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Cryptocurrency Taxation in Nigeria: Legal Frameworks and Regulatory Challenges

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ABSTRACT

The growing acceptance of Cryptocurrencies has reshaped the world's financial landscape into a wider avenue for economic innovation and financial inclusion. However, this growth raises several serious regulatory challenges, especially on the road to taxation. This paper explores the complex intersection of Cryptocurrency and taxation with a specific focus on Nigeria. It explores the challenges that governments face in levying duties on digital assets arising from the lack of uniform tax frameworks, challenges in tracing pseudonymous transactions, and valuation issues due to market volatility. The paper reviews current legal frameworks in key jurisdictions, including the United States, the European Union, and Nigeria, showing different ways of classification and approaches in taxation. These include the adoption of Blockchain analysis tools, smart contracts to automate tax compliance, and international cooperation in standardizing tax rules across borders. The paper concludes by emphasizing the need for clear regulatory regimes that are enforceable, while maintaining a balance between innovation and fiscal responsibility. It calls for proactive measures and technological integration as a way of ensuring efficiency in taxation and compliance, especially in developing economies like Nigeria.

Keywords: *Cryptocurrency, taxation, Blockchain, regulatory challenges, smart contracts, decentralized finance.*

1. 0 INTRODUCTION

The most popular type of money is fiat, which is banknotes and coins usually authorized by a single central body with exclusive privileges for the issuance of such currencies. For example, in Nigeria, the Central Bank of Nigeria (CBN) has the exclusive monopoly to issue the country's legal tender, the Naira. In the same way,

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in the United States, the Treasury Department is the one responsible for putting into circulation the legal tender, known as the US Dollar.

Fiat currencies are legal tender and are defined and quantified as media of exchange employed in buying goods and services, and in meeting obligations and discharging taxes within the territory of a country. Imposition and payment of taxes in most nations including Nigeria is usually made using the medium of exchange of the country of the transaction. This means that for any transaction that is done in Naira, the tax that will be attached to it must also be levied in Naira. Similarly, if the transaction is in US Dollars, then taxes must be paid in the US Dollars. As such, fiat currency plays an essential role in evaluating and making payments for taxes within and outside Nigeria.

However, accepting Cryptocurrencies makes taxation difficult since it engages the integration of complex digital assets. Cryptocurrencies are relatively new concepts in the financial market as they serve as a decentralized form of monetary system.[58] The smart contracts are peer to peer contractual agreements that are based on Blockchain technology and ensure security, transparency and are conducted without the involvement of third parties.[59] Bitcoin in 2009 paved the way for the creation of another complex of digital currencies and various technologies, including all types of Cryptocurrencies and decentralized applications or technologies.[60] Cryptocurrencies have a signification impact on global financial systems as they can remove intermediaries, improve financial access, and provide citizens with financial freedom. They also create new possibilities for the development of startups utilizing ICO (Initial Coin Offerings) as an innovative method of crowdfunding. Thus, market instabilities or uncertain legal requirements are ongoing risks, yet constant advancement is an ongoing force in the field. The adoption of Cryptocurrencies presents questions on how they intersect with and disrupt the established current economy.

Since tax is typically assessed and paid in the currency used in the transaction, the question arises: how are taxes to be levied and charged on the sale of Cryptocurrencies, including in countries such as Nigeria, where Cryptocurrencies are not a legally acceptable tender? That is so considering that Cryptocurrencies are

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58 Rajharia, Poonam, and Madhu Bala Kaushik. "Cryptocurrency adoption and its implications: A literature review." E3s Web of Conferences. Vol. 456. EDP Sciences, 2023.Available at <https://doi.org/10.1051/e3sconf/202345603002> accessed 2rd January 2025.

59 Khan, Sofia. "Cryptocurrency: A Paradigm Shift in Financial Transactions." [2023] 1(1) *COMMERCE RESEARCH REVIEW* 73-84.

60 Grasic, Anej, and Marko Vidnjevic. "EVOLUTION OF CRYPTOCURRENCIES AND THEIR UTILIZATION IN THE DIGITAL ECONOMY." [2024] 12(2) *MEST Journal*.

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virtual in nature, thus making it easier for individuals to engage in either tax avoidance or tax evasion. These challenges could negatively impact the government's revenue operations since Bitcoins, for example, eliminate the normal money channels that enable the tax authorities to monitor and enforce compliance with the laws. Therefore, the adoption of Cryptocurrencies as a part of such economic systems is fraught with emerging and essential regulatory and fiscal challenges for governments.

This can easily be expounded on by relating it to real-life issues such as the high level of distrust in the political systems, the weak domestic currency and high inflation rates, which are major drivers of Cryptocurrency adoption in Nigeria.[61] Due to the devaluation of the naira, the market has shifted massively in Cryptocurrencies as many people in Nigeria are using it to hedge against inflation.[62]

The taxation of Cryptocurrencies raises many challenging issues for governments in general and, in particular, for developing countries such as Nigeria.[63] There is inherent anonymity when it comes to Cryptocurrencies, which makes it hard to determine which transactions are taxable and how to go about enforcing tax laws with respect to those assets.[64] Some of the problems that Nigeria's tax system has include the following: poor administration, low statistical data and a high level of informal economy currently in Nigeria.[65] Cryptocurrencies only aggravate these issues because they are not legal tender, but their adoption in transactions is growing rapidly.[66] Digitalisation of the economy, use of

61 O A Ogunode, "Cryptocurrency and global practices: lessons for Nigeria." [2022] 15(1) *South Asian Journal of Social Studies and Economics*: 7-28.

62 K Olorundare, James, et al. "Economic Prospect of Cryptocurrency: Nigeria as a Case Study. [2023] *Journal homepage: www.ijrpr com ISSN* 2582: 7421.

63 Micah, Leyira Christian and Chukwuma Christopher Ebere. "Tax System in Nigeria - Challenges and the Way Forward." [2012] 3 *Research Journal of Finance and Accounting*: 9-15.

