Effect Of Cryptocurrency On The Nigerian Economy

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ABSTRACT

This study analyses the effect of cryptocurrency on the Nigerian economy. The development of crypto-currency as a means of exchange without legal backing and invisibility of the identity of operators has posed peculiar challenges, such as illicit financial flow and terrorism, amongst others, to the country. This study, therefore, sought to examine the effect of crypto-currency on the Nigerian economy. The study hinged on social exchange theory. Secondary data were obtained from the CBN statistical bulletin and Global Financial Integrity Report for a period of six years from 2015 to 2020. The data were analyzed using a simple regression model. The result shows that R is 7.9%, which means that there is a low positive relationship between crypto-currency and the level of economic development in Nigeria. It further shows an adjusted R square of -38.4 which depicts that crypto-currency has a low inverse effect on the level of economic development in Nigeria. In conclusion, the computed p-value of 0.945, which is higher than the set p-value of 0.05, shows that crypto-currency does not have a significant effect on the level of economic development in Nigeria. Hence, it is recommended that, in order to sustain economic development from the activities of crypto-currency in Nigeria, the CBN needs to ensure that laws and mechanisms are put in place to capture the activities of crypto-currency in the country adequately.

KEYWORDS: Cryptocurrency, Nigeria, Technology, Economy.

ABBREVIATIONS: CBN: Central Bank of Nigeria; SEC: Securities and Exchange Commission; GDP: Gross Domestic Product.

1. INTRODUCTION

The most recent and promising digital payment and investment system, particularly at this time, is cryptocurrency. Cryptocurrency is a type of digital asset that is intended to function as a means of exchange. It uses cryptography to protect financial transactions by controlling unit creation and confirming asset transfers. Cryptocurrency is similar to a regular currency in that it is intended to be a medium of trade, but it is primarily used to exchange digital information. Users can store money and secure payments using decentralized technology without using their names or banks.

One of the main obstacles to the widespread use of cryptocurrencies is price volatility. Stakeholders, including banks, the government and its agencies, businesses, active accountants, and some people, are concerned about the emergence of crypto-currencies and their future. Cryptocurrencies' development has given Nigerians and the government some food for thought. As a result, the CBN issued a warning to Nigerians advising them against adopting privately issued cryptocurrencies in the country. Even Nevertheless, there may be certain advantages for the Nigerian economy in using cryptocurrencies. Although there are many different kinds of cryptocurrencies in use today, Bitcoin, Ethereum, and Ripple are the three (3) biggest and most popular ones.

Bitcoin is the main focus of this study because it is the most widely used and accepted. Because it makes the transfer of wealth between parties easier, its scheme has elements of a payment system. Bitcoin has its own unit of measurement for a value called a bitcoin, unlike traditional payment systems, which often involve the transfer of money denominated in a national currency like the Naira. A bitcoin is essentially an electronic token that has no connection to any kind of underlying resource or national money. The usage of cryptocurrencies like Bitcoin has implications for and poses a threat to central banks' historically exclusive jurisdiction to print money and regulate the money supply, a power that has the advantage of providing an effective transmission mechanism for monetary policy. The CBN would not benefit from a major growth in cryptocurrency demand since it would result in the development of a rival and ultimately fragmented monetary system. However, with the help of cryptography technology, bitcoin and other cryptocurrencies carry out comparable financial sector activities with sufficient safety measures and without the need for a third-party middleman. The objective of this study is to examine the likely potential benefits and challenges of legalizing the use of as a medium of exchange in the Nigerian economy using bitcoin as a study.

A review of the report shown by the Global Financial Integrity group shows an increased level of illicit financial flow estimate for Nigeria which shows a deteriorating position. Apart from the proceeds of corrupt practices, the activities of multinational firms in Nigeria have been linked with capital flight from Nigeria (host) into the home country of the parent organization [1]. In comparison to other modern African nations, Nigeria's tax revenue to GDP ratio is low [2, 3]. Tax revenue is essential to the survival of any economy because it allows the government to redistribute money and provide public amenities to the thronging population [4]. The non-identification of its users and the significant volatility of its value are two arguments advanced against cryptocurrency. Numerous qualitative research on cryptocurrency has been conducted in an effort to define it and analyze how it affects global economies [5-7]. However, a few of the studies on cryptocurrency used a quantitative research approach but a field survey research design [8, 9]. This creates a methodological gap that this study aims to close by investigating the impact on the Nigerian economy using a quantitative research methodology based on macro-economic data for Nigeria rather than depending on respondents' views as in previous similar studies.

