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Analysis of the effect of cryptocurrencies on Nigeria economy

Onodugo Ifeanyi Chris[1], Anigbo Rita Ebere[2], Onyeledo Ijeoma Peace[2], Mekuye Ebere Augusta[3]
[1] Professor, Department of Education, Charisma University, Turks & Caicos Islands, United Kingdom
[2] Department of Human Resource Management, Charisma University, Turks & Caicos Islands, United Kingdom
[3] Department of International Relations, Charisma University, Turks & Caicos Islands, United Kingdom

Abstract
This study was undertaken to ascertain the effect of cryptocurrencies on the Nigeria Economy. It also examined the benefits of cryptocurrencies in Nigeria. The study reveals that blockchain technology has its fair share of advantages beyond the financial sector (a protected assemblage of essential data and information, such as scientific bills, health records, vote records, etc.). Quantitative data were sourced from the respondents through the administration of a structured questionnaire. Results revealed that cryptocurrencies such as Bitcoin and Ethereum in performing online transactions have been on the rise and almost accepted globally. The study concluded that a significant number of people are now fully convinced that the digital Currency-Bitcoin is legitimate, safe and has value.

Keywords: bitcoin, blockchain, cryptocurrencies, ethereum, economy

Introduction

Crypto currency constitute as a subset of alternative currencies or better referred to as digital currency is a digital asset from block chain technology which is designed to function as a medium of exchange using cryptography to execute transactions and to control the creation of additional units of the currency. The evolution and advancement of economic revolution and the need to sustain the economy through advanced financial technology, through a new form of digital currency using encryption techniques to regulate the generation of units of a currency and verify the transfer of funds operating independently of a central bank, precipated the introduction of crypto-currency into the Nigerian economy. Consequently a digital currency is beginning to gain wide information and acceptance; and one of the most famous is bit coin. Other digital currencies include Swiss coin and one coin. bit coin, Swiss coin and one coin are crypto currencies or digital currencies created and controlled using cryptography.

Currently countries such as Brazil, Canada, Uk, Germany, south Korea, India have introduced Automated Teller Machines (ATM) for crypto currency so as facilitate banking technology. In Nigeria the patronage and acceptance of digital currencies is gaining wide popularity. The owners do not require the central bank; nor any physical bank. Once you are a subscriber, you only know yourselves and they give you a bit of the bitcoin which can be converted to cash and used for payment in some countries. Currently bitcoin is considered the best among all other crypto-currency, the bitcoin is adjudged the pacesetter. Mining is another type of cryptocurrency. Mining is a way of getting these coins and putting them up for sale all digitally. Also the Billion Coin (TBC) is another type of crypto currency newly introduced with an opening price of 0.001 and has since increased in value. The Trading on crypto currencies such as TBC, Bitcoin, Swiss Coin, Edinar Coin and other digital currencies, happens peer to peer. The research therefore seeks to investigate the effect of crypto currencies on the value of the Nigerian naira.

Statement of the Problem

Crypto currency constitute as a subset of alternative currencies or better referred to as digital currency is a digital asset from block chain technology which is designed to function as a medium of exchange using cryptography to execute transactions and to control the creation of additional units of the currency. The evolution and advancement of economic revolution and the need to sustain the economy through advanced financial technology, through a new form of digital currency using encryption techniques to regulate the generation of units of a currency and verify the transfer of funds operating independently of a central bank, Precipated the introduction of crypto-currency into the Nigerian economy. Consequently a digital currency is beginning to gain wide information and acceptance; and **one** of the most famous is bit coin. Other digital currencies include Swiss coin and one coin. bit coin, Swiss coin and one coin are crypto currencies or digital currencies created and controlled using cryptography.

The entry of crypto currency into the Nigerian financial sector is gaining wide popularity but with fears and doubt about its functionality in since there is no regulatory framework from the apex bank. But there is wide call for CBN to commence appropriate regulatory action. However it is pertinent to note that it is the CBN's monetary policy restrictions on foreign exchange, that have led Nigerians to innovate the use of bit coin to access foreign exchange. Therefore the eradication of the currency would be viewed as irrational and unworthy of a country which seeks to promote domestic industry and innovation. Consequently it may be found appreciable if the join several other countries of the world to approve its operation in Nigeria. Therefore the problem confronting this research is to determine the effect of crypto currency on the value of the Nigerian naira.

Conceptual Framework

The definition of cryptocurrency is a complex and difficult one. However different literatures have provided some definitions of cryptocurrency as no universal definition is yet to emerge due to the evolving nature of cryptocurrency. Noted is that cryptocurrency do not possess the core attributes of money which are: legal tender and store of value.

