definitions and Potential AML/CFT Risks (2014) https://www.fatf-gafi.org/content/dam/fatf-gafi/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf [accessed 16 June 2023].; World Economic Forum White Paper: Pathways to the Regulation of Crypto-Assets: A Global Approach (2023, May) https://www3.weforum.org/docs/WEF_Pathways_to_the_Regulation_of_Crypto_Assets_2023.pdf (accessed 16 June 2023).

The lack of a common vocabulary among various regulators and law enforcement authorities creates uncertainty in differentiating the various forms of crypto-assets, and identifying impermissible conduct in dealing in crypto-assets. This may result in different regulatory approaches being taken regarding the same conduct in respect of the same crypto-asset where cross-border transactions are involved. The FATF and the FSB, of which South Africa is a member, also recommend that countries adopt a similar regulatory approach under the principle of "same activity, same risk, same regulation."[33] The International Monetary Fund has also echoed a similar call advising that countries work together to develop a globally consistent, coordinated effective and comprehensive regulatory framework in order to ensure adequate regulation of crypto-asset activities and markets.[34]

Other reasons for the occurrence of market manipulation in crypto-assets include relative anonymity which results in the inability of crypto-assets exchanges to link suspicious trades/accounts to specific individuals or entities.[35] Yet more other reasons include low barriers to entry and a lack of effective standards for establishing a crypto-assets trading venue.[36]

According to the evidence available, market manipulation in the crypto-assets industry is rampant. In a presentation to the United States' Securities Exchange Commission in March 2019, Bitwise Asset Management alleged that about 95% of reported daily trading volume in Bitcoin was fake and/or non-economic.[37] Recent analyses show that although market manipulation is still present, its prevalence has declined to a much lesser degree as a result of the exchanges' and market data reporting entities' strict regulations.[38] In

[33] Financial Stability Board Consultative Document (2022, October) "Regulation, Supervision and Oversight of Crypto-Asset Activities and Markets" https://www.fsb.org/wp-content/uploads/P111022-3.pdf (accessed 16 June 2023).

[34] Bo Li (2022) "Some Key Elements of Crypto Regulation" https://www.imf.org/en/News/Articles/2022/12/16/sp120922-some-key-elements-of-crypto-regulation (accessed 16 June 2023).

[35] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 213.

[36] Id 214.

[37] Bitwise Asset Management Presentation to the U.S. Securities and Exchange Commission (March 2019) https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5164833-183434.pdf (accessed 16 June 2023).

[38] McIntosh.

view of the reality of its presence, firm and yet progressive policies must be put in place to control all forms of market manipulation, however subtle.

The FSB issued high-level recommendations for the regulation of crypto-assets in October 2022 which are expected to be finalised in July 2023.[39] In regulating crypto-assets, the FSB recommends, among other things, the enforcement of regulatory frameworks which are equal and similar to those applicable to traditional financial markets.[40] As mentioned above, the FSB expects countries to cooperate and coordinate their approach in implementing their crypto-assets regulatory frameworks.[41] The recommendations identify key regulatory and financial stability risks and vulnerabilities associated with the creation, issuance and redemption of crypto-assets.[42] The risks identified include market misconduct risks such as insider information, price manipulation and false disclosure which are common to weak governance in so far as protocols and consensus mechanism are concerned.[43]

After the manner of the FSB, the Southern African Development Community (SADC), through its Parliamentary Forum has published a Model Law on Public Finance Management which, albeit in passing, proposes certain regulations in respect of crypto-assets.[44] The Model Law is significant since, in keeping with the purpose of the formation of SADC to promote integration and coordinate development projects in the southern African regional economic community,[45] SADC member states are expected to consider incorporating it into their local legislation. The proposed crypto-assets regulatory principles recommended by SADC encourage governments to adopt transparent and verifiable regulatory frameworks which permit the further development of the crypto-assets sector.[46]

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[39] PwC Global Crypto Regulation Report (2023) https://www.pwc.com/gx/en/new-ventures/cryptocurrency-assets/pwc-global-crypto-regulation-report-2023.pdf (accessed 18 June 2023).

[40] FSB Consultative Document (2022).

[41] Id.

[42] Id.

[43] Id.

[44] SADC Draft / Model Law On Public Financial Management (2022) https://www.sadcpf.org/index.php/en/documents/model-laws/sadc-pf-model-law-on-public-financial-management/viewdocument/987 (accessed on 18 June 2023).

[45] SADC Declaration and Treaty, 1992.

[46] Article 126 and 127 of SADC Model Law.

The regulatory frameworks are supposed to ensure consumer and investor protection by safeguarding orderly market conduct and integrity.[47]

Further the study takes interest in how, on a comparative basis, the European Union through its recently adopted Regulation of Markets in Crypto-assets ("MiCA") regulates market manipulation.[48] Nigeria's newly published Rules on Issuance, Offering Platforms and Custody of Digital Assets[49] will also be considered. In the final comparison, Mauritius' comprehensive legislative framework for virtual asset service providers and issuers of initial token offerings, the Virtual Asset and Initial Token Offering Services Act 21 of 2021 will be visited.

1.2 Main research problem statement

Trust has been found to be one of the key factors which influence investment decision making. Investor confidence in the market is one of the foundational elements of a well-developed market. Manipulative practices in crypto-assets markets pose a serious threat to investors, the growth of this nascent industry, and market integrity. Market manipulation undermines investor confidence in the market, creates uncertainty with respect to the valuing of financial assets and trading activity. In order to ensure the sustainable development of the crypto-assets market and protect investors it is imperative for the South African regulatory and law enforcement authorities to develop and adopt a comprehensive, coherent and effective regulatory framework that is also consistent with international law. Such framework must be efficient and effective to prevent the occurrence of market manipulation and address any instances of its occurance.

[47] Id.

[48] Regulation (EU) 2023/1114 of the European Parliament and of the Council (May 2023) On Markets in Crypto-Assets, and amending Regulations https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32023R1114 [accessed on 18 June 2023].

[49] Securities Exchange Commission, Nigeria "New Rules on Issuance, Offering Platforms and Custody of Digital Assets" (2022) https://sec.gov.ng/wp-content/uploads/2022/05/Rules-on-Issuance-Offering-and-Custody-of-Digital-Assets.pdf [accessed on 18 June 2023]

1.3 Research question

Is the regulation of crypto-assets in South Africa adequate/robust enough to combat/prevent crypto-assets market manipulation?

1.4 Research motivation

Although South African regulatory and law enforcement authorities have not handled cases of market manipulation in crypto-assets, evidence of the prevalence of manipulative practices abounds. The FSCA has also noted the growing tendency of the abuse of markets in crypto-assets.[50] Given the size of the crypto-assets industry and the fact that it is expected to grow further, it is proposed that South African regulatory authorities should develop a legal framework to suppress the predicted growing tendency of market abuse. This study shows that thoughtful attention needs to be given to regulating deceptive market practices in crypto-assets so as to secure financial stability and safeguard the rights and interests of investors and thereby facilitate the sustainable growth of the industry.

1.5 Research methodology

In conducting this study a desktop research methodology was applied. Scholarly publications such as journal articles, books and important internet reports written by experts in the field of financial regulation and crypto-assets were consulted in the exploration and analysis of the nature of market manipulation in crypto-assets. Bearing in mind the borderless nature of crypto-assets and that the problem of market manipulation is not restricted to specific jurisdictions, various international legal sources such as consultation documents of the FSB, the model law passed by SADC and other recommendation reports issued by key international financial and regulatory institutions were used in the explanatory statement recommending a regulatory approach that South Africa should adopt.

[50] FSCA Newsletter.

On a comparative basis, foreign law which includes statutes, regulations and/or rules applicable to foreign jurisdictions such as the European Union, Nigeria and Mauritius were considered in order to evaluate the adequacy and appropriateness of their frameworks in regulating crypto-asset market manipulation. In particular the relevance of those frameworks will be considered in relation to the South African context. Although market manipulation should be an international concern, the study confines itself as far as possible to a South African perspective in order to facilitate outcomes that are capable of being realised locally.

The study acknowledges that crypto-assets are a relatively new phenomenon and therefore the legal domain relating to the regulation of the use of crypto-assets, and in particular, the prevention of market manipulation remains largely unexplored across jurisdictions. This is particularly so in the Republic of South Africa where no comprehensive legal framework has been created and the field is marked by a limitation of scholarly and authoritative sources on the specific subject of the study.

Consequently, a number of sources analysed in this study originate from other jurisdictions. This may limit the general applicability of the principles discussed in the referenced literature, especially considering the potential biases and difference in legal traditions. However, in view of the cross-border nature of the operations of crypto-assets and the recommendation made by the international standard setting bodies, these literature are worth considering in order to ensure an internationally compliant South African policy framework.

1.6 Chapter overview

Chapter 1 of this study lays the foundation by setting the background and objectives of the study and stating the research problem and the key concepts. This chapter also outlines the main research question that the study seeks to answer as well as the motivation for the study. The methodology followed in information gathering and analysis is also set forth.

Chapter 2 explores the nature of crypto-assets, and the historical developments of crypto-assets and the crypto-assets markets. This chapter also discusses contemporary trends

in the crypto-assets sector as well as the future developments and relevance of crypto-assets.

In chapter 3, the manipulation of markets in crypto-assets is analysed together with the various manipulative schemes observed in the industry. In the discussion of manipulative schemes identified in crypto-assets, a brief reference will also be made to manipulative practices seen in traditional financial markets.

Chapter 4 discusses South Africa's current regulatory approach and the adequacy/rebustness of that approach in addressing market manipulation in crypto-assets. This chapter also explores the regulatory consequences of the recent declaration of a crypto-asset as a financial product in so far as market manipulation is concerned.

Chapter 5 examines the regulatory frameworks and approaches adopted by foreign jurisdictions such as the European Union, Nigeria and Mauritius, and compares and contrasts those frameworks with reference to South Africa's approach. This chapter will also consider regulatory recommendations made by international financial and regulatory institutions such as the FSB and others.

Chapter 6 explains the conclusions of the study with regards to the research questions posed in Chapter 1 and makes recommendations on regulatory approaches which South Africa may consider in dealing with market manipulation in crypto-assets.

2 CHAPTER 2: THE NATURE AND HISTORICAL DEVELOPMENTS OF CRYPTO-ASSETS

2.1 Historical developments of "money" and currency

In order to understand the nature, uses, and historical developments of crypto-assets, it may be helpful to understand a few points about money or currency, its uses and origins. Crypto-assets are, in common parlance, referred to as *cryptocurrencies*. As will be seen below those who sought to build crypto-assets were seeking to advance a form of digital money, a new method of payment to operate conjointly with the established system, or to replace it altogether. What follows is not an attempt to exhaustively discuss any of the suggested theories of money and its origins, nor an attempt to analyse in detail any of the criticisms of those theories. These theories are briefly mentioned only insofar as they are relevant to the discussion of the nature, uses, and origins of crypto-assets.

The themes of the origins of *money* and its definition recurrently appear together in various studies on the theory of *money*.[51] It has been asserted that authors typically address the themes together because one's conceptions of what money really is usually depend on one's assumptions, or the theory that one adheres to regarding the history of its origins, or vice versa.[52] Money is generally defined according to its function as a medium of exchange, a unit of account, and a store of value.[53] Currency on the other hand, loosely defined, refers to a particular form of money which is generally accepted in circulation in a particular jurisdiction.[54]

There is no universally accepted theory of the origins of money. The various analysis and theories which have been suggested are, to certain degrees, considered to be of limited application since they are viewed as being applicable only to certain forms or classes of

[51] The term "money" in this context, refers to the broad notion of *money* as a concept and does not refer to a particular form or class of money.

[52] Dodd N *The social life of money* (2014): at 15.

[53] Mankiw N G *Principles of economics* (2018): at 605; see also Murad A (1943) "The nature of money" *Southern Economic Journal* vol 9(3): at 217-213.

[54] https://financial-dictionary.thefreedictionary.com/currency [accessed 6 September 2024].

money.[55] After studying the monetary histories of certain communities, various authors have suggested that money emerged as, among other things, barter exchange,[56] gift exchange,[57] commodity,[58] sacrifice or political and or religious tribute,[59] debt,[60] or as symbolic media of communication (language).[61]

In view of the several and diverse theories regarding how and when money began, to attempt to trace its precise evolutions from its primitive historic origins to what it is now known to be is quite a difficult task. This problem is exacerbated by the fact that some of the theories such as the barter exchange theory, though embraced by many and acknowledged as the cornerstone of the modern economic theory, are not supported by evidence.[62] To add to this complication, it has been argued that there is no evidence showing precisely how or when money emerged out of these system.[63] Proponents of the theory of the origins of money from debt also acknowledge the fact that there is no evidence to prove that theory, and assert that this is because credit arrangements are usually not preserved in archaeological records, but other forms of money, such as coins, are.[64]

Against the backdrop of the manifold theories and their counterarguments, it is interesting to note Schumpeter's[65] observation that arguments or assertions made by an author in their theory of money are neither affirmed nor negated by the views the author espouses as to the origins of money.[66]

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[55] Pryor L (1977) "The origins of money" *Journal of Money, Credit and Banking* vol 9(3): at 391-409.

[56] Menger K (1892) "On the origin of money" *The Economic Journal* vol 2(6): at 239-255.

[57] Mauss M *The gift: The form and reason for exchange in archaic societies* (1954): at 46-47; and Gregory *Gifts and commodities* (2015): at 121-224.

[58] Gregory (2015) 156; and Dodd (2014) 30-34.

[59] Graeber *Debt: The first 5000 years* (2014): at 43-72; and Dodd (2014) 43-72.

[60] Graeber (2014) 43-72.

[61] Dodd (2014) 34-43.

[62] Humphrey C (1985) "Barter and Economic Disintegration" *Man* vol 20(1): at 48-72; Graeber (2014) 21-42.

[63] Id.

[64] Graeber (2014) 22.

[65] Joseph Alois Schumpeter is recognised as an authority in economics known for his theories on money, innovation, entrepreneurship and creative destruction (see Schumpeter J.A (2004) "Joseph Alois Schumpeter" *BIATEC* vol 12(4).

[66] Schumpeter J A (1991) "Money and currency" *Social Research* vol 58(3) 527-528.

Despite the various views on the origins of money, most authors agree that the first recorded monetary system is ascribed to the ancient Mesopotamians around 3000 or 3500 BCE.[67] Some authors observe four revolutionary transformations in the meaning of money and its use in history.[68] These revolutions and their estimated timelines are: the invention of gold and silver coins around 600 BCE, the invention of paper money and a system of national banks around 800 AD, and the development of electronic money in the twentieth century as well as the creation of digital money at the beginning of the twenty first century.[69]

2.2 The nature of crypto-assets and their historical developments

2.2.1 Definition of crypto-assets

The use of the term "cryptocurrency" almost gives an impression that crypto-assets were first conceived as an alternative form of currency. Most central banks, including the South African Reserve Bank, do not favour the use of the term "cryptocurrency" because of the confusion it is likely to create in respect of the currency(ies) legally recognised as legal tender in particular countries.[70] In South Africa, only the South African Reserve Bank has the right to issue or cause to be issued currency. The monetary unit of the Republic is the rand (abbreviated as R), and the cent (abbreviated as c), which is one hundredth part of the rand.[71]

Instead of referring to them as *cryptocurrency*, the term "crypto-asset" is preferred.[72] The South African Intergovernmental Fintech Working Group Crypto-assets Regulatory Working Group (IFWG CARWG) has defined a crypto-asset as a "digital representation of

[67] Vigna and Casey *The age of cryptocurrency: How Bitcoin and the blockchain are challenging the global economic order* (2015) 28; and Graeber (2014) 40.

[68] Id.

[69] Battilossi, Yago, and Cassis *Handbook of the history of money and currency* (2020) 69; Weatherford *The history of money: from sandstone to cyberspace* (1997) xii-xiii.

[70] Intergovernmental Fintech Working Group Virtual Currencies Regulatory Working Group *Position Paper on Virtual Currencies* (2020) 15.

[71] The South African Reserve Bank Act 90 of 1989 sections 14 and 15.

[72] Intergovernmental Fintech Working Group Virtual Currencies Regulatory Working Group *Position Paper on Virtual Currencies* (2020) 15.

value that is not issued by a central bank, but is capable of being traded, transferred or stored electronically by natural and legal persons for the purpose of payment, investment and other forms of utility; applies cryptographic techniques and uses distributed ledger technology."[73] This definition is consistent with international characterisations, and in its position paper, the IFWG CARWG has stated that crypto-assets are not legal tender or public money.[74]

The FSCA has, in terms of section 1 of the Financial Advisory and Intermediary Services Act 37 of 2002 (the "FAIS Act") under the definition of a "financial product", declared crypto-assets to be a financial product for the purposes of the FAIS Act.[75] The definition of a financial product in terms of the FAIS Act is quite long and extensive and will be dealt with further below in this study.

Crypto-assets can be broadly categorised as decentralised or centralised and some are convertible to fiat money, goods or services but others are not convertible.[76] Due to their design and interaction with fiat currency, decentralised convertible crypto-assets deserve more regulatory oversight since they pose a greater threat of systemic risk and are more susceptible to price manipulation.

Although crypto-assets are not accorded the status of legal tender, those who are credited for their role leading to the building of the first functional digital cash and laying the foundations for the building of crypto-assets had envisaged a system of electronic cash (e-cash) which was to function like the traditional cash systems, having the elements of trust, security, reliability and anonymity which are associated with coins and banknotes.[77] They did not, however, seek to advance an idea of a new currency system to replace legislated

[73] Intergovernmental Fintech Working Group Virtual Currencies Regulatory Working Group (2020): 16; see also South African Reserve Bank, National Payment System Department Position Paper on Virtual Currencies number 02/2014: 2.

[74] Id.

[75] Declaration of a crypto-asset as a financial product under the Financial Advisory and Intermediary Services Act GN 1350 *GG 47334.*

[76] Putniņš "Overview of Market Manipulation" 206.

[77] Brunton F *Digital cash: The unknown history of the anarchists, utopians, and technologists who created cryptocurrency* (2020): at 47-61.

fiat, but were proposing "a mechanism for banks to turn existing currencies into digital cash and back again."[78]

2.2.2 Historical developments of crypto-assets

The development of electronic money and the technologies which underlie the electronic payment system are considered to have established the basic framework of the protocol for the invention of money that could be issued digitally.[79] Electronic money and its underlying technologies emerged around the mid-twentieth century with the invention of the first credit and debit cards.[80]

When electronic money was invented concerns relating to the collection, processing and storage of personal information during electronic transactions arose.[81] The collection of personal information is a significant part of the electronic debit and credit systems. Describing this problem David Chaum who is regarded as the father of digital cash, said "the ultimate structure of new electronic payments system may have a substantial impact on personal privacy…"[82]

The concerns relating to the security of the privacy of the users of electronic money led to the invention of digital cash which was to be trustworthy while protecting the anonymity of the user.[83] Chaum further described in detail how the granular data about a person's whereabouts at a specific time, interests, lifestyle and associations which is collected, processed and stored by the electronic payments system could explode.[84] One of the ways in which he foresaw its explosion was if it was used by law enforcement to trace and

[78] Id.

[79] Id.

[80] Id; and Stearns D L *Electronic value exchange: Origins of the VISA electronic payment system* (2011): at 1.

[81] Brunton F (2020) at 59-60.

[82] Id: at 52; Narayanan A and Clark J (2017) "Bitcoin's academic pedigree." *Communications of the ACM* vol 60(12): at 43; and Chaum D (1983) "Blind signatures for untraceable payments." *Advances in Cryptology: Proceedings of Crypto 82*: at 199.

[83] Brunton F (2020) at 47-61.

[84] Id.

flag individuals, or if the banks could discriminate between transactions by choosing which ones to honour or decline.[85]

Electronic money is viewed as a centralised electronic ledger based monetary system which produces a time-stamped and geocoded record, and is based on a system of surveillance which serves as its guarantee.[86] It has been described as the perfect surveillance system.[87] On this basis, electronic money is distinguished from digital cash which was an attempt to invent a form of digital money that would protect the privacy of its user. Digital cash as proposed by Chaum was based on a central server system with built-in privacy protection mechanisms to ensure an untraceable payment system.[88] Part of the challenge of creating any cash system whether digital, metal or paper based is securing privacy or anonymity while ensuring reliability.[89] The digital cash project as proposed by David Chaum is said to have failed as a result of its inadequacies in ensuring "compatibility between centralisation, anonymity, and double-spending prevention".[90]

Bitcoin, first announced in 2008, was based on improvements of Chaum's conceptualisations and sought to address the issues which led to the failure of the e-cash system proposed by Chaum.[91] The elements of double-spending prevention, anonymity, and decentralisation are guaranteed in Bitcoin by the use of a decentralised blockchain system based on cryptographic technologies. It has been asserted that anonymity and decentralisation are some of the reasons crypto markets are vulnerable to abuse.[92]

[85] Brunton F (2020) 50.

[86] Id: at 53.

[87] Id: at 49-52.

[88] Chaum D (1983): at 200-202.

[89] Id: at 1; and Vigna and Casey (2015).

[90] Pilkington M (2016) "Blockchain technology: principles and applications" *Research handbook on digital transformations* 225-253.

[91] Id.

[92] Putniņš "Overview of Market Manipulation" 16.