64 Ivana, Martinčević., Vesna, Sesar., Krešimir, Buntak., Ivan, Miloloža. "Accounting and Tax Regulation of
Cryptocurrencies." [2022] 20, Interdisciplinary Description of Complex Systems, 640-661.

65 Micah, Leyira Christian and Chukwuma Christopher Ebere. "Tax System in Nigeria - Challenges and the Way Forward." [2012] 3 *Research Journal of Finance and Accounting*: 9-15.

66 Dmytro, Kobylnik., Kateryna, YEFREMOVA. "Legal regulation of taxation of transactions with digital (virtual) assets." Ekonomìka, finansi, pravo, 10/2024 (2024), 30-34. doi:10.37634/efp.2024.10.6

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Cryptocurrencies as part of general economy makes BEPS (Base Erosion and Profit Shifting) worse and reduces rights to collectible taxes.[67]

This discourse looks at how Cryptocurrency sits with taxation, with an emphasis placed on the vital regulatory hurdles and legal work needed to get over these questions. Though the research approach is doctrinal, focus is made on Nigeria, where the use of Cryptocurrency has gained more popularity than the formulation of policies. The discussion will focus on concerns of Cryptocurrency taxation and evaluate existing models and potential approaches for promoting the balanced interaction between new advancements and the regulation.

To this end, this study intends to contribute towards explaining how Nigeria and all countries can devise dynamic and participatory tax systems that embrace the digital economy and are right, efficient, reasonable and sustainable at the same time.

2.0 UNDERSTANDING CRYPTOCURRENCY

Cryptocurrencies can be defined as either digital or virtual tokens or currencies that are secured through cryptographical techniques and exist on a decentralized system.[68] They allow buyers to execute transactions directly with sellers without the involvement of a financial intermediary, such as a central bank. They offer flexibility that could include lower tariffs and faster payments.[69] It is an independent measure of value not backed by a central bank or a public authority and does not necessarily refer to a fiat currency, and is used as a medium of exchange by natural or legal persons and is characterized by its transferability, storable or can be traded electronically[70].

Cryptocurrencies are a relatively recent innovative electronic payment systems that are still emancipated from the existing financial systems and rely on Blockchain principles. Traditional money, on the other hand, is fiat money, which

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67 Joseph, Kuba, Nembe., Courage, Idemudia. "Designing effective policies to address the challenges of global digital tax reforms." [2024] 22 World Journal Of Advanced Research and Reviews:1171-1183.available at <doi: 10.30574/wjarr.2024.22.3.1837>

68 Zhou, Zhiying. "Research on the Relationship and Application of Cryptocurrency and Blockchain." Highlights in Business, Economics and Management 21 (2023): 382-388.

69 Jafari, Saman and Vo-Huu, Tien and Jabiyev, Bahruz and Mera, Alejandro and Mirzazadefarkhani, Reza, Cryptocurrency: A Challenge to Legal System (May 2, 2018). Available at SSRN: https://ssrn.com/abstract=3172489 or http://dx.doi.org/10.2139/ssrn.3172489

70 European Commission, 'Proposal for a directive of the European Parliament and of the Council amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC (Jun. 18, 2018)' accessed 02 January 2025

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has a physical form but is digitized and is basically an electronic billing method.[71] They have brought about questions relating to the monetary soundness and (milliseconds) modernisation.[72] In Nigeria, adoption has been a result of a lack of confidence in political structures, a dismal local currency and high inflation rates.[73] However, the geographical jurisdictions of these products are quite diverse to some extent; some countries allow the use of these products while others either restrict or even ban them.[74]

Cryptocurrencies rely on Blockchain technology as their backbone, as they create an open but protected financial network for transactions.[75] It is described by a distributed ledger, a record of transactions, which is a chain of blocks where each block can contain more than one transaction.[76] These blocks are arranged in the timeline sequences, and each of them is protected by a cryptographic hash pointer. The participation of network participants in the peer-to-peer check increases the reliability of the transactions.

Blockchain is an open, distributed database that can be used to document digital exchange between two entities on a permanent, provable basis. This, however, must be noted to mean that one of the enabling attributes of Blockchain is the implementation of a distributed ledger structure, which enables multiple parties to exchange information and coordinate without the need for a central authority. Blockchain decentralised data removes the chance of creating a central database that would be an appealing goal for hackers to attack. This is quite in contrast to simple

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71 Smith, Christie, and Aaron Kumar. "Crypto-Currencies–An introduction to not-so-funny moneys." *Contemporary Topics in Finance: A Collection of Literature Surveys* (2019): 351-381.

72 A Belke, and E Beretta, "From cash to central bank digital currencies and Cryptocurrencies: a balancing act between modernity and monetary stability" [2020] 47(4), *Journal of Economic Studies*,, pp. 911-938.available at < https://doi.org/10.1108/JES-07-2019-0311>

73 O A Ogunode, A. T. Iwala, O. A. Awoniyi, B. O. Amusa, T. R. Omosebi, S. K. Kassim, and R. I. Akintoye. 2022. "Cryptocurrency and Global Practices: Lessons for Nigeria" [2022] 15(1) *South Asian Journal of Social Studies and Economics* :7-28. Available at https://doi.org/10.9734/sajsse/2022/v15i130396

74 Abdul, Abdullateef, Cryptocurrencies in Nigeria: A Legal Analysis (January 21, 2018). Available at SSRN: https://ssrn.com/abstract=3106296 or http://dx.doi.org/10.2139/ssrn.3106296

75 Deshmukh, Atharva, et al. "A Survey on Blockchain and Cryptocurrency-Based Systems." *Handbook of Research on Blockchain Technology and the Digitalization of the Supply Chain* (2023): 364-397.

76 C Karthik, "An overview of Blockchain Technology." [2018] 4(4) *International Research Journal of Electronics and Computer Engineering*: 1-4.