Kristoufek (2013) described cryptocurrencies as computer programs which, as a currency, issue own monetary units. However, these units do not have a direct physical counterpart (e.g. coins or banknotes), nor do they have an underlying asset. Ali, John, Roger & James, (2014) made assertion that cryptocurrencies could appear physically, but are designed electronically and coins or banknotes are just derivatives for the convenience of them.

Yermack (2015) defined the aim of cryptocurrencies as improving the economic activities between at least two individuals by imitating money functions even if cryptocurrencies cannot be fully reco gnized as money. Ametrano (2016) opined that the transferability of tokens typically uses internet infrastructures, but not a trusted third party. This allows a large group of individuals to access that technology. Basically, this feature is one of the reasons why cryptocurrencies are attributed to potentially give the unbanked and underbanked people access to financial services (Mas & Lee (2015).

A central concept in the construction of cryptocurrency is cryptography which creates and manages the ledger, Ahamad, Nair, & Varghese, (2013); Gandal & Halaburda, (2014).

Cryptography, though is present in traditional banking services, e.g. online-banking. However, it plays a different role in both systems. In traditional banking systems, cryptographic functions are implemented to ensure the privacy of the system, i.e. to keep outsiders out of it. Therefore, cryptography works at the entry points in traditional banking services. This is different for

Cryptocurrencies where cryptographic functions are at the heart of the system. Cryptocurrencies are built around a specific (set of) cryptographic function(s), also protecting the system from insiders.

Besides this technical definition, cryptocurrencies attract some specific and formal definitions from global institutions and regulators. According to JP Morgan, cryptocurrencies (CC) are virtual currencies that are created, stored and governed electronically by an open, decentralized, cryptography system.

CCs can be used to exchange money, to buy certain goods/services or as an investment. Further, virtual currencies (VCs) can be obtained, stored, accessed, and transacted electronically, and can be used for a variety of purposes, as long as the transacting parties agree to use them. The benefits of cryptocurrencies have added to global payment industry and economy in general through: data protection, low transaction cost, quick transfer, immunity to inflation, and expansion opportunity attributed to the disintermediation of traditional financial institutions. According to Franco (2014), there is a low risk for the cryptocurrency users in case of a retailer or a partner in a transaction is subject to a cyber-attack and loses traditional financial or personal data of the customers or its own.

Users are at risk only if the hackers get access to their private keys.

Hayes (2016) affirmed that bitcoin transaction costs are lower than that of credit's card with the survey which shows that \$100 of value with a credit card cost \$3.37, while a bitcoin transaction of similar value cost at most around \$0.61, making credit cards a little more than 5.5 times costlier for that operation.

Like a physical currency, cryptocurrency is also prone to few challenges which are: lack of solid anonymity; scams; terrorism financing. Reid and Harrigan (2013) argue that Bitcoin transactions, including cryptocurrency`s centralized services such as exchanges and wallet services, are not entirely anonymous. The same opinion was shared by Fanti and Viswanath (2017) who argue that current flooding protocols used in the Cryptocurrencies network do not sufficiently protect user anonymity. Since there is no information about the user in the public key of the, Bitcoin enjoy a better degree of privacy than in other traditional digital transfer services. Main scams have been perpetrated globally and locally through scam which were termed high-yield investment programs, online Ponzi schemes that promised high interests rate on deposits, as victims were convinced to make Bitcoin deposits into "scam wallets".

According to (Ammous, 2018), cryptocurrency, is still observed as a prompt internet experience which is attracting the individual investors and the high-net-worth individuals.

Theoretical Review

Mises Regression Theorem

The regression theorem assumes that all money must ultimately derive their purchasing power from a historical tie to a commodity that was valued in a state of barter. The theory of the value of money is able to trace the objective exchange value of money only to that point where it is no longer the value of money but just the value of a commodity (Jeffrey, 2014). In this way one can continually go further and further back and must eventually get to a point where one can longer find any component in the objective exchange value of money which emanates from valuations based on the function of money as a medium of exchange. At this point, the value of money is nothing other than the value of an object that is useful in some other way than as money. Mises solved this circularity through the regression theorem. Mises further identified that people expect future purchasing power based upon current and previously observed purchasing powers. For the regression theorem to work, a medium of exchange must already have the attributes necessary for a medium of exchange, having a price and be accepted on the market.