The world has become a global village since the development of the internet and mobile phone technology because worldwide communication is now quick and easy. These technological advancements have substantially facilitated cross-border communication, which has boosted global trade. Without any physical interaction, business agreements can be reached between people who live on opposite sides of the world. As a result, it appears that over time, the speed of online transactions has surpassed that of the conventional payment system, making it less effective. These advances have changed both the economy as a whole and how economic activity can be restricted. People, businesses, and the economy as a whole stand to win from these advances, such as faster and cheaper payments, but they also generate new regulatory concerns, particularly jurisdictional ones like the fight against money laundering, terrorist funding, and tax evasion, among many others. Around the world, there has been a range of reactions to this event. While some nations have outright bans on virtual currency, others are creating laws to reduce the risks and maximize the advantages it offers. Although there is presently no legislative structure for the use of crypto (virtual) currency, the Nigerian government has issued various cautions against investment in (use of), particularly with regard to the danger of loss of investment.

A digital token that uses encryption to enable the exchange of its value for other things is described as a cryptocurrency. It can be used in place of legal money or at market prices, according to Dourado and Brito [10]. They can trace the beginning of 2009, the year when Bitcoin, a sort of cryptocurrency, was first introduced. In order to ensure that a user does not spend Bitcoin more than once, it uses a ledger system known as blockchain technology. There is no Central Bank in charge of Bitcoin. However, it has two kinds of governance: algorithmic governance and open-source governance. Additionally, those involved in the creation of cryptocurrency—miners—ensure the integrity of the process. The Central Bank noted a number of dangers related to cryptocurrencies, including value volatility, payment system instability, a lack of supporting legal framework, and cyberattack susceptibility. Bitcoin, Ethereum, Litecoin, and Z-Cash are a few examples of cryptocurrencies.

2. CRYPTO CURRENCY AND ITS ECONOMIC DEVELOPMENT IN NIGERIA

Economic development is described as a sustained level of economic growth.

They represent its measure as $\frac{\text{Current year GDP – Previous year GDP}}{\text{Previous year GDP}}$

The 2016 financial crisis, which limited international business due to the scarcity of foreign currency, prompted the introduction of Bitcoin in Nigeria. Bitcoin is accepted by people in Nigeria and the USA due to its independence from the financial crisis and its value as a fantastic medium of trade at this time. While this tendency suggests that governments could tamper with currencies, bitcoin defies this trend.

It is conceivable for a nation to experience economic growth without also experiencing economic development, according to Joseph and Omodero [11]. GDP, which is calculated by adding up personal consumption, business investment, and government spending, is typically used to measure economic growth. This is an indicator of the economy's level of economic activity.

3. ILLICIT FINANCIAL FLOW

According to Joseph and Omodero [11], illicit financial flow is defined as wealth that has been obtained illegally and is moved or used in violation of national laws. They also claimed that this cash was obtained through crooked business dealings and that sometimes multinational firms were responsible for transferring money from their subsidiaries to the main company. According to the Global Financial Integrity Group, there are three basic ways that money is moved illegally, which are:

(i) through proceeds of corruption,

(ii) international criminal activities and

(iii) Illegal commercial flight. While avenues through which funds are illegally moved include but are not limited to tax evasion schemes carried out by multinational companies, transfer pricing schemes, illegal mining of natural resources, and misappropriation of public funds. World Bank [12] affirmed that all these illicit means enhance the continual poverty level and reduce taxable income that is required to fund infrastructural development activities and poverty alleviation schemes.

The theoretical foundation for this study is provided by the social exchange theory. Relationships are built on the exchange of values, which can be physical or not, according to American sociologist Homans [13], who made this claim in 1961. Miller [14], however, criticized it, pointing out that it assumes that human connection is primarily motivated by the expectation of gain from the other person. The notion was further criticized for focusing on closeness as the relationship's primary goal, despite the fact that this is not always the case. Additionally, the theory presupposes that connections take a straightforward, monotypic form when, in reality, relationships can take a variety of shapes. However, Lambe *et al.* [15] have justified the theory's existence by using corporate partnerships as examples, where interactions are developed and maintained for the advantage of all parties. They asserted that people are typically selfish, which is consistent with the egoistic worldview that underpins the capitalist economy. As a result, relationships continue because of the exchange of values. This theory is deemed appropriate for this study in that it states that a medium of trade will only be held if its holders perceive its worth to be beneficial to them.

4. LITERATURE REVIEW

Cryptocurrency is a decentralized cash payment system or digital money that is designed, encrypted, and, in the majority of situations, anonymous. It uses cryptography for security and anti-counterfeiting features. A corporation or collection of people may issue a cryptocurrency, a digital derivative financial instrument with all the characteristics of a financial instrument, in order to raise money for ambitious initiatives or to buy assets for capitalization [16].

