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NIGERIA'S MONETARY POLICY AND ECONOMIC DEVELOPMENT: EXPERIENCE OF THE CASHLESS SOCIETY AND AN APPRAISAL OF THE CENTRAL BANK DIGITAL CURRENCY (CBDC)

Master's thesis

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I hereby declare that I have compiled the thesis independently
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ABSTRACT

Money is an essential instrument to achieving the macroeconomic objectives of any nation; thus, this study used this perspective to contribute exploratorily using Nigeria as the case study. The study examined the possibility of issuance of CBDC, existing structures, the economic environment, benefits, opportunities, challenges, and risks in Nigeria. Using workable theories similar to fiat currencies. Despite noisome success stages of CBDC by central banks of the world, Nigeria is yet to have an overview of the possibility of issuing CBDC and as an employable option to its current difficulties of corruption, money laundering and terrorism.

The study revealed that from the respondents' views and that of the researcher, CBDC is a viable option that can eradicate most of the challenges faced in the current financial/monetary system like financial inclusion, money laundering and terrorist financing, interest rate discrepancies etc.

This study, therefore, recommends that CBDC, similar to other developed and developing nations across the globe, explore the option of retail or wholesale CBDC to revamp the trust and reputation of the financial system both domestically and internationally.

Keywords: CBDC, Nigeria, Digital Currency, Blockchain

INTRODUCTION

Monetary policies over the world are geared towards socio-economic advancement. Hence, countries across the globe, particularly those of the developing nations, are directed to formulate policies that will eradicate poverty, improve the standard of living, improve infrastructural development, and give rise to overall development. As the largest economy in Africa and the most populous black nation, Nigeria has justified her monetary policies from independence to date based on socio-economic development and prosperity (Udude 2014).

The Central Bank of Nigeria (CBN) was founded in 1959 and has thus kept one of it's most basic role - the regulation of the money supply to promote economic and social development - This position is dependent on the regime's economic policy formation, which is typically aimed at achieving full employment and, growing and stable economy, and capital inflows (Fasanya et al. 2013). Accordingly, Udude (2014) also asserts that the Nigerian economic statistics reviewed from the 1980's, has shown some form on interdependencies between money supply and it's impact on economic growth. Therefore, government's actions created through policy to regulate the economy can be referred to as monetary policy. As described by Ditimi (2011), Monetary policy is recognized as a critical tool that a country can use to maintain financial stability that is needed for long-term growth and international competitiveness.

Money has been described as a means for trade, a monetary unit, and a value store within an economic dispensation; it is one of the bedrocks of society. The issuing, regulation, and management of money is to ensure sustainable economic growth and stability is within the roles of the Central Bank. The baseline for deciding an approach to defining money is based on a public policy objective through monetary policies designed to ensure all macroeconomic objectives are met. The most used and popular form of money to date is fiat cash, which can be used as a settlement instrument along the spectrum of large-scale transactions involving multiple banks and small-scale transactions involving retail consumers (BIS 2021).

Fiat currencies are currencies issued by the central bank of a country that has regulatory and supervisory control of how the currencies are printed, regulated, and supplied within its economic space and used as a means of payment (Sinha et al. 2019). Electronic/digital money is another type of central bank money that banks and some financial institutions use, they are used as a reserve and settlement tool amongst banks. Although digital currencies do not have a universal definition, it is a digital representation of value, owing to the notion that values for good do not necessarily have to be exchanged physically to initiate a transaction. In essence, it involves all forms of currencies (both private and public) that exist in digital form and are used as a medium of exchange but does not have to meet the requirement of being a legal tender (Wray & Adrian Nersisyan 2021).

Ajayi (1999) opined that CBN's monetary policy has been solely focussed on policies regarding the exchange rate in the international market , all based on the deciding factor that this would aid macroeconomic stability and economic development within the country. This opinion emphasizes the role of CBN in formulating and implementing monetary policies geared towards the economic prosperity of the country where it operates. However, the current monetary policy approach adopted by the Nigerian Central Bank (CBN), which is focused on inflation rates, has proven to be ineffective as it has failed to address socio-economic challenges like reduction in poverty rates, unemployment, improved standard of living among others (Adeyemi 2018). The current monetary policy framework in Nigeria has become less effective as it's set goals and objectives are not met, this objectives include the general improvement of the people's welfare and overall development. Some of the challenges includes the interest rate that is strictly controlled and the over-concentration on inflation targeting approach (Ufoeze et al. 2018). Consequently, the continuous failure of the CBN's policy to address the challenges of economic development and the continuous fall and pressure on the naira has necessitated the need for an alternative approach or innovation.

Several countries of the world have initiated many projects and some, in pilot stages, on the need for central bank digital currency[1] (CBDC) to synergize with the present financial infrastructure at the domestic or global scale. CBDC, which is the focus of this thesis, is a digital currency with a central authority and it is a new type of money, electronically minted by the government meant to be a legal tender (Bossu, et al., 2020). Additionally, CBDC is expected to inherit the same functionalities as existing fiat cash, which includes value representation and as a form of exchange for goods and services (Adrian & Mancini-Griffoli, 2019). According to PWC's CBDC Global Index (2021), the top trends on CBDC are: "institutional involvements of more than 60% of central banks and policymakers of the world exploring CBDC infrastructures since 2014, operational designs of retail and wholesale CBDCs and more than 88% of CBDC projects at pilot stages need

[1] within the context of this thesis, the digital currency being referred to is not the same as cryptocurrencies. In comparison, cryptocurrencies are decentralized currencies but primarily not regulated by supervisory bodies (like central banks or authorities), using a distributed ledger technology (blockchain) and having no central administrators.

not necessarily use blockchain technology operated in form of digital token" (PWC 2021). The report also highlights top ten countries currently proposing retail CBDCs that are at maturity stage measured at an index value of 100% (completion/implementation phase) highlighted from highest (92%) to lowest (42%) and global ranking 1-10 (Ibid).

In light of this, the fluctuation of Nigeria's currency (₦) that has been attributed to instability and recurrence of existing monetary policies and incoherent responses from concerned stakeholders which inludes the National Information Technology Development Agency (NITDA), Securities and Exchange Commission (SEC), Central Bank of Nigeria (CBN) and the Nigerian Deposit and Insurance Corporation (NDIC). This has piqued the interest of Nigerian economists and analysts in exploring the usage of CBDC as an additional mode of payment in order to revitalize the financial industry and keep up with current global banking and international transaction trends. At the same time, persistent high inflation within the country has also been linked, among other factors, to a lack of suitable and timely monetary policies since the implementation of "the cashless policy" in 2012[2] (CBN 2021). Hence, the CBDC might provide one of the tools to revamp the Nigerian financial system, better monitoring, and supervision at the centre, and subsequently, through digital transparency, fight corruption, money laundering, and other forms of criminal activities. The prerequisite for such implementation will be a detailed and robust plan to be proposed by the Nigerian government for public debates, where several discussions such as low formal education, low financial/digital literacy, poverty level, booming trends of the informal sector, etc. (Central Bank of Nigeria 2020) will need to be addressed which might obstruct the implementation of the CBDC.

The purpose of this study is to critically examine the monetary policies of Nigeria's central bank from the past to the present (1980-2020). Its impact on the country's socio-political development, appraise the prospects, challenges, and uncertainties surrounding the adoption and implementation of CBDC in the country as part of its monetary policy. Its prospects of supporting economic development (improving GDP) and financial stability (financial inclusion), and creating sufficient financial transparency to deal with the issue of corruption.

Consequently, the research questions drawn for this study are:

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[2] The CBN introduced the cashless policy plan to minimize the volume of Naira notes and coins (Cash) used for transactions and prioritize other forms of payment such as payment card transactions, Bank Transfers, Automated Teller Machines (ATMs), and even Mobile Money as core component of its objective of being among the top 20 economies by 2020.