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transactions in government-backed currencies, which are measured in units recorded by central clearing houses or banks.[77] Every transaction made in the Blockchain is signed cryptographically employing the use of public key cryptography. A public key cryptographic system is based on the utilization of two keys, namely, the public and the private key. The public key is used for signing and encrypting the message that is to be sent and anybody, for that matter, can view this. But only the receiver of the Cryptocurrency holds the private key. The private key ensures the confidentiality and identity of the transactions and the players involved, as only the recipient of the Cryptocurrency can decode the transaction.[78] This means that monitoring of the transactions within the Blockchain is a herculean task, particularly for people who do not have access to the Blockchain. This privacy and the anonymity feature of Cryptocurrency transactions pose a problem for tax authorities, as it may be hard, if not impossible, to trace such transactions for tax reasons.

2.1 Characteristics of Cryptocurrency

2.1.1 Decentralization

Cryptocurrencies use decentralized systems, which makes it impossible for a single entity, including a government or central bank, to regulate them.[79] This decentralization is made possible through the use of Blockchain, where records of the transaction are shared across numerous nodes all over the world. Contrary to other financial facilities regulated by central banks or financial organizations, Cryptocurrencies function within distributed entities. This decentralization arises from the use of Blockchain technology, which is a public ledger technology. This decentralization is achieved through Blockchain technology, where transaction records are distributed across multiple nodes globally. Unlike traditional financial systems controlled by central banks or financial institutions, Cryptocurrencies operate on distributed networks.[80] This decentralization is made possible by Blockchain technology, which functions as a public, distributed ledger.

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77 Bitcoin Exchange Guide, "An Introduction to Blockchain: Distributed Ledger Technology Application Benefits" accessed 2nd January 2025

78 Andersen Tax, 'Cryptocurrency and Taxes: Bridging the Digital Gap' accessed 2nd January 2025

79 Heo, Kyungmoo and Sangyoon Yi. "(De)centralization in the governance of Blockchain systems: Cryptocurrency cases." [2023] *Journal of Organization Design* : 1-24.

80 Gencer, Adem Efe et al. "Decentralization in Bitcoin and Ethereum Networks." *Financial Cryptography* (2018). https://www.semanticscholar.org/reader/50c01543a35ddc9eb7ae43f5a6cc52602ed62057> accessed 2nd January 2025.

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2.1.2 Security

Cryptocurrencies rely on sophisticated cryptographic techniques to ensure the authenticity of the transactions and the emission of new coins. This makes them immune to acts of fraud, counterfeiting and unauthorized access. Cryptocurrencies depend on a combination of complex mathematical algorithms to ensure safe operations and protect from theft. The use of public and private key cryptography includes the ability to authorize the transactions with the private key acting as the signature and the public key acting as the signature verifier. To safeguard user data and to ensure data accuracy, Blockchain technology uses algorithms such as encryption, hashing and Digital signatures.[81]

2.1.3 Transparency and Immutability

There is transparency and integrity in transactions involving Cryptocurrency, which makes it easier for parties to have confidence in the Blockchain technology. Each transaction is executed through a set of blocks characterized by decentralization and open access to the records, while user identities remain anonymous.[82] Security is achieved through other aspects of Blockchain due to the inability to modify the Blockchain once a transaction has been completed. This is done through cryptographic hashing and consensus protocols, as pointed out by Monrat.[83] On one hand, transparency offers gains; on the other hand, it is a privacy issue, especially for financial services. To counter this, such features as covering the IP addresses are used to guard users' privacy.[84] Blockchain applications do not require central control, as management is exercised by the users. These features make Blockchain useful not only in Cryptocurrencies, but in other sectors, including the financial sector, healthcare and even use in the supply chain.[85]

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81 Ahmad, Sartaj et al. "Study of Cryptographic Techniques Adopted in Blockchain." *2023 4th International Conference on Intelligent Engineering and Management (ICIEM)* (2023): 1-6.

82 Habib, Gousia et al. "Blockchain Technology: Benefits, Challenges, Applications, and Integration of Blockchain Technology with Cloud Computing." *Future Internet* 14 (2022): 341.

83 Monrat, Ahmed Afif et al. "A Survey of Blockchain From the Perspectives of Applications, Challenges, and Opportunities." *IEEE Access* 7 (2019): 117134-117151.

84 Kshetri, Nir. "Cryptocurrencies: Transparency Versus Privacy [Cybertrust]." *Computer* 51 (2018): 99-111.

85 Lehner, Roland and Konstantin Roethke. "Trust-Building Effects of Blockchain Features – An Empirical Trust-Building Effects of Blockchain Features – An Empirical Analysis of Immutability, Traceability and Anonymity Analysis of Immutability, Traceability and Anonymity." (2020).

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2.1.4 Anonymity

Although all Cryptocurrency transactions can be traced and audited, the parties involved use aliases. This makes transactions associated with an alphanumeric string rather than personal identifiers, adding a layer of anonymity. Thus, Cryptocurrencies such as Bitcoin offer privacy instead of anonymity; they use virtual signatures and keys instead of one's identification numbers for transactions.[86] Despite this, laundering through spare moments provides cover and intricate methods can connect transactions to their users. To promote privacy, Cryptocurrencies use some features, including masking of IP addresses in the peer-to-peer networks.

2.1.5 Global Accessibility

Cryptocurrencies have the potential to bridge the traditional financial system to enable people in different parts of the world to transact with ease across borders. It offers credits to those who formerly were excluded from the banking sector, especially in developing countries where the proportion of conventional banking is significantly low.[87] Some of the benefits accruable to users in adopting Cryptocurrencies include their digital currencies facilitate near-instant, borderless and intermediary-less cross-border and cross-currency transactions at relatively lower cost.[88] This technology can facilitate cross-border remittance in a quicker, cheaper and more secure as traditional ways. Further, the use of Blockchain-based systems will also reduce the financial inclusion obstacle, such as cross-border money transfers, online payments, and money exchange, micro-lending, without facing the volatility problem of non-stable coin Cryptocurrencies.[89]

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86 H B Hazar,(2020). Anonymity in Cryptocurrencies. In: Bilgin, M.H., Danis, H., Demir, E. (eds) Eurasian Economic Perspectives. Eurasian Studies in Business and Economics, vol 14/1. Springer, Cham. https://doi.org/10.1007/978-3-030-53536-0_12

87 Ohnesorge, Jan. *A primer on Blockchain technology and its potential for financial inclusion*. No. 2/2018. Discussion Paper, 2018.