The crypto-asset acts as a guarantee for the owner's identification and the issuer's performance of its commitments to the holder of the crypto-asset. Mandeng [17] described crypto-currencies as private digital, de-nationalized, unreserved, floating, and convertible monies. Peer-to-peer electronic money, cryptocurrency relies on digital signatures as proof of ownership and is distinguished by a public history of all transactions to avoid double-spending. The advantages offered by modern digital finance, such as cheap transaction costs, high speed, and efficiency in payments, especially for international transactions for individuals and corporate bodies, are already being reaped by many nations throughout the world. The problems associated with this breakthrough include money laundering, terrorist financing, and tax evasion, among others, notwithstanding the many promises it makes. To accomplish the goals of this study, the grounded theory research design was used by Onyeke [18].

With the success of Nakamoto's [19] pioneering work, which began in 2008 when he developed Bitcoin as the first decentralized cryptocurrency based on peer-to-peer cash transfers using blockchain technology, cryptocurrencies started to enter the mainstream in 2009. With the aid of blockchain technology, transactions can be carried out directly without the need for a middleman [20, 21]. A blockchain is the decentralized and widespread sharing of data that comprises a transaction record or entry in a financial ledger. Each transaction is digitally signed to guarantee its validity and prevent tampering, allowing the ledger itself and the transactions already present in it to be taken as having a high level of integrity. The digital ledger is used to record transactions across many computers so that any involved records cannot be altered retroactively without the alteration of all subsequent blocks. The first privately used cryptocurrency is called Bitcoin. After Bitcoin, other privately issued cryptocurrencies like Ethereum and Ripple emerged. The most well-known cryptocurrency, Bitcoin, also goes by the names of digital currency, digital cash, virtual currency, and electronic currency. Privately issued cryptocurrencies are used as a medium of exchange, just like conventional money. They can also be utilized as a value store. They can also be used as a unit of measurement or accounting. It is decentralized digital money that may be sent directly between users on the peer-to-peer Bitcoin blockchain network without the assistance of a central bank or a single administrator [22].

According to Siyanbola *et al.* [23], crypto-currency does not have a significant effect on the level of economic development in Nigeria. The study hinged on social exchange theory. Secondary data were obtained from the CBN statistical bulletin and Global Financial Integrity Report which depicts that crypto-currency has a low inverse effect on the level of economic development in Nigeria.

Chiu and Koeppl [24] carried out a study in the United States where they assessed the ability of Bitcoin to facilitate bilateral trade using a quantitative research method. They pointed out that crypto-currency can outperform the traditional model of retail payment when scaling the limitation is taken care of.

The study revealed that crypto-currency has potential but comes with a lot of challenges that need to be addressed for the potential to be optimized. Barone [5] carried out a qualitative research method study by reviewing the literature in order to assess crypto-currency on terrorism. It was discovered that there is a need for the regulation of crypto-currency to curb terrorist finance activities. Knezevic [25] carried out a similar study in Serbia to assess the effect of blockchain technology on the financial sector. The study employed a qualitative research method by reviewing relevant extant literature. It was pointed out that blockchain technology has a significant effect on the financial sector and has the potential to influence other sectors of the economy. Adeleke *et al.* [26] conducted a study in Nigeria by reviewing existing literature on the theme using a qualitative research method. They discovered that there is a paucity of literature on the theme in Africa and that most existing literature employed the survey technique. Acho [27], in his study, was able to design and examine the effects of legalizing the use of crypto-currency as a medium of exchange in the Nigerian economy; he discovered that there are risks and benefits with the use of crypto-currency and also the use of crypto-currency will contribute to the economic growth.

Similar to their study, Ebelogu *et al.* [6] similarly investigated the impact of cryptocurrency on the economy in Nigeria by analyzing pertinent literature. They discovered that cryptocurrency offers advantages and disadvantages if it is not properly regulated. Using a qualitative study approach, Dion-Schwarz *et al.* [28] assessed the impact of cryptocurrencies on the financing of counterterrorism. They found that because there is little regulation of cryptocurrency, it is frequently used to fund terrorist activities. In order to investigate the risks that cryptocurrency poses to national security in regard to terrorism, Kfir [29] carried out research in Australia. It was found that there was no global regulatory framework in place to regulate Bitcoin transactions. Krishnan [7] evaluated the effect of blockchain technology on social resistance and terrorism using a qualitative research method where relevant existing literature was reviewed. It was pointed out from the findings of the study that there is a need for regulation of bitcoin activities.

5. REGULATORY FRAMEWORK FOR CRYPTO-CURRENCY IN NIGERIA

The legal standing of virtual (or crypto) currency in Nigeria is unclear. This is due to statements made by the CBN and SEC, two regulatory bodies in Nigeria, that are inconsistent with the reality of the country's financial landscape. In a circular sent to banks and other financial institutions in January 2017, the CBN cautioned them against getting involved in the activities of venture capitalists in Nigeria. The circular states that because virtual currency transactions are essentially anonymous and untraceable, criminals might take advantage of them, particularly to launder money and fund terrorism. All around the world, virtual currencies are traded on uncontrolled exchange platforms. Therefore, in the event that these exchanges fail or cease operations, customers can lose their money without having legal recourse [30].

