
**Regulation of Cryptocurrency and its Implication for Financial Stability.
A Qualitative Analysis.**

David Hope Kanu

Doctor of Business Administration (DBA) Research Student

Wilmington University, College of Business

Newcastle, Delaware USA

dkanu001@my.wilmu.edu

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Abstract

The Great Recession of 2007-2009 was preceded by decades of deregulation, reduced supervision, and growing belief in self-regulation. Today, the cryptocurrency markets operate in a similar fragmented and unregulated environment. An unbacked cryptocurrency market with 6.8% global ownership carried a familiar, dangerous optimism for financial stability. Therefore, this study through a qualitative approach explores the regulation of cryptocurrency and its implications for financial stability. The study proved that there are several weaknesses in the current regulatory framework for the cryptocurrency ecosystem, namely, (1) Regulatory fragmentation, (2) Absence of the integration of security and consumer protection issues, (3) Used of existing traditional financial institutions' regulations to regulate the cryptocurrency market; (4) Flaws in the European Union Market in Crypto-Asset (MICA) regulations (5) Lack of a comprehensive uniform global regulatory and supervisory framework for cryptocurrency. Hence, the study findings further shows that the identified weaknesses in current regulatory framework for the cryptocurrency market could amplify financial vulnerabilities in the cryptocurrency ecosystem that could hamper the resilience of the global financial system to cryptocurrency market-based shocks through an increased contagion risk that has significant implication for financial stability. The paper concluded that while a fragmented and unregulated global cryptocurrency market may not currently pose a risk to financial stability in the global economy, an extensive adoption of cryptocurrency without a comprehensive uniform global, regional and national regulatory framework will amplify their vulnerabilities, exacerbate contagion, and generate systematic risk, which will have significant implication for financial stability- Minsky moment. The research recommends that national, regional, and international regulators, and policymakers, must engage in constructive dialogue to develop a risk-based global regulatory and supervisory framework for the cryptocurrency ecosystem, with greater requirements on cryptocurrency issuers, cryptocurrency backed stablecoins, DeFi smart contract, non-fungible tokens (NFT), cryptocurrency exchanges, holding reserves and blockchains operation that generate significant risk for financial stability.

Keywords: Cryptocurrency, Blockchain, Decentralized Finance(DeFi), Stablecoins, Non Fungible Token (NFTs), Cryptocurrency exchanges, Regulations, regulation of cryptocurrency,

Cryptocurrency regulations, Market in Crypto-Asset (MICA) European Union regulation, Financial Stability, Global financial crisis, Financial instability, Financial Crisis, Financial instability Hypothesis(FIH), Minsky moment, contagion, systematic risk, Financial Stability Board(FSB), Financial Action Task Force (FATF), European Union, International Organization of Securities Commissioners (IOSCO), Cryptocurrency Global Regulatory landscape, European Union, Financial regulation.

1. Introduction

“Technology doesn’t change the laws of economics and finance and risks,” Jon Cunliffe, former Bank of England deputy governor for financial stability (Chiew, 2022). The financial system is the backbone of modern economies. It’s characterized by a complex ecosystem where digital financial innovation, digital currencies like cryptocurrency, risk, and consumer protection must coexist in a delicate balance (Linsley, 2024). Hence, regulatory frameworks imposed by national, regional and global regulatory authorities are pivotal in maintaining this equilibrium (Linsley, 2024). As these regulatory frameworks are designed, developed and implemented, they address emerging challenges, protect consumers and investors, and enhance market stability (Linsley, 2024).

Since its inception in 2009, the cryptocurrency global market has experienced exponential growth, emerging slowly into a significant component of the global financial ecosystem with a market capitalization of 3.25 trillion as of December 31, 2024 without a comprehensive uniform national, regional and global regulatory and supervisory framework for the cryptocurrency market (Soltani, 2025; Xiong et al., 2024). As explained by Uzougbo et al.(2024), the rapid growth of a fragmented and unregulated cryptocurrency coupled with their decentralized, pseudonymous and borderless nature presents unique challenges and concerns for the global economy. These concerns ranges from currency substitution and bank disintermediation, market volatility, interlinkage and interconnectedness with the global financial sector, market manipulation, risk of tax evasion and their use in illicit activities such as money laundering and financing terrorism (Uzougbo et al.,2024). Cryptocurrency operational risks which has implications for financial stability underscores the complex landscape within the cryptocurrency ecosystem thus, balancing the need to regulate the cryptocurrency ecosystem for public trust and confidence, consumer and investors protection and market stability (Xiong et al., 2024; Bains et al., 2022; Emmert, 2023; Msefula et al., 2024).

As the time of writing this paper, the global regulatory landscape for cryptocurrency remains highly fragmented mark by substantial variations in regulatory framework and rules among countries. Existing regulation in some countries in Africa, Europe, Asia, North and South America are retrofitted regulation that focuses on Ant-money laundering, transfer of funds, terrorism financing, licensing requirement for cryptocurrency exchanges (Kumar et al., 2025; Shine, 2024; Abrams, 2024). While the US regulators still fighting over ownership of cryptocurrency regulation (Kumar et al., 2025; Shine, 2025; Abrams, 2024). The only regulation for cryptocurrency that came closed to best practice at the moment is the European Union Markets in Crypto (MICA) regulation, which was approved by the European Union Parliament

on April 20, 2023, making the European Union the world's first major regional jurisdiction to establish a uniform regulatory and supervisory framework for cryptocurrency ecosystem, (Hall, 2024; Pinggen, 2025; Boeing et al., 2025; Gabel, 2025).

The global financial crisis brought to light a lot of deficiencies in financial regulations and construct especially in the treatments of systematic risk and vulnerabilities in financial systems (Mohan, 2009; Claessens et al., 2010). Moreover, the global recession of 2008 also point out that whiles financially integrated and interconnected market such as unregulated cryptocurrency offers many benefits to the financial system, they can also pose significant risk to financial stability (Claessens et al., 2010).

Cryptocurrency regulation has been the subject of intense policy debate amongst policymakers, central banks, and other financial regulator authorities in the last decade. As rightly ascribed by Panigrahi (2023), the uniform functioning of national and global economies ensures secure flows of funds and appropriate allocations of resources in the financial market. However, the advent of cryptocurrency has brought a radical change in the global financial system and opened vast opportunities and challenges for policymakers, national, regional and global financial regulatory authorities to come up with a comprehensive regulation for consumers and investors protections, public confidence, trust and financial systems stability implications (Angwaomaodoko, 2024; Panigrahi,2023).

As put forward by Kim et al.(2013) and Claessens et al.(2010) failure by regulatory authorities and policy makers in the past to keep abreast with evolving financial innovations and financial liberalization in the financial system not accompanied by the necessary regulatory and supervisory reforms resulted to the global financial crisis. Hence, Kim et al(2013) believed that strong regulation of financial innovative product in the financial systems helps to stabilized financial markets by reducing the moral hazard problems associated with asymmetric information and financially integrated system like the cryptocurrency market. According to Kim et al(2013), regulatory measures especially in the cases of cryptocurrency ecosystem is critical to financial stability. Therefore, the urgent need for the regulation of cryptocurrency and its implication for financial stability cannot be overstated.

1.2. Research Objective, Contribution and Related Work.

Cryptocurrency is a pseudo self-contained and decentralized network that allows for peer-to-peer transactions within the block chain technology that is free from any central government control and safe for exploitive meddling across and within national borders (Hutchinson,2021; Mukherjee et al., 2021; Krause, 2023). Hence, anyone can join the cryptocurrency ecosystem just by downloading the app and become part of the process. Chokor et al.(2021) argues that the high number of cryptocurrencies in the crypto market, the frequent large price fluctuation just like the Charles Ponzi 1919 Ponzi investments scheme has heighten ongoing concern for regulation of cryptocurrency ecosystem to prevent financial instability or financial crisis in the global financial systems. Hence, as the cryptocurrency market continued flourished in the global financial system without regulations and supervisory mechanism, governments, central banks, policymakers, and

academia worldwide grappled with the implications of the absence of cryptocurrency regulations for financial stability (Krause, 2023; Mukherjee et al., 2021).

1.2.1 Research Objective

The primary objective of this research is to investigate the regulation of cryptocurrency market and its implication for financial stability. The study analyzes the cryptocurrency global regulation status, cryptocurrency, blockchain technology, stablecoin, decentralized finance (DeFi), regulation of cryptocurrency, financial stability, financial instability, financial instability hypothesis(FIH), link between financial regulation and financial stability, and regulation of cryptocurrency on financial stability through analysis of existing literature reviews, international originations and governments reports.

1.2.2. Research Contribution

This research contributes significantly to a broader understanding of the regulatory and supervisory landscape of the cryptocurrency market and its implication for financial stability, the interplay between regulation and financial stability and the role of national, regional and international organizations shaping a global regulatory and supervisory framework for cryptocurrency market. Understanding these dynamics is essential to policy makers, national, regional and global regulators and cryptocurrency stakeholders for insights into the weakness on the diverse regulatory approaches in the cryptocurrency regulatory landscape and the challenges and concerns poses by an unregulated cryptocurrency market for global financial system stability. The contribution of the study can be used to inform the developments of a comprehensive uniform regulatory and supervisory risk-based framework for cryptocurrency ecosystem. Moreover, this study will also contribute to the body of literature on the regulation of cryptocurrency and its implication for financial stability.

1.2.3 Research Related Work.

Cryptocurrency regulation has received far-reaching attention within academia, global policymakers, national, regional and global regulators. Numerous academic research offers an overview of the regulation of cryptocurrency. For instance, Xiong et al.(2024) qualitative research provides global trends in cryptocurrency regulation through a discussion of regulation challenges and considerations. Benson et al.'s (2024) study analyzes the development of cryptocurrency regulation in Europe. On the other hand, Choker et al.(2021) study examines cryptocurrency regulation's long- and short-term impacts on the crypto market. Studies by Saleem et al. (2024), Donoiu et al.(2023), Angwaomaodoko (2024), Jones and Panigrahi(2023) study the impact of cryptocurrency on financial stability.

Bains et al (2022) from the International Monetary Fund (IMF) research department study regulating the cryptocurrency ecosystem: the case of stablecoins, FSB(2022) study the assessments of risks to financial stability from crypto-assets, FSB(2023) also study the financial stability implications of multifunction crypto-asset intermediaries, Manaa et al.(2019) an European Central Bank(ECB) study crypto-assets: implications for financial stability, monetary

policy, and payments and market structure, BIS(2023), financial stability risks from crypto assets in emerging market economies and Arner et al.(2020) study stablecoins: risks potential and regulation.

The primary dissimilarity between this study and earlier ones lies in the focus and scope of the exploratory and systematic review of literature. While prior studies focus on cryptocurrency regulation and the impact of cryptocurrency on financial stability, this paper extends to the implications on the absence of national, regional and global cryptocurrency regulation on financial stability. Furthermore, this study incorporates a section on the current status of cryptocurrency regulation as of 31 December 2024. Moreover, despite the growing interest in cryptocurrency research on regulations, qualitative explorative and systematic review of literature research on the on the regulation of cryptocurrency market implications for financial stability remains limited.

1.3. Paper Structure

The paper has six sections. Part I focuses on the introduction, research motivation, contribution and related work. Part II examines through discussion, the current status of cryptocurrency regulation at national, regional and global level. Part III discuss the reviews of literature on the cryptocurrency and cryptocurrency ecosystems followed by a literature review on regulations of cryptocurrency, financial stability, financial instability and financial crisis, linkage between financial regulations and financial stability, regulation of cryptocurrency implications for financial stability. After Part III literature review, in Part IV the author frames the study's methodology. Part V highlighted the study findings follow by discussions of the findings and finally, Part VI the conclusion and recommendation are reached.