A. How have Nigeria's monetary policies affected key macro-economic parameters associated with economic development since the cashless society initiative of the CBN?
B. What have been the main drawbacks and challenges of the monetary policy approach adopted in Nigeria since the cashless society initiative?
C. What are the prospects, challenges, and risks of adopting central bank digital currency (CBDC) in Nigeria?

Few studies have looked at monetary policy's effect on economic development on the one hand, and CBDC in the Nigerian environment on the other. Adefeso and Mobolaji (2010) used the Jabansen Maximum Likelihood Co-integration approach to study Nigeria's monetary policies and economic development. The findings demonstrated a long-term association amongst economic development, transparency and public expenditure. In the same vein, Owolabi and Adegbite (2014) used multiple regression models to study the impact influence of fiscal policies on industrialisation within the Nigerian market. They investigated the link between production, treasury bills and industrial growth and discovered that the factors had a major influence on industrialization. On the other side, authors like Salawu (2018) and Mathew (2019) have indicated the expensiveness of the financial infrastructure of CBDC for Nigeria. Others like Nwafor (2021) have argued that the economic benefits due to digital transparency and accountability will outweigh the risk eventually. The current study relies on the heterodox money theories (including Chartalism, Modern Money Theory, and financial instability hypothesis, among others) to provide an overview of money's nature and function from the public policy perspective. This approach enables us to see how the digital currencies fit into the conventional monetary frameworks and provide insights for answering the research questions.

The following sections of this study are subdivided into four chapters. Section one focuses on the theoretical framework of digital currencies as a legal tender, congruent with the conventional monetary aspect and policies. Section two presents the methodological approach of the current research. Section three presents the main findings from structured virtual interviews on the economic and monetary policy perspective of digital currencies in Nigeria. Finally, Section four presents a conclusive discussion on findings from the theoretical perspective and pragmatic recommendations.

1. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

1.1 Theories of Money

There are several theories of money but no explicit theories on digital currencies, or few that could be directly linked with digital currencies per se. Since this is a relatively new subject matter, the current study uses existing money theories to portray digital currency's possibilities, complementarities and challenges. The Financial Intermediation Theory is adopted to understand the relationship between monetary policy and economic growth, while digital currency is analyzed through the lenses of chartalist and modern money theories that give us an understanding of the role of the state in money issuance and regulation as well as monetary (and fiscal) policy functions.

1.1.1. Chartalist Theory of Money

Georg Friedrich Knapp, a German economist, and the author of ‘The State theory of Money,’ published in 1905 (translated 1924), revolutionized some of the 'true' definitions of money known today. He also founded the 'Chartalist School of Money Theory' "that contends the value of money being derived from its issuing through an institutional system of government rather than through natural trade ties" (Ehnts 2019). Even though the book did not explicitly spell his view of paper money, his stand on what money 'was not' was evident. The theory argued the direct comparison of metal and the intrinsic value of money as explicitly different. The state theory of money identifies confidence in the banking system as a direct result of the purchasing power within such system, thus, trust by the public in the system is essential to promote a positive perspective on the benefits of CBDC as a means of payment within an economy.

Additionally, the state theory of money argues that money’s value is derived from the issuance regulated by the government rather than through spontaneous exchange ties (Bassett, 2020). Therefore, The hypothesis accurately represents the various changes that occurred throughout the nineteenth century, including a broad shift from bimetallism to monometallism, as well as the development and disappearance of fiat currency systems (Austria 1866), the state's methodical use of fiat currency alongside other traditional modes of payment in times of conflict, the introduction of banknotes and the usage of giro payments (Barrdear & Kumhof 2016). Therefore, this theory can endorse the digitalized feature of fiat currencies (CBDC) since it provides the backing of trust in the issuer's authority (government) that gives its value.

In another light, according to Chartalist theory, valuable money is created by the government because the value given by the government is “expected to be rewarded back in form of taxes” (Hayes 2021). This is in absolute contrast to conventional money theories that claim a money’s worth is stemmed from its use as a payment method. Therefore, as expressed by Georg Friedrich Knapp, Chartalist monetary theory is founded on a government’s ability to create money or value from its status as a “legal tender issuer” (Hayes 2021). This supports the argument of this study that CBDC can be a centralized (government-controlled) legal tender whilst the government acts as the “legal tender issuer”. Although official or global use of CBDCs like digital Euro, digital Yuan, e-Krona and DBDSD (Digital Bahamian Dollar Sand Dollar) is currently deliberated as a means to supplement cash, in principle (and reality), the co-existence of fiat and digital currencies coupled with the radical shift in global transactions over the internet may work better with retail CBDC than wholesale CBDC (Morales-Resendiz et al. 2021).

Nonetheless, according to Scarcella (2020), enacting tax laws that encourage the use of electronic forms of payment over fiat is good however, two major challenges should not be overlooked: the digital literacy gap and data security. According to her, based on the report of 2019 published by "European Commission's Digital Economy and Society Index (DESI)", there is still a gap of people who fall into the 'vulnerable category' (dominated by elderly) and have never used the internet or any form of online services in the EU (including low or no educated persons, retirees and inactive persons). Additionally, ability to pay issues may emerge as tax deductions will be provided only when the corresponding costs were covered with the digital version of the physical cash. Thus, taxable income will be dependent on the type of currency used for deductible expenditures and not based on the taxpayer’s ability to pay (Allen, et al. 2020). This may eventually create a bias of how much a tax payer's 'ability to pay is belittled by his digital skills (Scarcella 2020). Scarcella (2020) further identifies taxpayers' 'privacy rights as any digital form of cash may be impaired through the exchange of data and usage. Positively, the availability of unexpurgated data can be used to monitor terrorism dealings, tax evasions, money laundering, etc. Examples of countries transforming their tax payment structures electronically include Germany, Korea, Argentina and Italy, who have innovatively used the existing cashless policy mediums to slowly but progressively introduce digital means of payment for taxes (OECD, 2020; Scarcella, 2020). For CBDC, this can easily be transitioned and monitored for taxes in these countries. Uniformly, in developing countries, through CBDC that has embedded digitalized features, transparency coupled with tax-driven value of money can foster monetary and fiscal policies of these countries. Tax collection, payment and management can easily be auto-updated electronically and each value received can be accounted for.

1.1.2. Modern Money Theory (MMT)

Modern Money Theory (MMT) pioneered by Warren Mosler (1992) is founded on the argument that since countries have the capacity to mint currencies without constraints (Likos 2021), money (like CBDC) as a means of payment can be used to stabilize the economy similar to the price stability features of fiat currencies. Thus, he reiterated that regardless of a government's budget at surplus or deficit, money can be regenerated (as print or digital) to meet its needs (Mosler 1995).

The theory further argues that although the government is expected to run annual budgets, this theory expressed the need to be eased about deficits because it can finance projects by simply printing new money from its central bank (Likos 2021). Additionally, according to Wray and Nersisyan (2021), MMT does not necessarily advocate for high deficits. However, countries that issue their currencies cannot be forced into deficits and need not be insolvent or with high inflation. MMT also does not support the use of taxes as a source of revenue but to be used as a regulatory instrument to subdue or balance demand (Akintunde 2020). People ordinarily trust the institutions that monitor and regulate currency and so it has value (Bassett 2020).