The future is uncertain, despite the fact that many Nigerian investors made investments with the hope of recovering enormous interest in the future. The Nigerian government has warned its citizens repeatedly about the risks involved in investing in the cryptocurrency market or in virtual currencies that are not backed by the state through the CBN and SEC. According to Ingham [31], cited in Salawu and Moloi [9], the ability of the government to control such money, act as a last resort and ensure stability and validity of the money is what makes the state the ultimate authority, not just it's capacity to make laws or issue money. The Chartalism monetary theory of money, which states that money is referred to as legal tender because it is created by the government, would be in opposition to the government's permission for the use as a medium of exchange. In a nutshell, the state decides what forms of payment to accept and which to reject. Therefore, the state has the authority to either legislate the use by its residents in any country (government). The use of cryptocurrencies reaches the area of untraceable data and goes beyond consumer data protection. Due to this, the Nigerian government made it very clear that any citizen investing in such currency does so at their own risk and is responsible for any losses.

6. ECONOMIC IMPORTANCE OF LEGISLATING CRYPTOCURRENCY (BITCOIN) IN NIGERIA

1) **Huge Return**: There is a guarantee of a sizable return on the investment, which the investors would utilize to carry out various developmental operations, promoting the expansion and development of the nation.

2) **Increase tax base**: Because of the potential tax benefit, many nations now permit the usage of cryptocurrencies. Nigeria may take advantage of that and raise her tax revenue, which could then be utilized to fund infrastructure.

3) **Elimination of corruption**: One of the major plagues affecting the growth of Nigeria's economy has been corruption. Blockchain technology can be used to address some of these difficulties that contribute to corruption, such as creating a budget and tracking system for all government revenues and expenditures.

7. CHALLENGES (RISKS) ASSOCIATED WITH CRYPTO-CURRENCY

1. **Lack of Central Authority**: The absence of a central authority or government is one of the primary characteristics of cryptocurrencies. Although each participant's transaction and account information is publicly available for all members to observe and track, no specific administrator is in charge of keeping an eye on the variations in cryptocurrency activity. This

made it challenging to track down, identify, or hold anyone accountable for any problem that could require investigative purposes [32]; as a result, the use of such currency is seen as illegal in a nation without a centralized government.

2. **Money Laundering**: Money laundering is a criminal phenomenon that is continually changing, with updated methods of operation and new business models. One of the major obstacles a criminal company faces is developing a good cash-out strategy, which is difficult to do. Without laundry outlets, crime would become an unprofitable enterprise unless it was done solely for lifestyle expenses. Traditionally, money mules, offshore accounts, or opulent goods like fine art, expensive homes, and yachts have helped with the laundering of criminal cash.

3. **Tax Evasion**: Tax evaders now have a new edge thanks to Bitcoin (and other cryptocurrencies) that conventional tax havens cannot provide. This is because Bitcoin does not require the presence of financial middlemen like banks in order to function. Bitcoin appears to be resistant to the emerging international anti-evasion system because it is peer-to-peer exchangeable. Cryptocurrencies could thus become the best type of offshore bank account (tax havens).

8. PROSPECTS OF CRYPTOCURRENCIES

The technology has valid uses despite the regulatory dangers it poses. It facilitates international trade, especially at the micro level, is more affordable and quicker for foreign remittances, and has the potential to increase financial inclusion. International remittances are under pressure in a number of ways. For instance, in Somalia, the Hawala systems have been threatened with closure because banks are worried that they are funding terrorism. The Somalian economy depends heavily on remittances, yet businesses like Dahabshiil that offer this essential service have been singled out for exclusion by banks in countries like the United Kingdom, which has a sizable Somalian population.

Financial Inclusion: In the instances mentioned above, Bitcoin served as a medium of exchange to make currency transfers easier. This may presuppose that the user has access to a bank account but has trouble using e-commerce platforms or overseas transfers due to their high costs or complexity. It is feasible to concentrate on the Bitcoin system as a specific kind of decentralized bank, though.

International Commerce: Additionally, Bitcoin can ease localized international trade. Local business owners in less developed nations could have trouble using international payment methods to sell their products abroad.

9. RESEARCH METHODOLOGY

The quantitative research method is adopted in this study, and the ex-post facto research design was used as data were obtained from secondary sources. Secondary data on the variables (crypto-currency, economic development, illicit finance, terrorism, and tax revenue) for 2015 - 2020 were obtained from a credible online source (stata.com), the CBN statistical bulletin, and from Global Financial Integrity report on illicit financial flow. The simple linear regression was used to assess the effect of the independent variable on the dependent variables, while the hypotheses were tested at a 5% level of significance using the analysis of variance (ANOVA).