88 Uyduran, Burak. "The Crypto Effect on Cross Border Transfers and Future Trends of Cryptocurrencies." *Financial Internet Quarterly* 16 (2020): 12 - 23.

89 Norta, Alex et al. "Lowering Financial Inclusion Barriers with a Blockchain-Based Capital Transfer System." *IEEE INFOCOM 2019 - IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)* (2019): 319-324.

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2.2 Key Examples of Cryptocurrencies

Amongst others are:

1. **Bitcoin (BTC)**
   It was founded in 2009 when an unidentified person or group known under the pseudonym Satoshi Nakamoto. Usually described as a digital form of gold, Bitcoin finds great utility in acting as a store of value and means of payment.

2. **Ethereum (ETH)**
   A Blockchain system created in 2015 that brought in the concept of smart contracts, which are basically contracts whose terms are hard-coded into the system. Ether, Ethereum's native currency, abbreviated in ETH, is most popular in decentralized applications (dApps) and non-fungible tokens (NFTs).

3. **Binance Coin (BNB)**
   Initially launched as a utility token for the Binance Cryptocurrency exchange, it has evolved to serve various purposes within the Binance ecosystem, including transaction fee payments and decentralized finance (DeFi) activities.

4. **Ripple (XRP)**
   A digital payment protocol designed for fast and low-cost international money transfers.

3.0 Regulatory Challenges in Cryptocurrency Taxation

The rise of Cryptocurrencies and the Blockchain technology on which they are based presents some challenges from a regulatory perspective. The anonymity that can be achieved through many Cryptocurrencies and the fact that the data on the Blockchain is both persistent and decentralized mean that it is unusually difficult to ensure taxpayer compliance with tax laws, and in particular, to ensure that the correct amount of tax is being paid. However, the pseudonymous nature of the Blockchain suggests that there is potential for auditing the transactions made using that chain, and this could be used by revenue authorities to increase compliance. Jurisdictionally, the rules around the treatment of Cryptocurrencies vary greatly between different countries, which is a fertile ground for tax planning.[90]

[90] Galant, Narwastu Vivaldi, et al. "Tax Regulations On Cryptocurrency Transactions In Indonesia." [2024] 3(6)Jurnal Ekonomi Teknologi dan Bisnis (JETBIS): 882-890.

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The use of Cryptocurrencies and the Blockchain is growing globally, with many jurisdictions now having mature markets for both the buying and selling of Cryptocurrencies and the mining thereof. This growth strains the existing international tax rules as it may be difficult to determine the residence of a party to a transaction, and so collect the required tax from them. Moreover, some of the transactions between parties to a Blockchain do not even result in an exchange of currency, making it harder to ensure that they are both being taxed.

Cryptocurrency taxation presents significant regulatory challenges globally, stemming from the unique characteristics of digital assets. Governments worldwide are grappling with evolving regulatory frameworks to accommodate Crypto transactions, as exemplified by Indonesia's efforts to establish formal exchanges and develop taxation policies.[91] The lack of uniformity in global Cryptocurrency tax regulations impacts economic policies and social justice, necessitating harmonization efforts.[92] Key research areas in Cryptocurrency regulation include distributed governance, central bank digital currencies, monetary policy, and the cybercrime economy. Regulatory authorities face difficulties in identifying, tracking, and taxing Cryptocurrency transactions, highlighting the need for enhanced understanding of Crypto dynamics to navigate the complex global financial landscape.[93]

These challenges stem from the decentralized, pseudonymous, and highly volatile nature of digital assets. Below, we explore three major regulatory hurdles in Cryptocurrency taxation.

3.1. Lack of Uniformity in Tax Treatment

Taxes on Cryptocurrencies pose a major problem of regulation in most jurisdictions, due to the inherent characteristics of Cryptocurrencies. Many jurisdictions classify and tax these Cryptocurrencies as property, financial assets, or even commodities.[94] In the United States, the IRS considers them as property and applies a capital gains tax.[95] Nigeria does not classify Cryptocurrencies as a legal tender and applies the

91 Ibid
92 Ibid
93 F Wahyuni, "TAX LAW IMPLEMENTATION ON CRYPTOCURRENCY TRANSACTIONS: A GLOBAL PERSPECTIVE" (2023) 5(3) *AKSELERASI: JurnalIlmiahNasional* , 144-153. Available at <https://doi.org/10.54783/jin.v5i3.869>
94 Ibid
95 A Stephan Davenport, C Spencer Usrey "Does Notice 2014-21 Need an Update? An Analysis of Potential Tax Classifications for Cryptocurrency." [2023] 21(1) *The ATA Journal of Legal Tax Research*: 22-44. Available at <https://doi.org/10.2308/JLTR-2022-003>

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related existing income and capital gains laws to reported transactions.[96] Various countries of the European Union adopt different approaches towards it; several classify Cryptocurrencies in the category of assets, but some impose Value Added Tax for certain transactions only.[97] The virtual character of Cryptocurrency represents opportunities for evading taxes, while the identification, tracing, and taxing activities by tax administrators become difficult for them. This regulatory uncertainty and lack of uniformity affect economic policy and social justice, hence the call for harmonized Cryptocurrency tax regulation globally.

In the absence of harmonized international tax frameworks, individuals and businesses effecting cross-border Cryptocurrency transactions bear the risk of double taxation: once in the country where the transaction is effected and again in the country where it is received.