2. Current State of Global Cryptocurrency Market

In 2024, the Cryptocurrency market experienced the most significant boom since its inception in 2009. Bas et al.(2024) state that cryptocurrency may redefine currency, investments and payment mechanism just like Apple redefines mobile phones. In just 16 years, cryptocurrency is slowly evolving from a niche asset to a pivotal part of the global financial landscape, altering the concept of money, payment systems, and cross-border payments. The growth of cryptocurrency from speculative investments to undefined investments and payment mechanisms has regulators to explore ways to regulate the cryptocurrency ecosystem. New rules, guidance and regulations worldwide are being enforced, thus providing much-needed legal clarity in the global financial system (Perez, 2025). Moreover, cryptocurrency adoption in the global financial landscape is thriving, and more businesses and governments are joining the crypto bandwagon(Perez, 2025). However, it is worth noting that as the crypto market grows in 2024, so do the risks in the form of illegal activities that permeates the cryptocurrency market (Perez, 2025).

2.1 Current Status of National, Regional and Global Regulation for Cryptocurrency

Cryptocurrency has mostly been synonymous with a lack of regulation. However, this is rapidly changing, with national, regional and global regulators now considering rules, guidance,

recommendation and regulation for cryptocurrency ecosystem (Abrams, 2024; Shine, 2024). According to the outcome of Triple A global report on the global status of cryptocurrency ownership in 2024, the evolving fragmented regulatory framework for cryptocurrency has had positive impact on the increased in cryptocurrency global adoption rate, market capitalization and boosted public confidence and trust in 2024. Moreover, according to the Atlantic Council, countries in Africa, Europe, Asia, and North and South America, have set up rules, guidance and regulations for taxation, AML/CFT, consumer protection, and licensing requirements for cryptocurrency exchanges (Kumar et al., 2025). Notwithstanding, countries from emerging and advanced economies still lag in comprehensive uniform regulation and oversight for the cryptocurrency market (Kumar et al., 2025).

For instance, South Africa, Nigeria, and Kenya, the top three cryptocurrency adopters in Africa do not have a comprehensive uniform cryptocurrency regulation as the time of writing this paper (Ekamem, 2024; Agbetiloye, 2025). As per the Atlantic Council global cryptocurrency regulation trackers, South Africa, Nigeria, and Kenya only have rules for licensing cryptocurrency exchanges, AML/CTF, Know your customer(KYC), and other customer protection measures for cryptocurrency exchanges (Kumar et al., 2025).

Similarly, in Europe, the United Kingdom, France, Switzerland, Slovenia, the Netherlands, Germany, Belgium, Austria, and Estonia national regulators have put in place rules, laws, and acts such as monetary and financial codes, PCTE law, Money Laundering and Terrorist financing prevention act, terrorist financing and transfer of funds law, anti-money laundering ordinances, restriction of the use of cash for cryptocurrency exchanges and business accepting cryptocurrency for payments of goods and services. None of these European countries has a comprehensive uniform national regulatory framework as of April 2, 2025 (Abrame, 2025; Meyer, 2025; Neufeld et al., 2024).

However, in May 2023, the European Union introduced the first comprehensive cryptocurrency regulation, the Market in Crypto-Assets Regulation (MICA) (Shine, 2024; Abrame, 2025; Meyer, 2025; Neufeld et al., 2024). As Meyer (2025) and Abrame (2025) explain, the MICA regulation is designed to unify the cryptocurrency regulatory landscape in European countries to create a safer environment for investors and consumers to explore the crypto space. It is worth noting that as of February 20, 2025, the Market in Crypto-Assets Regulation (MICA) full implementation remains a work in progress pending completion of MICA Level 2 and Level 3 and other areas of ongoing development in the European crypto ecosystem (O'Brien et al., 2025). In contrast, North America, particularly the United States (US), has faced a more fragmented regulatory landscape with different approaches to regulating cryptocurrency and digital assets, leading to a lack of uniformity across the board (Meyer, 2025). Federal agencies such as the Security Exchange Commission (SEC) and the Commodity Futures Trading Commission(CFTC) most often adopt varying stances on cryptocurrency regulation (Bitpanda, 2024). This diverse view on cryptocurrency regulation from the SEC and the CFTC is mainly because the SEC regulates assets considered securities, while the CFTC oversees assets classified as commodities. Thus, the SEC and CFTC have different rationalizations for defining

cryptocurrencies (Bitpanda, 2024). Notwithstanding, the United States has made progress, such as approving a Spot Bitcoin ETF in January 2024, but a comprehensive uniform regulation for cryptocurrency uncertainty still dawdles (Adams et al., 2025). However, On January 23, 2025, President Trump issued an executive order on Digital Financial Technology, establishing a new working group within the US National Economic Council (NEC) to propose a federal regulatory framework for cryptocurrency (Adams et al., 2025; Manson et al., 2025).

In South America, Brazil established cryptocurrency regulation in June 2023. The Crypto Assets Act gives the Central Bank of Brazil a supervisory role for all companies in Brazil providing services linked to virtual assets (Shine, 2024; Meyer, 2025). Brazil's Crypto assets regulation outlines criminal practices, penalties, and fines for any crypto-related fraud and money laundering activities (Shine, 2024; Meyer, 2025). However, Argentina the country with the highest the cryptocurrency adoption rate in South America and 15th global does not have a comprehensive regulatory framework for cryptocurrency as the time of writing this research (Bastardo, 2024; Neufeld, 2024). Notwithstanding, as explained by Bastardo(2024), to address the rapid expansion and possible financial risk possessed by cryptocurrency adoption in Argentina, the Argentina Financial Information Unit(UIF) in March 2024, introduced resolution No.49/2024 and, at the same time, designated the CNV as a regulatory authority for the cryptocurrency market in Argentina.

Asia is the leader in the global cryptocurrency market, but crypto regulation varies significantly across the region. South Korea passed the Virtual Assets Users Protection Act in 2023. The regulation creates stronger protection for crypto users, including requirements for record-keeping and transparency(Shine, 2024). Meanwhile, Japan has one of the most evolved Cryptocurrency regimes in the world, In 2014, launched cryptocurrency legislation to enforce the registration of all cryptocurrency exchanges with the Japanese Financial Services Agency (FSA) (Mills, 2024; Juodis, 2024). The Japanese Financial Services Agency (FSA) regulates the Japanese cryptocurrency market alongside the Japan Virtual Currency Exchange Association (JVCEA) and the Japan Security Token Offering Association (JSTOA) (Mills, 2024; Juodis, 2024). In Singapore, the Monetary Authority of Singapore 2019 introduced the Payment Service Act, which was amended in 2024 for more user protection and financial stability (Kereibaye, 2025; Abrama, 2024).

As put forward by Kereibaye (2025), the Singapore Payment Service Act of 2019, the which includes cryptocurrency, encompass a range of cryptocurrency activities like custodial service, facilitating DPT exchanges, cross-board money transfer, and licensing requirements services for all Cryptocurrency exchanges in Singapore. On the other hand, China remains one of the strictest nations regarding cryptocurrency(Shine, 2024;Abrama, 2024). In 2021, the Chinese government banned all cryptocurrency transactions and mining activities due to its potential impact on financial stability (Shine, 2024;Abrama,2024). India also banned cryptocurrency, but it was removed in 2020 by the Supreme Court. Thereafter, the Reserve Bank of India, the Ministry of Finance, and the Financial Intelligence Unit developed cryptocurrency AML and CFT guidelines for cryptocurrency services and exchanges in India (Shine, 2024; Abrama, 2024).

Finally, according to Kumar et al.(2025), global governance institution such the Financial Stability Board (FSB), the Basel Committee on Banking Supervision (BCBS), International Organization of Securities Commissioners (IOSCO), Committee on Payments and Market Infrastructures (CPMI), and the Egmont Group have all published recommendation for regulation of the cryptocurrency and emphasized the urgency for a comprehensive uniform national, regional and global regulatory and supervisory framework for cryptocurrency ecosystem.

3. Literature and Conceptual Review

Qualitative and empirical literatures' on the main themes in this study are briefly examined in this section as shown below:

3.1 Cryptocurrency

Cryptocurrencies are a type of digital currency that leverages blockchain technology to facilitates secure, decentralized transactions (Burges, 2024; Rasyid et al., 2024). Cryptocurrency utilizes cryptography to regulate the generation of unit of currency and verify the execution of transactions on a decentralized distributed ledger network known as blockchain technology (Burges, 2024; Rasyid et al., 2024). Unlike traditional paper money controlled by central banks, cryptocurrency are not backed or controlled by any central government, they rely on cryptographic algorithms to maintain security and trust (Burges, 2024; Rasyid et al., 2024). Thus, these decentralized attributes of cryptocurrency design has eliminated the need for financial intermediaries like traditional commercial banks (Burges, 2024; Rasyid et al., 2024). As put forward by Burges (2024), the decentralized nature of cryptocurrency allows for online payments to take place directly from one cryptocurrency digital wallet holder to another within national and across international borders without going through any traditional commercial banks or any central bank. Hence, we have seen the expansion of DeFi smart contracts that enables financial services offering such as lending, borrowing, investments trading within the cryptocurrency ecospace and cryptocurrency exchanges (Burges, 2024; Rasyid et al., 2024).

The growing landscape of cryptocurrencies can be broadly categorized into various types namely, payments cryptocurrencies, infrastructure cryptocurrencies, financial cryptocurrencies and service cryptocurrencies (Kraken, 2024; Vishwa, 2022). Payment cryptocurrencies allows users to store and transact on the blockchain decentralized platform, void from financial intermediaries like central banks or commercial banks (Kraken, 2024; Vishwa, 2022). Payment cryptocurrencies includes bitcoins, Litecoin's, stablecoins, memcoins and privacy coins. Infrastructure cryptocurrencies are cryptocurrencies such as decentralized (DeFi) platform and Non-Fungible Token (NFTs) for financial services and blockchain designed for scalability, offering faster transaction settlement times that link the blockchain network offering smart contract functionality. financial cryptocurrencies are cryptocurrencies associated with centralized or decentralized exchanges(Kraken, 2024; Vishwa, 2022). Financial cryptocurrencies offers tools for managing and exchanging assets with the cryptocurrency ecosystem, they provide similar services like traditional financial institutions but in a more accessible and transparent

way(Kraken, 2024; Vishwa, 2022). Service cryptocurrencies on the other hand, leverage the transparency and security functionality of the blockchain platform to enhance traditional sectors like healthcare and energy(Kraken, 2024; Vishwa, 2022).

3.1.1 Blockchain Technology

Blockchain technology is a distributed shared database contained in blocks that are chained together with transactions verified and vetted by cryptocurrency miners through the process known as proof of work and proof of stake(Lee et al., 2020). Blockchain technology provides validity for the cryptocurrency ecosystem by vetting all cryptocurrency transactions for accuracy and completeness (Abdat et al. (2019). According to Chia (2023), the blockchain used in the cryptocurrency ecosystem is known as public blockchain. Public blockchain is permissionless, non-restrictive decentralized digital ledger that can be access by anyone by simply downloading the software that respect the public blockchain protocols (Chia, 2023; Lee et al., 2020). There are no barrier to participate in the public blockchain network thus, making it more resistant to censorship (Chia, 2023; Lee et al., 2020). However, as stated by Lee et al.(2020) and Chia (2023), despite the security and auditability pros of the cryptocurrency public blockchain, some disadvantages exist broadly into privacy challenges, scalability concerns and energy efficiency.