Cryto currency and the Nigeria Economy

The birth of cryptocurrency as a virtual currency has been generat- ing waving reactions in the global economy even in a developing country like Nigeria. In the light of this outbreak, there has been a lot of positive and negative discourse on the value of crypto currencies on the Nigerian economy. Relatively, the Nigeria Gov-ernment through its regulatory agencies such as the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) has attempted to place a ban on crypto currency, although its legal status remains ambiguous unlike in countries like Mo-rocco and Algeria where there is a clear ban on trading in Bitcoins such that a breach attracts heavy fines. The warnings are largely designed to educate the citizenry about the difference between actual currencies; which are issued and guaranteed by the state, and crypto currencies; which are not. Following the moves taken by the CBN and SEC, Nigerian lawmakers have also urged the regulatory authorities to speed up efforts in introducing a legal framework for crypto currencies in the country.

The creation of cryptocurrency as a cybernetic currency has been generating reactions in the global economy such as a country like Nigeria. There has been countless advantage and disadvantage discourse on cryptocurrencies' importance on the Nigerian economy. However, the Nigeria government through its governing agencies such as the Central Bank of Nigeria and the Securities and Exchange Commission has tried to place a ban on cryptocurrency. However, its legal status remains unclear, unlike in countries like Morocco and Algeria where there is an explicit prohibition on trading in Bitcoins such that a breach attracts hefty fines (Dierksmeier & Seele, 2016). The cautions are primarily designed to educate the citizenry about the difference between genuine currencies issued and guaranteed by the state and cryptocurrencies, which are not. Following the moves taken by the Central Bank of Nigeria and the Securities and Exchange and do not challenge the position of official money as the main currency. But as algorithms improve to limit the volatility of cryptocurrencies, their popularity and use tend to increase. This would lead to coexistence with other official currencies. The relations between cryptocurrencies and central bank monetary policy is treated in detail by Fernandes-Villa Verde and Sanches (2018). Their theoretical model predicts that the central bank and private money's existence hinge on on the monetary policy the former follows. In specific, privately-issued currencies would be used if the official currencies do not ensure price stability but would lose their value as a medium of exchange when the central bank credibly guarantees the real value of money balances. Nonetheless, from a practical viewpoint, central banks could face certain risks from the advent of cryptocurrencies as relevant mediums of exchange with stable purchasing power due to their high volatility level.

Commission, lawmakers have also advised the regulatory authorities to speed up efforts in presenting a legal framework for cryptocurrencies in Nigeria.

Effect of Cryptocurrency on Fiscal and Monetary Policy in Nigeria

Economy with an underdeveloped financial market, the activity of cryptocurrency may be challenging to regulate and, as such, may provide the platform for investors, both individuals and corporate bodies to evade tax thereby resulting in a low-income generation for government relative to the level of activities in the market which could affect the budgetary plans of the government.

However, in an economy with a highly developed financial market, the suitable management of cryptocurrency might result in an increase in revenue generation through a tax which would enhance the budgetary plans of the government.

Moreover, cryptocurrencies operate alongside official currencies. The current volumes are small and do not challenge the position of official money as the main currency. But as algorithms improve to limit the volatility of cryptocurrencies, their popularity and use tend to increase. This would lead to coexistence with other official currencies. The relations between cryptocurrencies and central bank monetary policy is treated in detail by Fernandes-Villa Verde and Sanches (2018). Their theoretical model predicts that the central bank and private money's existence hinge on on the monetary policy the former follows. In specific, privately-issued currencies would be used if the official currencies do not ensure price stability but would lose their value as a medium of exchange when the central bank credibly guarantees the real value of money balances. Nonetheless, from a practical viewpoint, central banks could face certain risks from the advent of cryptocurrencies as relevant mediums of exchange with stable purchasing power due to their high volatility leve

Effect on Fiscal Policy

The relationship between cryptocurrency and fiscal policy can be asymmetric. In an economy with an underdeveloped financial market, the activity of cryptocurrency may be difficult to regulate and as such may provide the platform for investors both individuals and corporate bodies to evade tax thereby resulting in low income generation for government relative to the level of activities in the market which could affect the budgetary plans of the government. This situation could impede the fiscal objectives of government thereby affecting the fiscal macroeconomic objectives. Also, in an economy with a highly developed financial market, the proper coordination of cryptocurrency could result into an increase in revenue generation through tax which would enhance the budg- etary plans of government. This situation could help enhance the fiscal objectives of government thereby enhancing the fiscal macroeconomic objectives and stabilizing the economy.

Effect on Education Sector

Conclusively, the complexity of cryptocurrency as a virtual cur- rency coupled with the technical slang and the need for digital education strengthens the impact of cryptocurrency on education. Consequently, the whole concept of the virtual currency may ap- pear too ambiguous. However, education could help bridge the gap and boost cryptocurrency adoption. Hence, cryptocurrency and education can therefore be “Siamese Twins” as their connec- tivity and interrelatedness can help contribute towards achieving the objective of financial inclusion, thereby driving the economic growth path towards an upward trajectory [1, 2].