From MMT, it can be deduced that trust may be one of the challenges of the CBDC transition when adopted or implemented eventually. Since the financial crisis of 2008, confidence in the financial system has deteriorated despite the implementation of innovative and sophisticated financial controls. The trust in the value of CBDC may be one of the deterring factors that may slow down the implementation phase, however this can be mitigated based on the value creative approach that Central Bank takes by tokenization or usage of account-based system. Furthermore, the speed and ease of CBDC makes it a perfect substitution for fiat in the current technology-based economy. Its implementation will also subdue the growth of privately owned cryptocurrencies, including stable coins that primarily put the controls of the new digital economy into the hands of a few. The same effect will be felt in the traditional finance world that concentrates the economic power into the hands of a few banks. These conceived advantages will make sovereign capital allocation a public participatory event and thus optimizing economic productivity (Omarova, 2020). The e-Krona (at pilot stage 1, 2021) for example, as proposed by the Sveriges Riksbank Economic Review for 2020 acknowledges that CBDC in its ongoing stage, can be implemented by the centre (Sveriges Riksbank) and share control with authorized institutions known as "supervised private payment service providers" (Rhaya et al. 2021). In its attempt to build a trustworthy monetary system, the Swedish central bank highlights the importance of public knowledge, financial and digital literacy, and assurances on the government's financial backing on decisions taken by the apex bank should the implementation phase be feasible. It further reiterated the importance that the e-krona can provide the public with an electronic alternative to fiat, with the government guaranteeing the value of the currency (SverigesRiksbank 2021). To bridge the barrier of trust, countries assessing the feasibility of adopting CBDC into their monetary systems need to focus on re-educating the public on the need to eliminate or merge fiat currency - temporarily or permanently - before the implementation phase is initiated.

Furthermore, demand for CBDC can be incorporated with MMT's view on price stability similar to fiat currencies as central banks can issue them up until full employment and subject to tax depending on sectors and tax obligations or structures. Therefore, since a government can easily increase its CBDC balances, it can never be insolvent, especially when its debts are in domestic digital currencies. This can also apply to developing countries hoping to achieve price stability through low inflation or deflation.

Consequently, both theories analyzed above, that is, the Chartalist Theory of Money (CTM) and Modern Money Theory (MMT) have proved to be very relevant in the analysis of the main research variable (CBDC). The chartalist theory of money affirms the right of the state to issue or generate money and that the value of money must also be a prerogative responsibility of the state. The state must determine the value of money and declare it as a legal tender, just as in the case of the proposed CBDC in Nigeria called eNaira. It is also important to observe that the theory has been able to prove the benefit of such a function by the central bank in ensuring stronger economic output and development in the long run. Finally, MMT highlights that the generation of more money in the economy either digital or fiat can be performed by the CBN to meet certain economic deficits for stability and tackle inflation at any time. This become a viable explanation supporting the argument that CBDC is a viable monetary policy action that can guarantee market stability in the short term and long-term economic development.

1.2. Monetary Policy and Macro-economic Parameters of Economic Development

Monetary policy is a component of wider government's policy that plans to fulfill the goals of job creation and price stability, economic growth, and external payment balance by monitoring the supply of money, interest rate structure, and other factors impacting credit availability (Omankhanlen 2011). Further explanations by Friedman (1969) describes monetary policy as the action adopted by the government, usually through the Central Bank, to influence economic and other financial systems by controlling the price and availability of credit in order to achieve the broad goals of sustained output growth and a stable balance of payments status. In the same vein, according to Nnanna (2001), the terminology monetary policy represents a set of measures aimed at coordinating the economy's expected performance through controlling prices, spending, and borrowing.

Many feel that the relative strength of the various routes of monetary policy transmission will vary from one nation to another. In this context, monetary theory and policy debates have centered on what has come to be known as "the monetary transmission mechanism" (European Central Bank 2016). The effectiveness of monetary policy in bringing about real rather than nominal changes is another area of discussion in monetary theory and policy where the gap remains very substantial.

Morsink (2000) studied monetary transmission in Japan with Vector Autoregression (VAR) and found that unexpected monetary loosening boosted investment, with loans accounting for 67% of the direct effect of interest rate changes on private demand. Also, Copleman and Wermer (1996) studied monetary transmission in Mexico and reported positive exchange rate shock reduces loan availability greatly, which has a negative impact on output, while such impact in real exchange rate has no significant effect on output. Mbutor (2007) used VAR to analyze the lending channel of monetary transmission in Nigeria from 1970 to 2000. According to the findings, increasing the minimum rediscount rate causes banks to reduce the amount of loans they provide to their consumers. However, Karras (1999) earlier studied a panel of 38 countries from 1993 to 1999 to show expected theoretical effects of monetary policy and concluded that the efficiency of monetary policy is linked to the economy's accessibility, so that an expansionary monetary policy reduces output while increasing inflation.

Ibrahim (1999) opines on the effectiveness of interest rate in Nigeria that the margin between the prime and the highest lending rates for each bank was at 4% point while the interbank rates were to be at least 1% point below the prime lending rate. He also shows that expansionary monetary policy aggravates the problem of inflation in Nigeria.

European Central Bank (2015) explained that globalisation has resulted in transnational ripple effects from one country's monetary policy to other economies. This further reduces the effectiveness of monetary policy due to dependencies on other economies and their technological factors. Hence, leading to failures on the part of the governement to efficiently control the interest rates and money supply. Omobola (2003) researched effective implementation and management of monetary policy in Nigeria and discovered no relationship between interest rate, loan to deposit ratio and credit to domestic economy, and total monetary liability. Isigizo (2005) using multiple regression, discovered that the level of money supply in Nigeria had a greater influence on the total credit from 1985 to 2000. Kalu (2005) used the same method as Isigizo (2005) to examine economic growth and monetary policy in Nigeria, and views that the minimum rediscount rate and cash reserve requirement have direct impact on the borrowing rate of the country; thus a higher MRR will have an adverse effect on price, output, and employment. Finally, Olaiya (2008) studied the relationship between inflation and money supply, and it was discovered that the purchasing power in Nigeria fell between 1973 and 2005. Also, macroeconomic variables like inflation rate are negatively related in Nigeria within the period.

The expressed opinions above makes a compelling connection between economic policy and the macroeconomic parameters of any nation. Moreover, Sanusi (2010) stressed that beyond assuring the growth of economies, the overall development of the nation is also goal of monetary policy. He further argued that the role of a monetary institution like the CBN is to map out the path to growth and development of the nation to prevent money from becoming a significant disturbance in the economy.

Emeka (2009) argued that the primary goal of monetary policy is to keep the money flow at a rate that corresponds to the pace of growth. Interestingly, the literature stipulates that the pursuit of price stability thus encompasses all major aspects of the country's macro-economic environment.

Okoro (2013) remarked that in recent years, one of the key aims of economic policy is to achieve fast economic expansion in any economy. Additional objectives such as price stability, including controlling economic fluctuation, full employment, and maintaining balance of payments equilibrium, are also prominent. Onyeiwu (2012) used the Ordinary Least Squares Method (OLS) to evaluate data from 1981 to 2008 to investigate the influence of monetary and fiscal policy on the Nigerian economy. The research reveals that monetary policy based on money supply has a favorable influence on Economic growth and the balance of payments, but has a detrimental effect on inflation rates.

The two basic aims of monetary policy are to encourage optimum viable economic growth while also maintaining a stable level of spending in the economy. The task of short-term production stabilization and long-term pricing stability entails numerous steps: The central bank first attempts to assess the current state of the economy and project what it will be in the nearest future, and afterwards evaluates these forecasts to its production and price level target. When there is a discrepancy between both the estimates and the projections, the CBN must determine how quickly to narrow the disparity (Ajayi 1999).

Giovanni and Giordani (2006) researched the importance of money in production and prices in the United States, and his findings show that shocks relating to economic growth predictions have consistent impacts on output and prices. Similarly, Azrak et al (2001) examined twenty (20) countries including developed economies and those in transition and discovered that money has a substantial role in understanding the behaviour of real GDP. Although the transiting economies imply that the aggregate demand mechanism is ineffective at conveying the influence of monetary policy to actual economic activity, the demand mechanism may still be used to measure the shifting impact of monetary policy on real output. To summarize, there are strong demonstrations of the impact of monetary policy on actual economic parameters and progress in developed economies such as the United States and several European nations.