3.1.2 Decentralized Finance (DeFi).

Cryptocurrencies coupled with the expanded version of blockchain have allow individual and business to transact directly with each other through the emerging peer to peer financial system known as the decentralized finance (DeFi) (Rasyid et al., 2024; Sharma et al., 2024). DeFi is slowly shifting the traditional, centralized financial system to a peer-to-peer financial system enabled by decentralized technologies built on the cryptocurrency block chain (Rasyid et al., 2024; Sharma et al., 2024). Sharma et al.(2024) stated that the DeFi financial system operates on a public blockchain network, allowing lending, borrowing and other financial activities without any middleman. As explained by Rasyid et al.(2024), the core principle behind Decentralized financial services(DeFi) is to remove third parties like the traditional commercial banks from the financial system, thereby reducing costs and transaction times. Today, the DeFi has emerged as the most active segment in the financial system with a wide range of use cases for individuals, developers and cryptocurrency exchanges (Rasyid et al., 2024; Sharma et al., 2024).

3.1.3 Stablecoins

Stablecoins are a type of Cryptocurrency whose value is pegged to that of another currency, commodity, or financial instrument to maintain a stable value ((Bains et al., 2022; Kraken, 2024; Kolodziejczyk et al., 2020). As explained by Robert (2022), stablecoins provide an alternative to the high volatility of Cryptocurrency, such as Bitcoin (BTC), which has made crypto investments less suitable for everyday transactions. According to Kraken(2024) and Bains et al.(2022), stablecoins combine the efficiency and portability of blockchain-based cryptocurrencies with a price stability mechanism, making them acceptable as a medium of exchange, cross-border

remittances and investors who are looking for less volatile cryptocurrencies to park their capital in.

There are primarily four types of stablecoins: fiat-backed, commodity-backed, Cryptocurrency backed, and algorithmic-backed stablecoins (Bains et al., 2022; Kraken, 2024; Robert, 2022; Kolodziejczyk et al., 2020; Vishwa, 2024). Fiat-backed stablecoins aim for 1:1 value pegged to a specific asset or underlying fiat currency (Kraken, 2024; Robert, 2022; Kolodziejczyk et al., 2020). On the other hand, algorithmic backed stablecoins use software algorithms to automatically adjust the supply of the stablecoin based on market demand, aiming to maintain a stable price (Kraken, 2024; Robert, 2022; Kolodziejczyk et al., 2020). In Cryptocurrency backed stablecoins are supported by reserves of other cryptocurrencies within the blockchain network. Users of Cryptocurrency stablecoins often use over-collateralization, meaning that the value of assets held in reserves is greater than the pegged value to mitigate the inherent volatility of their underlying assets (Kraken, 2024; Robert, 2022; Kolodziejczyk et al., 2020). Finally, Commodity-backed stablecoins are tied to the value of physical assets like gold, silver, or other tangible commodities. These stablecoins offer users the ability to gain exposure to commodities without directly owning them (Kraken, 2024; Robert, 2022; Kolodziejczyk et al., 2020).

3.1.4 Non-Fungible Tokens (NFTs).

Non-fungible tokens (NFTs) are a unique type of cryptocurrency that represent ownership or proof of authenticity for a specific item, a piece of content such as a work of art, collectibles, a specific unit of production, or even government ID (Giorgadze, 2023; Rahman et al., 2025). NFT, in short, acts as a digital certificate of authenticity in the blockchain (Giorgadze, 2023; Rahman et al., 2025). According to Barua et al. (2025), based on blockchain technology, NFTs provide a secure, transparent, and decentralized method of verifying the ownership and source of works of art, collectibles, a specific unit of production, or even government ID. In addition, NFTs facilitate direct peer-to-peer transactions that bypass traditional intermediaries and reduce costs (Barua et al., 2025). NFTs are often used as investment and equity instruments in the cryptocurrency ecosystem. (Barua et al., 2025). Hence, an NFT certifies that the holder owns the underlying digital asset and can sell, trade, or redeem it (Giorgadze, 2023; Rahman et al., 2025). NFTs can be bought on both centralized and decentralized markets.

3.1.5 Cryptocurrency Exchange

Cryptocurrency exchanges make it easy to trade cryptocurrencies (Feinstein et al., 2021). Crypto exchanges platforms act as intermediaries to facilitate the buying, selling of cryptocurrencies (Das, 2024). Cryptocurrency Exchanges are not blockchain, they are centralized or decentralized transaction intermediaries operating in a similar manner to a conventional financial exchange (Feinstein et al., 2021). Cryptocurrency exchange takes custody of users crypto key and stores them in a digital wallet (Feinstein et al., 2021; Das, 2024). The exchange then manages these keys with an order book that contains a bid and ask prices for each managed portfolio (Feinstein et al., 202; Das, 2024). According to Coinmarketcap (2025), the Binance

crypto exchange is considered the largest cryptocurrency exchange in the world, followed by Bybit, Coinbase exchange, Upbit, and OKX crypto exchanges.

The swift growth and development of the global cryptocurrency market year on year without a comprehensive uniform national, regional and global regulation for cryptocurrency present a novel concern for the stability of the global financial system (Feinstein et al., 2021). The cryptocurrency market is both complex and expose to high risk due to it decentralized structure in a public blockchain coupled with price volatility, anonymity, unpredictable and uncertainty(Feinstein et al., 2021; Bouslimi et al., 2024; Chokor et al., 2021; Rasyid et al., 2024). The cryptocurrency market high risk and complexity raise significant challenges in terms of interlink with wider financial system, currency substitution, liquidity risk, maturity mismatch and possible traditional commercial banks runs which have implication for financial stability (Feinstein et al., 2021; Bouslimi et al., 2024; Chokor et al., 2021; Rasyid et al., 2024). Although there is wide consensus amongst global regulators and policy makers in the financial system such as the Financial Stability Board(FSB), Bank of International Settlements(BIS), International Monetary Fund (IMF) regarding the necessity of regulating the cryptocurrency ecosystem however, perspective differ widely on how that should be achieved as at the time of writing this study.

3.2 Regulation of Cryptocurrency

Cryptocurrency has emerged as a disruptive phenomena leveraging technological advancements and digital innovation to revolutionize the global traditional financial system (Adeoye et al., 2024). Seventeen year after it inception the cryptocurrency market have experienced an exponential growth , slowly evolving into a significant component of the global financial system with a market capitalization over 2.8 trillion as of March 8, 2025 (Xiong et al., 2024; Tanksalkar, 2025). According to Xiong et al.(2024) this unprecedented growth of cryptocurrency reflects a growing integration of cryptocurrency into the broader global economy. However, despite the popularity of cryptocurrency in the global financial ecosystem, the regulation of cryptocurrency remains a challenges (Xiong et al., 2024; Adeoye et al., 2024; Rasyid et al., 2024) . The regulatory framework currently in place for cryptocurrency DeFi smart contract, public blockchain operations, cryptocurrency and algorithm back stablecoins, decentralized exchanges and NFTs are fragmented and inadequate (Rasyid et al., 2024). For instance, the approaches taken by regulators in countries in Africa, Asia, Europe, North and South America on the regulation of cryptocurrency to date are diverse and most often even contradictory(Lee et al., 2020).

Amid the rapid proliferation of cryptocurrency in the global financial system, the importance of a comprehensive uniform global regulation for cryptocurrency cannot be overstated (Zreik et al., 2025). The importance of cryptocurrency regulation is paramount, as it serves as the bedrock upon which trust, security and stability are built (Zreik et al., 2025). At its core, cryptocurrency regulation plays a vital role in preserving and safeguarding consumer protection, compliance and accountability, governments revenue from taxation and financial stability (Adeoye et al., 2024; Zreik et al., 2025). While cryptocurrency is slowly transforming the global financial system, it

operates within a regulatory framework bounded by various retrofitted regulations thus, present challenges particularly in terms of regulatory compliance, risk management and market stability (Adeoye et al., 2024; Zreik et al., 2025). As put forward by Benson et al.(2024) and Adedoyin et al.(2024), the inherent anonymity, decentralized and borderless nature of cryptocurrency poses challenges to traditional regulatory framework, which are often limited within national jurisdictions. Case in point is the current anti-money laundering regulation within national borders that struggles to trace cryptocurrency and other digital currency effectively because they operates outside the traditional financial system and lacks transparency and traceability which makes it impossible for enforcement and compliance for national regulatory authorities (Benson et al., 2024; Adedoyin et al., 2024).

Hence, as stated by Uzougho et al.(2024), the adoption and rapid growth of cryptocurrency in the global economy has outpaced the development of a global regulatory framework, creating a regulatory gaps for exploitation by bad actors in the financial landscape. Also, cryptocurrency cross board transactions presents another significant regulatory huddle in the crypto ecosystem. Cryptocurrency DeFi smart contract, cryptocurrency and algorithm back stablecoins, cryptocurrency decentralized and centralized exchanges and NFTs enables users to transact within and across international boundaries which also creates regulatory arbitrage (Rasyid et al., 2024). For example, a transaction can be initiated within one national borders but completed in another country could fall outside the regulatory reach of both jurisdictions (Rasyid et al., 2024).Hence, cryptocurrency have becomes a safe haven for illicit activities such as money laundering, terrorism financing, tax evasion (Uzougho et al., 2024; Benson et al., 2024). Furthermore, the cryptocurrency market is very volatile, uncertain and unpredictable with continuous fluctuation year on year without warning (Bousslimi et al., 2024; Lee et al., 2020). Thus, the big whale investors are manipulating the crypto investment climate at the expense of the regular crypto users (Bousslimi et al., 2024). Hence, the absence of a robust regulation of cryptocurrency put users at risk of losing not only their assets but also their personal information(Rasyid et al., 2024).

3.2.1 Global Regulatory Landscape of Cryptocurrency

With the global spread of cryptocurrency, many countries are now faced with an option of adjusting their current traditional financial regulatory framework or instituting new regulations for cryptocurrency ecosystem (Widjaja, 2025; Dimou, 2025). Thus, as countries around the globe rushed to determines the best form of regulations for cryptocurrency, it has led to various approaches towards characterizing cryptocurrency as either property, security or commodity (Burgess, 2024; Dimou, 2025). As a result, the global regulatory landscape for cryptocurrency varies significantly from country to country (Uzougho et al., 2024). Some countries have adopted a regulatory framework that promote digital innovations and positive investment climate, whiles other countries have taken a more cautious cryptocurrency regulation approach citing concerns about the potential for misuse (Uzougho et al., 2024). On the other hand, some national regulatory bodies view cryptocurrency as a speculative assets class with significant risk and prone to support illicit activities like money laundering and terrorism finance a recipe for instability in global financial system (Uzougho et al., 2024).

The current cryptocurrency regulation landscape amongst countries covered areas such as anti-money laundering and counter-terrorism finance (AML/CFT), consumer protection, taxation and licensing and registration (Butt, 2023; Uzougbo et al., 2024). Many countries have implemented AML/CFT rules for cryptocurrency exchanges similar to traditional deposit taking commercial, Know Your Client (KYC) and fund transfer rules and guidance (Butt, 2023; Uzougbo et al., 2024). Furthermore, some countries requires cryptocurrency exchanges to be licensed and registered while others have enacted tax regulations for revenue generated from the cryptocurrency ecosystem to be treated as taxable income (Butt, 2023; Uzougbo et al., 2024).

According to Butt (2023) and Uzougbo et al. (2024), the global regulatory landscape for cryptocurrency is dynamic and constantly evolving reflecting the diverse approaches of national regulatory bodies around the world on the regulation of cryptocurrency ecosystem. While some government have adopted and embraced cryptocurrency others have taken a more restrictive stance (Butt, 2023; Uzougbo et al., 2024). For instance, countries such as South Africa, United Kingdom (UK), France, Japan, Switzerland, Singapore, Germany, Brazil, Argentina, United States of America (USA), Estonia, Netherlands, India, Hong Kong, South Korea, Malaysia and Belgium have established licensing requirements for cryptocurrency exchanges, implemented anti-money laundering (AML) and Know Your Client (KYC) regulations (Abrame, 2024; Uzougbo et al., 2024; Burges, 2024). On the other hand China has banned cryptocurrency trading and initial offerings (ICOs), citing concerns about financial risk and illicit activities (Uzougbo et al., 2024).