A lack of uniformity leads to a hampered development of comprehensive tax strategies and lessened international cooperation. Standardized regulatory guidelines, probably through global financial bodies like the OECD, would be necessary for less confusion and more compliance.

3.2. Inherent Difficulty in Tracking Transactions

The pseudonymous and decentralized nature of Blockchain technology makes it fundamentally difficult to track transactions for tax purposes. Unlike in traditional financial systems, where transactions are generally linked to personal identities, the transactions in Cryptocurrencies are recorded using wallet addresses—long strings of alphanumeric characters. Unless these addresses are linked to real-world identities—for example, by going through Know Your Customer (KYC) processes on exchanges—it is challenging for tax authorities to identify the transacting parties.[98]

Most users are into P2P transactions without going through centralized exchanges, which makes it very difficult for the authorities to track and enforce tax

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96 Ahmed, Isau "Examination of the Tax Treatment of Cryptocurrency Transactions in Nigeria." (2023) 9(1) ABUAD Law Journal: 135-157.

97 Solodan, Kateryna. "Legal Regulation of Cryptocurrency Taxation in European Countries." [2019] 6(1) *European Journal of Law and Public Administration*: 64-74. Available at <https://doi.org/10.18662/eljpa/64>

98 Olabanji , Samuel Oladiipo "Technological Tools in Facilitating Cryptocurrency Tax Compliance: An Exploration of Software and Platforms Supporting Individual and Business Adherence to Tax Norms" [2023] 42(36) *Current Journal of Applied Science and Technology*:27-39. Available at <https://doi.org/10.9734/cjast/2023/v42i364239>

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compliance.[99] This has been most frequent in countries like Nigeria, where, due to banking restrictions on Crypto transactions, P2P platforms thrive. Privacy-centric Cryptocurrencies, such as Monero (XMR) and Zcash (ZEC), through the application of advanced cryptographic techniques, leave transaction details practically untraceable. But that's not all, decentralized exchanges (DEXs) take it one step further by having no central authority or user verification.[100]

3.3. Valuation Issues

The valuations of Cryptocurrencies are not easy to deal with for tax purposes, considering their volatile prices and the various kinds of transactions in the Crypto ecosystem.[101] The price of Cryptocurrencies may change significantly within hours or even minutes. This volatility, therefore, renders the determination of a transaction's fair market value at the time it is done very elusive for taxable income or capital gains computation. For example, where a user buys goods valued at ₦100,000 using Bitcoin (BTC), but the price of BTC changes dramatically before the transaction settles, then how to fairly and accurately value the transaction for taxation becomes a real challenge.

Cryptocurrency transactions extend far beyond simple buying and selling. They include:

- Mining Rewards: Taxation of mining activities involves the determination of the value of the reward at the time received, which may have fluctuated in value when converted to fiat currency.
- Airdrops and Forks: Airdrops—free distributions of tokens—and forks, or splits in a Blockchain that create new Cryptocurrencies, raise very particular valuation issues, as the recipient may never realize a gain until the tokens are sold.
- DeFi Transactions: In DeFi, users earn yields through staking, lending, or providing liquidity. The determination of the taxable value of such yields is rather complicated, especially when multiple assets are involved.

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99 Landoni, Mattia and Pieters, C Gina, Taxing Blockchain Forks (October 25, 2019). SMU Cox School of Business Research Paper No. 19-18, Available at SSRN: https://ssrn.com/abstract=3475598 or http://dx.doi.org/10.2139/ssrn.3475598

100 Baer, Katherine and De Mooij, Ruud A. and Hebous, Shafik and Keen, Michael, Taxing Cryptocurrencies (2023). CESifo Working Paper No. 10372, Available at SSRN: https://ssrn.com/abstract=4422847 or http://dx.doi.org/10.2139/ssrn.4422847

101 Waerzeggers, Christophe, and Irving Aw, 'Difficulties in Achieving Neutrality and Other Challenges in Taxing Cryptoassets', in Chris Brummer (ed.), *Cryptoassets: Legal, Regulatory, and Monetary Perspectives* (New York, 2019; online edn, Oxford Academic, 24 Oct. 2019), Pages 219–242 https://doi.org/10.1093/oso/9780190077310.003.0009, accessed 3 Jan. 2025.

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Since most countries require taxes to be paid in their local fiat currency, taxpayers must convert their Cryptocurrency holdings into fiat before paying taxes. The exchange rate used for conversion can affect the final tax liability, especially in regions where reliable market rates are not readily available.[102]

4.0 Existing Legal Frameworks for Cryptocurrency Taxation

Though regulatory challenges arise, some countries have designed legal frameworks that deal with the taxation of Cryptocurrencies. The existing legal frameworks try to clearly define the tax obligations for individuals and entities dealing in Cryptocurrencies so that governments can secure revenue from this fast-growing sector. Here is an overview of the existing legal frameworks in different regions, discussing their approaches and implications for tax compliance.

4.1. The United States

The Internal Revenue Service has issued complete rules on Cryptocurrency tax in the United States.[103] Cryptocurrencies are treated as property, not as currency. Consequently, every transaction where Cryptocurrency is involved—be it buying, selling, or exchanging—is subject to capital gains tax. For tax, Cryptocurrency is therefore treated as property; hence, the general taxation principles that apply to property transactions also apply to transactions made through Cryptocurrency. That is to say, a taxpayer who receives virtual currency as payment for goods or services must, in computing gross income, include the fair market value of the virtual currency.

Taxable Events include Selling Cryptocurrency for fiat currency (e.g., USD), using Cryptocurrency to buy goods or services, and exchanging one Cryptocurrency for another (e.g., Bitcoin for Ethereum).

Reporting Requirement: The taxpayer is required to report Cryptocurrency transactions on Form 8949 and Schedule D of the taxpayer's return. Failure to do so may subject a person to severe penalties.

Crypto Mining: Mining income is taxable as ordinary income at the fair market value of the coin/token at the time of receipt.