2.2.3 Main components, ideas, and concepts of crypto-assets

2.2.3.1. Cryptography

Crypto-assets apply cryptographic techniques and use either a centralised or decentralised distributed ledger technology for security and authentication.[93] Cryptology is an ancient secret writing science which is recorded to have been in existence for more than 2500 years.[94] Since its inception, it was regarded as a mysterious and occult form of writing strictly guarded and known only by governments, religious orders, and exiled kings and queens.[95] At the turn of the twentieth century, cryptology became a subject of study that was open even to persons outside secret government agencies.[96]

As with most human inventions, cryptology has undergone various stages of evolutions. Each stage has been characterised by developments of new technologies to enhance the secrecy of communications, and the means of authenticating messages and the parties to the communication.[97]

Cryptography involves techniques of encryption and decryption. These techniques can be described roughly as involving a process of scrambling a message and rendering it unintelligible according to a particular protocol or code agreed beforehand between the parties to the communication.[98] The process of encryption and decryption relies on a system of mathematical codes.[99]

Without going into the technical specifics, and to avoid prolixity by providing an extensive list of the various cryptographic techniques, two main cryptographic techniques which are relevant to the study of the developments of crypto-assets are briefly discussed. These

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[93] Peneder M (2022) “Digitization and the evolution of money as a social technology of account” *Journal of Evolutionary Economics* vol 32(1) 188.

[94] Dooley J F *The History of cryptography and cryptanalysis: Codes ciphers and their algorithms* (2018) vii, 1, and 185.

[95] Id.

[96] Id.

[97] Singh S *The code book: The evolution of secrecy from Mary, queen of scots to quantum Cryptography* (1999): at 348.

[98] Id: at 23.

[99] Schneier B *Applied Cryptography: Protocols, Algorithms, and Source Code* (1996): at 22 and 330-333.

techniques are symmetric and asymmetric cryptography. Asymmetric cryptography, also known as public-key cryptography was discovered around the 1970s. Leading up to the development of public-key cryptography, various problems were identified with the cryptographic techniques that relied on symmetry. It was asserted that symmetry rendered the prevalent cryptographic techniques less efficient and vulnerable to breaches.[100] Chiefly among these problems is the matter of symmetrical keys which was resolved by the introduction of public-key cryptography.

Symmetry in cryptography refers to the use of the same code (known in cryptology as the cipher) to encrypt and decrypt a message.[101] As might be expected, this requires the sender and the receiver of a ciphertext (encrypted message) to be in possession of the same code in order for successful encryption and decryption to take place, thus ensuring effective communication.[102] The symmetrical codes serve to secure secrete communication, authenticate both the sender and the receiver as the correct or intended parties to the communication, and to ensure nonrepudiation by the sender.[103] It is noted that even machines such as the Enigma which was used by the Germans during World War II to transcribe and send encrypted messages, relied on symmetric codes. The machines required to be set up using codebooks so that they could be in sync with the rest of the organisation.[104]

As has been mentioned above, in symmetric cryptography, the code performs a dual function in that it is used to encrypt and decrypt the text or document, and this necessitates the sharing of the key in advance using unsecured communication channels.[105] This makes the communication vulnerable and compromises the secrecy and security of the text or document since the key can be intercepted at any point from the moment the key was sent by the sender until it reached its designated receiver.[106] The

[100] Id.

[101] Id: at 24-25.

[102] Id.

[103] Id; and Brunton F (2020) at 37.

[104] Brunton F (2020) at 37.

[105] Singh S (1999): at 319-320.

[106] Id; and Schneier (1996) 80.

problem is exacerbated in computer communications where there is a limitless number of users.[107]

The search for a solution to the problems relating to the use of symmetric keys in cryptography led to the discovery of public-key cryptography. Public-key cryptography provides a more secure alternative which does not require the sharing of symmetrical keys in advance.[108] It uses asymmetric keys to encrypt and decrypt a document or text.[109] This approach entails the splitting of the function of the key into two distinct yet mathematically related functions allowing only a one-way function, known as the trapdoor, in the encryption process.

The trapdoor function is a unique type of one-way function which implies that the same key used for encryption cannot also be used for decryption.[110] The key used to encrypt a document is known as the public-key, and can be shared publicly, but the one for decryption is private and is the user's secret.[111] What cryptographers and computer scientists discovered with this solution was that the sharing of the public-key via unsecured networks does not compromise the private key.[112] This strategy was referred to as a form of non-secret encryption by some.[113]

The encryption of a document or text can be easily performed by anyone who has the public-key, but the ciphertext can only be decrypted by the one who is in possession of a private key. Not even the one who encrypted the message can decrypt it unless they know the private key.[114]

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[107] Diffie and Hellman (1976) "Multiuser cryptographic techniques" in *Proceedings of the June 7-10, 1976, national computer conference and exposition*: at 109-112.

[108] Back, Corallo and Dashjr et al (2014) "Enabling blockchain innovations with pegged sidechains" *https://kevinriggen.com/files/sidechains.pdf* [accessed on 15 September 2024]: at 201-224.

[109] Saper N. (2013) "International cryptography regulation and the global information economy" *Northwestern Journal of Technology and Intellectual Property* vol 11(7): at 673

[110] Id.

[111] Id.

[112] Id.

[113] Brunton F (2020) 39; Ellis (1999) "The history of non-secret encryption" *Cryptologia* 269-270.

[114] Diffie and Hellman (1976) 110.

Cryptographic techniques were originally built to ensure information security and secrecy in communication, but they are now being employed in other aspects of life. The later developments in cryptography propelled by computerisation and the extensive use of the Internet have presented various opportunities and brought to light previously unexplored uses of cryptography. The development of the public-key encryption, for instance, opened various opportunities for its use in various sectors in the digital age. It facilitated the creation of the various e-commerce practices, and underlies the blocks of the blockchain technology which guarantees the security, authenticity and integrity of crypto-assets.[115]

2.2.3.2 Blockchain, distributed ledger technologies, and decentralisation

As previously mentioned the ledger technologies employed in the system of electronic money are centralised and are based on a system of surveillance which serves as its guarantee. Crypto-assets on the other hand seek to provide a reliable and secure system of anonymity which is decentralised and excludes surveillance. For this reason crypto-assets use a form of distributed ledger technology known as the blockchain.[116] The term distributed ledger technologies refers to "technologies which store, distribute and facilitate the exchange of value between users, either privately or publicly."[117]

The blockchain used by most crypto-assets such as the Bitcoin is a decentralised public ledger which is distributed across a peer-to-peer network and anyone can download and run it in their personal computers.[118] The ledger represents a record of transactions, and contains elements of proof-of-work in respect of all transactions that have occurred. The ledger does not rely on a trusted third party for validation of transactions, but the system ensures that trust.[119] Every time a transaction occurs a block is added to the chain with a time-stamp and a provided signature of a hash.[120]

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[115] Thake M "What's the difference between blockchain and DLT?" https://maxthake.medium.com/whats-the-difference-between-blockchain-and-dlt-e4b9312c75dd (accessed on 11September 2024).

[116] Id.

[117] Id.

[118] Tapscott D and Tapscott A *Blockchain revolution: How the technology behind Bitcoin is changing business and the world* (2017): at 22; Nakamoto S (2008) "Bitcoin: A peer-to-peer electronic cash system." *Satoshi Nakamoto* 1, 3-4.; and Brito J *The law of Bitcoin* (2015) 5.

[119] Id; and Karjian R "A timeline and history of blockchain technology" https://www.techtarget.com/whatis/feature/A-timeline-and-history-of-blockchain-technology (accessed on 11 September 2021).

[120] Pilkington (2016) 225-253.

For years researchers had been confounded by the challenge of double-spending in digital money.[121] Double-spend refers to a situation where the same unit of digital currency is spent more than once in different places by an individual.[122] By its nature money is expected to have mechanisms in place which secure it against counterfeiting or copying.[123] This challenge is made difficult in the context of digital assets since these assets operate in an environment of technologies that were designed to make perfect copies faster.[124]

In the context of units of fiat currency, a physical unit of currency spent puts the spender out of pocket by the specific amount spent. Possession and ownership of the unit amount is transferred by the payer to the payee, and the issue of double spend does not arise in such a situation, since the coin or bank note cannot exist in more than one place at the same time and be counted twice.[125] In the digital environment, however, the problem of double-spend opens the possibility that a unit of digital currency can be spent twice, although it is likely to bounce when attempts are made to spend it the second time.[126]

The announcement of Bitcoin is regarded as a breakthrough in the years of research to solve the double-spend problem.[127] The underlying blockchain technologies associated with the cryptographic hashing of digital signatures and the related proof-of-work mechanisms, as well as the consensus processes and network time-stamping systems have put this challenge to rest.[128]

In traditional centralised currency systems, the double-spend problem is resolved by transaction clearance mechanisms which ensure finality.[129] Clearance is done through

[121] Swan *Blockchain: Blueprint for a new economy* (2015) 3; Peneder M (2022) 187-192; and Tapscott D and Tapscott (2017) 44.

[122] Tapscott D and Tapscott (2017) 44.

[123] Swan (2015) 3; and Brunton F (2020) 1.

[124] Brunton F (2020) 1.

[125] Id: at 113; and Tapscott D and Tapscott (2017) 44.

[126] Brunton F (2020) 3.

[127] Swan (2015) 3.

[128] Id; Tapscott D and Tapscott (2017) 44.

[129] Id.

trusted central third parties such as the banks.[130] Since decentralisation is such a fundamental component of digital assets like the Bitcoin, the double-spend problem must be solved by other means which do not involve a trusted third party. In what has become known as the Bitcoin whitepaper, the pseudonymous Satoshi Nakamoto proposed a "peer-to-peer distributed time-stamp server to generate computational proof of the chronological order of transactions."[131]

Nakamoto's proposed solution involves network time-stamps that are produced by the blockchain which show instance when a particular coin was first spent by the owner, and turn down any subsequent attempts by the same owner to spend the same coin.[132] The clearance of the transactions is done by the system.[133] The system is secured by the collective control of honest network nodes.[134] Nodes can be defined as computers which constitute the blockchain network and are behind the composition and orderly arrangement of transactions in the blockchain.[135] Nodes update and confirm transactions on the network independent of each other, thus eliminating the possibility of the vetoing of the network's decision by one or a group of members participating in the network.[136] Since the ledger is publicly distributed and is not owned and controlled by any central third party it can be accessed and monitored by everyone.[137] The selection of network nodes is done by the consensus algorithms, and in the Bitcoin network consensus is achieved by proof-of-work mechanisms.[138]

[130] Id.

[131] Nakamoto S (2008) 1-2.

[132] Id; Tapscott (2017) 44-45; and Swan (2015) 2 and 19.

[133] Nakamoto S (2008) 1-2.

[134] Id; and Tapscott (2017) 44-45.

[135] Xie M, Liu J, Chen S et al (2023) "Primary node election based on probabilistic linguistic term set with confidence interval in the PBFT consensus mechanism for blockchain" *Complex & Intelligent Systems* vol 9(2)1511.

[136] Tapscott (2017) 44-45.

[137] Swan (2015) 1.

[138] Nakamoto S (2008) 3; see also Tapscott (2017) 44-45.

As mentioned, the definition put forth for crypto-assets provides, among other things, that they are a digital representation of value.[139] The conceptualisation of crypto-assets as a store of value connects with the notion that, ultimately, crypto-assets are in essence monetised data.[140] It further brings to the fore the old controversy regarding the intrinsic quality or quantity of money as a thing (materiality) or an abstract (mathematical) quantity.[141] If one considers digital cash as proposed by David Chaum to be a primitive version of crypto-assets, then it can be said that crypto-assets are alphanumeric data representing value.[142] They have been classified as forms of digital commodities.[143]

Fantasies about creating a super currency or money with an objective value seem to date back to the time of the Great Depression in the United States of America.[144] The Great Depression was a period characterised by a severe cash scarcity. It is reported that money supply declined by 30 percent during the Depression.[145] It was during this period that individuals founded an organisation called Technocracy Inc., and sought to solve the then prevailing financial crisis by introducing a new kind of currency in the form of Energy Certificates.[146] The Energy Certificates were to be denominated in ergs, and their value was linked to a unit of work in the universe which was not affected by fluctuations of time.[147]

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[139] Intergovernmental Fintech Working Group Virtual Currencies Regulatory Working Group *Position Paper on Virtual Currencies* (2020) 16.; see also South African Reserve Bank, National Payment System Department Position Paper on Virtual Currencies number 02/2014 2.

[140] Brunton F (2020) 3.

[141] Seitz E (2017) "What is money: A definition beyond materiality and quantity" *Social Analysis: The International Journal of Anthropology* vol 61(4) 114-129

[142] Id; Brunton F (2020) 3; Chaum D "Prepaid smart card techniques:

A brief introduction and comparison" https://chaum.com/prepaid-smart-card-techniques/ (accessed on 11 September 2024).

[143] Lucking D and Aravind V (2019) "Cryptocurrency as a commodity: The CFTC's regulatory framework" *Global Legal Insights* 7-8.

[144] Brunton F (2020) 5-9.

[145] Romer C D "Causes of the decline" in *Britannica: Great Depression: Economic History* https://www.britannica.com/event/Great-Depression/Causes-of-the-decline (accessed on 16 September 2024).

[146] Brunton F (2020) 9.

[147] Id; see also Fezer H "Energy Certificate" https://www.technocracyinc.org/energy-certificate-2/ (accessed on 18 September 2024).

The timing of the proposal of Energy Certificates, as noted, coincided with a financial crisis in the United States. Interestingly, the first announcement of Bitcoin coincided with the 2008 global financial crisis. It has been argued that trust is central to any monetary system.[148] When trust breaks down between those who issue currency (usually the government) and the users of that currency, alternative forms of money are likely to emerge and be preferred instead by citizens.[149]

It has been argued that by the introduction of Energy Certificates during the Great Depression, the Technocrats sought to introduce a cosmogram.[150] A cosmogram is defined as "an object that contains a model of the universe and a plan for how to organise life and society accordingly."[151] It is said that people or movements create cosmograms in an effort to remake society and the natural world using new technology.[152] Cosmograms are utopian projects which describe the world as it could be, and prescribe actions to be taken now and forms of behaviour which result in concrete practices in order to facilitate the realisation of the world envisaged.[153] Additionally, cosmograms organise and produce time and history for their users by installing one particular form of time reckoning.[154]

Considering that movements have in the past sought to create cosmograms by means of introducing new currencies, it is little wonder that some have asserted that crypto-assets are forms of cosmograms.[155]

Crypto-assets uniquely fulfil the role of a cosmogram. In order for a "thing" to qualify as a cosmogram it is not necessary for it to be widely or universally known or accepted.[156] Its nature, and the set of functions and roles it fulfils determine its status as a cosmogram. By their very nature as digital data operating and existing only in cyberspace, crypto-assets necessitate a change in the way the world sees itself and does things. They propose a

[148] Vigna and Casey (2015) 27-29.

[149] Id.

[150] Brunton F (2020) 3

[151]Id; and Tresch J *The romantic machine: Utopian science and technology after Napoleon* (2019) 21.

[152] Tresch J (2019) 16.

[153] Brunton F (2020) 11.

[154] Id.

[155] Id: at 3, 18, 67 and 119.

[156] Id: at 11.

metaphoric transcendence from the physical world by idealising a perfect virtual world consisting of honest virtual beings who can be located at specific virtual addresses. They seek to set and rearrange relationships by prescribing a particular way in which people should relate with each other in cyberspace. As cosmograms, crypto-assets, through the blockchain time-stamps, establish one kind of time recognised in the envisaged utopia. They attempt to enforce the idea that order and peace are possible and can be maintained in the absence of a central third party wielding authority.

2.2.3.3 Crypto-asset trading platforms

As part of the challenge of making digital data valuable, those who laid the groundwork leading up to the creation of crypto-assets had also become aware of, and sought to meet the challenge of creating a digital economic context for the purchase and sale of digital data which Brunton refers to as an "information market."[157] Similarly, when crypto-assets were created a need arose for the establishment of a crypto-asset exchange. A crypto-asset exchange is an online trading platform that facilitates the buying and selling of crypto-assets, either in exchange for fiat or other crypto-assets.[158] At the time of writing, Coin Market Cap records that there are in existence about 794 crypto-asset exchanges globally.[159]

Crypto-asset exchanges can either be centralised, decentralised or hybrid. A centralised crypto-asset exchange is similar to a traditional stock exchange platform and functions more or less the same as a full-time brokerage.[160] It is regulated and monitored by a central authority who maintains full charge on every transaction.[161]

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[157] Brunton F (2020) 69.

[158] Beauchamp TW, Wink SP and Hawkins S (2019) "Crypto-asset trading platforms: A regulatory trip around the world" *Global Legal Insights*: at 9; see also Ripley B Y, and Heindler F (2023) "The Law Applicable to Crypto Assets: What Policy Choices Are Ahead of Us?" *Blockchain and Private International Law* 263.

[159] https://coinmarketcap.com/ (accessed on 18 September 2024).

[160] Maheshwari R (2024) "What are crypto exchanges and how do they work" *Forbes Advisor* https://www.forbes.com/advisor/in/investing/cryptocurrency/what-is-a-crypto-exchange/ [accessed 18 September 2024]; see also Ankenbrand T, Bieri D, Kronenberger T et al (2023). *Crypto Assets Study 2021* https://hub.hslu.ch/retailbanking/download/crypto-assets-study (accessed on 18 September 2024).

[161] Maheshwari R (2024).

Decentralised crypto-asset exchanges, as the name suggests, are not regulated or monitored by a single oversight authority. They operate on the basis of a distributed ledger technology. These exchanges are fully autonomous and users are in control of their digital assets and keys.[162] Privacy and or anonymity is more secure in decentralised platforms since users are not required to disclose personal information as part of the formal requirements to gain access to and participate in the network.[163]

A hybrid crypto-asset exchange encompasses some of the elements of centralisation and decentralisation. It seeks to maximise the experience of the benefits of both centralisation and decentralisation, particularly those of privacy, security and liquidity.[164] Hybrid exchanges are, however, not very popular and have low trading volume.[165]

From the early days of crypto-asset exchanges, not long after the announcement of Bitcoin, reports regarding market manipulation as allegedly taking place in crypto-asset exchanges emerged.[166] Incidences of market manipulation are reportedly prevalent in decentralised crypto-asset exchanges.[167] From these early reports, it can be seen that the vulnerability of crypto-asset markets to abuse was evident even in those early stages.

2.2.4 Types of crypto assets

A taxonomy plays a critical role in the legal or regulatory field as it does in other disciplines.[168] In financial regulation a taxonomy sets the foundation for the development of a regulatory framework, and also facilitates the "meeting of the minds" of the various stakeholders in so far as the particular characterisation of a financial instrument is

[162] Id.

[163] Id.

[164] Id.

[165] Id.

[166] The Willy Report: proof of massive fraudulent trading activity at Mt. Gox, and how it has affected the price of Bitcoin https://willyreport.wordpress.com/2014/05/25/the-willy-report-proof-of-massive-fraudulent-trading-activity-at-mt-gox-and-how-it-has-affected-the-price-of-bitcoin/ (accessed on 11 September 2024); and Redman J "8 Years Ago Today: Bitcoin Traders Slayed the Infamous Bear Whale Who Dumped 30,000 BTC in a Single Trade" https://news.bitcoin.com/8-years-ago-today-bitcoin-traders-slayed-the-infamous-bear-whale-who-dumped-30000-btc-in-a-single-trade/ (accessed on 11 September 2024).

[167] Maheshwari R (2024).

[168] Ankenbrand T, Bieri D, Cortivo R et al (2020) "Proposal for a comprehensive (crypto) asset taxonomy" *2020 Crypto Valley Conference on Blockchain Technology (CVCBT)* 16-26.

concerned.[169] Taxonomies also help in establishing a common vocabulary, which ensures legal certainty.[170]

There is no consensus among various stakeholders such as regulators and investors on the crypto-asset taxonomy.[171] It is submitted that the lack of consensus on the taxonomy could be as a result of the fact that crypto-assets are a relatively new phenomenon, and their sophistication poses unique challenges not experienced before.

Despite the lack of consensus on their classification, attempts have been made to categorise various forms of crypto-assets. These categories include non-fungible tokens (NFTs), utility tokens, unbacked crypto-assets, and stablecoins.[172]

NFTs can be described as unique digital assets which are non-fungible and represent ownership of numerous objects such as art pieces (digital paintings, photos, music, video), tickets, and so on.[173] They are bought and sold online, frequently with crypto-assets, and they are generally encoded with the same underlying software as many crypto-assets.[174]

Definitions of security tokens vary across jurisdictions. They can be defined, however, as tokens that provide the holder with rights like those provided by traditional securities, for example, the right to a share in the profits of the issuer.[175]

Utility tokens provide the holder with access to an existing or prospective product or service.[176] These are usually limited to a single network (that is, the issuer) or a closed

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[169] Id; see also Mattei U (1997) "Three Patterns of Law: Taxonomy and Change in the World's Legal Systems" *American Journal of Comparative Law* vol 45(1) 5.

[170] Ankenbrand T et al (2020) 16.

[171] FSCA (2022) "South Africa's crypto-asset market study" https://www.fsca.co.za/Documents/Crypto%20Market%20Study.pdf [accessed on 18 September 2024].

[172] Id: at 14.

[173] Id; see also Hammi B, Zeadally S, & Perez A J (2023) "Non-fungible tokens: a review" *IEEE Internet of Things Magazine*, 6(1): at 46.

[174] FSCA (2022) 14.

[175] Id.

[176] Id.

network linked to the issuer. For example, a tokenized store card or certain gaming tokens might be considered types of utility tokens.[177]

Unbacked crypto-assets are the oldest forms of crypto-assets and the more prominent type. They are transferable and are primarily designed to be used as mediums of exchange, and are often decentralised.[178] They rely solely on supply and demand for value.[179] Most unbacked crypto-assets are used for speculation and not for payment purposes. Prominent examples, include Bitcoin and Ether. In some jurisdictions with broad definitions of securities, these might be considered security tokens.[180]

Stablecoins are digital assets which aim to have a stable price value and stabilise the price of a crypto-asset "by controlling the exchange rate between [a crypto-asset] and fiat currency."[181] They are normally bought by the crypto-asset that is being linked to a single asset or a basket of assets, for example, fiat funds and commodities. Prominent examples include Tether, Binance USD, and USD Coin.[182]

A Central Bank Digital Currency (CBDC) can be defined as a form of digital fiat money which is denominated in fiat currency, and is a liability on the central bank's balance sheet just like cash and central bank deposits.[183] It is has been suggested that central banks can issue their own crypto-assets as an alternative method to regulating crypto-assets and curbing the risks that investors get exposed to when dealing on private platforms.[184] At the

[177] Id.