Ironically, in most emerging economies, notably Nigeria, the reality is somewhat unique. For example, Balogun (2007) tested the premise of monetary policy incompetency in Nigeria using simultaneous equation models and found that, rather than strengthening the economy, prior domestic monetary policy was a principal cause of stagnation and ongoing inflation. On the other hand, using co-integration and error correction modeling techniques to span the period 1970 to 1998, Ajisafe and Folorunso (2002) showed that monetary policy had a major influence on the Nigerian economy. The study discovered that monetary policy, rather than fiscal policy, has a stronger influence on economic activity in Nigeria, and as such the state's reliance on fiscal action has resulted in significant distortions in the Nigerian economy. In corroborating this argument, Nnanna (2001) argued that Although the impact of monetary policy has been harmed by the consequences of fiscal dominance, political interference, and the regulatory regime in which the Apex Bank operates, more successes have been recorded as an effect of financial sector reform, which is defined by the use of direct monetary policy tools.

As highlighted in the arguments above, viewpoints disagree, with Keynesians arguing that monetary policy may influence real output both short and long term, while neoclassical economists argues that neither change in real output is feasible even in the short term. However, monetarists, on the other hand, thinks that monetary policy changes have meaningful impact in the short time but price changes in the longterm.

2. RESEARCH METHODOLOGY

2.1. Research Design

Research design has been defined by Burns and Bush (2004:120) as a collection of decisions made in advance that make up the master plan and outline the techniques and procedures for gathering and analyzing the required data. It also means the process of organizing a study with the goal of discovering variables and their relationships (1991). This is important for gathering information that will allow the researcher to analyze hypotheses or respond to research inquiries. Thus, Nnamdi (1991:27) summarized the concept as "research design is, therefore, used by researchers as a scheme or a blueprint for data collection, prior to the actual study". The purpose of the research determines the methodology and design of the research. The research design places the researcher in the empirical world and links the research questions and the data (Punch & Oancea 2014). Two main kinds of research are commonly used: quantitative and qualitative methods. Qualitative research relies on written data and subjective analysis, while quantitative research uses numerical data and statistical analysis (Gall et al. 2006). The qualitative survey research strategy was used for this work because it allows method to gain primary data. The primary data were generated from the conduct of interviews. Primary data enables researchers to generate first-hand information from respondents affected by the subject of investigation.

2.2 Research Population

According to Nnamdi (1991), population is made up of all possible element participants or observations related to a certain topic of interest to a study. The population of this work consists of the members of the critical financial sectors and various governmental and non-governmental sectors as highlighted in table 2.1.

However, since it is impossible to study (interview) the entirety of stakeholders in the financial sector, section 2.3 deals with the sample size determination.

Table 2.1: Showing Population Distribution of Respondents

S/No	Sector	Justification	Population
1	The Federal Ministry of Finance **(FMF)**	The Federal Ministry of Finance is the government entity in charge of administering, supervising, and overseeing the government's finances, including income and expenditures. This research will focus on the department of economic growth in this ministry	694
2	Central Bank of Nigeria **CBN**	The Central Bank of Nigeria (CBN) is Nigeria's central bank and ultimate monetary authority. For this research, the focus will be on the economic policy department.	721
3	Nigerian Deposit Insurance Corporation **(NDIC)**	supports the CBN roles of overseeing that the guidelines of the financial sector are adhered to by insurance banks and deposit money institutions.	141
4	National Information Technology Development Agency **(NITDA)**	NITDA is an important agency on the list of implementors for CBDC since it is charged with the responsibility of fostering the use of innovative technology and regulating policies within the ICT sector of the country	704
5	Security Exchange Commission **(SEC)**	The SEC is supervised by FMF and the main regulatory body for the Nigerian Capital Market. It ensures fair dealings and protects trading violations on the Nigerian Stock Exchange.	1211
Total			3,471

Source: Researcher's Compilation, 2021

2.3 Sample Size

As typical of every research, sampling is an integral aspect that helps the researcher to select a proportion of the population that can give responses to the study's questions. The sample of a study is therefore the subset of a given population that is drawn from the identified population and used for undertaking the study, while a sample size is the number of elements chosen from the population to make up the sample. The sample size drawn for this study is twenty-five (25) as five (5) respondents with knowledge of CBDC shall be selected from the five research stakeholders identified above (please see table 2.1) constituting the population of the study.

Sample Size Determination

For this study, Taro Yamani's formula was adopted. The formula is particularly relevant in research when the population of study is heterogeneous and large

$$n = \frac{N}{1 + N(e)^2}$$

Where n = Sample size
N = Population of the study
e = Tolerable error (20%)

Therefore:

$n = 3{,}471 / 1 + 3{,}471\ (0.2)^2 = 24.83$

Therefore the sample size for the study is 25

2.4 Method of Data Collection and Analysis

This section focuses on the methods used for data collection. Qualitative data shall be generated through the conduct of oral interviews (online). According to Nwanolue et al (2018:40) "qualitative methods gather information in form of words, pictures, descriptions, narratives, statistical information, among others from both primary sources (like unstructured observations, interviews, etc)." The researcher employs qualitative research methods because of their ability to elicit detailed information from respondents on a social phenomenon. The secondary data were analyzed using content and thematic analysis approach that looks for patterns in response to questions to understand the underlying meaning. When the data for both methods were collected and analyzed, they were combined. This helped explain the phenomenon of Monetary policy, CBDC and its prospects along with challenges and its consequent impact on socio-economic development of the country. The qualitative data provided an in-depth look into the results gotten from the interviews. Questions were drawn from the research questions that form the study's basis. The objective is to generate data and information needed to meet the research objectives. On the method of data analysis, the data collected from the interviews were transcribed, annotated conceptualized and analyzed through thematic content analysis method. For the secondary data, content analysis technique is employed. The goal of content analysis is to depict actual fact by deriving information from transcripts (Silverman 2005, cited in Wahyuni 2012). This method of analysis, according to Given (2008), is equally identified as thematic analysis which is determined by looking for patterns in data.

3. NIGERIA’S MONETARY POLICY AND CENTRAL BANK DIGITAL CURRENCY

3.1. Empirical Results

This section deals with data presentation and analysis. It combines both the analysis of the responses from the interviews conducted and the meta-analysis to provide a logical discussion that will subsequently lead to empirical conclusions. The section is further divided into subsections of: Nigeria's Monetary policy and Development, Drawbacks and Challenges of Nigeria's Monetary Policy, Central Bank Digital Currency: Prospects, Challenges and Risks of CBDC issuance in Nigeria and CBDC as the future of money in Nigeria. For emphasis, six interview questions were structured for this study and twenty (20) out of the projected twenty five (25) respondents provided answers. Each answer is provided in this study to provide insights, discussion and interpretation by the researcher.

From interview answers provided by respondents, the following are the analytical categories retrieved:

A. Nigeria’s Monetary policy and Development
B. Drawbacks and Challenges of Nigeria’s Monetary Policy
C. Cryptocurrency and Digital Currency
D. Central Bank Digital Currency: Prospects, Challenges and Risks of CBDC issuance in Nigeria and CBDC as the future of money

CBDC has been viewed as the turnaround for the future of money, the financial system and as one of the respondents (Rs 5) describes it “the new global stock exchange”. As aforementioned, CBDC in Nigeria is not expected to proffer solutions to all that is wrong in the country’s current financial system but it is important that viable solutions in line with global revamps and changes are considered for a country rich in investments and diversification but undermined by fraud, corruption, non-transparent financial controls and activities (Ugwuanyi et al 2020). The goal of this research is to determine the influence of certain monetary policies on Nigeria's economic growth, bearing in mind the uncertainties of CBDC. It examines how CBDC (retail or wholesale) can digress the dysfunctional yet unstable monetary policy system into a workable one using the basis of research questions and theoretical framework to provide insightful research.