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[102] OOI, Vincent. Report on the challenges which digital assets pose for tax systems with a special focus on developing countries. (2023). 1-78. Available a**t:** https://ink.library.smu.edu.sg/sol_research/4183

[103] Internal Revenue Service (IRS), 'IRS Virtual Currency Guidance' accessed 3rd January 2025.

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4.2. The European Union

The European Union faces challenges in harmonizing Cryptocurrency taxation across member states, with significant variations in approaches.[104] Most EU countries tax Cryptocurrency income as capital gains, but definitions and regulations differ. Germany, for instance, exempts long-term Crypto holdings from capital gains tax, while France applies a flat 30% rate.[105]

The EU has made efforts toward bringing harmony in the manner in which member states of the union tax their Cryptocurrencies, with huge variations in place. Many countries within the EU treat their Cryptocurrencies as basic assets that always attract capital gains tax whenever sold or transferred.[106] For example, in Germany, if held for a period of more than one year, there is no imposition of capital gain tax on their Cryptocurrencies. The same may not be applicable to Cryptos utilized for staking or lending. In France, Crypto gains are subjected to a flat rate of 30% inclusive of income tax and social charges.

VAT on Cryptocurrency Transactions: In the wake of the 2015 judgment of the European Court of Justice (ECJ) exchanging Cryptocurrency for fiat currency does not fall within the ambit of VAT.[107] This decision clarified that using Cryptocurrencies as payment does not constitute a VAT-taxable service. The VAT treatment of Cryptocurrencies remains a developing area, with ongoing discussions about various aspects such as mining and their use as payment methods. While this ruling provides some clarity, the broader regulatory landscape for Cryptocurrencies is still evolving.

4.3. The United Kingdom

HMRC has issued comprehensive guidance in respect of the taxation of Cryptocurrencies in the United Kingdom. They are considered for tax purposes an asset, and gains in respect to them would be subject to capital gains tax. The taxation

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104 Sinkovic, Zoran and Luka Pribisalic. "Taxation of Cryptocurrencies with Income Tax and Corporate Income Tax." *2022 45th Jubilee International Convention on Information, Communication and Electronic Technology (MIPRO)* (2022): 1126-1131.

105 Ibid

106 Z. Šinković and L. Pribisalić, "Taxation of Cryptocurrencies with Income Tax and Corporate Income Tax," *2022 45th Jubilee International Convention on Information, Communication and Electronic Technology (MIPRO)*, Opatija, Croatia, 2022, pp. 1126-1131, doi: 10.23919/MIPRO55190.2022.9803705.

107 Case C-264/14, Skatteverket v. Hedqvist (Oct. 22, 2015), http://curia.europa.eu/juris/document/document.jsf;jsessionid=9ea7d2dc30d5b0d800cab3874663al568162180efc2c.e34KaxiLc3qMb40Rch0SaxyKa3b0?text=&docid=170305&pagelndex=O&doclang=EN&mode=lst&dir=&occ=first&part=l&cid=423360.

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of Cryptocurrencies in the UK is a complex and evolving area. HMRC has issued guidance treating Cryptocurrencies as property subject to Capital Gains Tax, rather than as money[108]

Taxable Events include Disposal of Cryptocurrency; this includes selling, gifting, or exchanging. Use of Cryptocurrency to pay for goods or services.

Income Tax: If the mining, staking, and airdrops yield profits, then such activities will give rise to an income tax liability in nature if they constitute trading or investment.

Record Keeping: HMRC requires that taxpayers maintain accurate records of all the transactions they enter into in Cryptocurrencies, including the date, values, and purpose.[109]

4.4. Nigeria

The whole approach to the taxation of Cryptocurrency in Nigeria is very foundational, with not many formal guidelines put into place.[110] As much as Cryptocurrencies are not viewed by the CBN as legal tender, existing income and capital gains tax legislation extends to transactions in Cryptocurrencies, theoretically standing individuals and businesses dealing in Cryptocurrencies obligations to declare their proceeds and pay profits tax.

Ambiguity in the Cryptocurrency tax rules has left many taxpayers confused. Most of them are not sure what they are supposed to do, hence the low compliance. Recent steps by the Nigerian government, including the Securities and Exchange Commission, to recognize Cryptocurrencies as securities, indicate a shift towards formal regulation and might lead to more clarity in the taxation policies. The Nigerian government has recently imposed a 10% capital gains tax on digital assets, including Cryptocurrencies, but could potentially increase revenue by adopting a more comprehensive approach similar to the US model, which includes income and value-added taxes.[111]

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108 HMRC. 2018. This would also be the case of cryptoassets held by an individual who buys and sells them with such frequency and sophistication that he is understood to be executing financial trading

109 Ibid

110 Ahmed, Ibid

111 Ayoola-Akinjobi, Olayemi O. "BLOCK CHAIN TECHNOLOGY, CRYPTOCURRENCY AND REVENUE GENERATION: A SYSTEMATIC REVIEW." (2024).

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4.5. Australia

Australia has a somewhat outlined approach on how Cryptocurrency is taxed through some guidance by the Australian Taxation Office, the ATO. The current view and position on treating Cryptocurrency to date is that it is viewed as property and, therefore, subject to CGT.[112]

Taxable Events: Disposal of Cryptocurrency for fiat or another Cryptocurrency; use of Cryptocurrency for personal transactions over AUD 10,000.

Record Keeping: The taxpayer is supposed to maintain a record of each transaction made in Cryptocurrency, including receipts and wallet addresses, and the valuation evidence.

Special Considerations: ATO makes a difference between use for personal reasons or as an investment. It may be that Crypto held mainly for personal use is excluded from CGT.

4.6. Japan

Japan has classified Cryptocurrency as a legal asset with well-established tax policies under the National Tax Agency (NTA).[113] Cryptocurrencies are placed under the category of miscellaneous income.[114] The profits, therefore, are subjected to progressive income tax rate.[115]

Taxable Events includes Selling Cryptocurrency for fiat currency, Exchanging one Cryptocurrency for another, Using Cryptocurrency for purchases.