In the United States, the cryptocurrency regulation stands varies at the Federal and States level (Uzougbo et al., 2024; InnReg, 2025). At the Federal level, the Security Exchange Commission (SEC) and the Commodity Futures Trading commission (CFTC) are at loggerhead on the classification of cryptocurrency as security investments or commodity thus, the SEC current enforce action against ICOs considers a investment security while the CFTC regulates cryptocurrency as commodities (Uzougbo et al., 2024; InnReg, 2025). However, In January 2025, President Trump issues an Executive Order establishing a Presidential working group on digital asset market which includes the cryptocurrency ecosystem. The working group is tasked with developing a regulatory framework for cryptocurrency and other digital assets (Silbering-Meyer, 2025). Furthermore, the US Treasury and Internal Revenue Service (IRS) on December 27, 2024 released regulation on cryptocurrency DeFi brokers (Silbering-Meyer, 2025). At the US States level, some States like New York, California, Arizona, Maine, Connecticut, Kentucky and Wyoming have enacted laws for cryptocurrency operations within the state (Uzougbo et al., 2024; InnReg, 2025).

The existing regulatory framework in different countries reflects a dissimilar approach to regulating the cryptocurrency ecosystem (Widjaja, 2025). However, despite the differing cryptocurrency regulation, the main objective for regulating the crypto ecosystem remain the same which is financial system stability, consumer protection and encouraging digital innovation in the global financial system (Widjaja, 2025). Therefore, international corporation is needed for

effective regulation of the cryptocurrency ecosystem to enhance market stability (Uzougbo et al., 2024).

3.2.2 International and Regional Regulation of Cryptocurrency

Cryptocurrency with its global presence coupled with its decentralized and borderless nature, necessitates a critical need for international and regional regulation of cryptocurrency ecosystem (Adedoyin et al., 2024; Uzougbo et al., 2024; Burges, 2024). As explained by Adedoyin et al. (2024), harmonizing the regulation of cryptocurrency across countries borders will reduce regulatory arbitrage, jurisdictional challenges, create a level playing field for global participant and stabilized global financial system. Hence, it is essential to consider the effort made thus far by international and regional institutions to harmonize the regulation of cryptocurrency (Burges, 2024). Global governance institutions plays an important role in promoting global cooperation on cryptocurrency regulation (Kumar et al., 2024). Global governance institutions such as the Financial Action Task Force (FATF), Financial Stability Board (FSB), International Monetary Fund (IMF), World bank, Basel Committee on Banking Supervision (BCBS), International Organization of Securities Commissioners (IOSCO) and the European Union (EU) are discussing through recommendations and guidance for potential for harmonization and convergence of a global cryptocurrency regulatory framework for market stability and consumer protection (Butt, 2023; Kumar et al., 2024; Uzougbo et al., 2024).

Financial Action Task Force (FATF)- is an international regulatory body that set standards and promotes measures to combat money laundering and terrorisms financing (Uzougbo et al., 2024). FATF has 38 member countries with a wider network comprises of 200 jurisdiction. According to Atlantic council, in 2019, FATF provided a global framework on Anti-Money Laundering (AML) controls for cryptocurrency exchanges. The framework which was revised in 2023 listed fifteen (15) recommendations to improve AML/CFT global regulations for cryptocurrency (Kumar et al., 2024; Butt, 2023; Abrams, 2024). FAFT recommendation 15, popularly known as the Travel rule, mandates cryptocurrency exchanges to collect and share the personal data of transaction senders and recipients with a cross-board cryptocurrency transfer limit of US\$ 1,000 with the lesser stringent requirements for any amount below the set transfer limit (Petrov et al., 2024; Abrams, 2024; Kumar et al., 2024). However, according to the FAFT report, many countries have yet to fully implement the FATF's requirements on cryptocurrency exchanges to prevent their misuse for illicit activities.

Financial Stability Board (FSB)- Whose members mainly include G20 countries, international institutions like the IMF, and standard-setting bodies such as the BIS and IOSCO focused on financial stability aspects of cryptocurrency and generating international cooperation between financial authorities and standard-setting bodies(Kumar et al., 2024). In October 2022, the Financial Stability Board published its first proposed framework for global regulation of cryptocurrency activities in the form of two separate sets of recommendations for public consultation (FSB, 2024). On July 17, 2023, the Financial Stability Board published its global regulatory framework for cryptocurrency activities to promote the comprehensiveness and international consistency on regulatory and supervisory approaches for cryptocurrency

ecosystem. The cryptocurrency global regulatory framework, which was published in July 2023, gave birth to the Financial Stability Board, the International Monetary Fund (IMF) and other standard setting bodies, jointly policy implementation and regulatory for the cryptocurrency roadmap (FSB, 2024). The Joint cryptocurrency policy implementation roadmap was approved by the G20 leaders in September 2023 (FSB, 2024). The cryptocurrency policy and implementation roadmap laid out planned and ongoing initiatives to promote the implementation of the FSB cryptocurrency regulatory framework, enhancing global coordination, cooperation, and information sharing and addressing cryptocurrency data gaps (FSB, 2024). At the time of writing this paper, the IMF and FSB come up with an advanced policy and regulatory recommendations to identify and respond to cryptocurrency's macroeconomic and financial stability risk.

Basel Committee on Banking Supervision (BCBS)- is a global standard setter for prudential regulations on commercial banks (Kumar et al., 2024). Basel Committee on Banking Supervision (BCBS) has 45 members comprising central banks and bank supervisors from 28 jurisdictions (Kumar et al., 2024). In October 2023, the Basel Committee on Banking Supervision published consultative documents containing recommendations proposing the minimum requirement disclosure requirements for commercial banks' exposures to cryptocurrency (BIS, 2024). Some of the recommendations for the prudential treatment of bank's exposures to cryptocurrency, also known as DIS55, are disclosure of banks' activities related to cryptocurrency, cryptocurrency exposures, and capital requirements, liquidity requirements for exposure to cryptocurrency, and accounting classification for cryptocurrency exposures (BIS, 2024; Kumar et al., 2024).

International Organization of Securities Commissioners (IOSCO)- is the global standard setter for securities market regulation, and its membership includes 131 national securities and derivatives commissions, 34 regional and international institutions, and 72 non-state bodies like self-regulating associations, securities exchanges, and financial market infrastructures (Kumar et al., 2023). In June 2022, the International Organization of Securities Commissioners published policy recommendations for the regulation of cryptocurrency and other digital currencies (IOSCO, 2023). The International Organization of Securities Commissioner's recommendations are principle-based and focused primarily on the activities performed by cryptocurrency service providers, ranging from their offerings and admission to trading, ongoing trading, settlement, market surveillance, and custody (Kumar et al., 2024; IOSCO, 2024).

European Union (EU)- **European Union (EU)** is a supranational political and economic union comprising 27 European countries that govern common economic, social, and security policies (Gabel, 2025). The European Union proposes legislation, upholds EU treaties, and ensures that Member States apply EU law and policies (Gabel, 2025). On September 24, 2020, the European Union adopted a new Digital Finance Package, which includes the Markets in Crypto Act (MICA) regulation proposal that was later approved by the European Union Parliament on April 20, 2023- making the European Union the world's first major regional jurisdiction to establish a unified legal framework to regulate cryptocurrency (Hall, 2024; Pinggen, 2025; Boeing et al., 2025; Gabel, 2025). As stated by Hall (2024) and Pinggen (2025), the Markets in Crypto-

Assets Regulation (MICA) aims to protect consumers and investors and mitigate risks to financial stability. The MICA regulatory framework scope and application covers issuance of crypto-assets, custody and administration of crypto-assets, and operation of crypto-asset trading platforms and exchanges (Hall, 2024; Pinggen, 2025; Boeing et al., 2025; Gabel, 2025).

The key provisions of the MICA are Licensing – which requires licensing and supervision for cryptocurrency issuers, platforms, and service providers, cryptocurrency issuers-which requires cryptocurrency issuers to disclose information about the issued cryptocurrency and their potential risks, anti-money laundering and counter-terrorist financing - which requires cryptocurrency exchanges and other services providers to comply with anti-money laundering and counter-terrorist financing regulations, market abuse prevention- which requires cryptocurrency issuers to establish procedures to prevent market manipulation and insider trading and finally, security- which requires cryptocurrency issuers to establish procedures to prevent hacks and bugs in the blockchain. On June 30, 2024, MICA regulation became applicable to issuers of Asset- Referenced Tokens (ARTs) and E-Money Tokens (EMTs) and extended to Crypto-Asset Service Providers (CASPs) as of December 30, 2024) (Hall, 2024; Pinggen, 2025; Boeing et al., 2025; Gabel, 2025). Finally, a 'grandfathering' clause in the MICA regulatory framework allows existing entities to continue operations until July 1, 2026, or until they are granted or refused MiCA authorization (Hall, 2024; Pinggen, 2025; Boeing et al., 2025; Gabel, 2025).

Although there are tremendous efforts and progress made by national, regional, and global regulatory bodies on the regulation of the cryptocurrency ecosystem, based on the analysis of existing regulations and rules on the regulation of cryptocurrency above, most of the rules are either based on FATF recommendations on anti-money laundering, AML/KYC relating only for regulating cryptocurrency exchanges. Meanwhile, the MICA regulatory framework- the most prominent existing regulating framework for cryptocurrency- is based on rules on data disclosures on cryptocurrency transactions from cryptocurrency issuers of exchange token stable coins and e-money tokens and cryptocurrency exchanges and other service providers.

Research highlights the technical concerns and implications posed by the current status of global cryptocurrency regulations. Some authors suggest that existing national cryptocurrency rules and laws integrate cryptocurrency exchanges into the traditional financial system based on international finance organization recommendations, while others suggest that a lack of cryptocurrency regulations increases market stability risk. In particular, Benson et al.(2024) explore the Harmonization of cryptocurrency regulation in Europe for the prevention of illicit transactions. They discuss the uniqueness of cryptocurrency DeFi technology that requires regulations to be built into blockchain protocol. The authors suggest that despite the debates and recommendations surrounding cryptocurrency regulations, a robust, comprehensive, and complete regulation and legal framework is yet to be established at both national and global levels.

Kumar et al.(2025) surveyed 60 countries, including 12 G20 countries representing 57% of the world's GDP. The results revealed that cryptocurrency adoption rates are weakly correlated with regulatory restrictiveness. According to the authors, even for countries with a ban or partial ban on cryptocurrency activities, the adoption rate remains high.

Cummings et al.(2024) emphasized cryptocurrency regulatory uncertainty. They suggested that regulators and policymakers should follow the Pecora Commission in the 1930s depression and the Dodd-Frank in the post-2008 financial crisis as examples of the regulation of cryptocurrency to mitigate the global economic crisis in the financial system. The authors state that regulations help to mitigate financial stability that most often leads to economic crisis.

Other research (Rasyid et al., 2024) results depicted that the fragmentation of cryptocurrency regulation across jurisdictions and the inability of most of these regulations to address the decentralized and pseudonymous nature of the blockchain, DeFi smart contracts, stablecoins cryptocurrency and algorithm back and NFTs raises legal and regulatory challenges. The authors explain that integrating cryptocurrency regulation into the existing financial regulatory framework will continue to create regulatory gaps where Cryptocurrency DeFi smart contracts, stablecoins cryptocurrency and algorithm back and NFTs falls outside the scope of existing regulations. Finally, Widjaja (2025) suggested that effective regulation is needed to mitigate the risk of cryptocurrency market volatility and illicit activities on the larger global financial systems. The author further explains that cryptocurrency regulation alignment or Harmonization between countries is a must to prevent regulatory arbitration and address cross-border criminal offenses that have implications for global financial stability through systematic risk.