The linear regression model is represented below:

$CGDP = \beta 0 + \beta 1Cy + e$…….....1

$ILIF = \beta 0 + \beta 1Cy + e$…….....2

$TER = \beta 0 + \beta 1Cy + e$…….....3

$TREV = \beta 0 + \beta 1Cy + e$…….....4

Whereas:

CGDP = Change in Gross Domestic Product (Dependent Variable)

ILIF = Illicit Finance (Dependent Variable)

TER = Terrorism

TREV =Tax Revenue

β0 = Intercept where the independent variable is zero

β1Cy = Value of Crypto-currency transactions (Independent Variable)

e = error term

10. DATA ANALYSIS AND INTERPRETATION

Test of Hypotheses
Hypothesis One
H0: There is no significant effect on the level of economic development in Nigeria.

Table 1. Model Summary.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.079[a]	.003	-.384	13941.800

[a]Predictors: (Constant)

Table 1 reveals that there is a low positive relationship between crypto-currency and the level of economic development in Nigeria. An R of 7.9% represents this; it also shows that there is a low inverse relationship between the level of crypto-currency and economic development in Nigeria, which is represented by the adjusted R square of -38.4%. This means that the higher the level of crypto-currency transactions, the lower the level of economic development in Nigeria.

Table 2. ANOVA[a]

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	2605501.963	1	2605501.963	.013	.945[b]
Residual	777495148.853	4	194373787.213		
Total	780100650.815	5			

[a]Dependent Variable: Economic Growth
[b]Predictors: (Constant), Crypto-currency

Table 2 shows that the computed p-value is 0.945, which is higher than the set p-value of 0.05; hence, the null hypothesis states that “there is no significant effect of crypto-currency on the level of economic development in Nigeria.”

Table 3. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	14780.963	6841.598		2.160	.097
Crypto-currency	-1.189E-010	.000	-.058	-.116	.913

[a]Dependent Variable: Economic Growth

Table 3 reveals the value of the integers used in the regression model employed to test hypothesis one. It shows that the integer for the independent variable is negative, further confirming the inverse effect on the level of economic development in Nigeria.

Hypothesis Two
H0: There is no significant effect on the level of illicit financial flow in Nigeria.

Table 4. Model Summary

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.524[a]	.469	.236	2640993.08289

[a]Predictors: (Constant)

Table 4 shows that there is a moderate relationship between the level of illicit financial flow in Nigeria. This is represented by 52.4%. The result further shows that there is a low positive effect on the level of illicit financial flow in Nigeria, which is represented by 23.6%. This shows that the higher the level of activities, the higher the level of finances routed through illicit financial flow in Nigeria.

Table 5. ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	24600432034985.520	1	24600432034985.520	3.527	.121[b]
1 Residual	27899377855547.380	4	6974844463886.845		
Total	52499809890532.900	5			

[a]Dependent Variable: Illicit Finance

[b]Predictors: (Constant), Crypto-currency

Table 5 reveals that the computed p-value of 0.121 is higher than the set p-value of 0.05; this, therefore, means that the null hypothesis, which states that 'there is no significant effect of on the level of illicit financial flow in Nigeria, is retained.

Table 6. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	5111249.688	1296002.910		3.944	.017
1 Crypto-currency	3.652E-007	.000	.685	1.878	.121

[a]Dependent Variable: Illicit Finance

Table 6 shows the value of the integers used in testing hypothesis two. It shows that the independent variable has a positive integer, which further confirms the nature of the effect of the independent variable on the dependent variable.

Hypothesis Three

H0: There is no significant effect on the level of terrorism in Nigeria.

Table 7. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.124[a]	.011	-.337	.45084

[a]Predictors: (Constant)

Table 7 shows that there is a low positive relationship between the level of terrorism in Nigeria. The R result of 12.4% represents this. It further reveals that crypto-currency activities have a low inverse effect on the level of terrorism in Nigeria. This is shown by the adjusted R2 result of -33.7%. It, therefore, means that an increase in the level of crypto-currency activities does not necessarily lead to an increase in the level of terrorism in Nigeria.

Table 8. ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	.009	1	.009	.044	.680[b]
Residual	.813	4	.203		
Total	.822	5			

[a]Dependent Variable: Terrorism

[b]Predictors: (Constant), Crypto-currency

Table 8 reveals that the computed p-value is 0.680, which is higher than the set p-value of 0.05, which is set for this study. Therefore, the alternate hypothesis is rejected, and the null hypothesis, which states that 'there is no significant effect of crypto-currency on the level of terrorism in Nigeria, is retained.

Table 9. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	8.907	.221		40.261	.000
1 Crypto-currency	-1.069E-013	.000	-.104	-.209	.680

[a]Dependent Variable: Terrorism

Table 9 discloses information on the integer of the independent variable and the intercept used in the regression model. It shows that the integer value for crypto-currency is negative while that of the intercept is positive.

Hypothesis Four

H0: There is no significant effect of crypto-currency on the level of tax revenue in Nigeria.