Effect on Monetary Policy

At the moment, cryptocurrencies operate alongside official cur- rencies. The current volumes are small and do not challenge the position of official money as the main currency. But as algorithms improve to limit the volatility of cryptocurrencies, their popularity and use tends to increase. This would lead to a coexistence with other official currencies. The fundamental question here is, could the central bank lose its grip on the economy as a result? The interaction between cryptocurrencies and central bank monetary policy is treated in detail by Fernandes-Villa Verde and Sanches (2018). Their theoretical model predicts that the coexistence of central bank and private money depends on the type of monetary policy the former follows. In particular, privately-issued curren- cies would be used if the official currencies do not ensure price stability, but would lose their value as a medium of exchange when the central bank credibly guarantees the real value of money balances. The ramifications are two-fold. First, the coexistence of government money and cryptocurrencies that are valued as mediums of exchange is not a theoretical impossibility. Second, the central banks have the advantage by choosing a specific type of monetary policy they can prevent cryptocurrencies from being valued as a medium of exchange (but they could still be valued for other reasons, for instance as a pure speculative asset). From this perspective, rather than posing a threat, the coexistence of government money and cryptocurrencies can have a positive effect by acting as a disciplining device on central banks. Currency com- petition can succeed in calming inflation and preventing the sort of manipulation of interest rates and prices to which government have historically been prone. This is a partial vindication of Hayek (1976), who argued in favour of breaking the state monopoly on money as a way to ensure the stability of the official currency. Nevertheless, from a more practical standpoint, central banks could face some risks from the emergence of cryptocurrencies as relevant mediums of exchange with stable purchasing power due to its high level of volatility

Effect on Agriculture

Blockchain technology has immense possibility of solving significant difficulties in agriculture. The challenge for blockchain is connecting the technology to viable business models and compelling use cases. Blockchains have enormous possibility to create and increase access to finance in the agricultural sector, thereby addressing food scarcity and enhancing food security.

Recommendations

Based on the research findings, the following recommendations are made:

Regulations is a major setback for cryptocurrency in most countries and particularly Nigeria. Monetary authorities and government are expected to study the developments in the cryptocurrency market and regulate the activities of the market in stages. The role of governments will be important, both from an adoption perspective, as well as the creation and enablement of the policy and regulations environment.

There is need to deepen knowledge and skills of all stakeholders in the cryptocurrency market. This is necessary to address the shortage of developers, administrators and exposes other critical sectors of the economy such as insurance, banks, information and communication technology (ICT) etc. to numerous opportunities that can be explored from the market. This can be in form of regular training programmes for new startups in order to encourage more investment in cryptocurrency. Also, key sectors of the economy can develop their staff on the implications of Cryptocurrency for their market in order to tap into the opportunities created by the market.

Cryptocurrency users need access to the internet because it is based on applications to run. Therefore, there is need for significant improvement in technology infrastructure and expanding connectivity among the population particularly ensuring broadband access which is key to facilitate use by people applications that require high bandwidth and quality broadband services. This is expected to be an opportunity for the ICT sector. The high risk of cybercrimes, data loss and transnational crime funding should be mitigated by government and other critical Stake holders in the country. These risks create huge opportunities in the insurance sector.

The future of Cryptocurrency concept is promising, revealing more opportunities to bring positive changes and progress to e-Business and e-Payment sectors. With the rapid progress and improve of technology, cryptocurrency will not stop progressing.

Cryptocurrency can remove the cost and fees associated with clearing houses, debit and credit card providers, and banks, thus removing the need for all of the aforementioned third-party intermediaries. Moreover, virtual currency would allow the unbanked and underbanked to send payments globally, constituting universal means of exchange. This frees individuals from paying currency fees while transferring money to different countries.

Conclusion

Cryptocurrencies offer a new method of transaction between individuals. The use of cryptocurrencies is usually private, secure, relatively quick and not expensive. Some currencies offer complete anonymity to protect the identities of their users. This anonymity also allows safe and untraceable participation in illegitimate trade or procurement of illegal drugs or weapons.

However, threats from criminals and cybercriminals have become an issue that is alarming. Also, cryptocurrency faces other risks including data management and security, high market volatility, terrorism funding, and infrastructure gap.

Overall, acceptance of cryptocurrency as a means of exchange by Nigeria government will aid the required regulation needed to guide against the use of it for crime and related matters. Also, with positive government intervention, and enabling environment to explore opportunities offered by the cryptocurrency market will be created.

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