The literature review shows that the solution to the regulatory problems generates further legal and regulatory issues that must be tackled. For example, the existing regulation of cryptocurrency focuses on cryptocurrency exchanges as opposed to cryptocurrency DeFi smart contracts, stablecoins cryptocurrency and algorithm back and NFTs activities on the public blockchain. Furthermore, a decentralized approach to regulation would not provide confidence in the global cryptocurrency market. Instead, it could create further opportunities for bad financial actors to explore benefits from cross-border cryptocurrency transactions. A comprehensive national, regional, and international regulation on cryptocurrency DeFi smart contracts, stablecoins cryptocurrency and algorithm back and NFTs, blockchain protocol and taxation is yet to be developed by national, regional and global regulatory authorities; thus, with the pace at which the global cryptocurrency markets continue to grow, they represent a threat to global financial stability as results of their interconnectedness with the traditional financial system, price stability and volatility, illicit activities and structural vulnerabilities such as leverage, liquidity/maturity mismatch, operational/technological fragilities.

3.3 Financial Stability

The global economic crisis between December 2007 and June 2009 was the most severe economic downtime since the Great Depression of 1929-1939 (Rodini, 2025; Duignan, 2024; Mohan, 2009). The global recession produced a dire contraction of liquidity in the global

financial systems that threatened the entire international financial market, causing the failure of several major investments and commercial banks, mortgage insurance companies, millions of people lost their jobs and global wealth decline (Rodini, 2025; Duignan, 2024). The proximate cause of the Global financial turbulence of 2007 -2009 according to economist and researcher are financial liberalization, lack of effective financial regulation and supervision mechanism , excess risk-taking in a favorable macroeconomic environment and deregulation (Huang et al., 2002; Mohan, 2009).

Indeed, one key takeaway from the global financial crisis of 2007-2009 is that financial stability cannot be taken for granted. We learned that a threat to financial stability anywhere in the world is a potential threat to the global financial system stability (Subbarao, 2009). As stated by Dr. Duvvuri Subbarao, the former Governor of the Reserve Bank of India (RBI), at the FICCI-IBA annual conference on Global banking in 2009, financial stability, as we have seen from the aftermath of the global financial crisis, can hurt even the most advanced economies. However, the damage it can cause in developing and emerging economies through financial market interconnectivity and cross-border capital flow can be particularly severe.

Financial Stability might sound confusing, but it is just a way of describing the financial system when it provides the essential services that keep the economy moving(World Bank,2016). With a stable financial system, the economic wheels of the global economy keep spinning even in the event of any financial shocks. In order words, the financial system can efficiently allocate resources, assess and manage risk, maintain an employment level close to the economy's natural rate, and eliminate the price movement of financial assets that impact monetary stability (World Bank,2016). What is financial stability?

There are various definitions of financial stability. Most of them have in common that financial stability in the stability of financial system, financial imbalance, financial system is not unstable and the ability of the financial system to withstand shocks. According to the financial stability board(FSB, 2024), financial stability is the capacity of the global financial system to withstand shocks, containing risk of disruption in the financial intermediation process and other financial system functions that austere enough to adversely impact economic growth. Based on financial imbalance, the World bank Group (WBG, 2016) describes financial stability as a financial system that is capable of efficiently allocating resources, assessing and managing financial risks, eliminating relative price volatility of real assets that will affect monetary stability and employment levels. International Monetary Fund (IMF), describes financial stability as the ability of the financial system to facilitate both an efficient allocation of economic resources and the effectiveness of other economic process such as economic growth, ultimate social prosperity and wealth accumulation, assesses, price, allocate, and manage financial risk and maintain it ability to perform these functions even when affected by external shocks or buildup of imbalances through self-corrective mechanisms(Schinasi, 2004; Claessen et al., 2013). Finally, the Bank of Korea (BOK,nd) defines financial stability as a condition in which the financial system can facilitates real economic activities smoothly and is capable of unravelling financial imbalance arising from shocks.

The outcome of the literature review on the definition of financial stability supports the notion that financial stability is all about reliance on the financial system to mitigate stress, financial imbalance, and shocks through self-corrective mechanisms such as a comprehensive uniform regulatory and supervisory framework. Moreover, the definitions are consistent with the broader view that the actual value of a stable financial system is best illustrated in its absence, that is, in a period of financial instability, the financial system's self-corrective mechanism is tested to determine if it is capable of facilitating rather than impeding the performance of the global economy and of dissipating financial imbalance that arises as a result of the significant adverse and unanticipated events during the period of instability. Thus, the questions are: What is financial instability, financial crisis, and what are the causes?

3.3.1 Financial Instability and Financial Crisis.

Global and national financial instability has significantly increase in the last two decades as a result of the increased financial liberalization of international economics relations, the weakening of government control over the movement of capital and the acceleration of cross border financial and credit sphere(Chyrak, 2020). According to Chyrak (2020) the acceleration of globalization and the interconnectedness in the global financial market has weakened the sustainability of national and global economies and made them more vulnerable to crisis shock. As stated by the Bank of England, it can be difficult to spot when the financial system are unstable because hidden weakness can leave a financial market vulnerable if the financial system's self-corrective mechanism are not prepared for unexpected event like the unregulated global cryptocurrency market(BOE, 2022).

Financial Instability is refers to conditions within the financial institution, markets, payments systems and the financial system as whole that significantly impair the supply of credit, intermediation services, valuation of assets and risk assessment that harm or threaten to the expected path of the real economic activities (Chant et al., 2003). Financial instability entails three core element namely; problem in the financial system, impairment of financial intermediation and a substantial impact on the real economy (Rosengren, 2011). As explained by Karmakar et al.(2024), like unstable equilibrium, financial instability implies the inability of the financial system through it self-corrective mechanism such as regulations and effective supervision to correct itself on its own in the event of unexpected shocks.

Hence, Karmakar et al.(2024) stated that financial instability if persist turns into financial crisis implying that financial instability and financial crisis are closely intertwined. Thus, the threat of financial instability has become an inherent concerns in the global financial system, justified by past financial crisis experiences. This experiences are not coincidences, thus as cryptocurrency market capitalization continued to permutate the global arena, the possibility of financial instability arise from it decentralized, pseudonymous, cross border and interconnects nature with the financial system a reminder of the Minsky financial instability hypothesis(FIH) (Chant et al., 2003; Karmakar et al.,2024; Minsky, 1992).

The 2007-2009 global financial crisis has been a painful reminder of the intricate nature of financial crisis. The financial crisis hit developing economies and emerging economies as well as developed economies (Claessens et al., 2013). As fittingly describes by Reinhart et al. (2009), “financial crisis are an equal opportunity menace” emphasizing the widespread and harmful impact of such events. Reinhart et al. (2009) argues that financial crises are a recurring feature of economic history, affecting various countries and financial systems regardless of their development or stability.

In that light, Purica (2015) defines financial crisis as wider range of disturbance in the financial system such as severe declines in assets prices, failures of large financial institutions or disruptions of foreign exchange market. On the other hand, financial crisis is describe by Kenton et al. (2025) as an event where financial instruments and assets decrease significantly in value, firms have trouble meeting their financial obligations and financial intermediaries lack sufficient cash or convertibles assets to fund projects and meet immediate needs. Financial crisis is often perceived as serious impact on the real economy including employment, production, and purchasing power, along with the possibility that great percentage of households, firms and government are unable to meet their obligations (Purica, 2015). The financial crisis underscored that systemic risk could stem from financial institutions, financial markets, or products (Labonte, 2022). Although historical financial crises have centered on banks, nonbank financial institutions were also a source of instability in the financial crisis and the pandemic (Labonte, 2022).

Reinhart et al. (2009) and Claessens et al. (2013) differentiate four types of financial crises using quantitative, qualitative and judgmental analysis namely currency crisis, sudden stop crises debt crisis and banking crisis. According to Reinhart et al. (2009) currency financial crisis involves a speculative attack on the currency leading to sharp depreciation while a sudden stop is ascribed as an enormous, unexpected fall in international capital flow in the financial market. A debt financial crisis takes place when a particular country does not want to services it internal and external debts (Reinhart et al., 2009). A bank financial crisis like the 2007-2009 global financial crisis can occur when banks or a group of banks face a severe financial downturn due to risky lending practices, potentially leading to their failure or a broader crisis in the financial system (Reinhart et al., 2009; Claessens et al., 2013). In worthwhile noting that regardless of the type, most banking crisis are closely associated with sudden stop and currency type financial crisis- a warning sign for the fast-growing cryptocurrency market without a comprehensive global and national regulation. Next what cause financial crisis?

Financial crisis often appear to be driven by irrational factors. These includes lack of regulations, sudden bank runs, contagion and spillovers effect, interconnectedness, assets price boom and busts, and credit boom and busts (Reinhart et al., 2009; Claessens et al., 2013). Nevertheless, financial crisis are multidimensional events that makes it difficult to tied thier causes using a single indicators. Literature has clarified some of the factors driving financial crisis, but today there remains a significant challenge to definitively identify their deeper causes. Several authors, including the Claessens et al. (2013), FSB (2021), Reinhart et al. (2009), RBA (2025), Kenton et

al.(2024), Subbarao (2009), Firtescu (2012) and Mohan (2009) have develop theories over the years regarding the underlying causes of financial crisis. While fundamental factors such as macroeconomics imbalance in the financial system, internal or external shocks and regulation and policy error are often observes, many questions remains on the exact causes of financial crisis. One of predominant causes of financial crisis identified by RBA, Subbarao (2009) and Kenton et al.(2024) are deregulations, weakness, errors and lightness regulations of existing regulation that would be able to prevent financial crisis.

Literature reviewed established that financial stability, financial instability and financial crisis are interrelated and interdependent phenomena. Also, factors that can cause financial crisis at some point in time can have significant implications for the stability of global and national financial systems. Hence, to achieved a stable financial system, international and national regulatory authorities as well as policy makers should ensure that financial systems are deep, broad, and resilient and must address weakness that makes national and global financial system vulnerable to shocks like the absence of a global comprehensive regulations for cryptocurrency.

3.3.2 Financial Instability Hypothesis (FIH)

Minsky(1992) financial instability hypothesis provides a framework for understanding and measuring how financial instability emerge in a financial system. Minsky(1986) distinguish between three types of financial assets namely hedge financial position, speculative financial position and Ponzi financial position. In hedge financial position, the economic unit is expected to pay it liabilities commitments with the net cash flow generated from routing operations within the financial system. According to Minsky(1992) in a speculative financial position there is liquidity mismatch that is cashflow and reserves are expected to be too low to pay liability commitments whiles in a Ponzi financial position the economic unit have neither the cash reserves nor the ability to generate routine operational cashflow to meet payments due on outstanding financial contract. Thus, the Minsky financial instability hypothesis revealed that over a period of prolong prosperity and a stable financial system, more and more economic unit within the financial system moves from a stable financial structure dominated by hedge financial position to a structure that increasingly emphasizes unstable speculative and Ponzi finance a familiar picture for the current unregulated cryptocurrency market (Tymoige, 2010; Minsky,1992).

3.4 Linkage between Financial Regulation and Financial Stability

The global financial crisis between 2007 to 2009 was a financial period of extremes stress in the global financial markets and the real global economy- the world trading system plummeted and the global economy went into recessions (Tymoigene, 2010). A housing market bubbled burst in United States quickly infected the rest of world through interlinkage and interconnectedness with the global financial system just like the way the Coronavirus spread across the world in 2019 (Cecchetti, 2023; Hanson et al., 2011). Economist, policymakers, regulatory authority and pundits alike believe that the main causes of the 2008 global financial crisis were, deregulation, lack of effective and efficient supervision mechanism and excess risk taking in a favorable

macroeconomic environment a fault lines that are overwhelm prevalent in the growing unbacked cryptocurrency market (Mohan, 2009; Hanson et al., 2011; Claessens et al., 2010). According to Claessen et al.(2010), regulatory shortcomings have clearly been a key contributory factor to the global financial crisis. The past financial crises have shown that global regulators, regional regulators, national regulators, policymakers, and macroeconomists knew less than they thought they did when it comes to regulatory and supervisory measures to strengthen the financial system from unexpected shocks from the systematic risk that causes financial crises (Claessen et al., 2010).