Table 10. Model Summary

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.248[a]	.016	-.424	636.42444

[a]Predictors: (Constant), Crypto-currency

Table 10 shows that there is a low positive relationship between crypto-currency activities in Nigeria and the level of tax revenue generated in Nigeria. This is disclosed by the result of the R which is 24.8%. It further reveals that crypto-currency has an inverse effect on the level of tax revenue in Nigeria. This result is shown by the adjusted R2 of -42%. This can be further interpreted as the higher activities in crypto-currency, the lower the level of tax revenue generated in Nigeria.

Table 11. ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	25850.385	1	25850.385	.064	.817[b]
Residual	1620144.296	4	405036.074		
Total	1645994.681	5			

[a]Dependent Variable: Tax Revenue
[b]Predictors: (Constant), Crypto-currency

Table 11 reveals the computed p-value of 0.817, which is higher than the set p-value of the study, which is 0.05. Hence, the alternate hypothesis is rejected, and the null hypothesis, which states that 'there is no significant effect of crypto-currency on the level of tax revenue in Nigeria', is retained.

Table 12. Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	4144.353	312.310		13.270	.000
1 Crypto-currency	-1.194	.000	-.215	-.253	.817

[a]Dependent Variable: Tax Revenue

Table 12 shows the values of the intercept and independent variable integers of the regression model. It reveals that the independent variable has a negative integer while the intercept has a positive integer.

11. DISCUSSION OF FINDINGS

The Results from Tables 1 and 2 reveal an adjusted R-square of -38.4% while the computed value is 0.945, indicating that cryptocurrencies do not significantly impact the development of Nigeria's economy. The regression result indicates that, albeit being negligible, Nigeria's degree of economic progress will be worse if cryptocurrency is used there. This is in contrast to Mazikana [8], who claimed that cryptocurrency has a lot of potential for ensuring the economy is booming but needs the right legislation and standards to do so. The results of this study are proof of this since there is no regulation of cryptocurrency in Nigeria at the moment, which may be the cause of the dismal outcome.

A computed p-value of 0.121 and an adjusted R square of 23.6 from Tables 4 and 5 further demonstrate that there is a negligible beneficial impact of cryptocurrency on Nigeria's illicit financial flow. However, it demonstrates that Nigeria's illicit financial flow increases in proportion to the amount of cryptocurrency activity there. This is in line with Barone's [5] assertion that it should be regulated in order to stop the flow of illicit funds. Additionally, Tables 7 and 8 indicate an adjusted R square of -33.7 and a computed p-value of 0.68, indicating a negligible inverse relationship between cryptocurrency and the level of terrorism in Nigeria. This implies that the level of successful terrorism actions carried out in Nigeria increases as more crypto-currency activities are involved. This is also consistent with the study of Barone [5], who suggested that regulation of cryptocurrencies is crucial to preventing their use for terrorist financing. Tables 10 and 11 also display a computed value of 0.817 and an adjusted R-square of 42%. This suggests that the level of tax income in Nigeria is not significantly impacted by cryptocurrency. However, it demonstrates that as crypto-currency use increases in Nigeria, tax income decreases, indicating that taxes may currently be evaded through the use of crypto-currencies in Nigeria. This is also in line with the opinions expressed by Ebelogu *et al.* [6] and Kfir [29], who also emphasized the necessity of regulating cryptocurrency activity in Nigeria. However, the social exchange theory explains why cryptocurrency and the Nigerian economy are insignificant, which can be partially attributed to its high-value fluctuation. As a result, the outcomes of this study correctly demonstrate that the number of people who subscribe to its operation is negligible.

12. CONCLUSION AND RECOMMENDATIONS

This study was carried out to examine the effect of crypto-currency on the Nigerian economy. The result of the analysis shows that crypto-currency has a low inverse effect on the level of economic development of Nigeria and a low positive effect on the level of illicit financial flow in Nigeria. It further reveals that crypto-currency has a low inverse effect on the level of terrorism and tax revenue in Nigeria. In summary, the result can be explained as depicting that crypto-currency has no significant effect on the Nigerian economy. From the findings of the study, the following recommendations are made: First of all, the government, through the financial industry regulators such as the CBN, needs to set up regulations to ensure that crypto-currency inflow is promoted into the country in order to reverse the negative effect on economic development. In addition, the CBN needs to set up means of identifying owners of crypto-currency accounts to curb the menace of illicit financial flow in Nigeria and to promote transparency in its activities further. Lastly, the legislative arm of government, in conjunction with the Ministry of Finance and the Federal Inland Revenue Service, needs to promote the establishment of tax laws and mechanisms in order to ensure that taxable transactions in which crypto-currency is used as a means of settlement are captured into the tax revenue net.