3.1.1. Nigeria’s Monetary Policy and Development

The first set of questions (1 & 3) focuses on the respondents’ opinions or views on Nigeria’s monetary policy since the introduction of the cashless policy and how it has helped ensure economic development. It also seeks to enquire about the perceived views on the drawbacks and challenges of monetary policy in Nigeria within this period thus far. Respondents are divided on whether Nigeria's monetary policy has helped ensure economic development. This is so as a slight majority (13 of the 20) agreed that Nigeria's monetary policy has helped ensure economic development while the remaining seven (7) interviewees were negative. The minority position is on the fact that regardless of the economic growth recorded yearly due to the monetary policy, if it does not translate to improvement in the living conditions of an average Nigerian, then such policy cannot be said to be viable. For example, Rs13, Rs8 and Rs7 specifically mentioned the high rates of poverty, unemployment, high inflation rate, as a pointer to the failure of monetary policy.

On the major drawbacks and challenges of monetary policy in Nigeria, respondents identified the following: lack of political will, undue interference from politicians in the policy formulation process, corruption, lack of capacity and professionalism, relegation of merit for mediocrity, appointment into leadership positions are subjectively done, lack of foresight and long-term planning goal among policymakers. However, respondents are optimistic that if these challenges are addressed, the desired economic development can be achieved.

Majority of the respondents made the following suggestion on the perceived strategies for improving monetary policy in Nigeria to ensure economic development. These include: setting up a team of professional economists that will draw both short and long-term monetary policy objectives gear towards economic development, reduced interference from politicians in the policy formulation process, heighten the fight against corruption, setting up a national economic and financial research team that will research into other country's working strategies and how it can be adopted to help Nigeria, among others.

The Nigerian monetary and fiscal policy systems have been reported to be incoherently synergized (Tule et al 2020). This has also caused a ripple effect that has counterbalanced the macro-economic objectives against taxes and government spending. From a state theory of money's point of view, the central authority issues currency that is acceptable as value because of the power held by the issuer (CBN), this ought not to be so and hence has caused the hedging attitude of Nigerians relying on crypto assets against the volatile and unstable exchange value of Nigeria. If state theory principles are followed, the trust in the Naira has been on the edge.

Currently, the world is being taken over by digitalization of financial services and general way of life. In the Nigerian private sector, an economy populated with over 200 million and one of the largest e-commerce markets with the potential to create more employment and capture a large share of the digital economy in the world, (World Bank Group 2020) it has not been able to receive a strong backing from the public sector. The use of CBDC as a monetary policy instrument can counter this if the trust in the CBN is re-evaluated and construed from the state theory of money's perspective. This in turn also fosters the acceptance of CBDC as a means of payment. Additionally, the absence of legal and regulatory framework for smooth operation, partial operation, or joint operation by both the public and private institutions have left a viable income-source market for Bitcoins to thrive despite restrictions (Mathew 2019; Philips 2020). According to Philips (2020), beyond the fintech sector producing payment convenience and consumer lending, "the value proposition offered by Fintech across the financial services value chain includes payments, savings and investment, lending, and wealth management. In the last decade, the payments sub-sector has experienced the fastest growth accounting for about 38% of market solutions and 15% of banking revenue pools in the country (ibid). The consumer-lending sector has also experienced tremendous activity following the COVID-19 crisis". Philips (2020) also added that beyond the core payments, untapped insurance sector, SME (small and medium enterprises) finance, niched focus players, another effective way to stabilize the economy would be the introduction of CBDC.

Bossu, et al. (2020) added that the use of CBDC as a retail or wholesale is heavily dependent on the existence and design of CBDC in "current accounts". The legal framework for retail CBDC can be designed and aligned with the CBN laws that governs the CBN similar to a "treaty" (Bossu et al. 2020). The CBN Acts of 2007 mandates its functions to include "currency issuance and payment system functions" (Bossu et al. 2020) relevant for retail CBDC but for smooth running and fulfilment of legal and operational laws, additional structures to hinder money laundering and terrorism financing need to be included (Bossu et al. 2020). European Central Bank (2020) also identified that the introduction of CBDC (complimenting fiat) has the potential to reduce the usage of cash as a means of payment, worsening financial barriers for the "unbanked" and marginalized sectors in our society and prompting the central bank to act. The functional finance can guard the economy against the rippling effect of private money markets that can quickly diminish the CBN's central authority as monetary policy regulator (Williams et al. 2020). This means that the beyond the natural operations of the government through its spending, Nigeria must recognize these multiple sources of value in currencies other than Naira that has value and measure as an indicator that almost competes with the purchasing power of Naira.

The future of the monetary policy in Nigeria can be linked to critical benefits of retail CBDC. It can be centred on having the capacity to boost financial inclusion, the use of CBDCs for international payments and settlements, and monetary authority credibility (Sinha et al. 2019). This can also be viewed from how cash can be a fall back in the financial crisis events as seen in the present financial system with hitches on the technology connecting or verifying transactions. It can also increase financial inclusion through the current deficiencies in power unavailability for industries, high unemployment, and risk-averse nature of Nigerians as well as impending hyperinflation. This is because the introduction of CBDC issuance can counter the thirst for cryptocurrencies and others, primarily through the successes of global monetary systems that in turn demand for real money across the board (Carstens 2021; Williams et al. 2020).

The hopes of CBDC representing or replacing the current digital payment system in a more sophisticated manner is what is expected, and this is backed by a study conducted by BIS (2021) Financial inclusion to a substantial extent can be increased through more easy to use platforms, that are based on privacy by default and generally inclusive (Ibid). Workable with the Nigerian financial structure, the study also heightened the fact that there is eminence of a trade-off between accessibility and privacy (similar to private digital currencies) against ease of CBDC implementation as legal tender from a 'technical perspective'.

Nigeria is heavily dependent on import, export, and international remittances. For example, it is a culture for people who work abroad to send money to their families in Nigeria. As noted by Allen et al. (2020), CBDC is also a concern when implemented to fit into the international exchange scenery and others as aforementioned. Whether as a retail or wholesale, BIS (2020) identifies the complexity of CBDCs being used for international payments/remittances and the factors that may determine how these are measured; but argues that this cannot be fulfilled until CBDC 'configurations' are done. However, Adrian and Mancini-Griffoli (2019) argue that CBDC can facilitate cross border payments when complemented with conventional currencies instead of replacing them as it enhances the long, interlinking process of cross border payment that takes long verification periods.

The CBN can create an "interest-bearing CBDC that increases the economy's response to changes in the policy rate. Also, CBDC could charge negative interest rates in times of prolonged crisis, thus breaking the 'zero lower bound' constraint, to the extent cash were made costly" (Adrian & Mancini-Griffoli 2019).

Conclusively, the CBDC design features for Nigeria may need to find its motivation similar to other 'emerging economies' such as financial inclusion and stability, payment efficiency etc (Boar et al 2020) . The retail CBDC is expected to complement the centralized structure of the financial system in Nigeria similar to other developed economies and can help challenge issues like money laundering and terrorism. Through CBDC, the beneficiaries of the financial system, the public, are expected to have less expensive payment systems that has further pushed up the poverty line in the country. The legal framework for a smooth transition of CBDC needs to be designed to give CBN the power to function and accommodate a public-private partnership control using technological innovation that reduces susceptibility to fraud or criminal activities. According to MakeTaxFair (2021) and CBN (2021), the size of the informal sector is calculated to be about 65% of the economy; these are non-paying, taxable resources that has been an avenue for money laundering. The introduction of CBDC may curb the non-digital trails of transactions operated within this sector to the barest minimum since the trust in the monetary policy will be regained and Chartalist's view of the government's rewards can be easily accumulated.

This study has presented findings from notable literature that has linked the Nigerian case study to existing theories while answering research questions in the study. To further reveal empirical analysis to the subject of discourse, the results from interviews are presented below as well as discussions that surround the smooth transition of CBDC from fiat currency or as a complementary means of payment.