As illustrated above, the linkage between regulatory and supervisory framework, financial stability, financial instability and financial crisis follows a complicated and conflicting relationship over time. A few kinds of literature have tried to observe these dynamics, but the outcome remains rich and multifaceted. One of the literature's central themes is the regulatory framework's role in safeguarding financial stability and mitigating systematic risk which has implications for financial stability.

Karem et al.(2024), based on review of existing literature, empirical analysis and theoretical framework, examine the impact of regulatory policies on financial stability. They found that regulatory policies significantly influence bank behavior and risk management practices. Moreover, the author's results further revealed that regulatory policies, through stress testing and scenario analysis by regulators strengthen the financial systems resilience to adverse shocks and systematic risk tailor to enhance capital and liquidity buffers and mitigate the potential impact of financial instability.

Kim et al.(2013) conducted a quantitative study using financial and economic datasets of 132 countries to analyze the effects of financial regulation and innovations on the global financial crisis. The study outcome depicted that judicious implementation of regulatory policy is critical to financial stability. Allen et al.(2018) noted that financial regulations, particularly macroprudential regulations, are core to dealing with systematic risk to enhance financial stability. International Monetary Fund (IMF, 2018)- Monetary and Capital Markets Department research on regulatory reform 10 years after the Global Financial Crisis: Looking back, concludes that the growth of credit intermediation by nonbank financial institutions, especially financial innovative products, has not been adequately matched by regulators' ability to monitor risks and act through regulation and supervision as needed. The study also states the regulators and supervisors must be able to respond to new threats or undermine the important progress made in improving financial stability. In contrast, Jungo et al.'s (2022) study reveals that financial regulation can have an ambiguous impact on the efficiency of the financial system and can decrease efficiency depending on its context and mandate. Thus, according to the authors, financial regulation alone is not able to promote financial stability.

Literature review revealed that there is a significant relationship between financial regulation and financial stability and the global financial crisis exposed flaws in pre-crisis regulations. Therefore, past financial crisis have not only show the linkage between regulation and financial

stability but has also brought to light the number of weakness in existing macroeconomic policy, financial regulations and the reliance of global financial system to shocks.

3.5 Regulation of Cryptocurrency implication for Financial Stability

Cryptocurrency markets are susceptible to novelty risk from the underlying design of the cryptocurrency blockchain in the absence of a comprehensive uniform regulatory and supervisory mechanism could render boom and bust cycles in the cryptocurrency market that will cause financial stability and subsequent financial crisis in the global financial system (Risk,2022).

Over the past two decades, the global financial market landscape has changed significantly in terms of how systematic risk is being transferred and how it is being pooled and managed. On the intermediation and payment side, driven by technological advancements, digital financial innovation - the nonbank sector, especially the cryptocurrency market, has seen significant growth in terms of the number of participants and the volume of activities they provide, raising concerns regarding consumer and investor protections, and financial stability (Chiew, 2022). As put forward by Bowman(2024) in her remarks at the 2024 Texas Bankers Association Annual meeting, financial regulations and regulatory supervision by regulators plays an important role in promoting the stability of the financial system through the resiliency to shocks and proactively by addressing financial vulnerabilities in the financial system.

The cryptocurrency regulatory landscape is fragmented, with multiple piecemeal jurisdictional regulations from regulatory authorities within countries' borders. In some instances, some countries are using existing banking prudential regulations to regulate cryptocurrency exchanges instead of new regulations for the growing cryptocurrency market. Furthermore, some countries now have patchwork cryptocurrency regulations that focus mainly on money laundering, terrorist financing, funds transfer, reporting, and use of specific financial transaction information (Abrame, 2024; Neufeld et al., 2024; Silbering-Meyer, 2025). While the European Union Market in Crypto-Assets (MICA) new regional regulatory framework for cryptocurrency has been put in place for the Eurozone belt that provides some consumer and investors protection, contagion and to curtail any systematic risk within the Euro zone, they are not devoid of loopholes that are easily exploited that has potential implications for financial stability (Lannoo,2022; Tran et al., 2025).

According to Lannoo (2022) , Tran et al.(2025) and Giorgadze(2024), the MICA cryptocurrency regulation raises shortfalls such as limited supervision mechanisms, more lax provisions for licensing and setting up cryptocurrency exchanges, very fragile provisions for manipulation and insider trading within the public blockchain operation and excludes the NFT in cryptocurrency space. More importantly, the MICA regulation does not contain accounting and tax rules for cryptocurrency exchanges and other crypto-related businesses. Furthermore, the MICA regulation does not make provision for cryptocurrency holding reserves even for cryptocurrency exchanges, just like traditional commercial banks (Tran et al., 2025). Finally, the MICA regulation does not address cryptocurrency DeFi smart contracts, NFTs and cryptocurrency-

backed stablecoins nor does the MICA regulation have provisions for receiving and accepting payment through the cryptocurrency public blockchain network (Lannoo,2022; Tran et al., 2025).

On the other hand, the global international regulatory bodies such as the Financial Stability Board (FSB), the Financial Actions Task Force(FATF), the International Monetary Fund (IMF), the Bank for International Settlement(BIS) and the International Organization of Securities and Commission (IOSCO) have only issues travel rules and recommendation for cryptocurrency market as at the time of writing this research (BIS, 2024; IOSCO, 2023; FSB, 2024; Abram, 2024). Thus, as at the time of writing this paper, there exist no comprehensive uniform national or global regulations for cryptocurrency market. Cryptocurrency markets are fast evolving and transforming countries and the global financial system. Regulators should considered a risk based proactive and holistic approach to regulating the cryptocurrency market based on comprehensive and evidence-based assessments of the implications of regulating cryptocurrency on financial stability(FSB, 2022).

An emphasis made by Kristalina Georgieva, the Managing Director of the International Monetary Fund(IMF), at the IMF's Seoul Korea- based conference on digital currencies on December 14, 2023 warning the audience that cryptocurrency need to be regulated because they pose financial stability risk (Brown, 2024). According to the IMF managing director, a high global adoption of cryptocurrency could undermines macro-financial stability. Also, as put forward by Adachi et al.(2019), in order to reap the benefit of cryptocurrency without undermining financial stability, regulatory authorities should ensure that the cryptocurrency market does not operate in a regulatory vacuums as it currently do.

3.5.1 Cryptocurrency and Algorithm Back Stablecoins Risks for Financial Stability

Stablecoin continues to grow in the cryptocurrency ecosystem as well as in the global financial system despite regulatory and supervisory concerns and sufficiency of reserves assets (FSB, 2022). If stablecoins reaches a global scale without a comprehensive uniform national, regional and global regulatory framework could pose financial stability threat to the global financial system due to increased contagion risk (Adachi et al, 20219; Risk, 2022). Hence, as explain by Adachi et al.(2020), in the event of a run on global stablecoin due to vulnerabilities in the asset management function, the liquidation of asset to cover redemption might have a negative contagion effects on the financial system stability. However, the global stablecoin adoption rate, interconnectedness with the financial system and the wider global economy will determine the severity of its implication on financial stability(Adachi et al., 2020; Kharpal, 2023). Moreover, a scenario of run on an increase adoption of stablecoin in the global market could lead to transmission of market stress between stablecoin and traditional financial market forcing holders to liquidate reserves in the traditional market which depending on the volume could have implication for financial stability as well (Risk, 2022; Kharpal, 2023).

For instance, the run and subsequent collapse of algorithm back stable coin Terra Luna the third-largest stablecoin at the time on the crash in May 2022 prices moves from a high of \$118 to \$

0.09(Risk, 2022; Deshmukhy et al., 2022; Tidy, 2022; Ehrlich, 2022). Terra run and subsequent collapse shown that fear can quickly spread within the cryptocurrency market and subsequent spillover effects to the traditional financial system which have implication for financial stability (Risk, 2022; Deshmukhy et al., 2022; Tidy, 2022; Ehrlich, 2022). Furthermore, the collapse of Terra in 2022, quickly affected Tether the leading stablecoin at the time, several smaller stablecoins, Bitcoin and other cryptocurrency market values thus, an illustration of the impact a regulatory and supervisory vacuums in the cryptocurrency market will have on the global financial system stability (Risk, 2022; Tidy, 2022; Ehrlich, 2022).

3.5.2 Cryptocurrency Decentralized Finance (DeFi) Risks for Financial Stability

Cryptocurrency DeFi is becoming a fast-emerging sector in the global financial system, providing financial services using cryptocurrency and stablecoins for investments, cross border payments and other payment purposes (FSB, 2022). DeFi cuts out traditional centralized intermediaries and relies on the blockchain automated protocols to provides these financial services(Born et al., 2023). As stated by Risk(2022), Born et al.(2023) and FSB(2023), DeFi is subject to vulnerabilities like operational fragilities (composability and governance), liquidity and maturity mismatches and leverage and interconnectedness which present the potential for concentration of risk that has implication for financial stability if not regulated and supervised effectively.

Cryptocurrency DeFi operational vulnerabilities is a concern for consumer protections due to irreversibility of transactions on the blockchain and no recourse availability in the absence of regulations(Born et al.,2023; FSB,2023). Governance risk arise through the concentration of governance token and resulting power to control the condition of protocol thus, this will rise to collusion and other unfair practices in the cryptocurrency blockchain governance design that could be exploited by hackers to take over the protocol and steal investors and consumer funds(Born et al.,2023; FSB,2023). With regards to liquidity and maturity mismatches and leverage and interconnectedness vulnerabilities, the DeFi is unsustainable business model that rely on continuous investor inflows to remunerate early adopters thus, when market values begin to fall, these leverage investors may be force to liquidate their DeFi investment holdings, thereby generating significant price volatility that will amplifier distress in the global financial system through their interconnectedness that have implications for market stability (Born et al.,2023; FSB,2023). The above highlighted DeFi vulnerabilities can lead to financial stability concerns through interlinkages and associated transmission channel between Cryptocurrency DeFi and the global financial systems.

3.5.3 Cryptocurrency – Non-Fungible Token(NFTs) Risks for Financial Stability.

Unregulated Non-Fungible Token (NFT) market price volatility, liquidity, NFTs smart contracts, and wash trading risks have also been a concern for financial stability. According to Drakopoulos et al.(2021), boom and burst through price volatility, especially NFTs wash trading, poses new challenges for financial stability. For instance, the strong market fluctuations in prices of cryptocurrency NFTs impact the valuation of companies' equity NFTs financing and

investments within the cryptocurrency space (Maatta et al., 2024; Barua et al., 2025; Sharpe, 2025). NFTs' high volatility and susceptibility to runs amplified financial vulnerabilities that affect financial stability. (Maatta et al., 2024; ; Barua et al., 2025; Sharpe, 2025). According to Outlier Ventures and Giorgadze(2024), unregulated NFTs present certain financial vulnerabilities regarding unethical practices such as scams, fraud, unintended relinquishments of control over underlying assets, price manipulations, wash trading that, if they remain unregulated and continue to grow, interconnect and interlinked with the traditional financial systems could have implications for financial stability.