[178] Id; see also Bains P et al (2022). "Regulating the crypto ecosystem: The case of unbacked crypto assets" *International Monetary Fund* https://www.imf.org/en/Publications/fintech-notes/Issues/2022/09/26/Regulating-the-Crypto-Ecosystem-The-Case-of-Unbacked-Crypto-Assets-523715: at 11 (accessed on 18 September 2024).

[179] Id.

[180] Id.

[181] Id; for a comprehensive discussion on stablecoins, see also Mita M et al (2019). "What is stablecoin?: A survey on price stabilization mechanisms for decentralized payment systems" In *2019 8th International Congress on Advanced Applied Informatics (IIAI-AAI)*: at 60-66.

[182] Id.

[183] Id; see also Peneder M (2022) 193-197.

[184] Peneder M (2022) 193-197

time of writing, the South African Reserve Bank is studying the possibility of issuing its own CBDC.[185]

2.2.5 Advantages and disadvantage of using crypto-assets

2.2.5.1 Advantages

Theoretically and reflective of the optimism that underlies innovation in the field of science and engineering, technological advancements are expected to be characterised by improvements as they seek to address challenges experienced in the various aspects of life. However, history demonstrates that this is not always the case, since innovative efforts always present new challenges. The history of the evolution of money and currency from its primitive roots to the more technologically advanced forms of electronic payments systems has been no different.

As previously noted, the transition from the use of hard cash to electronic money presented the challenge of the disclosure of personal information, and processing and storage of same by a central third party during the performance of electronic transactions. This was considered to be a real threat to personal freedom guaranteed, among others, by the right to privacy. The advent of digital cash considered to be the primitive introduction of crypto-assets sought to address the risk posed to personal privacy when performing electronic transactions. Accordingly, one fundamental advantage of crypto-assets is the guaranteed security of the privacy of individuals.

Closely connected with decentralisation, the reduction or absence of intermediaries in the use of crypto-assets as a means of exchange, and the aspect of direct peer-to-peer transactions greatly mitigates transaction costs.[186] Also associated with the advantage of

[185] South African Reserve Bank *Frequently Asked Questions* https://www.resbank.co.za/content/dam/sarb/what-we-do/banknotes-and-coin/CBDC%20FAQ%27s.pdf: at 2 (accessed on 18 September 2024).

[186] UK Crypto-Asset Taskforce Final Report (2018) https://assets.publishing.service.gov.uk/media/5bd6d6f0e5274a6e11247059/cryptoassets_taskforce_final_report_final_web.pdf: at 31; see also Vessio ML (2024) "Digital assets" in Moorcroft J, and Vessio ML *Banking law and practice* (2023): at 40 – 18.

direct dealing in the use of crypto-assets as a means of exchange is the time-saving factor since transactions are cleared and settled almost immediately.[187]

Payments made using hard cash are often difficult to trace particularly where no receipt was issued to confirm the payment. Payments made using crypto-assets are easily traceable because of the advantage of the blockchain which contains a chronological record of all transactions performed on the network.[188]

Other advantages associated with the use of crypto-assets include greater flexibility since crypto-assets can be used for different things as mediums of exchange, and investment instrument.[189] As investment instrument, crypto-assets offer lucrative returns, and can be used to support the raising of capital through initial coin offerings.[190]

It has also been said that crypto-assets promote financial inclusion for the unbanked and the underbanked since participation in the blockchain network is widely and freely available to anyone. Participation in the blockchain network does not require the provision of certain detailed personal information such as one's real names, national identity number, residential or business address, and occupation which in the traditional financial systems can be used to exclude persons and institutions from accessing banking or other financial services.[191]

2.2.5.2 Disadvantages

It is worth noting (albeit, not as a disadvantage that affects everyone in the global context) that in South Africa, as well as in other least developed and developing countries, Internet access is not widely available to citizens. In some instances those who are able to access Internet services do so at a cost that is beyond the reach of the financially underprivileged. Additionally, a number of citizens, particularly those who reside in remote or rural areas, are not experienced in using computers.

[187] Id; see also Tapscott D (2017) 44.

[188] Tapscott D (2017) 44; see also Ripley (2023) 263.

[189] Moorcroft J (2023) 40 – 21.

[190] Id.

[191] Tapscott D (2017) 73-74.

The difficulty is further aggravated by the fact that at the time of writing, countries like Nigeria, Zimbabwe and others struggle to produce enough electricity to keep electronic equipment constantly running, and experience frequent and sometimes lengthy power outages. South Africa also struggles load shedding.[192] Power outages, to an extent, also affect network coverage. In order to maximise the benefits of using crypto-assets as a medium of exchange or investment instrument, a sufficient supply of electricity is required. Access to a computer or an electronic device such as a smartphone and Internet connectivity is required. The challenges set out above pose as a disadvantage to the use of crypto-assets in the contexts described.

While the lowering of the barriers to entry in the blockchain network is hailed as an advantage to the underbanked and the unbanked, it presents a risk for exploitation and usage for illegal purposes.[193] The blockchain network prioritises the protection of individual privacy and transactions are relatively anonymous on the network. These aspects of the blockchain network have raised concerns relating to possible usage of crypto-assets for money laundering and the financing of terrorism.[194] The South African Reserve Bank has noted in its position paper of 2014 that, at the worst, crypto-assets have the ability or potential to disrupt the established financial system.[195]

As can be expected in a fast evolving innovative landscape, where regulators and investors are racing to catch up with fast paced developments, the landscape can quickly devolve into a goldmine for fraudsters and scammers. The complexity of the crypto-asset sector requires effort on the part of the investors to educate themselves so that they can make better choices regarding their investments. This may not be easy for an average person with basic computer skills.

The relative lack of information and means to verify the legitimacy of information regarding products, services, service providers and offers has left many investors exposed to

[192] Load shedding is defined in Eskom's website as "a controlled process that responds to unplanned events in order to protect the electricity power system from a total blackout." – see https://loadshedding.eskom.co.za/LoadShedding/Description (accessed on 17 September 2024).

[193] SARB Position Paper (2014) 5.

[194] Id.

[195] Id.

scammers and fraudsters. This challenge is further compounded by the fact that crypto-asset transactions take place online and the parties often do not know each other. Sometimes the transactions are cross-border making it very difficult for defrauded investors to remedy their loss and to hold the defrauding party accountable.

As lucrative investment instruments, the high volatility of the crypto-asset market and its susceptibility to manipulation also pose a disadvantage. Furthermore, although transactions are traceable, and because they clear almost immediately, mistakes such as sending a coin to the wrong address are irreversible. The system does not have mechanisms to reverse transaction.[196] The only way that the owner of a coin can recover the coin mistakenly sent to the wrong address is if the unintended recipient agrees to return the coin.[197] If not, the matter will have to be resolved by other legal means.

2.3 CONCLUSION

The currency systems and the financial services landscape have undergone a series of revolutionary evolutions over time. Each evolutionary phase introduced new concepts which sought to almost redefine various aspects of human life and to rearrange relationships and human existence. These transformations came with their advantages and unique sets of challenges and risks. The advent of crypto-assets, with the sophistications and complications associated with them also presented an experience of advantages and disadvantages. The history of the advancements made in the financial sector highlights the need for regulators to keep abreast of the latest developments and trends in the sector, and to introduce innovative regulations in order to protect investors and to ensure the integrity and security of the financial markets and the financial system.

[196] Smith T D (2017) “The blockchain litmus test” In *2017 IEEE International Conference on Big Data (Big Data)*: at 2305).

[197] Id.

3 CHAPTER 3: MARKET MANIPULATION IN CRYPTO-ASSETS: DEFINITION, CHARACTERISATION, AND TYPES

3.1 Introduction

The challenge of market manipulation is a problem that regulators and investors have had to grapple with since the establishment of the financial markets.[198] Various rules were developed and have been refined to effectively curb the problem of market manipulation in the securities markets.[199] The crypto-assets sector has also been impacted by market manipulation.[200] Considering the advanced technologies that are associated with crypto-assets, it can be expected that market manipulation in crypto-assets will be more sophisticated. This section's main focus is to highlight, analyse and discuss the problem of market manipulation in the crypto-assets sector.

3.2 Determinants of crypto-assets prices

The problem of market manipulation in crypto-assets evokes a curious enquiry into the lawful factors that determine or drive the price of crypto-assets. Generally in economics theory, the price of a thing is determined by a number of factors which include the natural value or inherent usefulness of the product, supply and demand, the cost of production, competition and or comparative valuation, holding, maintenance and distribution of the product, inflation, consumer behaviour, regulation or government price controls.[201] In the financial markets, the price of a security is largely based on the issuers future cash-flow models, and is tied in part (depending on the type of financial instrument) to the value of the issuer's other underlying assets.[202] There appears to be no consensus regarding the factors that set or determine the value of a crypto-asset.

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[198] Frunza MC *Introduction to the theories and varieties of modern crime in financial markets* (2016): at 111; Fletcher GGS (2020) "Macroeeconomic consequences of market manipulation" *Law and contemporary problems* vol 83(1): at 124.

[199] Fletcher GGS (2020) 126.

[200] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 212.

[201] Mankiw N G *Principles of economics* (2018): at 247-288, 425-427, and 636; Friedman M *Price theory: Aprovisional text* (1962): at 9-11; Simon H *Confessions of the pricing man: How price affects everything* (2015): at 48-51; and Galbraith JK *A theory of price control* (1952): at 10-11.

[202] Payne J, and Gullifer L *Corporate finance law: Principles and policy* (2015): at 416; and Brooks C *The Royal Mail case: Rex v Lord Kylsant, and another* (1933): at xiii-xvi.

The crypto-asset exchange rate is highly volatile. The fluctuating value of crypto-assets is considered to be influenced by both legitimate and unauthorised factors.[203] Legitimate factors which impact the value of crypto-assets include the speculative motives of some investors, investor attractiveness of crypto-assets and the resultant demand, and the cost of mining a crypto-asset and the technologies used.[204]

3.2.1 Speculative motives

Although Bitcoin has largely been used as the basis for crypto-asset research, it is not the only crypto-asset in existence. It has been suggested that researchers use Bitcoin as the basis of research in crypto-assets because, as a pioneering cryptographic asset, Bitcoin is also the most popular and widely known in the market, and has emerged as the most successful in history.[205] As will be seen, the various authors and sources relied on below mostly studied and presented findings on Bitcoin, but their studies shed light on the broader field of crypto-assets and can be applied in respect of other crypto-assets as well.

Since 2008, the value of Bitcoin has demonstrated an overall upward trend despite the apparent intervallic falls. It has been argued that between 2008 and 2014, public interest in the new phenomenon (mass hysteria), speculation, and manipulation among others accounted for the dramatic rise of the Bitcoin price.[206] It is said that while investor speculation continues to influence the price of crypto-assets after 2014, other rational economic factors have since become more significant in the valuation of crypto-assets.[207]

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[203] Gandal et al (2018) "Price manipulation in the Bitcoin ecosystem" *Journal of Monetary Economics* vol 95: at 88.

[204] Id.

[205] Bonneau J, Miller A, and Clark J et al (2015) "Sok: Research perspectives and challenges for bitcoin and cryptocurrencies" In *2015 IEEE symposium on security and privacy*: at 104.

[206] Gandal et al (2018) 88; Cheah E-T, and Fry J (2015) "Speculative bubbles in Bitcoin markets? An empirical investigation into the fundamental value of Bitcoin" *Economic letters* vol 130 32-33; Li X, and Wang CA (2017) "The technology and economic determinants of cryptocurrency exchange rates: The case of Bitcoin" *Decision support systems* vol 95 49-50; and Blau BM (2017) "Price dynamics and speculative trading in bitcoin" *Research in international business and finance* vol 41 493-499.

[207] Li X (2017) 50.

Some authors contend that crypto-assets have an intrinsic value of zero.[208] It has been suggested further that the prices of crypto-assets seems to consist of "a substantial speculative component."[209] While yet other authors argue that the crypto-assets market is largely populated by investors who are driven solely by faith and expectation, betting on the perpetual rise of the price of an asset.[210] These investors purchase crypto-assets and hold them short-term intending to sell them later at a profit.[211]

Often, speculative motives for trading in crypto-assets are not tied to any rational economic reasoning and are largely characterised by noise and trend trading ideas.[212] These types of trades can have the effect of hyper-inflating the price of a crypto-asset creating what is referred to as a "speculative bubble" which is not supported by concrete or rational economic considerations and disregards the true value of an asset.[213] Speculative bubbles have the effect of obscuring the true price of a crypto-asset.[214]

Since crypto-assets are considered to be lacking the fundamentals for setting a fair price, the value of crypto-assets such as Bitcoin dramatically declines at instances of negative media coverage and increases in response to positive reporting.[215] However, this is not exclusively associable with crypto-assets since other financial instruments in the mainstream markets also react positively or negatively to media reporting.[216] Despite this, crypto-assets appear to be more sensitive to media reports than the mainstream securities such that crypto-assets have been described as being "at the mercy of nothing more than market sentiments" resulting in high volatility.[217]

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[208] Cheah E-T (2015) 32.

[209] Id.

[210] Kristoufek L (2013) "BitCoin meets Google Trends and Wikipedia: Quantifying the relationship between phenomena of the Internet era" *Scientific reports* vol 3(1) 3415.

[211] Id.

[212] Id.

[213] Shiller RJ *Irrational exuberance: Revised and expanded third edition* (2015): at 239-243; and Cheung A, Roca E, and Su JJ (2015) "Crypto-currency bubbles: an application of the Phillips–Shi–Yu (2013) methodology on Mt. Gox bitcoin prices" *Applied Economics* vol 47(23) 2350.

[214] Id.

[215] Cheah E-T (2015) 33.

[216] Shiller RJ (2015) 225.

[217] Cheah E-T (2015) 33.

In addition to media coverage, researchers have considered the *Google* and *Wikipedia* popular search terms or query trends to measure the investors' sentiments and to establish a link between those search trends and the price of crypto-assets insofar as those search queries relate to crypto-assets.[218] Later studies have, however, shown that while daily Bitcoin views on *Google* and *Wikipedia* reflect some interest in the asset, they do not differentiate whether the information is used to guide investment decision making.[219] These further assert that if, in the latter history of crypto-assets, *Google* and *Wikipedia* views have any impact on the price of crypto-assets it is minimal.[220]

3.2.2 Investor attractiveness of crypto-asset and the impact on demand

Since their introduction in 2008, crypto-assets have drawn the interest of economists, investors, central banks and governments, and the market press.[221] This interest was drawn particularly by the escalating prices of Bitcoin.[222] In addition to the soaring price fluctuations, the other advantages presented by crypto-assets which made them more attractive to investors include decentralisation, the anonymity of transactions, and reduced transaction costs.[223]

It has been suggested that since there are no macroeconomic fundamentals which underlie the price formation of crypto-assets, attention must be turned elsewhere to understand the cause of price fluctuations in crypto-assets.[224] Studies show that the trade volume in respect of crypto-assets, number of participants in the market, and the attractiveness of crypto-assets to investors significantly influence their price.[225]

While it may be hypothesized that the attractiveness of Bitcoin, for instance, may cause the demand to increase, it is doubtful whether this also affects the supply since the number

[218] Kristoufek L (2013) 3415.

[219] Ciaiana P, Rajcaniovab M, and Kancs A (2016) "The economics of BitCoin price formation" *Applied economics* vol 48(19): at 1806, and 1809-1810.

[220] Id.

[221] Bolt W, and van Oordt MR (2020) "On the value of virtual currencies" *Journal of Money, Credit and Banking* vol 52(4): at 840.

[222] Id.

[223] Id.

[224] Ciaiana P et al (2016).

[225] Id; and Li X, and Wang CA (2017) 51.

of Bitcoin units to be produced and circulated was predetermined by Nakamoto to be 21 million.[226] Furthermore, it is submitted that it may be inferred from the investor attractiveness arguments that the demand of an asset increases the more investors find an it attractive, and this is the core driver or influencer of the price fluctuations of crypto-assets since supply is limited. Hence, it is possible to think and talk about the possibility of market manipulation through inflated trading volumes and wash trading among others.

3.2.3 Cost of mining crypto-assets and the technology factor (cost of production)

The blockchain network, which is central to the operations of crypto-assets, is constituted and secured by the collective control of network nodes.[227] Miners are specialised types of nodes and are responsible for the composition and orderly arrangement of transactions in the blockchain ledger.[228] The cost of mining a new crypto-asset involves the investment of resources such as the time, efforts and skills of the miners (labour), computer software and hardware (equipment), Internet and data connection, and electricity.[229] Miners are rewarded in coins after successfully solving a crypto-puzzle and recording a set of transactions.[230] It has been argued therefore that the price of a crypto-asset is expected to reflect the costs of production.[231]

Although not directly related to the current discussion, it is interesting to note that because of the dramatic fluctuations of the price of crypto-assets, some have debated and raised doubts regarding the use of crypto-assets as a store of value.[232] The high volatility of the

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[226] Noam EM (2019) "The macro-economics of crypto-currencies: Private monies and monetary policy" in *TPRC47: The 47th Research Conference on Communication, Information and Internet Policy* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3427451 (accessed on 5 October 2024) 28.

[227] Xie M, Liu J, Chen S et al (2023) "Primary node election based on probabilistic linguistic term set with confidence interval in the PBFT consensus mechanism for blockchain" *Complex & Intelligent Systems* vol 9(2) 1511.

[228] Wang J, and Wang H (2019) "Monoxide: Scale out blockchains with asynchronous consensus zones" in *16th USENIX symposium on networked systems design and implementation (NSDI 19)* 95-112.

[229] Li X (2017) 51; and Hayes AS (2017) "Cryptocurrency value formation: An empirical study leading to a cost of production model for valuing bitcoin" *Telematics and informatics* vol 34(7) 1316.

[230] Eyal I, and Sirer EM (2018) "Majority is not enough: Bitcoin mining is vulnerable" *Communications of the ACM* vol 61(7) 95.

[231] Li X (2019) 51-52; and Hayes AS (2017) 1316.

[232] Quiggin J (2013) "The Bitcoin Bubble and a Bad Hypothesis" *The National Interest* https://nationalinterest.org/commentary/the-bitcoin-bubble-bad-hypothesis-8353 (accessed on 2 October 2024); Williams MT (2013) "Finance professor: Bitcoin will crash to $10 by mid-2014" *Business Insider*

crypto-asset price is to be expected since these financial products are still at their developmental stages.[233] However, it is expected that the high fluctuation will drop as more consumers and merchants adopt crypto-assets as mediums of exchange, storage of value and investment instruments.[234]

3.3 Definition and characterisation of market manipulation

Whether crypto-assets fall under the domain of market manipulation like securities and other traditional financial instruments has been settled in some jurisdictions.[235] The next chapter investigates, among other things, whether the FSCA's declaration of a crypto-asset as a financial instrument under the Financial Advisory and Intermediary Services Act 37 of 2002 can be construed to fit the market manipulation related regulations in terms of the Financial Markets Act 19 of 2012 ("the FMA"). The discussion in this chapter proceeds on the basis that crypto-assets should be treated similarly to traditional securities as defined in terms of the FMA, and crypto-assets exchanges and other participants should be included under the definition of "regulated person".[236]

As already stated, market manipulation is not a new or unique problem. Different jurisdictions across the globe have imposed various laws in order to combat the occurrence of market manipulation. In their efforts to effectively prevent market abuse, various countries have adopted singular approaches when interpreting market manipulation.[237] In South Africa, conduct which constitutes market manipulation is prohibited under chapter 10 of the FMA. In outline, the FMA characterises market manipulation as any practice or participation in any practice which creates or is likely to have the effect of creating a false or deceptive appearance of the price or demand for, supply of, or trading activity in connection with a financial product.[238]

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https://www.businessinsider.com/williams-bitcoin-meltdown-10-2013-12 (accessed on 2 October 2024); and Blau BM (2017) 35.

[233] Bolt W (2020) 67-68.

[234] Id.

[235] Lucking D and Aravind V (2019) "Cryptocurrency as a commodity: The CFTC's regulatory framework" *Global Legal Insights:* at 11-12.

[236] Financial Markets Act section 1.

[237] Chitimira H *Principles of market abuse regulation: A comparative South African Perspective* (2018) 2.

[238] Financial Markets Act section 80.

Accordingly, market manipulation in relation to crypto-assets consists of behaviour or conduct which unlawfully influences or interferes with the normal, free and fair operations of the markets and, in so doing, creates misleading, artificial or false appearances with respect to the trading activity in a crypto-asset or the price of a crypto-asset.[239] Broadly, the notion of market manipulation is concerned with all unlawful practices which are aimed at deliberately raising, lowering or controlling the price of a crypto-asset.[240]

Market manipulation is sometimes referred to as deceptive market practice(s), market abuse, or even price manipulation.[241] The concepts of market manipulation and price fixing which may appear to be related or confusingly similar or linked are quite distinct. Price fixing practices are described and prohibited in South Africa under the Competition Act 89 of 1998, while market manipulation is proscribed under the FMA. Price fixing can be described as an agreement, concerted practice by firms, or a decision by an association of firms in a horizontal relationship which involves directly or indirectly fixing a purchase or selling price or any other trading condition in respect of a product.[242] It has been asserted that while market manipulation and price fixing are distinguishable from each other, they ultimately produce the same effect insofar as the artificial raising, lowering or controlling of the price of a product is concerned.[243]

3.4 The vulnerability or susceptibility of crypto-assets to market manipulation

Crypto-assets can be broadly categorised as decentralised or centralised and some are convertible to fiat money, goods or services but others are not convertible.[244] Due to their design and interaction with fiat currency, decentralised convertible crypto-assets deserve more regulatory oversight since they have the potential of posing a greater threat to

[239] Putniņš "An Overview of Market Manipulation" 16; Lin 2017 *Emory Law Journal* vol 66(6) 1253; and Chitimira H (2018) 2.