The emergence has created a new regime in the financial payment system globally. This innovation has an anonymity feature, which makes it almost impossible to tie transactions to identifiable persons. Again, just like the internet, it is difficult to regulate as its usage is not jurisdictionally limited. These and their other features pose new regulatory challenges to the Anti-Money Laundering Counter Financing Terrorism fights, as well as create tax havens for tax evaders. Notwithstanding these regulatory problems, it has the potential to improve payment efficiency and reduce transaction costs for payments and fund transfers. Although there have been several warnings from the Nigerian government through its regulatory agencies against the use (or investment) of digital currency to avoid loss of investment with less emphasis on the vulnerability of the currency to criminal activities, the regulatory framework in Nigeria is still nonexistent. This paper, therefore, recommends that the Federal Government of Nigeria should assiduously make laws, especially as it relates to the licensing and supervision of crypto exchanges – the platform of the interface between the virtual currency and fiat currency (naira). Adoption of the Risk-Based Approach recommendations of the Financial Action Task Force will assist in formulating the regulations. Secondly, the Nigerian tax authorities should consider the tax evasion potentials of crypto-currencies and proactively make regulations to block all the loopholes it can present. Finally, it is recommended that the regulatory bodies in the Nigerian financial sector recognize opportunities the currency potentially holds for its payment system. This would enable the government to assess the returns made and ensure that proper disclosures are made for tax purposes. Based on the findings of this study, the following recommendations are drawn:

- The Nigerian government should review its regulatory framework to legislate the use of cryptocurrency and take a cue from nations that have already passed laws governing it. These laws must specify the terms and conditions with respect to

privacy law in the interest of the state and citizens, anti-laundering laws and loss recovery in the case of illegal transactions and potential user attacks, crypto-asset insurance in the interest of investors, etc.

- The accounting and taxation aspect should be made known to practicing accountants in Nigeria to enable them to recognize it in their financial statements.

The relevant agencies of government ought to be proactive regarding crypto-currencies by building necessary regulatory and monetary architectures or apparatuses around the new financial technology so that Nigeria and Nigerians are not left out of this interesting shift in the monetary paradigm.

CONFLICT OF INTEREST

None.

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REFERENCES

1. Obidike PC, *et al.*, 2015. The impact of capital flight on economic development: Nigeria in focus. British Journal of Economics, Management and Trade; 10(3), 1-13. https://doi.org/10.9734/BJEMT/2015/20122
2. Audu SI, 2020. Pattern of spending and the level of tax revenue in Nigeria. International Journal of Research and Innovation in Social Science; 4(9), 561-567. https://rsisinternational.org/journals/ijriss/Digital-Library/volume-4-issue-9/561-567.pdf
3. Lethbridge J, 2016. Tax justice in Nigeria. Public Services International Research Unit; 2, 2-16. https://www.world-psi.org/sites/default/files/lethbridge_tax_justice_in_nigeria.pdf
4. Romanus OO, Monday OC, 2014. An examination of the Nigerian fiscal federalism and its impact on revenue generation for economic development. International Journal of Economics, Commerce and Management; 2(12), 1-20. https://ijecm.co.uk/wp-content/uploads/2014/12/21224.pdf
5. Barone DM, 2018. Jihadists use of cryptocurrencies: undetectable ways to finance terrorism. International Journal of Italian Team for Security, Terroristic Issues and Managing Emergencies; 8(2), 17-59. https://www.sicurezzaterrorismosocieta.it/wp-content/uploads/2018/11/Daniele-Maria-Barone-Jihadists'-use-of-cryptocurrencies_undetectable-ways-to-finance-terrorism.pdf
6. Ebelogu CU, *et al.*, 2019. Cryptocurrency (blockchain) technology as a means of leveraging the Nigeria economy. International Journal of Advances in Scientific Research and Engineering; 5(12), 139-146. https://doi.org/10.31695/IJASRE.2019.33657
7. Krishnan A, 2020. Blockchain empowers social resistance and terrorism through decentralized autonomous organizations. Journal of Strategic Security; 13(1), 41-58. https://doi.org/10.5038/1944-0472.13.1.1743
8. Mazikana AT, 2018. The impact of cryptocurrencies in Zimbabwe: an analysis of Bitcoins. PhD Thesis; 1-84. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3376307
9. Salawu MK, Moloi T, 2018. Benefits of legislating cryptocurrencies: perception of Nigerian professional accountants. Academy of Accounting and Financial Studies Journal; 22(6), 1-17. https://ujcontent.uj.ac.za/view/pdfCoverPage?instCode=27UOJ_INSTandfilePid=135832540007691anddownload=true
10. Dourado E, Brito J, 2014. Cryptocurrency. Book chapter in "The New Palgrave Dictionary of Economics"; Vernengo M, *et al*. (eds). Palgrave Macmillan: London, UK; 1-10. ISBN 978-1-349-95189-5
11. Joseph FI, Omodero CO, 2019. Illicit financial flows and the growth of the Nigerian economy. International Journal of Economics and Financial Modelling, 4(1), 13-24. https://doi.org/10.20448/811.4.1.13.24
12. World Bank, 2015. World development report 2015: mind, society, and behavior. World Bank: Washington, DC. https://www.worldbank.org/content/dam/Worldbank/Publications/WDR/WDR%202015/WDR-2015-Full-Report.pdf
13. Higgins AC, 1961. "Social behavior: its elementary forms." By George Caspar Homans. New York: Harcourt, Brace and World, Inc. 404 pp. Social Forces; 40, 180-181. https://doi.org/10.2307/2574301
14. Miller R, *et al.*, 2002. The future of money. Book chapter in "The Future of Money"; Organization for Economic Cooperation and Development (Ed). OECD Publication: Paris, France; 11-30. https://doi.org/10.1787/9789264195929-en
15. Lambe CJ, *et al.*, 2001. Social exchange theory and research on business-to-business relational exchange. Journal of Business-to-Business Marketing; 8(3), 1-36. https://doi.org/10.1300/j033v08n03_01
16. Ansoff HI, 1965. Corporate Strategy: An Analytic Approach to Business Policy for Growth and Expansion. McGraw-Hill: New York, NY.
17. Mandeng OJ, 2018. Cryptocurrencies, monetary stability and regulation: Germany's nineteenth-century private banks of issue. https://doi.org/10.13140/RG.2.2.32541.41448
18. Onyeke CE, 2020. Crypto-currency and the Nigerian economy: problems and prospects. IAA Journal of Social Sciences (IAA-JSS); 6(1), 152-162. https://www.iaajournals.org/wp-content/uploads/2021/01/IAA-JSS-61152-162-2020.pdf
19. Nakamoto S, 2008. Bitcoin: a peer-to-peer electronic cash system. https://bitcoin.org/bitcoin.pdf
20. Hameed S, Farooq S, 2017. The art of cryptocurrencies: a comprehensive analysis of popular cryptocurrencies. International Journal of Advance Computer Science and Applications; 7(12), 426-435 https://doi.org/10.48550/arXiv.1711.11073
21. Grech A, Camilleri AF, 2017. Blockchain in education. In: Inamorato dos Santos A (ed), EUR 28778 EN. https://doi.org/10.2760/60649