3.5.4 Cryptocurrency risk for Minsky Moment -Financial Instability Hypothesis(FIH)

Minsky financial instability hypothesis explains speculative and Ponzi finance assets market irrationality and financial bubbles vulnerabilities and behaviors that are prevalent in the current unregulated global cryptocurrency market (Tymoige, 2010; Barnes, 2019; Minsky, 1992). Which support my argument that unregulated cryptocurrency has implication for financial stability. Furthermore, Minsky's financial instability hypothesis associated the operations of speculative and Ponzi market space like unregulated cryptocurrency with financial crisis, suggesting that unregulated growing cryptocurrency global adoptions has a destabilizing impacts on the global financial market in a regulatory and supervisory vacuum (Demmler et al., 2022; Tymoige, 2010; Barnes, 2019; Minsky,1992).

Recent literatures suggested that cryptocurrency market poses significant implication for financial stability through increased global adoption rate, interconnectedness, interlinked with the traditional financial system and currency substitution across national and cross border payments mechanisms (Risk, 2022; Panigrahi, 2023; Angwaomaodoko, 2024; Azar et al., 2024; Brown, 2024; FSB, 2023; Franco, 2022; Manaa et al, 2019; Donoiu et al., 2023). However, despite the increase attention amongst scholars on cryptocurrency implications for financial stability, both qualitative and empirical research topic on the regulation of cryptocurrency and its implication for financial stability is scarce.

A recent study by Angwaomaodoko (2024), present an in-depth investigation into cryptocurrency implications for financial stability using qualitative approach. The author conclusion illustrates that given cryptocurrency decentralized and self-regulation nature without any government backing are closely associated with price volatility and financial instability. Risk(2022), analyze cryptocurrency and their risks for financial stability. Their evidence confirmed that as a result of cryptocurrency volatile growth rate currently in the global financial system with a comprehensive and uniform regulatory provisions for cryptocurrency. Cryptocurrency entails a numerous risks which may in future has implications for financial stability.

In another study using quantitative approach, Panigrahi (2023) examined in a for a question “ Are cryptocurrency a threat to financial stability and economic growth? Using a cointegration approach the study findings shows that cryptocurrency interfaced with the traditional financial system especially commercial banks could accelerate the growth of cryptocurrency and raise the

risk of financial stability. Moreover, in their qualitative study, Franco(2022), concludes that the cryptocurrency stablecoin represent risk to financial stability. The author stated that the lack of regulation in the cryptocurrency market should be a concern to international and national regulatory bodies.

Applying the novel methodology approach, Donoiu et al.(2023), study the correlation between cryptocurrency market and other traditional market and their impact on financial stability. The authors findings revealed that cryptocurrency poses risk to financial stability, but the correlation are still only unidirectional from traditional assets to cryptocurrency thus, cryptocurrency can only has amplify implications for financial stability. The Financial Stability Board (FSB) February 16, 2022 assessments of risks to financial stability from crypto-assets outcome depicted that cryptocurrency poses a threat to global financial stability due their scale, structural vulnerabilities and increasing interconnectedness with traditional financial system. In vast contrast, Brown(2024) research illustrates that the concerns that cryptocurrency have implication for financial stability is ironic given that cryptocurrency was response to the collapse of the global traditional global financial system that led to the great recession from 2007-2009.

The literature reviewed clearly show a strong relationship between cryptocurrency, interconnectedness with the traditional financial system and structural vulnerabilities and it implications for financial stability. Though most of current literature does not focus directly on the regulation of cryptocurrency implication for financial stability. Like the great depression of 2007-2009, touted deregulation, and lack of meaningful regulations allowed Wall Street to gamble with the global economy. Today, the cryptocurrency markets operates in a similar unregulated environments. A fragmented and unregulated cryptocurrency market carries a familiar, dangerous optimism for financial instability and possible financial crisis as cryptocurrency adoption as supported by Minsky(1986) Financial Instability Hypothesis (FHI).

4. Methodology

The study employs a qualitative research methodology to explore the regulation of cryptocurrency and its implication for financial stability. Qualitative methods was found to be suitable for this research topic because it allows for in-depth systematic review of literature. Systematic review of literature offers many advantages over the traditional literature review as it support generating a standalone view on the desired topic and avoids any bias(Tong et al., 2016). The aim is to build a theoretical foundation on the cryptocurrency global market, clarify important concepts and identify gaps in knowledge that requires further investigation(Tong et al., 2016).

The study adopt systematic literature review four predefined process namely : planning the study literature review; identifying and evaluating peer review scholarly articles, governments reports, international regulatory authorities assessments reports; extract and synthesizes data; and disseminating the review results (Tong et al., 2016).

4.1 Plan the Review

The study focuses on the systematic literature review of the regulation of cryptocurrency and its implication for financial stability. Numerous motivations were driving the research aims and objectives. Initially, literature search were conducted on google and google scholar if a topic exist with similar focus. However, there were none identified with similar focus, almost all of the contribution available on the current topic where either on cryptocurrency regulations, regulation of cryptocurrency or cryptocurrency implications for financial stability.

4.1.1 Review protocol

A review protocol was adopted to ensure a transparent and high-quality collection process of research article. The Google Scholar, Google, Research Gate, Academic Search Premier data and various government and international regulatory authorities data base was used to collect scholarly research peer review scholarly articles, governments reports, international regulatory authorities assessments reports. The keywords were derived from the research objectives and initial scope of the literature. The main key words themes that were used as the search strings were “cryptocurrency”, “regulation of cryptocurrency”, “ cryptocurrency regulation “financial stability”, “financial instability” “Cryptocurrency regulation and financial stability”, “ Financial instability Hypothesis”, “link between regulation and financial stability”, “ regulation of cryptocurrency and its implication for financial stability”

4.1.2 Inclusion and Exclusion Criteria

Criteria for inclusion and exclusion of scholarly articles in the study were predefined before selecting articles for the systematic review of literature. The literature review includes scholarly peer-reviewed articles, grey literature, full text, and data published between 2006-2025, except for keywords searches on financial stability, financial instability, financial instability hypothesis, link between regulation and financial stability. Exclusion criteria included a non-peer-reviewed article, articles before a specified date, articles not addressing study objective and themes and not in English. Finally, RefWorks web-based tool through Wilmington University Library was instrumentals in my research search strategy.

4.2 Identify and Evaluate study literature

Scholarly articles, government reports and international regulatory authorities titles, abstract, keywords, introductions, themes and conclusions were screened to identify the research paper closest to the research aim.

4.3. Extraction and Synthesization of Data

Data extractions which includes research articles relevant to this study were undertaken through the Google Scholar, Google, Research Gate, Academic Search Premier data and various government and international regulatory authorities data base with citations information, abstract, keywords, introductions, conclusions and other information exports to RefWorks web-

based tool through Wilmington University Library and MS word for synthesis. The selected articles were synthesized using descriptive and thematic analysis.

4.4. Disseminating the Review Results

To the best of my knowledge, this is one of the first studies with the titled Regulation of Cryptocurrency and its Implication for Financial Stability. The study provides a state-of-the-art insights into the current state of cryptocurrency market, cryptocurrency regulation, linkage between regulation and financial stability and Financial Instability Hypothesis (FIH) and regulation of cryptocurrency implication for financial stability. The presentation of the results is discussed in the section below.

5. Results and Discussion

All financial bubbles share the same DNA which are unbridled enthusiasm, easy money and refusal to believe the party will end. Just like the real estate bubble, cryptocurrency has become the latest must have assets with everyone from household, market makers, retail investors, major brands and countries governments rushing to get in (Claessen et al., 2019). While cryptocurrency market offers several benefits to national and global economies such as financial inclusions, cross border transactions and decentralized finance, unregulated cryptocurrency unique nature also creates risk in the financial systems that necessitates a comprehensive uniform national and global regulation to ensure consumer confidence, integrity, stability and safety of the global financial system (Bains et al., 2019). Moreover, as cryptocurrency increasingly continued to integrate into the global economy, regulation is vital to maintain financial stability. Furthermore, unregulated cryptocurrency market could potentially disrupts traditional financial system and create systematic risk through contagion that have implication for financial stability (Bain et al., 2019; FSB, 2023).

Hence, the study findings through in-depth systematic review of literature shows that there are weakness in the existing proruption regulatory framework for cryptocurrency that has implications for financial stability as the cryptocurrency market continued to grow exponentially globally.

5.1 Weakness in Existing National, Regional and Global Cryptocurrency Regulations

A review of the current regulatory landscape for cryptocurrency among major jurisdictions revealed that existing regulations rather than providing solutions generates further legal and regulatory weakness that need to be address promptly (Giorgadze, 2024; Uzougbo et al., 2024; Burgess, 2024; Adedoyin et al., 2024; Kumar et al., 2025; Lannoo, 2022). The cryptocurrency market face a diverse regulatory landscape, with different jurisdictions adopting varying approached to regulate them (Tran et al., 2025; Lannoo, 2022; Burgess, 2024; Adedoyin et al., 2024; Kumar et al., 2025). Some countries have adopted pro-cryptocurrency stances, recognizing cryptocurrency potential for economic growth thus, have implemented retrofitted regulatory framework and rules that encourages cryptocurrency developments and adoption. While other nations have taken a more restrictive method, either outrightly banning cryptocurrency or

imposing strict controls. At the global and regional level, organization such as FSB, European Union and FATF have introduced regulation, guidance, rules and recommendations for a regulatory framework for cryptocurrency market

The study findings shown that there are weakness in the existing national, regional and global regulations for cryptocurrency that has implications for financial stability namely: (1) Regulatory fragmentation; (2) Security and consumer protection issues; (3) Used of existing traditional financial institutions regulations as regulation for cryptocurrency; (4) Flaws in existing regional regulations (EU MICA regulatory Framework) (5) International regulatory bodies (6)Lack of comprehensive and uniform global regulation for cryptocurrency.

5.1.1 Regulatory Fragmentation in the Cryptocurrency Market.

The global landscape for cryptocurrency regulations remains highly fragmented, mark by substantial variations in regulatory frameworks and rules among countries (Xiong et al., 2024). Existing cryptocurrency regulations and rules are mostly retrofitted regulations with narrow focus the includes amendments to existing traditional financial institutions regulation or rules to includes one or more cryptocurrency activities (Coelho et al., 2024). As at the time of writing this research, no country has bespoke regulations enacted specifically to regulated cryptocurrency activities. Only retrofitted regulations that addressee anti-money laundering, transfers of funds, terrorist financing , licensing requirement cryptocurrency exchanges (Abrams, 2024). The regulations and supervision of cryptocurrency issuers and exchanges does not solve the macroeconomics and financial stability issues (Bains et al., 2019; FSB, 2023) . Therefore, these patch work approach has real implication for financial stability. For instance, the US is entangled in a regulatory tug of war over regulation for cryptocurrency. The fragmented landscape is divided among multiple federal and state agencies who has only made amendments to the US Patriot Act, AMLA and FinCEN implementing Act (Abrams, 2024; InnReg, 2025). United Kingdom (UK) also only have regulations for money laundering, terrorist financing and transfer of fund (Abrams, 2024; InnReg, 2025). Hong Kong follow the same patterns as UK with regulations for money laundering, terrorist financing and transfer of fund and license requirement for cryptocurrency exchanges.

5.1.2 Security and Consumer Protections.

Existing cryptocurrency regulations does not addresses cryptocurrency DeFi and cryptocurrency backed stablecoins (Rasyid et al., 2024; Daskalova, 2024). Unlike traditional financial system, where investors are safeguarded by regulatory frameworks that ensure transparency, accountability, and resource in the case of malpractices. The current regulatory landscape of cryptocurrency DeFi, stablecoins and NFTs operates in a largely unregulated environment (Rasyid et al., 2024; Daskalova, 2024; Singh, 2024). For instance, cryptocurrency exchanges can pop up overnight with registration and licensing requirements less stringent when compared to traditional banks in the financial systems and there are no security protocol to download the cryptocurrency block chain apps hence, anyone can join the cryptocurrency ecosystem just by downloading the app on their phones. Therefore, the absence of a robust

cybersecurity regulation and standardized data protection protocol in the decentralized and pseudonymous cryptocurrency blockchain network possess risk of users losing their investments and personal information (Rasyid et al., 2024; Daskalova, 2024). A self-regulated cryptocurrency DeFi, cryptocurrency backed stablecoins and NFTs could amplify vulnerabilities in the system such operational fragilities, liquidity and maturity mismatches , leverages and interconnectedness with the traditional financial system could lead to financial stability (FSB, 2023;Rasyid et al., 2024; Daskalova, 2024).