[240] Moore and Wiseman 1934 *University of Chicago Law Review* vol 2(1) 50 50.

[241] Kyle AS, and Viswanathan S (2008) "How to define illegal price manipulation" *American Economic Review* vol 98(2) 274.

[242] Competition Act section 4(1)(b)(ii).

[243] Mongalo TH "Foreword: Principles of market abuse regulations: A comparative South African perspective" in Chitimira H (2018) ix-x.

[244] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 206.

systemic risk and are more susceptible to, and are often the targets of price manipulations.[245]

The vulnerability of the crypto-assets markets to manipulation has been ascribed to the relative newness and historical non-regulation of crypto-assets.[246] Since the crypto-assets markets are relatively new and have been unregulated, various countries are in the early stages of developing their understanding of the phenomenon of crypto-assets and the workings of the crypto-assets markets. Various countries have, accordingly, adopted unique approaches towards the regulation of crypto-assets ranging from liberal to more restrictive, and sometimes outright bans on crypto-assets.[247] The differing approaches to the regulation of crypto-assets creates legal uncertainty and provides a loophole which can be exploited.[248]

Furthermore, the challenge of differing regulatory approaches and the lack of an internationally agreed taxonomy for crypto-assets opens a gap in the effective regulation of crypto-assets which exposes the crypto-assets markets to various vulnerabilities including market manipulation.[249] Due to the fact that crypto-assets can be transacted online across jurisdictions, a country's distinctive regulatory policies can be circumvented by participants, especially trading exchanges, who can simply choose to operate within jurisdictions that are friendly to their objectives.[250]

It has been argued that the elements of relative anonymity, and decentralisation in crypto-assets are some of the reasons the crypto-assets markets are vulnerable to manipulation.[251] Some crypto-assets exchanges do not enforce the Know Your Customer and Anti-Money Laundering regulations. These regulations require the disclosure of certain personal information of participants at entry.[252] The absence of this onboarding

[245] Id 208.

[246] FSCA (2022) "South Africa's crypto-asset market study" https://www.fsca.co.za/Documents/Crypto%20Market%20Study.pdf (accessed on 2 October 2024) 41.

[247] Putniņš "An Overview of Market Manipulation" 212.

[248] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 212-213; and FSCA (2022) 14.

[249] Putniņš "An Overview of Market Manipulation" 212.

[250] Sotiropoulou, and Guegan 2017 *Capital Markets Law Journal* vol 12(4) 470.

[251] Putniņš "An Overview of Market Manipulation" 16.

[252] Id.

requirement in some exchange platforms makes it difficult to trace suspicious transactions and prosecute perpetrators of market manipulation.[253]

Additionally, the lack of location monitoring mechanisms relating to price movements in crypto-assets exposes the markets to further vulnerabilities since most discussions (such as those between participants in trade signal sharing pump and dump schemes) take place on social media platforms such as X (formerly known as Twitter) and Reddit where users employ pseudonymous references which are not connected to real life identities.[254]

It has been stated that the elements of decentralisation and direct peer-to-peer trades contribute to the problem of market manipulation in crypto-assets.[255] Transactions in a peer-to-peer network take place directly between the parties without going through an exchange.[256] Often these direct transactions take place in unregulated markets referred to as Over-the-Counter (OTC) markets.[257] Needless to say that the absence of oversight and regulation presents an open ground for fraudsters and is fertile soil for market manipulation.[258]

While the lowering of barriers to entry in the crypto-assets markets is often applauded as providing the unbanked easy access to financial services, it has been stated that it is also a factor to be taken into account when assessing the vulnerability of the markets to manipulation.[259] Low barriers to entry allow inexperienced and or naïve persons who seek to make quick profits to enter and participate in the market. These participants are said to be vulnerable to manipulation and can find themselves actively and unknowingly participating in unauthorised trades by simply following trends or receiving misleading trade signal advice from those who are engaged in, for example, pump and dump schemes.[260]

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[253] Id.

[254] Id.

[255] Hamrick, Rouhi, Mukherjee et al 2021 *Information Processing & Management* vol 58(4) 3.

[256] Gandal et al (2018) 87.

[257].Id

[258] Id.

[259] Putniņš “An Overview of Market Manipulation” 212.

[260] Id; and Twomey D and Mann A “Fraud and Manipulation within Cryptocurrency Markets” 214.

In some countries, the registration and licencing of crypto-asset exchanges is not a legal requirement.[261] This means that any person can set up an exchange. Since the laws of those countries do not impose any qualifications or requirements for establishing and owning an exchange, this may increase the possibility of technical vulnerabilities to specialised exchange online attacks such as the distributed denial of service attack (DDoS).[262]

3.5 Why crypto-asset market manipulation matters

The size of the crypto-assets market has significantly grown since the launch of the pioneering crypto-asset, Bitcoin. It is expected to grow further as crypto-assets continue to attract the interests of both retail and big institutional investors.[263] At the time of writing, the FSCA estimates that almost 10% of South Africans own crypto-assets and the percentage is anticipated to rise further to approximately 43% by the 2030s.[264] As the number of crypto-asset owners continues to rise, more people are being exposed to various forms of market misconduct and exploitation, and therefore measures must be taken to define and proscribe harmful practices in the market.

Furthermore, at the time of writing, the overall global crypto-asset market capitalisation is at $2.13 trillion with the potential of reaching and exceeding $3 trillion as it happened in November 2021.[265] The market has also seen a notable increase in the number of types of crypto-assets and abundant additions of crypto-asset exchanges.[266] This shows that crypto-assets are establishing themselves as significant participants in the financial sector and have therefore merited attention.

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[261] Putniņš "An Overview of Market Manipulation" 212.

[262] Id.

[263] Graves S and Philipps D "The 10 Public Companies With the Biggest Bitcoin Portfolios" https://decrypt.co/47061/public-companies-biggest-bitcoin-portfolios (accessed on 11 June 2023).

[264] FSCA (2022) 6.

[265] coinmarketcap.com/ [accessed on 3 October 2024]; and Maheshwari R "Why Is the Crypto Market Rising Today?" forbes.com/advisor/in/investing/cryptocurrency/why-is-crypto-going-up/ (accessed on 3 October 2023)

[266] There are currently 2.4 million crypto-assets available in the market, and 751 crypto-asset exchanges in existence globally (see CoinMarketCap (2024)).

As large sums of money flow into the crypto-assets market and as countries consider adopting and regulating them, it becomes important for everyone to understand the operations of crypto-assets and how they impact the general economy. In the light of the increasing participation of large financial institutions in the crypto-assets markets, and, while pension funds and other collective investment schemes are restricted from investing in crypto-assets,[267] it is submitted that due to the interconnectedness of the financial sector and the high risk of contagion, the negative effects of market manipulation in crypto-assets may affect everyone including those who do not directly participate in the market. In any event, and as a result of globalisation, financial instability in one sector may, in varying degrees, impact on the ability of other financial system participants to render financial services.[268]

Understanding the workings of the crypto-assets markets is fundamentally important for the purposes of developing a comprehensive and effective regulatory framework. It can help regulators in the performance of their function of monitoring market activity to detect unauthorised conduct which may be harmful to the rights and interests of the investors, and to safeguard the security and integrity of the market.

3.6 Misconduct in the crypto-assets market

The challenges of corruption, fraud, manipulation and other forms of misconduct in the financial markets present themselves with greater intensity and higher levels of sophistication in the crypto-assets sector.[269] Sets of regulations have been developed and modified in the past to combat market manipulation in the traditional financial markets, but these regulations have been ineffective in deterring the manifestation of market manipulation.[270] The occurrence of market manipulation in the crypto-assets markets

[267] See Regulations in terms section 36 of the Pension Funds Act 24 of 1956 GN R98 GG162 of 26 January 1962 as amended by GN 2977 GG 47926 of 27 January 2023.

[268] Smaga P (2014) "The concept of systemic risk" *Systemic Risk Centre Special Paper (5)* https://eprints.lse.ac.uk/61214/1/sp-5.pdf (accessed on 6 October 2024): at 7.

[269] Dhawan A, and Putniņš TJ (2023) "A new wolf in town? Pump-and-dump manipulation in cryptocurrency markets" *Review of Finance* vol 27(3) 936-937; Zabel J (2021) "Rethinking Open-and Cross-Market Manipulation Enforcement" *Virginia Law and Business Review* vol 15 417; and Eskandari S, Moosavi S, and Clark J (2020) "Sok: Transparent dishonesty: front-running attacks on blockchain" in *Financial Cryptography and Data Security: FC 2019 International Workshops, VOTING and WTSC, St. Kitts, St. Kitts and Nevis, February 18–22, 2019, Revised Selected Papers* vol 23 https://arxiv.org/pdf/1902.05164 (accessed 6 October 2024) 170.

[270] Fletcher GGS (2018) "Legitimate yet manipulative" *Duke Law Journal* vol 68(3) 479.

remains largely unregulated.[271] The approaches to crypto-asset market manipulation are mostly similar to the ones observed in the traditional financial markets.[272]

Market manipulation as regulated under the FMA, can broadly be categorised as insider trading, trade-based, and disclosure-based.[273] Trade-based market manipulation consists of fraudulent or artificial transactions which are aimed at producing the effect of price manipulation.[274] It is trading that is specifically designed to change or control the price of a financial instrument. Those who engage in trade-based market manipulation do so for the purpose of earning quick profits.[275] To illustrate how a typical trade-based market manipulation scheme would work, one may consider a wash trading scenario where a trader executes multiple buy and sell orders in respect of the same crypto-assets which she then closes herself using different trading account in order to create the appearance of high trading activity. Wash trading will be discussed further below.

Disclosure-based market manipulation involves the making and publication of deceptive, misleading or false statements, promises or forecasts in order to materially distort the true market value of an asset.[276] An example of a disclosure-based market manipulation scheme is where a group of coin owners acting in concert, publish or make false statements in a social media page to gullible novice traders advising them by way of trade signal sharing to buy a targeted crypto-asset in order to inflate the trading volume in respect of that asset which would then have the effect of falsely representing high demand artificially pumping up its price. Once the price is up, the coin owners who are behind the scheme sell the asset at the inflated price thereby making unjustified profits. This example

[271] Barnes P (2018) “Crypto currency and its susceptibility to speculative bubbles, manipulation, scams and fraud” *Journal of Advanced Studies in Finance (JASF)* vol 9(2:18)): at 60.

[272] Twomey D and Mann A “Fraud and Manipulation within Cryptocurrency Markets” 212.

[273] Chitimira 2014 *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad* vol 17(3) 938.

[274] Nelemans M (2007) “Redefining trade-based market manipulation” *Valpraiso University Law Review* vol 42 1169.

[275] Id.

[276] Chitimira H *A comparative analysis of the enforcement of market abuse provisions* (LLD-Thesis, NMMU, 2012) 64.

illustrates a typical pump and dump strategy which has been noted as prevalent in crypto-assets.[277]

Insider trading as a form of market manipulation will be discussed briefly below. Other examples of market manipulation discussed below fall either under one or both of the broad categories of market manipulation.

3.6.1 Insider trading in crypto-assets

Many jurisdictions, including South Africa, do not offer a precise or clear definition for insider trading but provide, at the most, a descriptive or enumerative specification of prohibited conduct which may give rise to liability for insider trading.[278] A proposed definition states, however, that "insider trading is the practice by which one person armed with price- or value-sensitive non-public (and therefore confidential) information concludes transactions in securities to which that information relates without sharing that piece of information with his or her trading partners."[279]

Without being technical and at the risk of oversimplification, the South African insider trading law prohibits dealing directly, indirectly, or through an agent for one's own account, another person's account, or the insider's account on the basis of inside price sensitive information, and the disclosure of such inside information to another person, and or encouraging another person to deal or not deal in a financial instrument on the basis of such information.[280]

The lack of a clear definition of the term "insider trading" has been lamented as one of the factors which contribute to the difficulty of regulating and prosecuting this form of market-based misconduct.[281] A view has been expressed that the lack of a precise definition of

[277] Li T, Shin D, and Wang B (2021) "Cryptocurrency pump-and-dump schemes" Available at *SSRN 3267041* http://abfer.org/media/abfer-events-2019/annual-conference/investment-finance/AC19P3078_Cryptocurrency_Pump-and-Dump_Schemes.pdf (accessed on 6 October 2024).

[278] Chitimira H (2018) 15-17.

[279] Osode PC "Justifying insider trading regulation on the basis of sound legal orthodoxy: The fiduciary obligations theory" in Okpaluba C *Law and contemporary South African society* (2004) 303 quoted with approval by Chitimira (2018) 17.

[280] Financial Markets Act section 78; and Chitimira (2018) 17-20.

[281] Anderson JP (2019) "Insider trading and cryptoassets: The waters just got muddier" *Iowa Law Review Online* vol 104 120.

insider trading has resulted in a legal haziness or uncertainty regarding forms of information-sharing or other activities by investors that would be considered insider trading.[282]

There has been some criticism against the blanket criminalisation of insider trading.[283] This criticism has prompted several rejoinders and literature reaffirming the justifications for the regulation and criminalisation of insider trading.[284] Some who argue for deregulation state that not all financial instruments would fall within the domain of insider trading, and that an analysis of the law should incorporate economic consideration and only economically "inefficient" transactions should be criminalised.[285] The economics aspect of the argument further asserts that the cost of having insider trading regulation amounts to pointless expenditure, but in rebuttal, some authors have asserted that the cost of not having regulation may be higher.[286]

Two main theories which dominate the arguments in favour of the regulation of insider trading assert that insider trading constitutes a misappropriation of property belonging to the issuing corporation, and that the regulation of insider trading is aimed at combating the inequality of legal access to information which corrupts the integrity of the markets.[287] Other reasons put forth in support of regulation include fairness, price accuracy, and deterrence of the evasion of the duty to disclose imposed by law on corporations.[288]

A key element of insider trading is the prohibition on trading in material non-public information. Those who have raised doubts regarding the relevance of the insider trading doctrine in crypto-assets assert that decentralisation and transparency are key features of crypto-assets, and therefore all price-relevant information in respect of crypto-assets is

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[282] Id.

[283] Verstein A 2019 *Iowa Law Review* vol 105(1) 1-6.

[284] Osode PC (1999) "Defending insider trading regulation on ethical and scientific ground: The inequality of legal access theory" *THRHR* vol 62(1): at 22; Osode PC in Okpaluba C (2004) 303-320; and Verstein A 2019 *Iowa Law Review* vol 105(1).

[285] Id.

[286] Verstein A 2019 *Iowa Law Review* vol 105(1) 53.

[287] Park JJ (2018) "Insider trading and the integrity of mandatory disclosure" *Wisconsis Law Review* vol 6: at 1136, and 1172-1177.

[288] Verstein A 2019 *Iowa Law Review* vol 105(1) 6.

publicly available to everyone, and there are no "insiders" who possess non-public or confidential information that can be exploited for profit.[289]

Further arguments state that crypto-assets fall outside the domain of insider trading, and assert that the current regulatory framework applicable to insider trading in traditional financial markets does not fit the crypto-assets environment, and criminalising insider trading in crypto-assets does more harm than good. Insider trading, according to the arguments, is not a major challenge in the nascent crypto-assets markets.[290]

In rebuttal, some authors have stated, among other things, that the current insider trading regulations fit well, albeit not perfectly, within the domain of crypto-assets. To buttress the argument, they assert that the price of crypto-assets is information sensitive and it is necessary to ensure information symmetry and equality by among others studying the possibility of market manipulation including insider trading and considering appropriate regulation to prevent it.[291] Considering the regulation of insider trading in crypto-assets even at this nascent stage of their development is crucial and curbs the risks and costs associated with market abuse.[292]

South African authorities have not as yet been seized with a matter involving insider trading in crypto-assets. However, to demonstrate that insider trading is a real concern in the broader crypto-assets industry, some jurisdictions have successfully prosecuted instances of insider trading as a crypto-assets based market manipulation offence.[293]

The case involving Bitcoin Cash and Coinbase employees demonstrates how insider trading can be perpetrated in the crypto-assets markets.[294] Coinbase is the second largest

[289] Id: at 21-31.

[290] Id: at 38-40.

[291] Id.

[292] Id: at 53.

[293] Rosenfeld D (2023) "Current Trends in Insider Trading Prosecutions" *Current Trends in Insider Trading Prosecutions (December 2023): University of Pennsylvania Journal of Business Law* vol 26 80-84; and U.S. Attorney's Office, Southern District of New York (2023) "Defendant sentenced in groundbreaking cryptocurrency insider trading case" https://www.justice.gov/usao-sdny/pr/defendant-sentenced-groundbreaking-cryptocurrency-insider-trading-case (accessed on 6 October 2024).

[294] Id; and Young J (2021) "Bitcoin Cash surges by 50%, market optimistic on Coinbase integration" *CCN* https://www.ccn.com/bitcoin-cash-surges-by-50-market-optimistic-on-coinbase-integration/ (accessed on 5 October 2024); and Wilmoth J (2021) "Think Coinbase employees engaged in insider trading? Deal with it"

crypto-asset exchange globally and it is alleged that its employees engaged in insider trading prior to the exchange's announcement of its full support for Bitcoin Cash.[295] It was noticed that prior to the publication of the announcement the price of Bitcoin Cash surged by approximately 50% due to an apparent increased demand. After the announcement, allegations emerged that increased demand was caused by Coinbase's employees' purchase of the Bitcoin Cash in anticipation of the price increase as a result of the announcement.

3.6.2 Crypto-asset market manipulation methods and examples

Inflated trading volumes

Inflated trading volume occurs when an exchange exaggerates its trading volume by materially misrepresenting its market activity in order to create a misleading impression regarding the popularity of the exchange as a safe trading environment so as to gain the trust of investors.[296] Larger trading volumes are regarded by investors as an indication of higher supply and demand, a safer trading environment, ample liquidity, and lower ask-bid spreads.[297]

Trading volume inflation can be effected in a variety of ways including offers of zero or no fee trading by exchanges which significantly distorts the trading volume and affects the price of a crypto-asset.[298] Other exchanges offer margin trading which allows users to trade more than their base balance without lending to them first and effectively short sell crypto-assets and increased the trading volume.[299] Yet others incentivise large trading volumes by offering to charge lower trading fees the more a user trades.[300]

CCN https://www.ccn.com/think-coinbase-employees-engaged-in-insider-trading-deal-with-it/ (accessed on 5 October 2024).

[295] CoinMarketCap (2024); and Wilmoth J (2021).

[296] Chen, Lin, and Wu 2022 *Physica A: Statistical Mechanics and its Applications*, vol 586 126405; Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 217-219.

[297] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 218; and Bianchi D, Babiak M, and Dickerson A (2022) "Trading volume and liquidity provisions in cryptocurrency markets" *Journal of Banking and Finance* vol 142 106547.

[298] Galati L (2024) "Exchange Market Share, Market Makers, and Murky Behaviour: The Impact of No-Fee Trading on Cryptocurrency Market Quality" *Journal of Banking and Finance* 107222: at 11 and 32.

[299] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 218-219.

[300] Id.

Wash trading is another method of inflating trade volumes. Wash trading occurs when a trader seeks to inflate their own trading volume by creating two separate trading accounts, carefully opening buy or sell orders using one account and closing those orders with the other account.[301] The perpetrator can do this without incurring any loss or cost to themselves.[302] The ultimate effect could be an inflated overall trading volume in the exchange which can have a considerable effect on the price of crypto-assets.[303]

It has been posited that the problem of inflated trading volumes was effectively dealt with and no longer afflicts the crypto-assets markets.[304] However, some authors disagree alleging that the practice is still prevalent and is widely reported on in finance media.[305] One historic case of trade washing is the Mt. Gox saga. Mt Gox was the largest crypto-asset exchange by volume before its demise. Following a hack on its system, internal transaction logs were leaked which provided direct evidence of wash trading which was taking place on the exchange.[306]

Layering, price or quote stuffing and order spoofing

Price or quote stuffing also known as order spoofing or layering refers to the practice where the market is flooded with a huge number of buy or sell orders which are cancelled in rapid succession immediately as soon as they are made.[307] This method of market manipulation is usually perpetrated as a momentum ignition by high frequency traders with the intention of falsely raising or maintaining the price of a crypto-asset by driving the

[301] Cong LW, Li X, Tang K et al (2023) "Crypto wash trading" *Management Science* vol 69(11) 6427.

[302] Id: at 31.

[303] Id.

[304] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 217.

[305] Chen, Lin, Wu 2022 *Physica A: Statistical Mechanics and its Applications* vol 586 126405; and Galati L (2024) 2.

[306] Willyreport (2014) "The Willy Report: Proof of massive fraudulent trading activity at Mt. Gox, and how it has affected the price of Bitcoin" https://willyreport.wordpress.com/2014/05/25/the-willy-report-proof-of-massive-fraudulent-trading-activity-at-mt-gox-and-how-it-has-affected-the-price-of-bitcoin/ (accessed on 6 October 2024).

[307] O'Leary DE (2018) "Open information enterprise transactions: Business intelligence and wash and spoof transactions in blockchain and social commerce" *Intelligent Systems in Accounting, Finance and management* vol 25(3): at 154.

market to a certain direction.[308] It has two main effects. First, it creates a false impression regarding supply and demand in respect of the targeted crypto-asset thereby wrongfully influencing its price.[309] Secondly, due to the intense volume of buy or sell orders placed within a short space of time, price or quote stuffing floods the trading system with excessive messages so that the trading system slows down putting other market participants at an informational disadvantage by denying them access to up to date live market data.[310]

Reports emerged in 2017 alleging the occurrence of order spoofing in the crypto-assets markets. A pseudonymous X (Twitter) user known as Bitfinex'ed detailed in 2017 how it observed suspicious orders placed and cancelled by a trader they labelled "Spoofy" on the Bitfinex exchange.[311] The user alleged that Spoofy made the price go up when they wanted it to go up, and down when they wanted it to go down, and they appeared to have the resources to make this happen.[312] It was alleged that at one time Spoofy placed over $14 million in false buy orders in respect of Bitcoin and left them up for about an hour and then cancelled them.[313] To support the claim that Spoofy was engaged in a spoofing or stuffing operation, Bitfinex'ed reasoned that in reality it seemed odd that any person would need that amount of Bitcoin, and asserts that Spoofy was aware that no one was going to be able to close that order.[314] Therefore an inference can be drawn, according to Bitfinex'ed, that Spoofy's sole intention was not to execute those orders but to singlehandedly manipulate the price of Bitcoin.