3.1.2. Benefits, Opportunities and Prospects of CBDC in Nigeria

The second part of interview question four was aimed at the respondents' ability to identify benefits and opportunities despite challenges of the forms of CBDC. The benefits identified are: trust in the financial system (Rs 1, 16, 18, 20 and Rs 8), curbing cybercrimes/corruption (Rs 2, 9), financial transparency (Rs 2, 7, 17 & 19), economic recovery and efficient payment system (Rs 3), alternative currency (Rs 4, 10), financial integrity, eliminating intermediary functions of banks/fintech (retail CBDC) (Rs 5, 6), transparency and open governance (Rs 7, 9); and eliminates the cost of minting fiat currencies/trust in the system (Rs 10). Similar to the benefits, opportunities spelt out amongst all respondents were financial inclusion (Rs 2, 6, 7, 8, 20) and improve payment efficiency (Rs 1,3, 4, 14, 17, 5).

One of the foreseeable cautions of the "e-Naira" or CBDC in Nigeria is the liability stand of the CBN and if the apex bank can handle such shocks and fluctuations as they come. This begets whether a CBDC created in Nigeria can overshadow the existing cryptocurrency market similar to infrastructures put in place by other developed countries?. Due to the pandemic, the exchange of cash notes has reduced and digital form of payments including Alipay (China) Paystack (Nigeria), OPay (Nigeria), JumiaPay (Nigeria) and KongaPay (Nigeria) aside cash/bank transfers and card payments have been on the rise. Although most of these fintech innovations in past years rely heavily on the efforts of the commercial banks as intermediaries without hinging on any form of blockchain technology, this can similarly be replaced by CBDC as a centralized regulated currency in the same vein as these fintech innovations (Roubini 2018). Nigeria could replace all private digital payment systems connected to and through commercial banks with CBDC (public-private partnership). With an authorized CBDC, the existing centralized platform that already features a smooth and proficient payment system would be reshaped to allow all individuals/corporations to transact through the CBN; thus, eradicating cash and conventional bank accounts while amplifying existing digital payments (Ibid).

An additional incentive for making Nigeria's CBDC attractive would be to have an anonymous feature (but only accessible by law enforcement agencies for tracking criminalities when needed) and a medium to reduce the financial exclusion with the seamless use of mobile phones.

Another route may be to lend back to commercial banks with all their deposits in CBDC form at 'favourable lending rates;' thus keeping their financial intermediary status (Roubini 2018). It may replace conventional commercial banks to lending agents or lending companies or "supervised private payment service providers" (Sveriges Riksbank, 2020).

Unfortunately, as at the time of this research, no country has adopted this alteration or radically changed the dynamics of their financial system with CBDC.

Christine Lagarde, the President of the European Central Bank has publicly proposed an alternative where individuals can have regular deposits with financial institutions through private-public partnerships between central banks and other financial institutions, but transactions would be processed in electronic cash amongst these businesses (Laboure & Reid 2020). This will provide a beneficial arrangement where payments would be immediate, affordable, and “semi-anonymous” (Ibid) while the central banks’ authority and regulatory function for payments are unwavering. Some central bank governors like India, Singapore, China, and the US have argued that the arrangement will be like Ripple and Libra and does not necessarily change the fractional reserve banking system that produces “credit bubbles, risk ban runs and maturity mismatches, deposit insurance, lender of last resort rescues, etc.” currently operating globally (Allen et al. 2020). Thus, an openness to the CBDC narrow banking system may still be favourable in years to come if specific banking cons are mitigated early enough.

3.1.3. Challenges, Risks and Possible Threats of CBDC in Nigeria

Question five answers on the challenges and risks of CBDC issuance in Nigeria, respondents identified several challenges based on their knowledge of CBDC. These include: existing political system (Rs 1, 3, Rs 6, 9 & 20), illiteracy and lack of access to information (Rs 2, 4 &10), distrust in the financial system (Rs 7, 8, 11, 12, 16 &18) and poor regulatory approach (Rs 6, 8, 13, 14, 17 & 19).

Although question five is a summarized feature of both risks and challenges, the majority of the respondents unanimously agreed that there will be more positive impact of CBDC in the Nigerian monetary system. Whilst Rs 4, 6, 9, 15, 17 & 19 believes the positive impact is mainly subjected to successful implementation of other CBDCs in other regions of the world to ensure interoperability.

Other than Rs 4 and 18, others unanimously agreed that CBDC's benefits outweigh the risks. Also, Rs 1, 9, 6 & 4 believe that CBN's risk of issuing CBDC as a legal tender in Nigeria is higher than its benefits based on certain peculiar Nigerian factors. Risks identified include: financial instability risk (Rs 2 & 3), reputational risk (Rs 4 & 5), abuse of centralised financial power (Rs 1, 3 & 10) and consumer protection at bay (Rs 8, 10 & 13). Finally, many respondents expressed fear over high rates of cyber crimes and the possibility of cyber-attacks on the centralized CBDC as a major threat.

3.2 Discussion

From the results presented above, this section focuses on relatable factors to this study expatiated on the impact of monetary policy on economic development. This research finds a significant correlation between available monetary policy and economic growth. The study through the responses of several respondents and literatures reviewed discovered that the inflation-targeting approach of the Nigeria's monetary policy has not yielded desired economic development goal, thus, the findings align with the conclusion of Sanusi (2010), Emeka (2009) and Okoro (2013). Also, benefits, opportunities, risks, challenges, and the effect of CBDC issuance on the monetary policy system in Nigeria. With benefits and opportunities of CBDC issuance in Nigeria, respondents identified numerous benefits, but the most highlighted for this study are new monetary policy infrastructure, transparency, trust in the financial system, financial inclusion, and forced digital literacy and minting cost elimination.

The new monetary policy infrastructure hopefully provided by CBDC would create and foster the government's monetary policy (RS 10, 14 &15). To successfully do this, the openness of CBN and all other regulatory authorities in terms of their operations, power, scrutiny, homogeneity, stability and recognizability are all missing in the current financial system. This means the new infrastructure (in addition to the existing one) can improve the current unemployment through efficient balance or equitable distribution of resources, maintain price stability through the elimination of multi-forex markets (official and black market) etc.; that simultaneously contribute to stable and sustainable growth of the country. This study expects that the issuance of CBDC does not eliminate fiat currency at inception, but gradually as public acceptance grows. This then aligns the suggested view of state theory of money that allows the trust rebuilt enable the CBN and the entire monetary system regain the status of being the legal tender issuer. This would benefit Nigeria in a great deal as it hungers for a sustainable growth away from political instability (Igharo et al 2020), market volatility and unstable currency rates and inequitable distribution of resources.

Similarly, transparency in the government of the day is non-existent and has been key contributors to lack of economic development in the country such as corruption, money laundering and cybercrimes. With CBDC, these can be eradicated or brought to the barest minimum. For example, the federal system of governance in the country is not practiced to the latter especially with tax revenue collection, federal salaries, and retirement plan funds all at the center. Evidence of disbursed funds are irretrievable without several hitches and bureaucratic processes (Rs 1, 5, 7 & 9). The funds disbursed by the financial regulators are also not accounted for. The issuance of CBDC does not account for monies disbursed for fiscal purposes but leaves digital trails of why, where and what disbursed funds are used for (Rs 1, 3 & 10). With a digitalized tax system that supports the Chartalist theory mentioned in this study, the digital trails of taxpayers' money expended for one capital or fiscal project or another can be accounted for. Some authors like

Abioye et al (2020) argue that one of the primary reasons some legislators kick against digital currencies in general, especially for CBDC is because of this feature. "The country is embedded with so much corruption that it has become a way of life and has made it hard to separate the wheat from the chaff" (Isaq 2020). Additionally, this eliminates the cut-throat expensive costs of running savings accounts or any form of accounts in the country. Several hidden charges on account holders are payable sometimes and a means of exploitation by these commercial banks. Whether as wholesale or retail, CBDC presents two options: generally eliminating commercial banks and financial institutions' intermediary function or reducing them to a reasonable fee. This creates an avenue for better, efficient, speedy, convenient, and transparent financial services provided to the members of the public (CBDC is self-updating) (Rs 6, 7 & 9).