5.1.3. Using Existing Traditional Financial Institutions Regulations for cryptocurrency.

Regulatory framework adopted by some jurisdiction to regulate cryptocurrency are their existing financial regulations for traditional financial institutions (Coelho et al., 2024). For instance, Australia, Switzerland, Netherlands and USA are applying existing rules to regulate cryptocurrency in their respective Jurisdiction (Coelho et al., 2024; Abrams, 2024). Existing financial regulations were designed more than a decades ago, with no foresight on the rise of cryptocurrency thus, there exist regulatory gaps as cryptocurrency activities falls outside these traditional financial regulations for financial institutions. Moreover, the outdated nature of these existing regulations stifles innovation, lack clarity in reference to cryptocurrency ecosystem leading to inconsistent ruling and regulatory uncertainty. Furthermore, the borderless nature of cryptocurrency ecosystem undermines the traceability of illicit activities within the blockchain platform thereby creating blind spots in the global financial oversight which has implication for financial stability.

and amplifying vulnerabilities within the cryptocurrency ecosystem coupled with spilled over effect on the financial system that have implications for financial stability.

5.1.4. Flaws in the European Regulatory Framework: Market in Crypto Assets (MICA)

The European Union(EU) regulatory framework for cryptocurrency known as Market in Crypto Assets (MICA) is the first bespoke regional cryptocurrency regulation. Although the MICA regulation brought a significant shift in the regulatory landscape of the cryptocurrency market, there are significant areas in the cryptocurrency ecosystem that remains untouched by the MICA regulation (Lannoo,2022; Meakin et al., 2023; Daskalova et al., 2024; Nadal, 2025; Giorgadze, 2024). The Market in Crypto Assets (MICA) does not covered decentralized finance (DeFi), cryptocurrency backed stablecoins, NFTs, lack details technical specifications especially concerning cryptocurrency blockchain private key measures (Meakin et al., 2023; Daskalova et al., 2024; Nadal, 2025; Lannoo,2022; Giorgadze, 2024). Also, MICA does not cover anti-money laundering, and countering the financing of terrorism issues in the cryptocurrency blockchain network (Meakin et al., 2023; Daskalova et al., 2024; Nadal, 2025; Lannoo,2022; Giorgadze, 2024). These weakness in the MICA regulations could intensified vulnerabilities within the cryptocurrency ecosystem that heighten the risk of financial instability in the global financial systems.

5.1.5. Consensus amongst International regulatory bodies on Cryptocurrency Regulation.

As at the time of writing this research, International regulatory bodies such FSB, BIS, IOSCO, IMF, World bank and FATF have only issues out rule and recommendations on the regulation of cryptocurrency. As global regulators, their input and consensus in crafting a global uniform and comprehensive regulation for cryptocurrency is of outmost importance (Abrams, 2024; FSB, 2023; BIS, 2024; IOSCO, 2023). International regulatory bodies play a vital role in promoting global coordination, cooperation, facilitating dialogue amongst global cryptocurrency stakeholders, national, regional and global regulatory authorities to research and developed rules, guidance and recommendations for the regulations of cryptocurrency ecosystem. Therefore, developing a unified approach to cryptocurrency regulations remains a crucial yet elusive goal for international regulatory bodies.

5.1.6. Lack of Comprehensive and Uniform Global Regulation for Cryptocurrency.

As at the time of writing this paper there are no comprehensive and uniform global regulation for the growing cryptocurrency ecosystem (Barnes, 2018; Uzougbo et al., 2024; Rasyid et al., 2024; Sing, 2024). The global and borderless nature of cryptocurrency transactions present that necessitates for the development of a global regulation for cryptocurrency. The lack of comprehensive and uniform global regulation for cryptocurrency creates opportunities for regulatory arbitrage where crypto users including criminal moves their operations to jurisdictions with more lenient regulations. Moreover, this also heighten the risk of illicit activities, tax evasion cryptocurrency market manipulations couple with regulation arbitrage that could hampered the resilience of the financial system to cryptocurrency market-based shocks and spillovers to the global financial system that have implications for financial stability.

5.2. Regulations of Cryptocurrency Implication for Financial Stability.

The study through review of current regulatory approach among jurisdictions identified weakness in the existing regulatory framework for cryptocurrency namely; fragmentation of regulation across jurisdictions, inability for existing regulations, rule and guidance to address cryptocurrency DeFi, cryptocurrency and algorithm backed stablecoins and NFTs, flaws in the European Union Market in Crypto Assets (MICA) regulatory framework, lack of unified consensus amongst International regulatory bodies on cryptocurrency regulation and the absence of comprehensive and uniform global regulation for cryptocurrency. These weakness in the existing regulatory framework for cryptocurrency amplified financial vulnerabilities in the cryptocurrency ecosystem through spilled over effect that has implication for financial stability.

An unregulated and growing cryptocurrency ecosystem is susceptible to vulnerabilities such as maturity mismatch, leverages, liquidity mismatch, operational fragilities, technological fragilities, interconnectedness, regulatory arbitrages that could hampered the resilience of the financial system to cryptocurrency market-based shocks thus, a spillovers effect to the traditional global financial system through contagion risk that could lead to financial instability or financial crisis.

The study findings also revealed sensitivity of cryptocurrency speculative nature to Minsky moment. The Hyman Minsky (1992) financial instability Hypothesis(FIH), which suggests that catastrophic collapse of assets prices after period growth and stability will amplified vulnerabilities and subsequently leads to financial instability in applicable to the current cryptocurrency ecosystem. Given the speculation nature of cryptocurrency and volatility characteristics since its emergence coupled with the absence of comprehensive uniform national and global regulation for the cryptocurrency ecosystem, a continued growth and worldwide adoption will triggered the Minsky moment in the global financial systems.

However, the study findings further discovered that so far, the instability in the cryptocurrency market as a results of the absence of comprehensive uniform national, regional and global regulation has had very little effect on the global financial systems. The most tangible impacts had being losses suffered by hedge fund and private investors in the cryptocurrency market. Thus, as the date of writing, turmoil in the global financial system which can be attributed to the inherent vulnerabilities in the cryptocurrency market structure and blockchain technology has not spilled over into the traditional financial system or the real global to have any financial stability implications.

6. Conclusions and Recommendations

“Only when the tide goes out do you discover who’s been swimming naked” Warren Buffet. “Regulators need to get on with the job of bringing the use of crypto technologies within the regulatory perimeter,” says Jon Cunliffe, Bank of England’s former deputy governor for financial stability (Chiew, 2022). Similarly,

The regulation of cryptocurrency implication for financial stability shows that the approaches taken by different countries, regional and global regulatory bodies on the regulation of cryptocurrency has weakness that have implication for financial stability. A view shared by the Tobias Adrian on February 23, 2024 in the International Monetary Fund(IMF), Financial Stability Board (FSB) and The Office of Comptroller and Currency (OCC) Cryptocurrency conference “Regulation and Supervision of Crypto-assets issuers and service providers doesn’t directly solve the macroeconomics and financial stability issues. Yet, the establishment and effective implementation of regulation and supervision is an important foundation for better data collections, effective capital flow measures and exert pressures and fiscal and tax policies.

Existing national regulatory framework for cryptocurrency in many countries are mostly limited to the application of financial institutions regulations, retrofitted regulation that includes anti-money laundering , terrorism financing, transfer of funds, licensing requirements for cryptocurrency exchanges and bespoke regional regulation -Market in Crypto-Assets (MICA). Also, there are no comprehensive uniform global regulatory framework for cryptocurrency as at April 10, 2025.

6.1 Conclusions

The study identified weakness in the current national and regional regulations and lack of a comprehensive uniform global regulatory and supervision framework for the cryptocurrency ecosystem operations will exacerbate financial vulnerabilities in the cryptocurrency global market to potential contagion and spread of financial distress that has spillover effect on the global financial system that has significant implication for financial stability. Therefore, a wider global adoption of cryptocurrency and any sudden shock or failure in the cryptocurrency ecosystem without a comprehensive uniform regulatory and supervision framework could trigger a domino effect across interconnected and interlinked traditional financial institution in the global financial system that will cause financial instability – a Minsky moment.

Notwithstanding, as at the time of writing, the instability seen in the cryptocurrency market has had limited effect on the global financial system. At present, the cryptocurrency market capitalization of US\$ 3.25 trillion as of December 31, 2024 is not significant to give rise to financial instability in the global financial system or the real global economy. Notwithstanding, the continued growth and worldwide adoption rate, the interconnectedness and interlinkage between the traditional global financial system and the cryptocurrency ecosystem especially stablecoins backed by money market and the DeFi activities coupled with the identified weakness in the existing national and regional regulation for cryptocurrency and the absence of a comprehensive uniform global regulatory framework for cryptocurrency are cause for concern for financial instability-a Minsky moment.

In closing, while a fragmented and unregulated global cryptocurrency market may not currently pose risk to financial stability in the global economy, cryptocurrency ecosystem have implications for financial stability that are mutually interactive and reinforcing. An extensive adoption of cryptocurrency in the global economy without a comprehensive uniform national, regional and global regulatory framework, will amplified their vulnerabilities, exacerbate contagion, generate systematic risk and diverts resources from financing the real global economy which will have significant implication for financial stability.

6.2 Recommendations

When national, regional and international regulators fails to keep pace with growing digital financial innovation in the financial system, financial vulnerabilities in the global financial system amplified which could have negative implications for financial stability. Cryptocurrencies are here to stay, and while they may poses risk as well as financial fragility in the global financial system and the real economy, they are not devoid of their virtues to the global economies. Cryptocurrency will continued to grow and national, regional and international regulators, and policy makers have to advance with it. Therefore, it is imperative for national, regional and international regulators to be proactive, keep abreast and staying ahead of the curve in today's dynamic environments, where technological advances, digital financial innovations and new version of cryptocurrencies issued at an unrepresented pace.

Thus, the study recommends that national, regional and international regulators, policy makers, cryptocurrency ecosystem stakeholders, global financial system players and other relevant stakeholders must engage in constructive dialogue, shared country context cryptocurrency risk assessments findings and best practices to develop a comprehensive uniform global regulatory and supervisory framework for cryptocurrency ecosystem. A comprehensive uniform global regulatory and supervisory framework for cryptocurrency ecosystem should focus on cryptocurrency operational fragilities, blockchain technology risk, cross border risks, regulatory implementation coordination's amongst national and international regulators and policy makers, custody and consumer assets protections, market manipulations, insider trading and frauds, data sharing insight and an effective supervisory and oversight mechanism. The regulatory framework should be risk based, with greater requirements on cryptocurrency issuers, exchanges and blockchains activities that generates significant risk.

Moreover, a collaborative effort should be made to incorporate weakness in the current regional(MICA) and national rules, guidance and regulation to address loopholes that are prone to financial vulnerabilities especially in the cryptocurrency backed stablecoins and DeFi operations that have implication for financial stability through spilled over effect, interconnectedness and interlinkages. The development and implementation of a comprehensive uniform a global regulatory and supervisory framework for cryptocurrency will provide enhance protections for consumers and investors against fraud, illicit activities and scam, increase public confidence and trust in the cryptocurrency market and prevent and safeguard the global financial system against financial fragility and any shocks from the cryptocurrency ecosystem that triggered a Minsky moment.

Declaration of Competing Interest

None

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