Distributed denial of service attack

A distributed denial-of-service attack (DDoS) can be described as an attack inflicted on the network system of a crypto-assets exchange by repeatedly sending a large volume of

[308] Tse J, Lin X, and Vincent D (2012) "High frequency trading—Measurement, detection and response" *Credit Suisse, Zürich, Switzerland, Tech. Rep*: at 1; and Eigelshoven, Ullrich, and Parry 2021 *International Conference on Information Systems* 9.

[309] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 236.

[310] Id.

[311] Bitfinex'ed (2017) "Meet "Spoofy". How a single entity dominates the price of Bitcoin" *Hackernoon* https://hackernoon.com/meet-spoofy-how-a-single-entity-dominates-the-price-of-bitcoin-39c711d28eb4 (accessed on 5 October 2024).

[312] Id.

[313] Id.

[314] Id.

incoming messages (such as services requests), thus creating significant network traffic which disrupts the normal operability of an exchange.[315] During the subsistence of the DDoS attack, trading activity freezes in the exchange and the price of a targeted crypto-asset is depressed.[316] Combined with a specific trading activity, a DDoS attack enables the attacker to amass a significant number of crypto-assets.[317] If successful, this form of manipulative conduct can be a quick and extremely lucrative instrument to the attacker.

DDoS attacks have been in existence long before crypto-assets such as Bitcoin were created. However, it has been reported that crypto-assets markets have become special targets for DDoS attacks.[318] In addition to being vehicles for making quick profits when inflicted on a crypto-asset exchange to effect market manipulation, DDoS attacks are reportedly preferred by cybercriminals because they are cheap and easy to effect.[319]

The most recent DDoS attack in crypto-assets was against the Cardano network which is a proof-of-stake blockchain platform.[320] The attack was, however, promptly thwarted by the Cardano's developer. The market's reaction to the news of Cardano's success against the DDoS attack was revealed in the increase of Cardano's price by 7%.[321] Other historic DDoS attacks were reported around March 2020 and were inflicted against Bitfinex, OKEx, Digitex, and Coinhako.[322] It was suspected that the attack was perpetrated by a former employee of Digitex.[323] The CEO of Digitex confirmed that nothing else was stolen except customer e-mail addresses.[324]

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[315] Twomey D and Mann A "Fraud and Manipulation within Cryptocurrency Markets" 220.

[316] Id.

[317] Id. See also Eigelshoven, Ullrich, and Parry 2021 *International Conference on Information Systems* 10.

[318] Dragomiretskiy S (2018) "The influence of DDoS attacks on cryptocurrency exchanges" (Bachelor's thesis, University of Twente) https://essay.utwente.nl/76402/1/Dragomiretskiy_BA_BMS.pdf (accessed on 5 October 2024): at 1.

[319] Id.

[320] Waters L (2024) "Cardano DDoS Attack Quickly Thwarted; Asset Price Jumps By 7%" *Techreport* https://techreport.com/crypto-news/cardano-ddos-attack-quickly-thwarted-asset-price-jumps-7/ (accessed on 5 October 2024).

[321] Id.

[322] O'Neal S (2020) "DDoS attacks on OKEx and Bitfinex Were Sophisticated, Possibly Related" *Cointelegraph* https://cointelegraph.com/news/ddos-attacks-on-okex-and-bitfinex-were-sophisticated-possibly-related (accessed on 6 October 2024).

[323] Id.

[324] Id.

Front running

Front running is a method of market manipulation which, to some degrees, resembles insider trading. Like many other methods of market manipulation, front running has been in existence and has challenged the traditional financial markets.[325] Crypto-assets markets, however, have presented a unique and fertile platform for the re-emergence of front running.[326]

Front running can be described as consisting of conduct where a person or entity benefits from prior access to privileged price-relevant market information about upcoming transactions and trades in respect of a crypto-asset.[327] Those who are advantageously positioned to perpetrate this type of misconduct are miners.[328] Miners in the blockchain network are uniquely positioned as verifiers and systematic recorders of transactions in the network.

Front running facilitates the possibility for profit driven miners or any person by means of miner incentivisation to give priority to a higher fee transaction in respect of a particular crypto-asset which is relayed in the memory pool and or is recorded as a pending order in the exchange, but not confirmed and recorded in the blockchain, to the displacement and suppression of other (lower fee) transactions in respect of the same crypto-asset.[329] The perpetrator does this with the knowledge, first, that his own transaction will have the effect of evidencing a higher demand for the asset to boost its price, and or second, in anticipation of another transaction that the perpetrator had insider or prior knowledge of which will affect the price of the asset the scheme yields profits for the perpetrator. The perpetrator's intentions in usurping the transaction before its finalisation takes place is to make profits out of the artificially inflated price.[330]

[325] Zabel J (2021) 439.

[326] Id.

[327] Eskandari S et al (2020) 171.

[328] Id.

[329] Id; and Daian, Goldfeder, Kell et al in *2020 IEEE symposium on security and privacy (SP)* 918.

[330] Id.

Front running is believed to be prevalent in crypto-assets and is mostly perpetrated using high frequency trading bots.[331] In addition to challenges already enumerated, front running creates unfairness in the market. A notable case where this form of market misconduct was alleged to have taken place includes *Status.im's* initial coin offering (ICO). It is alleged that during the period when the *Status.im* ICO was open for participation unusual miner activity or behaviour of the network was exhibited.[332]

Some users reported that the network was unusable during the ICO and transactions were not confirming.[333] It was further reported that many transactions were failing because the network was rejecting transactions. It was later discovered that before the opening of the ICO, 100 Ether were distributed across 30 newly established addresses to prepare these addresses to participate as soon as the ICO opened. When the ICO opened, F2Pool composed 31 transactions to the ICO smart contract from the new addresses, and did not publish these transactions to the network. The miners are said to have used their full mining power to perform what can be referred to as self-mining, front running their own transactions and some other high gas price transactions.[334]

3.7 Conclusion

This chapter provided a non-exhaustive discussion of the concept of market manipulation and manipulative schemes observed in the crypto-assets industry. A broad definition of market manipulation asserts that market manipulation consists of any conduct that is aimed at illegitimately raising, lowering or controlling the price of a crypto-asset. There is no universal consensus regarding the genuine or natural price determinants of crypto-assets. Among the proposed theories, some authors suggest that the price or value of a crypto-asset is determined by costs associated with the mining of the asset, speculative motives, and or investor attractiveness as opposed to supply and demand.

[331] Stradbrooke (2024) "2 arrested for $25 million exploit of Ethereum's proof-of-stake validators" *Coingeek* https://coingeek.com/2-arrested-for-25-million-exploit-of-ethereum-proof-of-stake-validators/ (accessed 6 October 2024).

[332] Eskandari S et al (2020) 171, and 181.

[333] Id.

[334] Id.

It is generally agreed that there are some unnatural factors which affect the price of crypto-assets which must be prevented. These factors relate to trade based and disclosure based crypto-asset market manipulation and involve insider trading, pump and dump, wash trading, order spoofing or price stuffing, distributed denial of service attacks, and front running.

The subject of market manipulation in the nascent crypto-assets is of fundamental importance and deserves close attention in order to avoid the adverse effects which are normally associated with market manipulation. In order to exercise their supervisory functions adequately, regulators must study and understand the operations of crypto-assets and their markets. The imposition of an effective regulatory framework will assist the orderly development of the crypto-assets markets, protect investors and other participants, reduce costs, and protect the security and integrity of the market.

4 CHAPTER 4: THE REGULATION OF CRYPTO-ASSET MARKET MANIPULATION IN SOUTH AFRICA: KEY PRINCIPLES, POLICY RATIONALES, AND CHALLENGES TO REGULATION

4.1 Introduction

As noted in the previous chapter, the various market manipulation schemes found in crypto-assets came mostly from the realms of the mainstream securities markets. Due to the fact that market manipulation affects all crypto-assets markets across jurisdictions, including South Africa, this chapter seeks to consider and discuss the key principles underlying the regulation of market manipulation in the mainstream capital markets in South Africa, and the appropriateness or relevance and adequacy of the mainstream South African regulatory framework for the markets in crypto-assets. The policy rationale that informs the regulation of market manipulation in South Africa will also be considered. Lastly, the chapter explores the challenges associated with the regulation of market manipulation and how those challenges are aggravated in crypto-assets markets.

4.2 The regulation of the crypto-assets market in South Africa

Upon observation that crypto-assets were gaining popularity as transaction and investment instruments among the members of the public, the South African financial regulatory authorities issued public warnings and advices regarding the risks associated with the use of crypto-assets.[335] For the most part, the warnings and advices pertained to the general

[335] Intergovernmental Fintech Working Group: Crypto Assets Regulatory Working Group *Position Paper on Crypto Assets* (2021): 10. The South African financial sector regulatory authorities in this context refers to the Intergovernmental Fintech Working Group ("the Fintech Working Group", "CAR WG" or "the IFWG") which was established in 2016 to understand the growing role of financial technology (fintech) and innovation in the South African financial sector, and the risks and opportunities presented by fintech. The Working Group consists of the Competition Commission, Financial Intelligence Centre (FIC), Financial Sector Conduct Authority (FSCA), National Credit Regulator (NCR), National Treasury (NT), South African Reserve Bank (SARB), and South African Revenue Services (SARS). (https://www.resbank.co.za/content/dam/sarb/quick-links/fintech/IFWG%20Frequently%20asked%20questions%20-%20updated.pdf [accessed on 13 October 2024]). See also National Treasury (2018) "User alert: Monitoring of virtual currencies" https://www.treasury.gov.za/comm_media/press/2014/2014091801%20-%20User%20Alert%20Virtual%20currencies.pdf [accessed 14 October 2018]; and FSCA Newsletter of March 2021 https://www.fsca.co.za/TPNL/FSCA%20eNewsletter/fsca/regulatorycrypto.html#:~:text=Recently%2C%20following%20the%20high%20volume,in%20risky%20assets%20like%20cryptos [accessed on 20 October 2024].

lack of regulation of the crypto-assets market and the resulting lack of legal protection and legal recourse for users and investors.[336] The financial authorities also set out to prepare and develop a position paper detailing a policy and regulatory approach for addressing the legal challenges presented by crypto-asset activities and crypto-asset service providers (CASPs) in South Africa.

The IFWG's position paper noted that financial regulators in various jurisdictions when considering the opportunities and risks presented by crypto-assets could decide to either adopt a *laissez-faire* approach and take no regulatory action, step in to regulate the market, or ban crypto-assets altogether.[337] The consequences of a hands-off approach and non-regulation could leave consumers vulnerable to various irregularities and without legal recourse should any problems arise.[338] The FATF warned that banning crypto-assets could have the unintended consequences of driving their operations underground where they cannot be properly regulated.[339] The preferable solution which is also followed by South Africa seems to be regulation which does not retard further innovation.

Various countries follow different approaches to the regulation of crypto-assets. Some countries have developed and adopted new regulatory frameworks altogether specifically designed for crypto-assets. Other countries are amending and or adapting existing rules to suit crypto-assets, and yet others have chosen to regulate crypto-asset activities by applying existing local rules as they stand.[340] Some authors have suggested that a thin and decentralised regulatory approach which supports responsible innovation should be followed and South Africa seems to be following this trend.[341]

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[336] IFWG Position Paper 10.

[337] Id: at 6; and Demertzis M, and Wolff GB (2018) "The economic potential and risks of crypto assets: Is a regulatory framework needed?" *Bruegel Policy Contribution* issue no. 14 of September 2018 https://www.econstor.eu/bitstream/10419/208022/1/1030937354.pdf [accessed 13 October 2024]: at 12.

[338] Grennan J (2022) "FinTech regulation in the United States: past, present, and future" *Present and future*: at 22.

[339] Financial Action Task Force (2021) "Updated guidance: A risk-based approach to virtual assets and virtual asset service providers" https://www.fatf-gafi.org/content/dam/fatf-gafi/guidance/Updated-Guidance-VA-VASP.pdf.coredownload.inline.pdf (accessed on 20 October 2024) 40 para [108].

[340] Xiong X, and Luo J (2024) "Global trends in cryptocurrency regulation: An overview" *arXiv preprint arXiv: 2404.15895* available at https://arxiv.org/pdf/2404.15895 (accessed on 20 October 2024) 15-16.

[341] Chaffee EC (2019) "The Heavy Burden of Thin Regulation: Lessons Learned from the SEC's Regulation of Cryptocurrencies" *Mercer Law Review*: at 617; Nabilou H (2019) "How to regulate Bitcoin: Decentralised regulation for a decentralized cryptocurrency" *International Journal of Law and Information Technology* vol 27(3): at 267; and IFWG Position Paper 6.

It is important to note that the regulatory approach proposed in the South African context is not aimed at regulating crypto-assets *per se* or their protocol directly, but the conduct of market participants or crypto-asset activities.

The overall regulatory framework of crypto-asset activities in South Africa is not yet finalised. However, the IFWG has recommended various approaches to regulate crypto-asset activities in South Africa in order to address the various risk concerns based on the different use cases.[342] In the main, the regulatory solutions contemplated by the IFWG seem to entail principles which are intended to integrate crypto-assets into the financial system and necessitate the amendments and or adaption of certain existing laws to suit crypto-assets.

The specific use cases of crypto-assets which are relevant to this study and the risks identified by the South African regulatory authorities include the buying and selling of crypto-assets, capital raising through Initial Coin Offerings (ICOs), crypto-asset funds and derivatives, and crypto-assets market support.[343] The risks to consumers include, the exposure of crypto-asset users and investors to unfair treatment by financial institutions, and consumer exploitation as a result of limited understanding of crypto-assets.[344] Concerns about the rapid growth of the crypto-assets markets to the extent that they may become systematically significant, and the exposure of prudentially regulated financial institutions to crypto-assets, as well as the potential risk to financial instability were also acknowledged.[345]

The proposed regulatory approach aims to align with the recommendations and guidelines of the international-standard-setting bodies such as the FATF, International Organisation of Securities Commissions ("IOSCO"), and the Basel Committee on Banking Supervision, ("BCBS") among others.

Consistent with the regulatory strategy recommended by the FATF, the South African financial authorities have suggested the implementation of phased or staged coordinated

[342] IFWG Position Paper 4, and 14.

[343] Id: at 14.

[344] Id: at 3-4.

[345] Id: at 4.

risk-based approach to bring the crypto-assets market under the scope of regulation. One of the first steps suggested was imposing regulatory requirements on crypto-asset service providers.[346] To achieve this crypto-assets were declared to be financial products in terms of section 1(1) of the FAIS Act for purposes of the FAIS Act.[347]

4.2.1 The declaration of a crypto-asset as a financial product and implications for the regulation of market manipulation in crypto-assets

The FAIS Act was enacted to regulate the rendering of certain financial advisory and intermediary services to clients, and matters incidental thereto.[348] It is not the principal legislation under which market manipulation, as discussed in this study, is regulated. It is one of the various financial sector laws which are meant to ensure the fair treatment and protection of financial consumers, efficiency and integrity of the financial markets, financial stability, and confidence in the financial sector.[349]

Under the key terms and definitions, the FAIS Act lists a variety of items which fall under the umbrella of "financial product" for the purposes of the Act. The list of items under the definition of "financial product" includes any "securities" as defined in terms of section 1 of the Financial Markets Act.[350] In addition to the listed items, the Act empowers the FSCA to declare, by a notice in the *Gazette,* any other product similar in nature to any financial product listed in the definition to be a "financial product" for purposes of the Act.[351]

In October 2022, the FSCA declared crypto-assets as financial products under the FAIS Act.[352] The declaration, among other things, had the effect of settling the South African approach to the definition of a crypto-asset. The key motivation behind the declaration of a crypto-asset as a financial product under the FAIS Act was to facilitate the subjection of

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[346] Id: at 3.

[347] Declaration of a crypto asset as a financial product under the Financial Advisory and Intermediary Services Act, GN 1350, *GG* 47334, 19 October 2022.

[348] The preamble to the FAIS Act.

[349] See schedule 1 of the Financial Sector Regulation Act 9 of 2017.

[350] Section 1(1) of the FAIS Act; and section 1 of the Financial Markets Act.

[351] FAIS Act section 1(1)(h); and the Declaration of a crypto asset as a financial product (2022).

[352] Id.

CASPs and crypto-asset activities under the regulatory purview of the FSCA and to impose the regulations of the FAIS Act and subordinate legislation on them.[353]

The regulation of crypto-asset activities and CASPs under the FAIS Act was prioritised in order to reduce the abounding instances of fraudulent activity where persons purporting to be selling crypto-assets investments were in reality scammers intending to abscond with customer funds.[354]

The declaration of a crypto-asset as a financial product (albeit for purposes of the FAIS Act) paved the pathway by indicating distinctly the approach that South Africa intended to take in the regulation of the crypto-assets sector (i.e. whether a new regulatory framework was to be adopted to regulate crypto-assets or if they were to be managed in terms of existing laws). It confirmed the position that, for regulatory purposes, crypto-assets are considered to be similar to traditional financial products listed under the definitions section of the FAIS Act.

Furthermore, and as stated above the products listed under the definition of a financial product include “securities” as defined in the Financial Markets Act.[355] The Financial Markets Act defines a security broadly, and that definition includes derivative instruments. A derivative instrument means any financial instrument, or contract that creates rights and obligations and whose value depends on or is derived from the value of one or more underlying assets, rate or index, on a measure of economic value or on a default event.[356]

It is generally understood that CASPs, that render financial services in relation to crypto-asset derivatives, are subject to the FAIS Act. The Financial Markets Act’s definition of a derivative instrument is broad enough to include any type of underlying or referenced asset irrespective of its nature. This creates the possibility that a derivative instrument can be built which references to crypto-assets as an underlying asset. It is accordingly not doubted that crypto-asset derivatives are subject to the provisions of the Financial Markets

[353] IFWG Position Paper 4; and section 4 of the FSCA policy document supporting the declaration of a crypto-asset to be a financial product under the FAIS Act issued on 19 October 2022.

[354] Section 4.3 of the FSCA’s Statement in support of the draft declaration of crypto-assets as a financial product under the FAIS Act issued on 20 November 2020.

[355] Section 1 of the Financial Markets Act.

[356] Section 1 of the definition of “derivative instrument” in the Financial Markets Act.

Act. Since crypto-asset derivatives are also susceptible to market manipulation, the relevant provisions dealing with market manipulation under the Financial Markets Act apply to them as well.

The products or financial instruments listed under the definitions of "financial product" and "securities" under the FAIS Act and the Financial Markets Act (respectively) fall within the jurisdiction of the FSCA whose objectives are to enhance and support the efficiency and integrity of financial markets, and to protect financial customers by, among other things, conducting investigations into market abuse contraventions perpetrated on a regulated market which involve prohibited trading behaviour such as the creation of a deceptive appearance of trading activity or an artificial price in respect of traded assets.[357]

Although not directly relevant to the current study, it is interesting to note that since crypto-assets have been declared as financial products under the FAIS Act, it means that any person who, as a regular feature of the business of such person, renders financial services (as defined in section 1 of the FAIS Act) in relation to crypto-assets (as defined in the declaration) must comply with the provisions of the FAIS Act and its subordinate legislation.[358] These provisions include the licencing and authorisation requirements, fit and proper standards, and the requirements relating to honestly, integrity and good standing.[359] Furthermore CASPs and their representatives are, in terms of the notice, required to comply with the obligations relating to the rendering of financial services with fairness, due skill, care and diligence and in the interest of clients to ensure the integrity of the financial services industry.[360]

Failure by such person(s) to comply with the licencing and authorisation provisions of the FAIS Act amounts to a contravention of section 7 and may constitute an offence punishable by a fine not exceeding R10 million and or imprisonment for a period not exceeding ten years.[361] Moreover, CASPs that are authorised or licenced in terms of the

[357] Sections 56-58, and 135(2) of the Financial Sector Regulation Act.

[358] Paragraph 4 of the Declaration of a crypto asset as a financial product (2022).

[359] Section 7(1) of the FAIS Act; Determination of Fit and Proper Requirements for Financial Services Providers (2017) BN 194 of 2017 *GG* 41321; General Code of Conduct for Authorised Financial Services Providers and Representatives (2003).

[360] Sections 8 and 13 of the FAIS Act.

[361] Section 36(d) of the FAIS Act.

Act but fail to observe the other aspects of the FAIS Act and subordinate legislation applicable to them, and or contravene other financial sector laws in a material way may, have their licences or authorisation suspended or withdrawn by the FSCA, and in respect of natural persons, be debarred from rendering financial services.[362]

Among the factors which particularly influenced the definition of a crypto-asset as articulated under the declaration was the recommendation made by the IFWG for CASPs to be designated as accountable institutions in terms of the Financial Intelligence Centre Act 38 of 2001 ("FICA").[363] The FSCA reasoned that since CASPs were to be accountable institutions to the Financial Intelligence Centre ("FIC") that would necessitate a definition of crypto-assets under FICA.[364] Considering the role of the FIC in terms of the FICA framework, the FSCA defined crypto-assets in the Declaration in line with the definition recommended by the FATF.[365]

Following the recommendations of the IFWG, schedules 1 of FICA was amended to include CASPs as accountable institutions with effect from 19 December 2022.[366] The amendment included a definition of crypto-assets which is consistent with the Declaration and the FATF Guidance.[367]

Overall, the designation of CASPs as accountable institutions under FICA means that the full ambit of the provisions of FICA apply to CASPs.[368] The FICA regulations which apply to accountable institutions include the requirements to adhere to the anti-money laundering and the counter terrorist financing rules.[369] This entails, among others, the requirements to register with the FIC, conduct customer identification and verification, conduct customer due diligence, record keeping of customer transactional information,

[362] Section 9 of the FAIS Act, and sections 120 and 153 of the Financial Sector Regulation Act deals with suspension of licences by the FSCA; section 14 of the FAIS Act and 153 of the Financial Sector Regulation Act Act deal with debarments of natural persons from rendering financial services.