High Tax Rates: The progressive tax system of Japan can result in very high tax rates of up to 55% on the gains from Cryptocurrencies, particularly for high-income earners.

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112 Kochergin, Dmitry and Natalia Pokrovskaia. "International Experience of Taxation of Crypto-assets." *Higher School of Economics Economic Journal* 24 (2020): 53-84.

113 The National Tax Agency is the official tax collecting agency of Japan. Accessed online on 3rd January 2025.

114 Article 35 of the Income Tax Act No. 33 of 1965, amended by Act No. 74 of 2017

115 Article 8 of Act on Special Measures concerning Taxation Act No. 26 of 1957, amended by Act No. 4 of 2017,

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5.7. South Africa

The South African tax authority, SARS, has provided guidance with regard to the taxation of Cryptocurrencies.[116] Cryptocurrencies are viewed as intangible assets; therefore, gains to be made therefrom would thus be subject to either income tax or capital gains tax, depending on the nature of the transaction.

Taxable Events: This includes all Cryptocurrency transactions such as trading, mining, and staking.

Reporting and compliance: SARS prescribes detailed reporting for such Crypto transactions and has the right to audit taxpayers who do not disclose these activities.

While some of these countries have created a legal framework for the taxation of Cryptocurrencies, major differences in their classification and taxing persist. The transnational nature of Cryptocurrency calls for coordinated international policy to reduce regulatory arbitrage and improve tax compliance. This will enlighten countries like Nigeria, which are still putting their house in order as far as regulating Crypto is concerned, through experiences in countries where policy has attained maturity. Clear-cut guidelines will ensure, in a very critical way that innovators in the digital economy stay on the side of the good books with matters of revenue through Cryptocurrency.

6.0 Proposed Solutions to Regulatory Challenges

Given the regulatory complexities concerning Cryptocurrency taxation, various ways are being sought through which these challenges can be overcome by governments, regulatory bodies, and industry stakeholders. The following are some proposed solutions aimed at improving the regulatory landscape with a view to achieving fair taxation, transparency, and compliance.

6.1. Establishment of Clear Legal Frameworks

One of the main causes of non-compliance is the lack of clear legal guidelines regarding how Cryptocurrencies should be taxed. It is incumbent upon governments to introduce comprehensive frameworks that clearly outline:

• The classification of Cryptocurrencies, whether as property, assets, or currency.
• The type of events that are taxable, such as Crypto-to-Fiat conversions, Crypto-to-Crypto exchanges, staking rewards, and airdrops.

[116] South Africa Revenue Services, 'SARS'S Stance on the Tax Treatment of Cryptocurrencies' accessed 3rd January 2025.

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• How taxes are to be valued and paid, including valuation methodologies and acceptable fiat currencies of payment.

Clearly, better legal frameworks in Nigeria, which would be more in line with international best practices, could significantly increase compliance and reduce tax evasion. For example, a clear, specific endorsement of Crypto-assets within certain tax laws will clarify the rights and obligations of taxpayers.

6.2. Technological Solutions for Tax Compliance

The fast and continuous development of Cryptocurrency demands corresponding technological solutions for ensuring due tax compliance. Traditional ways of tax enforcement can't cope with the nature of Blockchain-based transactions: decentralised and pseudonymous. Advanced technologies, including tools for Blockchain analytics and smart contracts, might be a good enabler for governments and regulators to overcome challenges, increase transparency, and increase tax collection efficiency.

6.2.1 Adoption of Blockchain Analytics Tools

While pseudonymity makes tracking Cryptocurrency transactions challenging, advances in Blockchain analytics will help tax authorities trace such transactions and determine non-compliance. These tools leverage artificial intelligence and data analysis to monitor on-chain activities, linking wallet addresses to real-world identities when possible.

Blockchain analytics tools are a class of software applications that enable the tax authorities to track and trace Cryptocurrency transactions on public Blockchains. These tools de-anonymize transaction data that helps regulators to identify taxable events and enforce compliance.

The government could cooperate with Blockchain analytics companies to gain technical know-how and improve its monitoring and enforcement capabilities. It could also make Crypto exchanges in their jurisdictions implement reporting systems that provide real-time data on users' transactions to the tax agencies.

Other countries, like the United States and South Korea, have already partnered with private firms offering Blockchain forensic tools to enhance enforcement. The same can be replicated in Nigeria to improve oversight of its thriving Crypto market.[117]

[117] Michael Iorlaha, Justin Iorakpen Iorun & Amity Agi Ijuwo(2024). Innovative Approaches in Tax Enforcement and Tax Compliance for Sustainable Economic Development in Nigeria; A Conceptual Review. African Journal of Accounting and Financial Research. 2024;7(1):152-163. doi:10.52589/ajafr-ix0m8fmq

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Key Features and Benefits:

- Transaction Tracking: Blockchain analytics can track the flow of funds across wallets and exchanges, creating a clear audit trail for taxable events such as capital gains, income from mining, or staking rewards.
- Address Clustering: By analyzing patterns, these tools can group related addresses under a single entity, making it easier to identify users and link their activities to real-world identities.
- Fraud Detection: Advanced machine learning algorithms can detect unusual patterns and flag transactions that may involve tax evasion or illicit activities.
- Case Study: Here, the IRS within the United States uses different types of Blockchain forensics analyses, such as Chainalysis and Cipher Trace, for catching non-compliant taxpayers.[118] On the back of subpoenaed Crypto exchanges and cross-matching this with Blockchain data, the IRS developed better ways to apply tax laws with digital assets.

Application in Nigeria: The Nigerian tax authority, in concert with CBN and SEC, would be able to mimic such Blockchain forensic investigative tools in monitoring Crypto activities, especially in the budding P2P market of the country. This will enhance oversight, reduce tax evasion, and enhance compliance.