Another key benefit of CBDC issuance is trust in the financial system which supports MMT, Minsky and state theory of money that further provides an opportunity for financial inclusion. CBN Report (2019) highlights that "58.4% of Nigeria's 96.4 million adults were financially included comprising 38.3% banked, 10.3% served by other formal institutions and 9.8% served by informal service providers". Thus, this means that regardless of Nigerians' level of education or digital literacy, the digitalized feature of say *e-Naira* would have to be used as a "legal tender and a means of payment" (Omarova 2020). The shadow economy cannot be excluded entirely with the issuance of CBDC especially since Nigerians' trade daily to meet their needs (Rs 1). This completely highlights the use of centralized authority homogenous throughout the country as pointed out by MMT. The drivers of the economy in Nigeria are known as SMEs (small and medium scale enterprises) who through their economic freedom can increase GDP values (consumption and investment) (Abioye et al 2020). Since trust already exists with Naira, transitioning to e-Naira further increases the trust Nigerians would have in the monetary system and fiscal policies on money supply for the economic development with CBDC (Rs 2, 4, 8).

One of the most important benefits and opportunities of CBDC issuance is eliminating expensive costs of printing Naira as highlighted by some of the respondents (Rs 6, 9, 10, 12). "Naira notes and coins are printed/minted by the Nigeria Security Printing and Minting (NSPM) Plc and sometimes, other overseas companies, and issued by the CBN" (CBN 2021). As said by Rs 6, Rs 9, 10, 13, 17, 18, 20 it is expensive to print, maintain the workers who print, reinject new notes after the acceptance of old notes and new CBN governor's signature (language to be written and faces to be displayed) and maintaining the circle again. He highlighted that the budgetary allocation for CBN's printing cost is high and can be truncated by the issuance of CBDC. Additionally, he added that the cost of printing smaller denominations is at par with higher denominations that have also contributed to an increase in prices of goods over time, especially during the scarcity of lower denominations. According to News Agency (2016), lower denominations are minted abroad to cut costs. Although, this move may be insensible to the effects of volatile foreign exchange rates, susceptible to 'factory errors' (News Agency 2016), etc. Thus, whether the minting and printing of currencies are locally produced or contracted internationally, CBDC as an alternative currency eliminates these costs. These costs could be diverted to fund capital projects that can help the economy (Rs 7 and Rs 10).

In addition to challenges of CBDC issuance mentioned previously, illiteracy, ‘the Nigerian factor’ and unfit regulatory approach (Rs 4, Rs 6, Rs 10) are examined as critical factors that may hinder the smooth transition of fiat Naira to CBDC. Risks associated with CBDC issuance also align with the benefits but are hindered by the challenges: long transition process, financial stability risk, reputational risk, centralized market power and consumer protection at bay.

The Nigerian factor highlighted for this study is the ability of the Nigerian system irrespective of the sector to have bureaucratic processes that not only slows down successes or progress of many favourable policies with expected outcomes but also destroys the ability for better initiatives and innovations to be executed. The CBDC issuance is a great idea and in most developing countries, have emerged from ideas to pilot stages and close to implementation stages in a few years. However, the bureaucratic style the Nigerian financial system is known for can reduce the beneficial impact of CBDC (Rs 7, Rs 6 and Rs 15) especially with the perspective of Chartilist theory that is expected to reduce or curb tax evaders. With a slowdown in implementation processes due to the Nigerian factor, tax evaders may have the opportunity to withhold payable taxes even longer. Although, as pointed out in this study (section 1.2), the government with the introduction of CBDC as a means of payment eliminates the heavy reliance on tax revenues as a source of income. However, any government revenue should be always remitted to the government (Dlamini et al 2016). This can range from the legislative process of 1st to 3rd reading of proposed bill, passing into law and implementation (Rs 3). The expensive technological and innovative infrastructure may cause opportunities for money laundering that may slow down the processes of moving from project, pilot, and implementation stages. Then, the approval of several government agencies, letters of approval and meetings against or for could take years. Additionally, the reputation of the country's apex bank in issuing and implementing timely policies has been objectionable that many Nigerians believe that the apex bank, for example, is more of a political affiliation than monetary and regulatory body (Akana 2020).

Illiteracy is one of the biggest challenges in the country when innovative policies similar to that of CBDC are issued. With half of the Nigerian population digitally illiterate (Statistica 2021), the transition process as projected by other developed countries of the world between two and five years (Bank for International Settlements & Carstens, 2021) may be longer if CBDC is issued after the implementation phase. This is attributable to factors mentioned in this study. Using an alternative CBDC by people with little or no education poses a challenge of general beliefs, including cultural and religious beliefs in Nigeria that may not have significant impacts but may slow down the effective transition of the coexistence or use of CBDC (Rs 1 and Rs 8). For Nigerians who fall into this category, the CBDC infrastructure can be rebuilt to include self-thought platforms that can enable people with little or no education to be captured digitally and hence, use CBDC.

The issuance of CBDC is no doubt putting the reputation of the apex bank at risk. Just like the state theory of money pointed out, the value of CBDC as a means of payment is strongly embedded solely on the issuer's reputation. This is because if all processes and implementation fails, there may be a loss of trust in the financial system in its entirety. CBN (2019) defines reputational risk as "the risk of damage to a bank's reputation as a result of any reputational event, arising from negative publicity about its practices, conduct or financial condition". Therefore, it is imperative that the decisions taken by CBN, and all concerned stakeholders must not only be accurate, functional, and innovative but timely and scrutinized while including factors domesticated and peculiar to Nigeria. Also, the importance of regulatory approach workable with the CBDC infrastructure is key (Rs 3, 4 and 10). Digital Yuan is workable based on strong financial infrastructure and bans on other virtual currencies. This medium could be adopted so as not to present currency or value alternatives outside the designed legal tender options of Nigeria's monetary and financial system.

Furthermore, because of the existing distrust in the Nigerian financial system, for example, a person does an interbank transfer that does not reflect in the recipient’s account longer than 24hours, citizens believe that if not reported, the debited fund may never be refunded. This may be minute, but an average Nigerian does not believe in the decisions made by the financial system, and these average Nigerians would be expected to use alternative currencies other than fiat currency. This can be countered by re-education and sensitization. The fear of centralized power by the government through the CBN for retail CBDC (Rs 10) has the controlled market power of currency relations directly to the public may keep consumers protection at bay. However, this can be countered with the inclusion of the current financial system where CBN is answerable to the

FSCC where the FSCC would be expected to objectively check and balance the powers handed over to CBN in the restructured CBN Acts 2007.

4. CONCLUSIONS AND RECOMMENDATIONS

Discussions and arguments in this study have pointed to the imperative of quality and workable monetary policy as a vital instrument in developing any nation. Several studies have equally backed the argument that developed countries achieved economic growth and sustainability through a combination of many policies and innovations, including monetary and fiscal policies and modern financial innovations such as the development and adoption of the Central Bank Digital Currency (CBDC), in Nigeria tagged as **e-naira**. The study examined the nexus between monetary policy and economic development in Nigeria, CBDC issuance and adoption in Nigeria, its benefits and opportunities, risks, and challenges and how all these can be interpreted for the monetary policies of Nigeria in the future. As of the time of this research, no study has explored the possibilities of CBDC workable in this unique environment, but other digital currencies which have emerged, including crypto assets like bitcoin, have been attributed to the open-access the CBN to fintech companies. The threat of these assets replacing regulated currencies like fiat currencies globally have created an avenue for CBDC to be explored for this study. Digital Yuan and others are currently looking at the implementation phase from 2022 which clearly shows that Nigeria should consider this alternative currency.