[363] FSCA's Statement in support of the draft declaration (2020) 5.

[364] Id.

[365] Id; definition of a "crypto-asset" in the Declaration (2022); and FATF (2021) Updated Guidance 21 paragraph 44(b).

[366] IFWG Position Paper recommendation 2 33; Financial Intelligence Centre Act 38 of 2001: Amendment of Schedules 1, 2 and 3 to Financial Intelligence Centre Act, 2001 GN 2800/2022 of 29 November 2022.

[367] Amendment of schedule 1, 2 and 3 of FICA (2022) item 22.

[368] IFWG Position Paper recommendation 2 33.

[369] Id.

monitoring for and reporting any suspicious and unusual transactions, and cash transactions of R25 000 and above.[370] All these requirement and others which are set out in FICA are directed towards aiding in the fight against money laundering and terrorist financing, among other things.[371]

The FIC may impose administrative sanctions on accountable, and reporting institutions, and on any person to whom FICA applies if they do not comply with FICA.[372] A penalty not exceeding R10 millions in respect of natural persons and R50 million in respect of legal persons may be imposed.[373]

4.2.2 The regulation of market abuse in crypto-asset markets under the Financial Markets Act: Legal challenges

The principal source of market abuse laws in South Africa is the financial markets regulations as enunciated in the Financial Markets Act.[374] Whether the market abuse regulations under the FMA can be applied to crypto-assets depends on, among other things, whether crypto-assets can be considered to be "securities" for the purposes of the Financial Markets Act, and if the crypto-assets environment and participants in that market can be regarded as a "regulated market" and regulated persons as defined under Chapter X of the Act.

The central instruments or assets around which the provisions of the Financial Markets Act are focused are "securities". Loosely, securities can be characterised as proprietary entitlements or interests that a person owns in a company.[375] They are investment instruments issued primarily for the purposes of securing funding or raising capital for a

[370] Id.

[371] Preamble to FICA.

[372] Section 45C of FICA.

[373] Section 45C(3)(e) of FICA.

[374] Chitimira H *Principles of market abuse regulation: A comparative South African perspective* (2018) 13.

[375] Jooste R, and Yeats J "Shares, securities and transfer" in Cassim FHI, Cassim FM, Cassim R et al *Contemporary Company Law* (2021) 282.

commercial or developmental project, and grant the holder partial ownership, continued participation or interest or a right to payment(s).[376]

The statutory definition of "securities" in terms of the Financial Markets Act is broad and includes local and external listed and unlisted shares, depository receipts, equities, debentures, bonds, derivative instruments, notes, local and external participatory interests or units in collective investment schemes, index based instruments, rights in securities as defined, money market securities, share capital in the South African Reserve Bank.[377] The Financial Markets Act also entitles the FSCA to prescribe an instrument which is similar to one or more of the securities defined in the Act to be a security for the purposes of the Act.[378]

A "regulated market" in terms of the Financial Markets Act means any domestic or foreign market which is regulated in terms of the laws of the country in which the market conducts business as a market dealing in securities listed on that market.[379] The definition of a "regulated person" includes a licenced central counterparty, central securities depository, clearing house, exchange, trade repository, an authorised user, a clearing member, nominee, participant, an issuer, licenced external central counterparty and licenced external trade repository, or an authorised over-the-counter derivative provider as specified in regulations.[380]

The FSCA together with the IFWG have pointed out that the definition of "securities" in the Financial Markets Act does not include crypto-assets.[381] Whereas all crypto-assets are susceptible to market manipulation (albeit in varying degrees), it has been observed that not all crypto-assets can operate as securities.[382] To make this point, it has been argued,

[376] Ubom UB, and Akpan SO (2017) "Investment Portfolio of Banks and Economic Growth in Nigeria: A Review from 1985 to 2015" *International Journal of Managerial Studies and Research* vol 5(10) 11-12.

[377] Section 1 of the Financial Markets Act.

[378] Id.

[379] Id: section 77.

[380] Id: section 1.

[381] IFWG Position Paper (2021); and FSCA Policy Document (2022) section 4.

[382] Goforth CR (2021) "Cinderella's slipper: A better approach to regulating cryptoassets as securities" *Hastings Busimess Law Journal* vol 17 271.

for instance, that Bitcoin, in all accuracy, cannot be considered to be a "security".[383] Bitcoin is not issued by any person or company, but through the mining process and the collective action of the blockchain community.[384] Bitcoins do not grant the holder any proprietary rights or interests or partial ownership in a company, nor do they serve as evidence of same. Some authors assert that, at best, Bitcoins can be categorised as digital commodities.[385]

Crypto-assets operate from a materially different environment than traditional securities. Unlike traditional securities markets, crypto-assets markets are exclusively digital, transcend national borders, operate twenty four hours a day, seven days a week, and aim to be decentralised.[386] The Financial Markets Act and subordinate legislation were drafted with different views of the forms of assets traded, the environment on which the assets were traded and the key role players in the market.

Furthermore, the key components of crypto-assets include the elements of anonymity and decentralisation. It has been argued in other jurisdictions (and that argument is applicable to the South African context as well) that a blanket declaration of crypto-assets as "securities" will burden crypto-asset sellers and users with the rigorous disclosure and reporting requirements imposed on securities issuers. Such disclosure requirement include the obligations for securities issuers to keep records of the names of the holders of securities, unique identity number, address, e-mail address, among others.[387] Such a declaration will have the effect of forcing crypto-assets markets under a regulatory regime that was not intended for a class of digital assets such as crypto-assets.

With regard to decentralisation, some authors suggest that traditional securities regulatory strategies mostly rely on centralised command-and-control techniques.[388] The

[383] Anning P, Brazell L, Brailsford et al *The law of Bitcoin* (2015): at 69; and Alberts JE, and Fry B (2015) "Is bitcoin security?" *Boston University Journal of Science and Technology Law* vol 21(1) 10.

[384] Anning P et al (2015) 69.

[385] Id: at 70.

[386] Feyen E, Klingebiel D, and Ruiz M (2024) "Crypto-assets: Unfit for central bank reserves today" World Bank Blogs https://blogs.worldbank.org/en/allaboutfinance/crypto-assets--unfit-for-central-bank-reserves-today (accessed on 20 October 2024).

[387] Goforth CR (2021) at 318; section 78 of the Financial Markets Act; Section 50 of the Companies Act 71 of 2008; Financial Markets Act Regulations GN R98/2018 *GG* 41433; and Companies Regulations GN351/2011#v2 *GG* 34239.

[388] Nabilou H (2019) 278-279.

decentralised nature of the crypto-assets environment poses a counteracting challenge to the application of traditional securities laws in crypto markets.[389] However, it has been suggested that since crypto-assets markets are not entirely disintermediated, regulation can be aimed at the activities of the new forms of the various middlemen created by the network who serve as the equivalent of gatekeepers in traditional securities.[390]

Having noted the various arguments made against the application of rules meant for the regulation of a specific class of financial instruments on crypto-assets, it is submitted that it may be possible to apply existing rules to regulate a new and unique instrument by following a purposive approach to interpret the Financial Markets Act.

4.3 Reasons supporting regulation under the FMA

4.3.1 The policy rationales and underlying principles for the regulation of crypto-assets in South Africa

Investors who are profit driven engage in market manipulation in order to obtain a financial benefit from their investments using dishonest means. They may attempt to realise their profit goals directly through insincere transactions or by other means. As noted, market abuse laws or regulations prohibit conduct which has the effect of artificially influencing the price of a financial asset, or which disrupts the normal and free operations of the market by creating a false impression regarding supply and demand in respect of a financial asset. The main concern in the regulation of market manipulation is the ultimate consequences or effects of the prohibited conduct on the market.

One of the underlying reasons for the regulation of market manipulation is to protect the interests of consumers or investors who rely on the integrity of the natural price setting mechanisms in respect of financial assets in the market.[391] The protection is aimed at both retail and institutional investors. It is crucial for these protections to be put in place particularly when considering the circumstance of prudentially regulated institutional

[389] Id: at 267.

[390] Id.

[391] Jooste R et al in Cassim FHI et al (2021) 1352-1353.

investors whose exposure to risk can potentially affect the stability of the economy at large.[392]

Market manipulation regulations protect the freedom and fairness of the financial market and its integrity.[393] If market manipulation is left unregulated, public confidence in the efficiency of the financial markets will be undermined and investors may choose to invest their money on other safer and credible alternatives.[394] The rationale for regulating market manipulation applies more pertinently to risk prone financial markets such as the crypto-assets market which presents a wide range of opportunities which may prove profitable if cultivated.

In light of the rationale for regulating market manipulation, it is submitted that it is reasonable to apply market abuse regulations as articulated in terms of the Financial Markets Act to crypto-assets. The definition of "securities" under the Financial Markets Act is broad enough to allow the addition of new and unique financial instruments such as crypto-assets under the definitions section under Chapter X of the Act.[395]

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[392] Id.

[393] Jooste R et al in Cassim FHI et al (2021) 1352-1353

[394] Chitimira H (2018) "Market Abuse Regulation in South Africa, the United States of America and United Kingdom" available at https://vernonpress.com/index.php/file/5083/46958a1337a41a0b4275488c4f2592f0/1512032954.pdf (accessed 19 October 2024) 5; and Nabilou H (2019) 286.

[395] According to section 1 of the FMA "securities" means -

"(a) listed and unlisted-

(i) shares, depository receipts and other equivalent equities in public companies, other than shares in a share block company as defined in the Share Blocks Control Act, 1980 (Act No. 59 of 1980);

(ii) debentures, and bonds issued by public companies, public state-owned enterprises, the South African Reserve Bank and the Government of the Republic of South Africa;

(iii) derivative instruments;

(iv) notes;

(v) participatory interests in a collective investment scheme as defined in the Collective Investment Schemes Control Act, 2002 (Act No. 45 of 2002), and units or any other form of participation in a foreign collective investment scheme approved by the Authority in terms of section 65 of that Act; and

(vi) instruments based on an index;

(b) units or any other form of participation in a collective investment scheme licensed or registered in a country other than the Republic;

(c) the securities contemplated in paragraphs (a)(i) to (vi) and (b) that are listed on an external exchange;

It appears from the definition that the legislature did not intend to limit the application of the Act only to items expressly listed under the definition of "securities". Put differently, the list of items which are regarded as "securities" for purposes of the Act is not exhaustive, and can be extended, by application, to other financial instruments with aligned investor profit generating objectives if the FSCA declares them to be "securities" for purposes of the Act.

Item (d) of the definition of "securities" in the FMA includes "an instrument similar to one or more of the securities contemplated in paragraphs (a) to (c) prescribed by the registrar to be a security for the purposes of this Act". In terms of the provisions of section 1 of the FMA the FSCA can prescribe crypto-assets to be "securities" for purposes of the Act. Item (d) of the definition of "securities" ensures flexibility and denotes the intention to leave open the possibility of including other financial assets or instruments similar to the ones contemplated in the Act.

Furthermore, it is trite that in the South African jurisprudence, a purposive interpretation of legislation must always be preferred over a strict textual interpretation.[396] A purposive interpretation of the law is a method of statutory interpretation which requires the interpreter to consider the real object or purpose of a particular piece of legislation.[397] This approach involves a careful consideration of the mischief, and social conditions which gave rise to the legislation and the evil that the legislation sought to remedy.[398] It requires looking beyond the specific words used by the lawmaker, and seeks to give life and force to the underlying intentions of the lawmaker and the spirit of the legislation by applying the

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(d) an instrument similar to one or more of the securities contemplated in paragraphs (a) to (c) prescribed by the registrar to be a security for the purposes of this Act;

(e) rights in the securities referred to in paragraphs (a) to (d), but excludes-

(i) money market securities, except for the purposes of Chapter IV; or if prescribed by the registrar as contemplated in paragraph (d);

(ii) the share capital of the South African Reserve Bank referred to in section 21 of the South African Reserve Bank Act, 1989 (Act No. 90 of 1989); and

(iii) any security contemplated in paragraph (a) prescribed by the registrar;"

[396] Botha C *Statutory interpretation: An introduction for students* (2012) 98.

[397] Devenish GE (1991) "Teleological evaluation: a theory and modus operandi of statutory interpretation in South Africa" *SA Publiekreg= SA Public Law* vol 6(1): at 62-84.

[398] Denning L *The discipline of law* (1979) 9-15.

law to specific real life problems which may not have been in the mind of the drafters of the legislation when it was passed.[399]

Considering that Chapter X of the FMA was drafted to address the problem of market abuse, it is not inappropriate to apply those provisions to address market abuse in crypto-assets. The general purpose of the Financial Markets Act with respect to the regulation of market manipulation is to provide for the regulation of financial markets by prohibiting insider trading, and other market abuses, providing for conduct standards, and for matters connected therewith.[400]

By the application of the purposive approach, it is submitted that the crypto-assets market can be regarded as a regulated market, and participants therein as regulated persons for purposes of Chapter X of the FMA. This will also serve to ensure the realisation of the broader objects of the Act which include ensuring the fairness, efficiency and transparency of the financial markets, increase confidence in the financial markets, promote the protection of regulated persons, clients and investors and reduce systemic risks.[401]

Additionally, a purposive interpretation and application of the market manipulation provisions of the Financial Markets Act must take into consideration social, political and economic policy directions.[402] In an attempt to justify the application of Canadian securities laws on a matter regarding crypto-assets, a Canadian court reasoned that "legislation must be construed broadly, and it must be read in the context of the economic realities to which it is addressed. Substance, not form, is the governing factor."[403] It is suggested that while the Financial Markets Act may have been addressed to a particular class of financial instruments in a particular context, a functional interpretation can be followed in order to achieve the overall goals of the Act.

Furthermore, and on a comparative basis, in the United States of America ("USA" or "the US") the test applied to transactions in order to determine whether they are securities

[399] Id.
[400] The preamble to the Financial Markets Act.
[401] Financial Markets Act section 2.
[402] Anning P, Brazell L, Brailsford et al (2015).
[403] *Pacific Coast Coin Exchange v Ontario Securities Commission* [1978] 2 S.C.R. 112 128.

transactions was set out in the *locus classicus* case of *SEC v Howey*.[404] The matter involved the application of the Securities Act of 1933, which is the principal legislation regulating the securities markets in the USA, on a financial instrument in the form of an offer of units of a citrus grove development.[405] The test has been refined and extended in the USA since its formulation in 1946 but it is still applied by the US Courts in setting out the distinction between securities and non-securities.[406]

According to the test, a transaction is a securities transaction if it fits under the definition of an "investment contract" as set out in the US Securities Act.[407] This involves determining "whether the scheme involves an investment of money in a common enterprise with profits to come solely from the efforts of others".[408] The US Securities and Exchange Commission, placing emphasis on economic realities, argues that crypto-asset transactions satisfy the *Howey* test since investors purchase crypto-assets or invest money in them not for use but as an investment that is expected to yield profits.[409] The SEC asserts that the "from the efforts of others" leg of the test is met if one considers that crypto-assets appreciate in value through the efforts of their promoters who cultivate a market for crypto-assets.[410]

The Securities Exchange Commission of the USA relies on the *Howey* test to assert its jurisdiction on crypto-asset activities, and to argue that crypto-assets must be regarded as securities for purposes of regulation.[411] This is to ensure the protection of investors, prevention of a financial crash such as was witnessed in what has become known as the "the Black Tuesday" and "the Great Crash of 1929".[412] The application of Howey also

[404] *SEC v J W Howey & Co.* 238 U.S. 293 (1946).

[405] Id: at 1.

[406] Schiffrin B (2024) "Crypto should be regulated by the SEC under the Howey Test to protect investors and enforce the securities laws" *SEC Report: Better markets* available at https://bettermarkets.org/wp-content/uploads/2024/07/BetterMarkets_Howey_Report-7.25.24.pdf (accessed on 29 October 2024) 2.

[407] *SEC v Howey*: at 297-298.

[408] Id: at 301.

[409] Schiffrin B (2024) 4.

[410] Id.

[411] Id: at 3.

[412] Id: at 1; and J Zhou (2015) "The Wall Street crash of 1929" *United States History* available at https://d1wqtxts1xzle7.cloudfront.net/38750241/_The_Wall_Street_Crash_of_1929-libre.pdf?1442121955=&response-content-disposition=inline%3B+filename%3DThe_Wall_Street_Crash_of_1929.pdf&Expires=1730195327&Signature=WzykuFSzVtbQakJ0t4E4e3mM8Pl5HyFKlWyCFYlITnITWcXmH2ijfxqEZbusqT93A37gNU7ZPZMU3jeYKq

serves to ensure that parties do not structure transactions to evade the application of the US securities laws.[413]

It is submitted further that the Financial Markets Act, as it stands, may not be a perfect fit for the regulation of the crypto-assets market. Put differently, the Financial Markets Act as it currently stands does not comprehensively deal with all the risk concerns which specifically emerge out of the crypto-assets market as a result of that market's uniqueness and complexities. This highlights the requirement to adapt and or amend the Financial Markets Act as recommended by the IFWG so that its framework is fit for purpose.[414]

4.3.2 Financial Markets Review

In 2017, the National Treasury, South African Reserve Bank and the FSCA commenced the Financial Markets Review project.[415] The aims of the project include the strengthening of codes and standards in light of the prevalent misconduct scandals and international policy directions.[416] Under the Financial Markets Review project, a Financial Markets Review Committee ("the FMRC") was set up.[417]

The FMRC's mandate with respect to South Africa's wholesale financial markets (regulated and unregulated) involves the reviewing of standards and practices, developing overarching principles for conduct and integrity to provide a consistent framework for specific reforms, to identify gaps in legislation, regulation and conduct supervision to be addressed through the market conduct policy under Twin Peaks, identify and incorporate the role of global standards and good practices in South Africa's regulatory approach, and

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[413] Schiffrin B (2024) 1.

[414] Principle 4 of the IFWG Position Paper 7.

[415] 2018 Financial Markets Review report compiled from departmental sources of the National Treasury, South African Reserve Bank, and Financial Sector Conduct Authority https://www.treasury.gov.za/publications/other/2018_fmr_07.pdf (accessed on 20 October 2024) 1.

[416] Id.

[417] Id.

to develop recommendations for regulators on pre-emptive outcomes-focused and risk-based approach to conduct and integrity.[418]

In its final report, the FMRC outlines the gaps in legislation and potential risks for market manipulation particularly in respect of financial markets and transactions which fall outside the regulatory domain of the current market manipulation framework in South Africa. It has recommended the inclusion of a catch-all clause in the financial markets legislation dealing with market manipulation which is similar to the provisions that apply in the European Union and the United Kingdom.[419]

In the European Union, for instance, market abuse provisions as set out in the Regulation, apply to financial instruments admitted to trading on a regulated market or for which a request for admission to trading on a regulated market has been made; and to financial instruments not covered by points (a), (b), and (c) of article 2 of the Regulation, the price or value of which depends on or has an effect on the price or value of a financial instrument referred to in those points, including, but not limited to, credit default swaps and contracts for difference.[420]

Furthermore, National Treasury has undertaken a task of reviewing the Financial Markets Act and to propose a new financial markets legislation which aligns with the Twin Peaks model.[421] Briefly, the Financial Markets Act Review proposes, among other things, a formalisation of over-the-counter markets (to be designated as regulated over-the-counter markets) for crypto-assets among other financial instruments.[422] The proposed framework includes that all market abuse provisions, including those relating to insider trading and market manipulation, apply equally to markets in financial instruments, regardless of how the markets are structured.[423]

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[418] Id.

[419] Financial Markets Review Final Report https://www.treasury.gov.za/publications/other/FMR%202020.pdf (accessed on 20 October 2024) 83.

[420] https://www.legislation.gov.uk/eur/2014/596/chapter/1/2014-04-16/data.xht?view=snippet&wrap=true [accessed on 20 October 2024].

[421] National Treasury Consultation Paper *Building competitive financial markets for innovation and growth: A work programme for structural reforms to South Africa's financial markets* 2020 https://www.treasury.gov.za/comm_media/press/2020/FINANCIAL%20MARKETS%20ACT%20REVIEW.pdf [accessed 22 October 2024]: at 7.

[422] Id: proposal 14 at 31.

[423] Id: Proposal 17 at 33.

While the arguments against the regulation of the relatively new crypto-assets market under sets of laws designed for different products and circumstances are noted, it is submitted that for expediency, an interim purposive application of the existing market manipulation regulatory framework can be applied to crypto-assets. This can be done while maintaining the balance between over regulation which may have the effect of stifling technological innovation. To achieve the goals of market manipulation regulations in South Africa, the FSCA can declare crypto-assets as "securities" under Chapter X of the FMA with certain limitations and exemptions taking into account the nature and unique operations of crypto-assets.

Additionally, the proposals by the National Treasury to include a catch-all clause in the financial markets legislation and the enactment of a new framework will assist to facilitate the effective regulation of market manipulation in crypto-assets. As noted by the IFWG, interim positions such as declarations made to meet immediate challenges can be reviewed once more comprehensive frameworks such as the Conduct of Financial Institutions Bill ("CoFi Bill") and the updated financial market legislation have been enacted which, among other things, aim to promote innovative technologies while supporting fair, transparent and efficient financial markets.