6.2.2 Smart Contracts

Smart contracts are self-executing contracts whereby the terms of the agreement are written directly into lines of code. Operating on Blockchain networks, smart contracts ensure that all transactions are not only automated but also transparent. Smart contracts hold great potential in modernizing tax compliance by embedding tax rules right within the process of transactions themselves.[119]

How Smart Contracts Can Improve Tax Compliance:

1. Automated Tax Withholding: Smart contracts can be designed to calculate and withhold taxes at the source of a transaction automatically. For instance, it could instantly deduct applicable tax on Cryptocurrency sales or any other income realized from DeFi when a user gains it before reaching their wallet.

[118] Y Eugene . Lee, C Gordon, Leeroy, Wesley Leeroy; Impact of Blockchain on Improving Taxpayers' Compliance: Empirical Evidence from Panel Data Model and Agent-Based Simulation. *Journal of Emerging Technologies in Accounting* 1 March 2024; 21 (1): 89–109. https://doi.org/10.2308/JETA-2022-046

[119] Novoa, Eugenia, et al. "SMART CONTRACTS AS AN ALTERNATIVE FOR THE MODERNIZATION OF TAX COLLECTION IN ECUADOR." *IurisDictio* 26 (2020): 31-49.

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2. Real-Time Tax Reporting: Smart contract transactions can report on tax-related information to the concerned authorities in real time and hence accurately report events in real time.
3. Immutable Record Keeping: Since Blockchain transactions are immutable, smart contracts give full transparency and an indelible record of every taxable event. Thus, this makes audits easier and disputes fewer.

Example Use Case: The same might be integrated into DEX applications with the involvement of smart contracts to automatically apply the capital gains tax whenever users swap tokens. The deducted tax could then be transferred to a designated government wallet for immediate compliance without intervention.

Potential in Nigeria: Given the sound Fintech ecosystem of Nigeria, there is a huge possibility of leveraging smart contracts for improved tax compliance by Crypto markets. The Blockchain developers and exchanges locally operating in Nigeria will surely support Nigerian tax authorities in making pilot programs, which test systems for the automatic collection of taxes based on smart contracts.

6.3. Standardization of International Tax Rules

Cryptocurrency transactions are usually cross-border activities, and the inconsistent tax rules across jurisdictions have resulted in confusion and risks of double taxation. There is a need for international cooperation in developing standardized rules of taxation applied to Cryptocurrencies.

The OECD and IMF, among other organizations, may hold the key to developing a set of international norms on taxing Cryptocurrencies, just as they have already done for more conventional financial instruments.[120] Countries may enter into bilateral or multilateral tax treaties that encompass the handling of Cryptocurrencies, which can help ensure consistency in their treatment and avoid double taxation.[121]

6.4. Enhanced Regulatory Compliance for Crypto Exchanges

Crypto exchanges are at the heart of every Cryptocurrency transaction, making them the focal points of enforcement by the tax authorities. By making compliance

[120] Mignano, Jim. "Co-predatory rule: International cooperation with respect to Cryptocurrency taxation in Russia and Belarus." *Hatfield Graduate Journal of Public Affairs* 4.1 (2020): 7.

[121] Ibid

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requirements more stringent for exchanges, governments can ensure better tax collection.

Linking such Cryptocurrency transactions with real identities can be done by making it compulsory for exchanges to implement strong Know Your Customer and AML procedures. Exchanges could be obliged to make reports to tax authorities on large or suspicious transactions, drawing on existing requirements imposed on banks. For Example:

Exchanges in South Africa have been forced to introduce strict Know Your Customer/anti-money laundering procedures and report their customers' transactions. Similar measures can be imposed in Nigeria, too, especially regarding its unregulated P2P Crypto market.[122]

Thus, overcoming regulatory challenges of Cryptocurrency taxation needs to be multivariate in nature through clear legal frameworks, international cooperation, technological innovation, and public engagement. These proposed solutions will be key in ensuring governments realize revenue potential from Cryptocurrencies amidst fair and transparent taxation. To countries like Nigeria, still in the process of formalizing their Crypto policies, these solutions could serve as a blueprint in developing a robust regulatory framework that supports innovation while safeguarding fiscal stability.

7. Conclusion

The rise of Cryptocurrencies has brought both a sword and a shield for governments and regulatory bodies around the world. On one hand, Cryptocurrencies have opened up new avenues for innovation, financial inclusion, and economic growth. On the other hand, their decentralized, borderless nature introduces significant regulatory and taxation challenges. Without clear and enforceable frameworks, governments risk losing potential revenue while inadvertently fostering environments where tax evasion, money laundering, and illicit activities can flourish.

This discussion has identified a number of the main regulatory challenges to the taxation of Cryptocurrencies, including a lack of uniformity in tax treatment, difficulties in tracking transactions, and valuation complexities. It has also identified a range of proposed solutions, including Blockchain analysis tools, smart contracts, international cooperation, and public education. The adoption of these measures will go a long way toward improving compliance, protecting public revenue, and promoting legitimacy in the Cryptocurrency market.

[122] *F O Ukwueze "Cryptocurrency: Towards Regulating the Unruly Enigma of Fintech in Nigeria and South Africa" PER / PELJ 2021(24) - DOI http://dx.doi.org/10.17159/1727-3781/2021/v24i0a10743*

The development of comprehensive legal frameworks and the application of advanced technological solutions are important, especially for countries like Nigeria, which has rapidly increased its adoption despite the regulatory uncertainty. Clearly defining taxation, partnering with Blockchain forensic firms, and conducting pilot programs on the use of smart contracts for automated tax collection will further enhance regulatory oversight and increase trust among Crypto users. The international cooperation will also align standards with global best practices, minimizing regulatory arbitrage and improving cross-border enforcement.

While Cryptocurrency taxation has been a complex and evolving feature, proactive and responsive regulatory methods can surely turn these into opportunities. A government that invests in strong frameworks and technological innovation will be better positioned to harness the benefits of the digital economy without compromising on equity and compliance.

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