22. Ameer F, Khan NR, 2019. National culture, employee's engagement and employee's CSR perceptions in technology-based firms of Pakistan. Journal of Management Sciences; 6(2), 54-74. https://econpapers.repec.org/article/geijournl/v_3a6_3ay_3a2019_3ai_3a2_3ap_3a54-74.htm
23. Siyanbola T, *et al*., 2021. Cryptocurrency and the Nigerian economy. African Journal of Accounting and Financial Research; 4(3), 180-193. https://doi.org/10.52589/AJAFR-TBBBMBOT
24. Chiu J, Koeppl TV, 2017. The economics of cryptocurrencies – Bitcoin and beyond. 1-55. https://doi.org/10.2139/ssrn.3048124
25. Knezevic D, 2018. Impact of blockchain technology platform in changing the financial sector and other industries. Montenegrin Journal of Economics; 14(1), 109-120. https://doi.org/10.14254/1800-5845/2018.14-1.8
26. Adeleke I, *et al.*, 2019. A systematic review of cryptocurrency scholarship. International Journal of Commerce and Finance; 5(2), 63-75. http://ijcf.ticaret.edu.tr/index.php/ijcf/article/download/126/pdf_84
27. Acho Y, 2021. Crypto-currency and the Nigerian economy. Journal of International Relations Security and Economic Studies (JIRSES); 1(3), 43-58. http://journals.rcmss.com/index.php/jirses/article/view/171
28. Dion-Schwarz C, *et al.*, 2019. Terrorist Use of Cryptocurrencies: Technical and Organizational Barriers and Future Threats. RAND Corporation: Santa Monica, CA. ISBN: 9781977402349.
29. Kfir I, 2020. Cryptocurrencies, national security, crime and terrorism. Comparative Strategy; 39(2), 113-127. https://doi.org/10.1080/01495933.2020.1718983
30. CBN, 2017. Circular to banks and other financial institutions on virtual currency operations in Nigeria. https://www.cbn.gov.ng/out/2017/fprd/aml%20january%202017%20circular%20to%20fis%20on%20virtual%20currency.pdf
31. Ingham G, 2000. "Babylonian madness": On the historical and sociological origins of money. Book chapter in "What is Money?"; Smithin J (ed), 1st ed. Routledge: London, UK; 16-41. ISBN 9780203072691.
32. Meiklejohn S, *et al.*, 2016. A fistful of Bitcoins: characterizing payments among men with no names. Communication of the ACM; 59(4), 86-93. https://doi.org/10.1145/289638