4.4 IOSCO Recommendations

In May 2024 the FSCA, as the body responsible for the regulation of market conduct in South Africa, signed the Enhanced Multilateral Memorandum of Understanding ("EMMoU") of the International Organisation of Securities Commission ("IOSCO").[424] This served to confirm South Africa's commitment to continue supporting the objectives of IOSCO as it had undertaken in 2003.[425] The overall objective of IOSCO is to ensure the protection of investors in financial markets and ensuring that the markets are fair efficient and transparent.[426]

[424] IOSCO Enhanced Multilateral Memorandum of Understanding Concerning Consultation and Cooperation and the Exchange of Information (EMMoU) https://www.iosco.org/v2/about/?subSection=emmou (accessed on 22 October 2024).

[425] IOSCO Signatories to Appendix A and Appendix B List https://www.iosco.org/v2/about/?subSection=mmou&subSection1=signatories (accessed on 22 October 2024).

[426] IOSCO.

The motive behind the establishment of the EMMoU is to provide an enhanced benchmark for international cooperation in the enforcement of securities and derivatives law in relation with the advancements of society and technology.[427] In pursuit of its objectives, IOSCO has published policy recommendations based on IOSCO Principles to guide member states in the development of a consistent, effective and comprehensive regulatory framework for the crypto-assets market.[428] The report contains 18 recommendations which are principles-based and outcomes-focused and are aimed at regulating the activities of crypto-asset service providers.[429] The recommendations are based on IOSCO's widely accepted standards for securities markets which have been adapted where necessary to suit the crypto-assets markets.[430]

The recommendations cover a wide range of aspects including market manipulation, insider trading and fraud, and cross-border risks and regulatory co-operation among others.[431] The recommendations regarding abusive behaviours in the market and cross-border co-operation are addressed in chapters 5 and 6 of the report respectively.[432]

With respect to abusive behaviour in the market, the report provides guidance to address market integrity risks, exacerbated by the fragmented, cross-border nature of the crypto-assets market and recommends that regulators adopt a rigorous market surveillance strategy, and crypto-asset service provider be required to establish a system which promotes enhanced management of material non-public information.[433]

As seen in this study, South Africa through the auspices of the FMRC and the Financial Markets Act Review, is taking steps to implement the IOSCO recommendations. The

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[427] Id.

[428] The IOSCO Policy Recommendations for Crypto and Digital Asset Markets: Final Report 2023 https://www.iosco.org/library/pubdocs/pdf/IOSCOPD747.pdf (accessed on 22 October 2024); and International Organization of Securities Commissions (1998) *Objectives and Principles of Securities Regulation* International Organization of Securities Commissions https://www.iosco.org/library/pubdocs/pdf/ioscopd561.pdf (accessed on 22 October 2024).

[429] Id 1.

[430] Id.

[431] Id 2.

[432] Id 26-30.

[433] Id.

policy recommendations set out in the IOSCO report may be enunciated in the proposed updated financial markets legislation.

4.5 Challenges to regulation

Crypto-assets are a relatively new phenomenon and operate fully online presenting unique opportunities, risks and challenges. Regulatory intervention to manage risks and irregularities becomes necessary when the market is unable to address same without auxiliary means.[434] As an emerging market, the crypto-assets sector has not reached its stage of full development. Accordingly, technological developments in crypto-assets are characterised by rapidness. Some authors have observed that in this climate of accelerated developments, it is impossible to write or say something enduring.[435] This poses a challenge for regulators as well, since laws would then have to be constantly updated to align with new technology.

From another angle, regulators are wary of imposing regulations which may have the effect of restricting further technological advancements in the market. As noted with regards to the application of legal fictions, designating things or classifying them as what they are scientifically and naturally not may have the unintended consequences of social and scientific stagnation.[436] This may be true in respect of declaring crypto-assets as securities for purposes of regulation. It may be appropriate in the long run to develop innovative legal responses or frameworks for the regulation of crypto-assets.

The detection and prevention of market manipulation in the form of insider trading is a challenge which regulators have grappled with for a long time in the traditional securities markets.[437] In crypto-assets markets, this problem is exacerbated by the fact the markets are complex which has prompted some authors to argue for the utilisation of professional expertise and forensic techniques including electronic communications surveillance

[434] Nabilou H (2019) 268.

[435] Verstein A (2019) *Iowa Law Review* vol 105(1) 1-6.

[436] Boyte AN (2014) "The conceits of our legal imagination: legal fictions and the concept of deemed authorship" *NYUJ Legis. & Pub. Pol'y* vol 17 707.

[437] Chitimira (2018) 54.

equipment.[438] This will ensure effective detection which will further the objectives of regulation, but at a high cost.

Proving and prosecuting market manipulation is another major challenge in the enforcement of crypto-assets market manipulation rules. The human and pecuniary resources involved in the investigation of suspicious conduct or the prosecution of the contraventions of regulations are generally limited. The difficulty is aggravated further by the fact that crypto-assets transactions are fully online and the parties may not be within the jurisdiction of the regulatory authority seeking to enforce accountability. Due to the privacy enhancing mechanisms of the blockchain linking particular transactions to real life identities can be a serious challenge.

The borderless nature of crypto-assets also poses a significant problem to the regulation of crypto-assets. It raises among others, jurisdictional challenges and legal uncertainty regarding the laws that should be applied in a particular matter, and may result in regulatory arbitrages.[439] This challenge is compounded by the fact that regulatory responses around the world are fragmented, and there is no universally agreed taxonomy of crypto-assets. This can be resolved by following the recommendations of various international standard setting bodies regarding the implementation of a comprehensive, globally consistent, and coordinated regulatory approach based on the principle of "same activity, same risk, same regulation."[440]

4.6 Liability resulting from market abuse, offenses and penalties

A person who contravenes market abuse regulations in South Africa commits an offence and may be liable upon conviction, to a fine not exceeding R50 million or imprisonment for a period not exceeding 10 years or both such fine and imprisonment.[441] Furthermore, and with respect to insider trading offences, the Financial Markets Act provides that a person found to have committed insider trading offences or benefited from an insider trading scheme may be liable to pay an administrative penalty of an amount not exceeding R1

[438] Verstein A (2019) *Iowa Law Review* vol 105(1) 1-6.

[439] Xiong X, and Luo J (2024) 7.

[440] IOSCO Policy Recommendations: recommendation 11 31

[441] Financial Markets Act section 109.

million to be adjusted annually by the FSCA to reflect the Consumer Price Index.[442] The amount is payable with interest and costs of suit, investigation costs on a scale determined by the FSCA.[443]

Recently the FSCA has imposed penalties of about R161 million and R20 million on persons who were found to have contravened market abuse provisions of the Financial Markets Act.[444] The highest penalty imposed by the FSCA for contraventions of sections 81(1)(a) and (b) of the Financial Markets Act (dealing with the publication of false financial statements) was R475 million.[445] This demonstrates the seriousness with which market abuse is treated in South Africa and the extensive powers of the FSCA in regulating same.

4.7 CONCLUSION

This chapter has shown that crypto-asset market manipulation is largely unregulated in South Africa and the regulatory frameworks adopted by some countries are alleged to be primarily securities based, and may not adequately address the risks and challenges posed by crypto-assets to transparency, freedom and fairness of the markets. Like all other countries, South Africa is grappling with the challenge of developing and adopting the most appropriate and effective regulatory framework to combat abusive behaviour in crypto-assets markets.

As with the various other jurisdictions and in line with the recommendations of the international standard-setting bodies such as the IOSCO, and guided by the rationale for regulating abusive market conduct, South Africa supports a regulatory approach which is founded on the principles governing market manipulation in traditional securities. These principles are activities-risk and outcomes-based. National Treasury of the Republic of South Africa has commenced with the process of reviewing the financial markets legislation with the view of updating the current framework to align with social and

[442] Section 82 of the Financial Markets Act.

[443] Section 82 of the Financial Markets Act.

[444] *Jooste v Financial Sector Conduct Authority* (A3/2023) [2023] ZAFST 126 (28 September 2023); and *Jooste v Financial Sector Conduct Authority*.

[445] FSCA Regulatory actions report 1 April 2023-31 March 2024 available at https://www.fsca.co.za/Documents/FSCA%20Regulatory%20Actions%20Report%20-%2028%20June.pdf [accessed on 29 October 2024].

technological advancement. This process is expected to culminate in the adoption of a comprehensive financial markets legislation which adequately addresses market manipulation in crypto-assets among other things.

5 CHAPTER 5: THE REGULATION OF CRYPTO-ASSET MARKET MANIPULATION IN THE EUROPEAN UNION, MAURITIUS AND NIGERIA

5.1 Introduction

The previous chapter highlighted that one of the fundamental challenges to the effective regulation of the crypto-assets market is its borderless nature. This challenge reinforces the need for a coherent, co-ordinated and internationally consistent regulatory framework. The approaches to the regulation of the crypto-assets market must be inherently comparative, and attempts by countries to act totally autonomously will effectively undermine any commitments to proper regulation. At this stage, technological developments in crypto-assets market are ongoing, and their regulation is not yet consolidated.

Many jurisdictions have shown a notable interest in the crypto-assets markets and their regulation. These include the European Union ("EU"), Mauritius, and Nigeria. Both the EU and Mauritius are among the first jurisdictions to adopt comprehensive frameworks to regulate crypto-asset activities in their domains and have been selected for purposes of this study in order to examine the strengths and weaknesses of their regulatory frameworks particularly with regards to market abuse regulation, and to draw insight and edification from the frameworks.

Nigeria occupies second position in the Chainalysis Global Crypto Adoption Index.[446] Nigeria's approach to regulation and experience in the management of the various risks presented by crypto-assets (including market manipulation) can offer a realistic or practical perspective regarding appropriate regulatory responses to what some have termed "the unruly enigma".[447]

[446] Chainalysis Team Report (2024) "Report: The 2024 global adoption index: Central & Southern Asia and Oceania (CSAO) Region Leads the World in Terms of Global Cryptocurrency Adoption" available at https://www.chainalysis.com/blog/2024-global-crypto-adoption-index/ [accessed on 25 October 2024].

[447] Ukwueze FO (2021) "Cryptocurrency: Towards Regulating the Unruly Enigma of Fintech in Nigeria and South Africa" *PER / PELJ* vol (24).

This section seeks to explore the strengths and weaknesses of the rules and frameworks (if any) applied by the European Union, Mauritius, and Nigeria.

5.2 The EU's MiCA Regulations

The overarching strategic aims of the EU's approach to the regulation of financial technology (fintech) within its jurisdiction are geared towards strengthening the EU's sovereignty by promoting innovation in digital finance while protecting Europe's financial stability and values.[448] The EU recognises the centrality of sound internal regulation of fintech in order to achieve its overall diplomatic objectives.[449]

To ensure legal certainty in the crypto-assets sector, and to protect consumers and market integrity within its territory, the EU Parliament adopted the Markets in Crypto-Assets Regulations ("MiCA").[450] The scope of MiCA is limited to the activities of natural and legal persons who are involved in the administration of crypto-asset services including issuance, offering to the public, and admission to trading of a crypto-asset as defined in the Regulation.[451] Crypto-assets are defined as one of the main applications of distributed ledger technology, and are a digital representation of value or of rights that have the potential to bring significant benefits to market participants, including retail holders of crypto-assets.[452]

As much as the EU is a totally autonomous political economy, MiCA recognises the necessity of convergence through a concerted regulatory approach by various countries under the guidance of international organisations and bodies such as the FATF, Financial Stability Board, and the Basel Committee on Banking Supervision.[453]

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[448] European Commission (2020) "Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a Digital Finance Strategy for the EU" available at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52020DC0591 [accessed on 24 October 2024]: at 3.

[449] Id; and J Madir *Fintech: Law and regulation* (2021): at 60.

[450] Regulation EU 2023/1114 of the European Parliament and of the Council of 31 May 2023 on Markets in Crypto-assets ("MiCA"): recitals 4 and 5 available at: https://eur-lex.europa.eu/eli/reg/2023/1114/oj [accessed on 23 October 2024].

[451] Id article 2; Pantaleo A, and Vianelli A "(Regulatory) History in the making: the path to MiCAR" available at *SSRN* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4714854 [accessed 23 October 2024]: at 2.

[452] MiCA recital 2.

[453] Id recital 8.

The underpinning regulatory requirements imposed on CASPs in terms of the MiCA involve licensing obligations which are coupled with strict mandatory disclosure and ongoing compliance regulations.[454] Furthermore, MiCA Regulations impose mandatory notification or disclosure requirements on issuers of certain crypto-assets through the issuance of a whitepaper with provisions regarding marketing activity.[455] CASPs are further required to comply with the prudential requirements and to observe the ongoing business conduct and market manipulation rules.[456]

Insider trading, illegal disclosure of inside information and market manipulation in crypto-assets appear to be some of the major concerns sought to be regulated by the MiCA Regulations.[457] Some authors have commended MiCA for casting its nets wide to ensure that all forms of market abuse or manipulation are expressly covered by the Regulations.[458] At the same time, concerns have been cited regarding whether the far-reaching scope is practically enforceable since MiCA largely applies terms which come from older laws regulating other financial instruments.[459]

Some authors note that although MiCA does not specifically make reference to the regulatory instruments such as the Market Abuse Regulation ("MAR") and Markets in Financial Instruments Derivatives ("MiFID") in any of the recitals and articles, the Regulations seems to be largely inspired by them.[460] They further assert that some portions of MiCA, especially the market abuse rules, appear to have been copied and pasted without careful selection from other older EU's regulatory instruments.[461]

[454] Pantaleo A, and Vianelli A (2024) 3-4.

[455] Id.

[456] MiCA Articles 67, and 86-92.

[457] Id.

[458] Keimola O (2024) *Shortcomings of the MiCA Regulation: A critical analyses* Master's Thesis in European Economic Law Stockholm University: at 26.

[459] Id.

[460] Pantaleo A, and Vianelli A (2024) 6; Barczentewicz M, and Gomes ADG (2024) "Crypto-Asset Market Abuse Under EU MiCA" *Available at SSRN 4375201* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4375201 (accessed on 24 October 2024): at 2.

[461] Keimola O (2024) 30.

According to Keimola and Barczentewicz, this identical replication of old rules in the new law creates a “new wine in old bottles” problem whereby a new phenomenon such as crypto-assets is subjected to old rules which may not be adequate to fully address the complex problems raised by crypto-assets.[462] To support this argument, these authors refer to certain terms used in title VI of MiCA which were derived from the MAR and or MiFID but are not defined in MiCA.[463] Other authors assert that this derivative reproduction could imply a relationship between these regulatory instruments which may indicate, among other things, that reference can be made to older regulatory tools to interpret the new MiCA.[464]

The scope of the rules of market manipulation apply to crypto-assets that have been admitted to trading or in respect of which a request for admission to trading has been made.[465] MiCA places the obligation to ensure the prevention and detection of market manipulation primarily on CASPs by requiring them to ensure that they have adequate measures in place to deter and detect suspicious trading activity.[466] Article 111 prescribes the imposition of penalties for contraventions of market abuse regulations and other provisions of MiCA. The Regulation reserves the right to determine the appropriate administrative or criminal sanctions for contraventions to Member States of the Union.[467]

The MiCA Regulation is a comprehensive document which covers a range of areas for regulating crypto-asset activities in the European Union. As noted, the Union’s approach to regulation takes into consideration the international standards while attempting to address challenges which may be unique to the EU. MiCA Regulations can be amended whenever necessary to address new challenges as they arise. The MiCA Regulation will come into

[462] Id: at 37; and Barczentewicz M, and de Gândara Gomes A (2024) “Crypto-Asset Market Abuse Under EU MiCA” *European Journal of Risk Regulation* 1-18.

[463] Keimola O (2024) 37.

[464] Barczentewicz M, and Gomes ADG (2024) 2.

[465] MiCA article 86.

[466] MiCA article 92.

[467] Id 111.

force fully on 30 December 2024.[468] However some provisions are in force as from 30 June 2024.[469]

5.3 Mauritian VAITOs Act

The Republic of Mauritius is one of the first African countries to effect a comprehensive legislation to regulate virtual assets and virtual asset service providers ("VASP(s)"). According to the Financial Services Commission of Mauritius ("the FSC"), the enactment of the Virtual Asset and Initial Token Offerings Act ("VAITOs Act" or "the Act") 21 of 2021 was a fundamental step towards ensuring that Mauritius provides a virtual assets friendly ecosystem for investment and conducting virtual asset related business, and to ensure the progressive development of the sector.[470]

The VAITOS Act is the key legislation in Mauritius which contains the regulatory framework of virtual assets and VASPs.[471] The title of the Act reflects that "virtual asset" is the term preferred in Mauritius to refer to crypto-assets. Prior the enactment of the VAITOs Act, the regulation of Virtual asset activities was incoherent and largely managed under the Financial Services Act 14 of 2007.[472] The Act places virtual assets and virtual asset service providers under the supervisory authority of the FSC which is the Mauritian body responsible for the regulation of non-bank financial services and global business.[473]

The Act requires that virtual asset service providers be licensed first before conducting business in virtual assets in Mauritius. Five classes of licenses may be applied for by persons who want to conduct business in virtual assets. Depending on the types of virtual

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[468] European Union "European crypto-assets regulation" *EUR-Lex* available at https://eur-lex.europa.eu/EN/legal-content/summary/european-crypto-assets-regulation-mica.html accessed on (27 October 2024).

[469] Id.

[470] Financial Services Commission Fintech and innovation page https://www.fscmauritius.org/en/fintech-and-innovation [accessed on 25 October 2024].

[471] PwC Global Crypto Regulation Report 2023 available at https://www.pwc.com/gx/en/new-ventures/cryptocurrency-assets/pwc-global-crypto-regulation-report-2023.pdf [accessed on 25 October 2024]: at 53.

[472] Mahadew B, and Mauree SA (2024) "Cryptocurrencies and virtual assets in Mauritius: A critical assessment of the legal framework" *Afrika Focus* vol 37(1): at 131.

[473] Section 5 of the VAITOs Act 21 of 2021 available at https://mauritiusassembly.govmu.org/mauritiusassembly/index.php/acts-2/ [accessed on 23 October 2024]; and FSC home page https://www.fscmauritius.org/en/about-us/who-we-are [accessed on 25 October 2024].

asset services a person seeks to provide, the FSC may grant a: class “M” license which is applicable to virtual asset broker dealers; class “O” license which is granted to persons conducting virtual asset wallet services; class “R” license issued to virtual asset custodians; class “I” license for virtual asset advisory services; and or class “S” license issued to persons who run virtual asset marketplaces (e.g. virtual assets exchange platforms).[474]

The VAITOs Act assumes a risk averse approach towards the regulation of virtual asset activities and is largely based on the recommendations of the FATF. It seeks to provide a comprehensive legislative framework for virtual asset service providers and issuers of initial token offerings, and to provide for matters connected, incidental and related thereto.[475] Generally, the framework provides the interpretation section, and for matters relating to the fitness and propriety of persons, functions and powers of the FSC in respect of virtual asset service providers, professional conduct and compliance, regulatory requirements in respect of initial token offerors, offenses and sanctions, and more.

A virtual asset, for purposes of the VAITOs Act, means a digital representation of value that may be digitally traded or transferred, and may be used for payment or investment purposes; but does not include a digital representation of fiat currencies, securities and other financial assets that fall under the purview of the Securities Act.[476] A “virtual token” is defined as any cryptographically secured digital representation of a set of rights, including smart contracts, provided on a digital platform and issued or to be issued by an issuer of initial token offerings.[477]

A virtual asset service provider means a person that, as a business, and for or on behalf of another person, conducts: exchange between virtual assets and fiat currencies and or between one or more forms of virtual assets; transfers of virtual assets; safekeeping of virtual assets and instruments enabling control over virtual assets; administration of virtual assets or instruments enabling control over virtual assets; participation in, and provision of,

[474] VAITOs Act schedule 2.

[475] Id preamble.

[476] VAITOs Act section 2.

[477] Id.

financial services related to an issuer's offer and/or sale of virtual assets.[478] From the wording of the Act it seems that the VAITOs Act envisages that only a business can conduct VASP activities.[479]

The VAITOs Act inserts a clear dividing line between the regulations applicable to securities and those applicable to virtual assets. From the wording of the VAITOs Act, there appears to be no relationship between the VAITOs Act and the Securities Act. This is made clear by the exclusion of a digital representation of a security as defined in terms of the Securities Act from the definition of a virtual asset under the VAITOs Act, and from the application of the VAITOs Act.[480] Moreover, the definition of "securities" under the Securities Act is amended by the VAITOs Act to specifically exclude virtual assets as defined in terms of the VAITOs Act.[481] Put another way, the provisions of the Securities Act do not apply to virtual asset markets and VASPs; and the provisions of the VAITOs Act do not apply to securities markets, and securities issuers.

Market abuse is dealt with under sub-part C of the VAITOs Act which sets out the responsibilities of VASPs.[482] The Act does not expressly define what constitutes market abuse, nor does it set out the market manipulative or abusive trading activities that may give rise to liability for market abuse. It simply sets out the responsibilities which are imposed on VASPs with regards to setting up or installing systems and controls which are meant to detect, monitor and prevent the occurrence of market abuse in virtual assets.

In particular, responsibility is placed on holders of class "S" licenses (i.e. virtual asset exchanges) to ensure the prevention of trade-based market manipulation. To note a few, the Act requires virtual asset exchanges to ensure adequate and appropriate measures for: the identification and detection of suspicious price spikes or anomalies; the prevention and monitoring of abusive trading strategies; and immediate steps for the restriction or suspension of trading upon discovery of market manipulative or abusive trading activity,

[478] Id.

[479] Mahadew B, and Mauree SA (2024).

[480] Id sections 2 and 3.

[481] Id sections 55(8) and 25(4); and the Securities Act 22 of 2005 section 2 available at https://www.fscmauritius.org/media/67412/the-securities-act.pdf [accessed on 25 October 2024].