In addition to answering the research questions designed for this study, all benefits, challenges, and risks posed by the issuance of CBDC in Nigeria were viewed from the perspective of three main theories: the state theory of money, Chartalism theory of money and modern money theory. These theories were refined to fit the context of the subject of discourse and explicitly outlined that all these theories are workable but posed several challenges peculiar to Nigeria. The state theory is challenged with current distrust and reputational risk, Chartalist theory is posed with tax evaders and the Nigerian shadow economy, MMT is posed with the legacy of Nigerian financial authority's abuse of power and financial instability may be hindered by hyperinflation, wealth inequality, bureaucratic processes (tendencies) and bank run.

More than 75% of the respondents in this study agreed that CBDC is workable in Nigeria despite doubts, lack of trust in the financial system, illiteracy, and the Nigerian factor. The achievement of this innovative concept would be outstanding for the country in tackling the loopholes of the current system and upgrading it to a more sophisticated and robust system the world is ready to see. The control of global power is imminent, and it is best Nigeria stay ahead, carried along or in the process like other countries.

The benefits and opportunities highlighted in this study cannot be achieved without the challenges expressed in this study to have a smooth transition from fiat currency to digital fiat currency in the form of CBDC. Respondents were able to provide great insights to each question asked and has significantly assisted the researcher in having key contributions to the subject of discourse. More than 70% of central banks of the world (since 2018) have been researching on how much practical or theory risks and benefits can be weighed against the current system and hence, the need to tread with caution on the implementation phase. Dyson and Hodgson (2016) agree but insist that CBDC would do better for the monetary system with 'financial inclusion', improve competitiveness and robustness of the monetary system, boycott fintech and other non-bank lending institutions and keep regulatory control of all monetary policies at the center.

Interestingly, findings from the literature reviewed and responses from the interviews showed a strong correlation between monetary policy and economic development. The study also finds that despite the fears and risks associated with the development and adoption of CBDC in Nigeria, the potentials and benefits far outweighed its threats. Again, the study holds that CBDC can provide solutions to several of the country's financial challenges if managed. Summarily therefore the research concludes as follow:

1. That Nigeria's monetary policy which is inflation-targeting and regimental (lacking in continuity and long-term objectives) in posture has led to the redundant economic growth experienced over the years.
2. That monetary policy is a binding instrument and catalyst for economic growth and transformation of any country. Thus, for Nigeria to experience economic development, the monetary policy must be revamped to be innovative and proactive.
3. That CBDC is a viable option and an undeniable future of money whose success will depend on the readiness and capability of the regulatory body CBN.
4. That although the risks and challenges of the adoption cannot be undermined, the study holds that the benefits and potential far outweigh the risks.

In the light of the above findings and subsequent conclusions reached, the study recommends that:

a. The federal government must put in place professional economic team who will review the country's monetary policy to revamp the same to be more broadened and innovative capable of placing the nation on the path of economic development and prosperity as with the other developed countries.

b. Certain political interferences in the monetary and fiscal policy formulations must be reduced to the barest minimum.

c. As observed in the findings above, the federal government must ensure adequate sensitization and enlightenment of most of the citizens on the benefits and potentials of CBDC and its role as the future of money.

d. Government must make provision for the acquisition and maintenance of modern technological infrastructure capable of defending the CBDC against any kind of threat, particularly in the era of global cyber security threats.

Although this study is exploratory, the results presented here are reliable and can be used for further research. Instructively, the study agrees that retail CBDC issuance in Nigeria is to revamp the monetary system and the entire economy, including the political system. Additionally, this study supports the adoption of digital currencies in Nigeria through a centralized and regulated CBDC structure with collaborations of both the public and private sectors.

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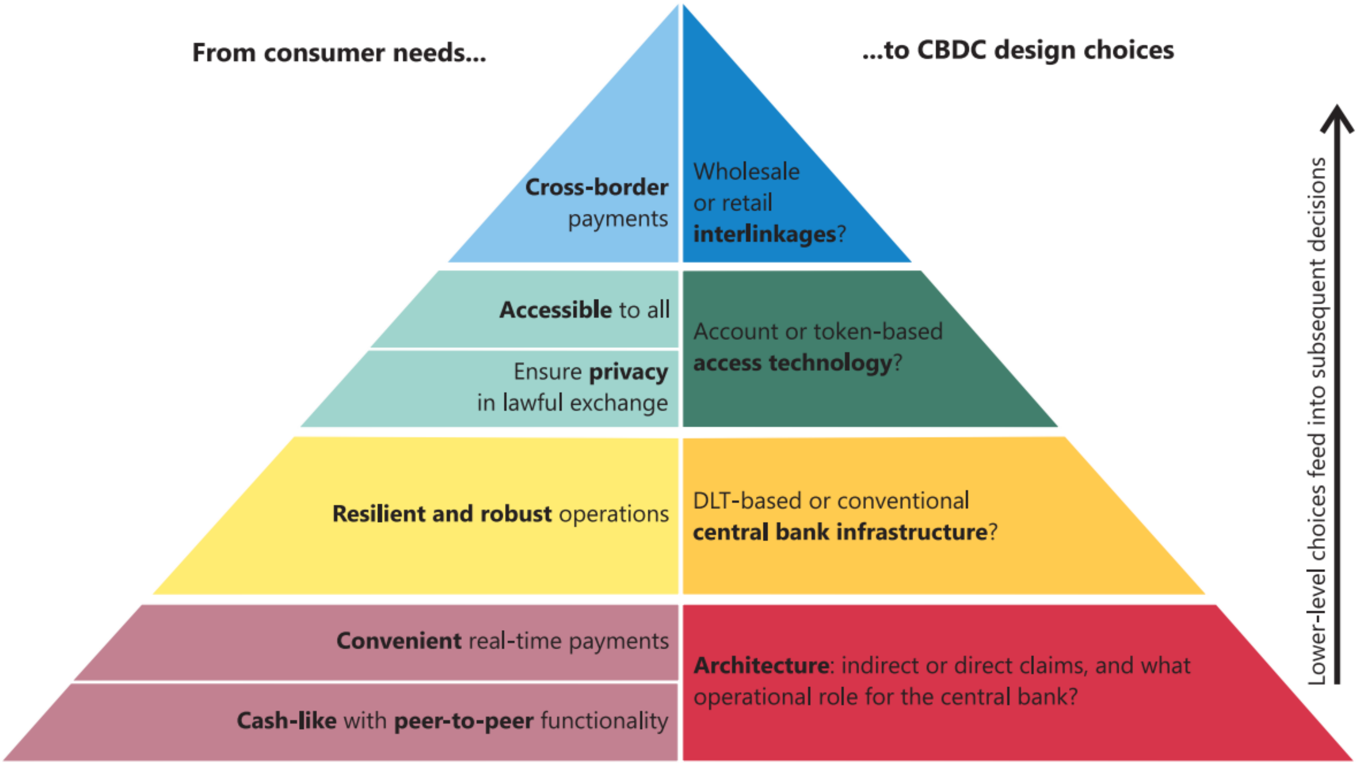
APPENDICES

Appendix 1. The CBDC Pyramid

The CBDC pyramid Graph 1



The CBDC pyramid maps consumer needs (left-hand side) onto the associated design choices for the central bank (right-hand side). The four layers of the right-hand side form a hierarchy in which the lower layers represent design choices that feed into subsequent, higher-level decisions.

Source: Authors' elaboration.

Source: : BIS Quarterly Review, March 2020

Appendix 2: Interview questions on Nigeria's Monetary Policy and Economic Development: An appraisal of the proposed Central Bank of Nigeria Digital Currency (CBDC)

1. What is your view about Nigeria's monetary policy and how has it help to ensure economic development since cashless policy?
2. What is your opinion on cryptocurrency generally and digital currency in particular? Do you think they are the same? If so, why?
3. What are the major drawbacks of Nigeria's monetary policy approach?
4. How can it be better or improved upon?
5. What do you consider the prospect and potential benefits of CBDC in Nigeria?
6. Do you foresee any major threat or potential challenge(s) in the adoption of CBDC in Nigeria?

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