[482] Id sections 17-19.

including the temporary freezing of accounts.[483] To further ensure the effective prevention of market manipulation, virtual asset service providers are required to report abusive trading behaviour to the FSC, and to cooperate with the FSC in its endeavours to hold the perpetrators accountable.[484]

Generally, VASPs are required to keep, protect and transmit adequate and proper records of transactions or trade related information.[485] They must also safeguard and administer assets belonging to investors, and in the event of disruption, put measures in place to ensure business continuity and planning.[486]

Contraventions of the VAITOs Act are criminalised in terms of section 50. Upon conviction, a VASP may be liable to pay a fine not exceeding five million rupees and or to imprisonment for a term not exceeding ten years.[487] Moreover where an offence was committed by a corporation, the directors and persons involved in senior management roles of the corporation shall be criminally liable for the offences of the corporation unless they can prove that they were not aware of the violations, or did not consent to same or took all reasonable steps to prevent the commission(s).[488]

The progressive regulation of the crypto-assets sector to ensure financial stability, consumer protection and the integrity of the financial markets seems to be a matter that the Republic of Mauritius is giving considerable attention to. The imposition of the onus on the licensed VASPs to ensure the efficient and seamless functioning of the markets in compliance with the Act and international standards, together with the investigative and inspection powers granted to the FSC, and the penalties for non-compliance could help avoid a number of irregularities, and to bypass certain regulatory challenges. As noted, the work of regulating crypto-asset activities is an ongoing undertaking which requires continuous monitoring and updating of the rules. As far as market abuse in virtual assets is concerned, Mauritius could consider inserting a provision which clearly defines what market abuse consists of, and the forbidden activities so as to ensure legal certainty and

[483] Id section 18(2).

[484] Id section 18(3).

[485] Id section 18(1).

[486] Id.

[487] Id section 50(4).

[488] Id section 50(5).

the effective holding to account of those who engage in, assist and or support the perpetration of such practices.

5.4 Nigerian crypto-assets Rules

Driven by economic and other factors, Nigeria has emerged as the global leader in crypto adoption.[489] Although the financial regulatory authorities of the Federal Republic of Nigeria never formally banned crypto-assets in their jurisdiction totally, their initial attitude toward the use of crypto-assets in the country is reflective of scepticism and tacit rejection.[490] In February 2021, the Central Bank of Nigeria ("the CBN") issued a circular to the regulated financial institutions of Nigeria prohibiting dealing in cryptocurrencies or facilitating payments for cryptocurrency exchanges.[491] The prohibition was recently uplifted.[492]

The reconsideration of the prohibition effectively reopened the interaction between crypto-assets and Nigeria's financial system.[493] Some have asserted that the change of stance could be a potential acknowledgment by the CBN of the correctness of the FATF's forewarnings that banning crypto-assets is futile and will only serve to drive their operations underground.[494] Following the rescission of the prohibition, the CBN's attention turned towards a risk-based regulatory approach.[495]

The financial system of Nigeria is regulated by, among others, the CBN and the Securities Exchange Commission ("the SEC" or "the Commission"). The CBN is the apex financial

[489] Chainalysis Team Report (2024).

[490] Ukwueze FO (2021): at 10-11.

[491] Central Bank of Nigeria Letter to all deposit-money banks, non-bank financial institutions, and other financial institutions, dated 5 February 2021 available at https://www.cbn.gov.ng/Out/2021/CCD/Letter%20on%20Crypto.pdf (accessed on 26 October 2024).

[492] Central Bank of Nigeria Circular to all banks and other financial institutions, dated 22 December 2023 available at https://www.cbn.gov.ng/Out/2024/FPRD/GUIDELINES%20ON%20OPERATIONS%20OF%20BANK%20ACCOUNTS%20FOR%20VIRTUAL%20Asset%20Providers.pdf (accessed on 26 October 2024).

[493] Id.

[494] Clynch H (2024) "'Resistance is futile': Why Nigeria rolled back crypto restrictions" *African Business* available at https://african.business/2024/01/finance-services/resistance-is-futile-why-nigeria-rolled-back-crypto-restrictions#:~:text=The%20Central%20Bank%20of%20Nigeria's,already%20a%20%241%20trillion%20industry (accessed on 26 October 2024); and FATF (2015) "Guidance for a risk-based approach: Virtual currencies" available at https://www.fatf-gafi.org/content/dam/fatf-gafi/guidance/Guidance-RBA-Virtual-Currencies.pdf.coredownload.inline.pdf (accessed on 26 October 2024).

[495] Clynch H (2024).

regulatory authority in Nigeria.[496] Its mandate includes ensuring monetary and price stability, issue legal tender, promote a sound financial system, and act as a banker and provide economic and financial advice to the Federal Government.[497]

The SEC is the apex regulatory organisation for the Nigerian capital markets.[498] It was established to regulate investments and securities business, promote investor protection and education, and protect the integrity of the securities market against all forms of abuses including insider trading among other things.[499]

Following the issuance of the prohibition circular by the CBN, the SEC issued a statement and the New Rules on Issuance, Offering Platforms and Custody of Digital Assets ("the Rules") to regulate crypto-assets in Nigeria under the securities regulatory framework.[500] These independent actions by the two financial regulatory authorities in Nigeria created enforceable legal obligations and constituted what some have termed, a potential conflict in the positions assumed by the CBN and the SEC on crypto-assets.[501] The uplifting of the prohibition by the CBN seems to have re-aligned the positions.

The Rules, which are in the process of substantial revision, represent Nigeria's regulatory stance on crypto-assets.[502] Like the United States of America and other jurisdictions following a similar approach, Nigeria has elected to subject virtual assets and virtual asset service providers under the supervision of the SEC alongside the traditional securities. The Rules, as the name suggests, seek to regulate the issuance, offering platforms (such as exchanges) and custody of digital assets.

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[496] Central Bank of Nigeria (Establishment) Act 7 of 2007 section 1.

[497] Id section 2.

[498] Investments and Securities Act 29 of 2007 section 13.

[499] Id section 13(a)-(dd).

[500] Busa AJ (2023) *The regulation of digital assets in Nigeria* LLB Research, University of Nigeria: at 34.

[501] Id.

[502] SEC Nigeria (2021) New Rules of Issuance, Offering Platforms and Custody of Digital Assets available at https://sec.gov.ng/wp-content/uploads/2022/05/Rules-on-Issuance-Offering-and-Custody-of-Digital-Assets.pdf [accessed on 23 October 2024]; SEC Nigeria (2024) Proposed Major Amendments to the Commission's Rules of Issuance, Offering Platforms and Custody of Digital Assets available at https://sec.gov.ng/wp-content/uploads/2024/03/PROPOSED-MAJOR-AMENDMENT-TO-THE-COMMISSIONS-RULES-ON-ISSUANCE-OFFERING-PLATFORMS-AND-CUSTODY-OF-DIGITAL-ASSETS_14324.pdf [accessed on 24 October 2024].

As they stand, the Rules define digital assets as digital tokens that represent assets such as a debt or equity claim on the issuer.[503] The definition of a virtual (crypto) asset and virtual asset service provider is aligned with the FATF's definitions.[504] That definition states that a virtual (crypto) asset means a digital representation of value that can be transferred, digitally traded and can be used for payment or investment purposes, but does not include digital representation of fiat currencies, securities and other financial assets.[505]

A virtual asset service provider ("VASP(s)") means an entity which, on behalf of another person, conducts: exchange between virtual assets and fiat currencies, and one or more forms of virtual assets; transfer of virtual assets; safekeeping and/or administration of virtual assets or instruments enabling control over virtual assets; and participation in and provision of financial services related to an issuer's offer and/or sale of a virtual asset.[506]

The Rules have been criticised for ambiguity in that they lack provisions setting out how the Rules and the securities regulations framework apply to the various species of crypto-assets, and whether the Rules generally apply to all crypto-assets types, and if classified as securities, on what basis crypto-assets are to be classified as such under the Rules.[507] Further criticisms relate to the lack of differentiation between the various crypto-exchanges (i.e. centralised and decentralised exchange platforms).[508] It has been argued that the Rules as they stand are better suited for centralised crypto-asset exchanges due to the assumptions they make regarding the existence of a central body that facilitates and monitors trading activity.[509]

Generally the Rules are divided into four parts (i.e. parts A, B, C, and D) and provide for the requirements for the issuance of digital assets as securities, registration requirements for digital asset offering platforms and digital asset custodians, virtual asset service

[503] SEC New Rules Part 'A' paragraph 2.0.

[504] FATF (2019) "Guidance for a risk-based approach: Virtual assets and virtual asset service providers" available at https://www.fatf-gafi.org/content/dam/fatf-gafi/guidance/RBA-VA-VASPs.pdf [accessed on 26 October 2024]: at 13.

[505] SEC New Rules Part 'D' paragraph 3.0.

[506] Id.

[507] Abdullahi A (2024) "Crypto-exchanges in Nigeria: A review of the regulatory framework" *ABUAD Law Journal* vol 12(1): at 28-40.

[508] Id.

[509] Id.

providers, and rules on digital assets exchange. The rules dealing with market abuse are set out in Part E of the rules under paragraph 26.0.

Part E of the Rules provides regulations on digital asset exchanges. Paragraph 26.0 deals with trading operations. The responsibility to prevent market abuse is placed on digital asset exchanges. Digital asset exchange operators are required to have adequate arrangements and processes to: deter manipulative activities on the platform and ensure proper execution of trades; manage excessive volatility of their platform which may include circuit breakers, price limits and trading halts; manage error trades, system errors, failure or malfunction.[510]

Rules further require digital asset exchange operators to ensure that trading information, both pre-trade and post-trade, is made publicly available on a real-time basis.[511] They are also required to make available in a comprehensive manner and on a timely basis, material information or changes to the tradeable virtual asset/digital token.[512] Furthermore, all information relating to the trading arrangements including the circumstances arising therefrom must be made publicly available where relevant.[513]

The Rules do not provide a definition of what “manipulative activities” on a trading platform as referenced under paragraph 26.1 consist of. Presumably, the definitions applicable in the interpretation of the Investments and Securities Act could be applied to interpret the Rules since the Rules are issued as subordinate legislation under the same Act.[514]

It is presumed that in addition to the suspension and cancellation of a digital asset exchange operator’s licence, other applicable sanctions for contravention of the Rules may be imposed as set out in the Investment and Securities Act for market abuse.[515] In terms of the Investments and Securities Act, the Commission may impose a penalty of at least

[510] SEC New Rules Part E paragraph 26.1(a)-(f).

[511] Id paragraph 27.1(a).

[512] Id paragraph 27.1(b).

[513] Id paragraph 27.1(c).

[514] Investments and Securities Act section 13(o), and section 115

[515] Investments and Securities Act section 115(a)-(b).

500 000 Naira on natural persons, and at least 1 000 000 Naira on body corporates who contravene market abuse regulations.[516]

5.5 CONCLUSION

This chapter shows that various jurisdictions are grappling with creating an effective regulatory approach. Considering the rapid developments in technology, and the experiences of various countries, it can be seen that at this stage decisions and positions are not permanent and can be revised and reconsidered whenever it becomes necessary. Various jurisdictions are striving to establish regulatory frameworks which address the challenges presented by crypto-assets, balancing between regulations which align with international regulatory standards (such as those set by the FATF and the FSB) while taking into consideration the relevant country's unique circumstances.

[516] Id.

6 CHAPTER 6: RECOMMENDATIONS & CONCLUSION

6.1 Introduction

Financial regulators around the world are grappling with formulating an effective regulatory strategy to address the challenges accompanying the rise of crypto-assets as a global phenomenon. One such challenge is market manipulation. This study sought to explore the regulation of crypto-assets in South Africa by focusing on crypto-assets market manipulation. The key objective of the research was to study the need for South Africa to develop and adopt a comprehensive and effective regulatory framework which is consistent with international law in addressing the challenge of market manipulation in relation to crypto-assets.

The analysis revealed that there is a keen need for the adoption of an internationally consistent regulatory framework founded on the principle of "same conduct, same risk, and same regulation." By declaring crypto-assets as financial products under the FAIS Act, South Africa has taken its first step towards addressing various market conduct risks associated with the use of crypto-assets, which also include the various forms of market abuse.

For the purposes of addressing the main objective of the study, it was necessary to deal with certain peripheral but pertinent matters such as the nature and history of crypto-assets and their main components; the operations of crypto-assets and the nature of the environment in which they operate; and the various risks associated with them and why those risks occur.[517] The study further considered the characterisation of market manipulation and whether market manipulation is a concern in crypto-assets; and whether it can be regulated under the current securities framework. Lastly, the study considered the regulatory approaches adopted by jurisdictions such as the European Union.

[517] See Chapter 2 of this research.

6.2 Findings

Overall, the study has found that the current regulation of crypto-assets in South Africa is not adequate or robust enough to combat crypto-assets market manipulation. The main research question of the study has therefore been answered. The discussion and arguments that follow should therefore be understood in the light of the answer to the main research question.

Crypto-assets are defined by their use as digital representations of value that are not issued by a central bank but are capable of being traded transferred and stored electronically for the purpose of payment, investment and other forms of utility.[518] They apply cryptographic techniques and use a distributed ledger technology.[519] The various types of crypto-assets include non-fungible tokens (NFTs), utility tokens, unbacked crypto-assets, and stablecoins. Crypto-assets do not have a tangible form and transactions occur online and can transcend national borders.

The research reveals that market manipulation in crypto-assets exists and has in some jurisdictions been successfully prosecuted.[520] Crypto-assets market manipulation is behaviour or conduct which unlawfully influences or interferes with the normal operations of the markets. Those involved in market manipulation do it with the purposes of creating misleading, artificial or false appearances regarding the trading activity in a crypto-asset or the price of that asset.

The research has demonstrated that market abuse in crypto-assets, as in traditional securities markets, can be categorised as insider trading, disclosure based and trade-based conduct. The various forms of market manipulation identified include inflated trading volumes, an exchange distributed denial-of-service attack (DDoS), front running, wash trading, insider trading, pump and dump, order spoofing, quote stuffing, and others.

As there are relatively no effective regulatory frameworks in various jurisdictions to address market manipulation, it is difficult to determine precisely the extent to which the crypto-assets markets are plagued by it. It is argued, however, that given the growing

[518] Paragraph 2.2.1.
[519] Paragraphs 2.2.1 and 2.2.3.1 to 2.2.3.2.
[520] See Chapter 3 of this study.

significance of the crypto-assets market it is crucial that attention be given to developing a framework to regulate the various uses of crypto-assets and to curb market manipulation.

The research revealed that crypto-assets pose unique challenges to regulation.[521] These challenges are as a result of the inert nature of crypto-assets as a phenomenon, and the environment in which they operate. They pose, among others, jurisdictional challenges due to the fact that they are traded online and transactions sometimes transcend jurisdictional borders, giving rise to concerns of a potential problem of conflict of laws.

Regulators and law makers, in seeking to enact effective regulations, face a further challenge in that the crypto-assets market is relatively new and technological developments in the industry are fast paced. Some authors have observed that as a result of this challenge, it is difficult to enact enduring regulations.

Furthermore, the study has found that the age-old challenge of effectively preventing market manipulation, detecting its occurrence, and proving and prosecuting it is exacerbated in crypto-assets markets due to the sophistication of the instruments and the complex nature of the technologies used to, among other things, protect the anonymity of transactions (which is a key component of crypto-assets).

In South Africa, crypto-asset derivatives are already subject to the provisions of the Financial Markets Act which is the main legislation for regulating market abuse. The declaration of crypto-assets as financial products and the various amendments proposed by the Financial Markets Act Review and the Financial Markets Review Committee seem to indicate that crypto-assets are to be subjected to the traditional securities regulations as articulated in the Financial Markets Act and other financial sector laws of the Republic.

The study found that different countries are taking distinctive approaches to the regulation of crypto-assets in their respective jurisdictions. Although the approaches are distinct, various countries aim to align their regulatory frameworks with the standards set by various international standard setting bodies. The European Union and Mauritius have enacted comprehensive frameworks dedicated specifically to the regulation of the uses of crypto-assets. Nigeria, South Africa and other countries have not developed

[521] See chapter 4 of this study.

comprehensive frameworks. Nigeria has developed rules to regulate the uses of crypto-assets and the conduct of crypto-asset service providers. As mentioned above, South Africa seeks to progressively subject crypto-asset service providers to the provisions of existing financial sector laws, including the FMA.

6.3 Recommendations

The study showed that crypto-assets are not included under the definition of securities in the Financial Markets Act. As an interim measure, the study recommends that crypto-assets be treated as securities as defined in the Financial Markets Act in order to facilitate the enforcement of the provisions of Chapter X of the Act which is aimed at combating market Manipulation. This recommendation relies on the foundations of the purposive approach to legislative interpretation.

The interim measure can be implemented as an urgent intervention in order to prevent or minimise the exposure of various participants in the crypto-assets industry to an imminent risk. It will ensure the enforcement of proper conduct thereby protecting the threatened interests. The declaration of crypto-assets as “securities” for purposes of the FMA will ensure adherence to the regulatory standards as articulated in terms of the Act, particularly with regard to market manipulation.

This interim measure can be effected by means of section 1(d) of the definition of “securities” in the Financial Markets Act with certain exemptions and limitation. This should be one of the priorities of regulation to ensure the protection of investors, CASPs, and other stakeholders, taking into account the rapid growth of the crypto-assets industries and its potential to become systemically significant.

It is submitted that interim measures are in certain instances extraordinary and are not required to be prefect. They can be reconsidered at a later stage when a final solution is implemented. So the interim position regarding the declaration of crypto-asset as “securities” under the FMA can also be reconsidered later after the Financial Markets Act Review processes which are expected to result in comprehensive and far-reaching amendments to the FMA are finalised. As it stands, the FMA is not perfectly compatible to regulate crypto-assets.

The research revealed that the crypto-assets market is not a regulated market for purposes of the Financial Markets Act. Relying on the support of the preceding argument, it is recommended that for purposes of regulating market manipulation under Chapter X of the Financial Markets Act, crypto-assets markets can be regarded as a regulated market. This will have the significant effect of subjecting domestic and foreign crypto-assets markets under the provisions of the FMA or the laws of a country in which the market conducts its business of dealing in crypto-assets.

It is recommended that the final comprehensive regulatory framework which should fully encompass the regulation of crypto-asset activities in its provisions must promote the spirit and principles underpinning the regulation of market manipulation in the traditional securities markets.[522] The main principles underlying market abuse regulations in South Africa are found in the Financial Markets Act. The Financial Markets Act's objects include the protection of the investors, safeguarding financial stability, ensuring the safety and integrity of the financial markets.[523]

Market abuse is noted as one of the most serious challenges in the crypto-assets market.[524] It is therefore a cause for concern that various countries have not developed adequate regulations and tools to deal with the challenge. In view of the fact that many countries are considering subjecting crypto-asset activities to the traditional securities regulations, it is submitted that such an approach is not far-fetched. It is argued that the various arguments which have been raised against the regulation of crypto-assets under the traditional securities legislative frameworks are outweighed by considerations of the economic realities and prioritisations of substance over form.[525] It is submitted that the considerations of substance over form are sufficient justifications for subjecting crypto-assets under the traditional securities regimes especially considering the evil that the traditional securities regulations seek to remedy.

It is recommended that any future comprehensive crypto-asset regulations in South Africa, as is the case in the European Union, and countries such as Mauritius, and Nigeria, must

[522] See related discussion in Chapter 4 of this study.
[523] Preamble to the Financial Markets Act.
[524] See related discussion in Chapter 3 of this study.
[525] See related discussion in Chapter 4 of this study.

impose strict requirements on crypto-asset service providers. Such requirements should include, for instance the requirements on crypto-asset exchanges to install systems and controls which are meant to detect, monitor and prevent the occurrence of market abuse in crypto-assets. Examples of systems that can be installed in accordance with the regulatory requirements could include the know your customer (KYC) systems which are designed to prevent fraud and reduce anonymity; machine learning and network analysis mechanisms which can detect fraudulent transactions and identify wallet collusions thereby combating the occurrence of wash-trading patterns.[526]

The importance of an internationally consistent coordinated approach to regulation cannot be overstated.[527] It is recommended that countries should follow the recommendations of international standard setting organisations such as the FATF, FSB, IOSCO, Basel Committee on Banking Supervision and others in developing their regulatory frameworks. This will ensure that a country's distinctive regulatory policies cannot be circumvented by market participants who may seek to operate within jurisdictions that are friendly to their objectives. This is especially possible if regard is had to the fact most crypto-asset transactions occur online and across jurisdictions.[528]

In the event of a contravention of market abuse regulations, which is interjurisdictional, countries should interact with and assist one another in dealing with criminal activities perpetrated using crypto-assets in the crypto-assets markets.

As is the case in the traditional securities markets, entities and persons who contravene market abuse provisions must be liable for the payment of administrative penalties and in the case of natural persons, imprisonment for a period to be determined by Regulation. Where the contraventions are conducted using juristic persons, directors and other persons involved in the senior management of the relevant contravening entities must be held personally liable.

Market supervisors in South Africa must be adequately capacitated with the relevant resources that will enable them to effectively supervise the markets in crypto-assets.

[526] Tošić A, Vičič J, and Hrovatin N "Beyond the surface: advanced wash-trading detection in decentralized NFT markets" 2025 *Financial Innovation* vol 11(1): at 1-21.
[527] See discussion in Chapter 4 of this study.
[528] Sotiropoulou, and Guegan 2017 *Capital Markets Law Journal* vol 12(4) 470.

These resources include surveillance mechanisms, investigative rights, and the authority to impose substantial administrative penalties on offenders in order to deter others from contravening the market abuse regulations.

Lastly, it is submitted and acknowledged that the mere inclusion of crypto-assets and the crypto-assets market as securities and a regulated market, respectively, under the Financial Markets Act may not be enough to address the various facets of market manipulation as witnessed in the crypto-assets market. As a way forward, South Africa may consider creating an innovative regulatory framework specially designed to deal with the complex challenges presented by crypto-assets.

South Africa as well as other countries should continue to monitor the technological developments in crypto-assets, and update the current rules regularly. Caution must be exercised against over regulation of crypto-assets markets which may not only hamper the natural and free operations of the market, but can also have the effect of stifling innovation.

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