

Money Market Instruments and Price Stability in Nigeria: 1981 - 2021

Appah, Ebimobowei (PhD)

Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria

Tebepah, Sekeme Felix

Isaac Jasper Boro College of Education, Sagbama, Bayelsa State, Nigeria

doi: <https://doi.org/10.37745/ijbmr.2013/vol11n42546>

Published May 14, 2023

Citation: Appah, E. and Tebepah, S.F. (2023) Money Market Instruments and Price Stability in Nigeria: 1981 – 2021, *International Journal of Business and Management Review*, Vol.11, No. 4, pp.25-46

ABSTRACT: *The study examined money market instruments and price stability in Nigeria. The study specific objectives include to investigate the relationship between treasury bills, treasury certificates, development loans stock, bankers' acceptance, commercial papers and federal government of Nigeria bonds on consumer price index in Nigeria. The study adopted purposive sampling technique and the sample size consist time series data from 1981 to 2021. The study used secondary data obtained from Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS) and the data were analysed using univariate, bivariate and multivariate analysis. The findings from the error correction model indicated that treasury bills negatively and insignificantly influence consumer price index in Nigeria; treasury certificates positively and significantly influence consumer price index in Nigeria; development stocks positively and significantly affects consumer price index in Nigeria; certificates of deposits positively and insignificantly influence consumer price index in Nigeria; commercial papers negatively and insignificantly influence consumer price index in Nigeria; bankers' acceptance positively and significantly influence consumer price index in Nigeria and federal Government of Nigeria bonds positively and insignificantly impact on consumer price index in Nigeria. On the basis of the findings, the study concludes that money market instruments on the short and long run affects price stability in Nigeria. Hence, the study recommends amongst others that government should established effective and efficient stabilization policies and quality of public sector governance that would ensure that prices of goods and services and money market instruments are stable for sustainable economic growth of Nigeria.*

KEYWORD: Treasury Bills, Treasury Certificates, Money Market Instruments, Price Stability, Nigeria

INTRODUCTION

The relevance of money market instruments on price stability is currently at the foundation of monetary policy debates in developed and developing nations. According to Pavtar (2016), money market is a critical element of any given financial markets because it contributes to the economic growth and development process of nations. Nzotta (2014) state that the money market is a market which consists of structures designed for obtaining and mobilizing short term funds or exchanging financial assets representing short term claims. Okezie (2012) argued that money market is a market that deals with short term instruments that are readily convertible into cash and whose maturity range between a few days and two years. Appah and Tebepah (2017) described money market as all the facilities used for the purchase and sale of money for intermediate and deferred delivery and for the borrowing and lending of money for short periods of time. Nwonye et al (2020) noted that money market assists in the liquidity management of banks' as well as the transfer of monetary policies by providing appropriate financial instruments for liquidity intermediation. Umason (2018) underscored the significance of money market to both the government and business organisations as money market instruments supports in accomplishing government short-term decrease in revenue through sales of financial instruments such as treasury bills, treasury certificates, development stock, certificates of deposits, commercial papers, bankers' acceptance etc. Also businesses gain from money market by making it possible to invest surplus liquidity and source shortage of liquidity, while to the monetary authority money market as a device for the attainment of monetary policy objective such as price stability (Onodugo et al, 2018).

Price stability in an economy suggests constant price level over a period of time. The European Central Bank (2020) suggested that price stability advances price mechanism transparency thus contributing to growth and development in the economy. The Central Bank of Nigeria (2012) indicated that price stability is beneficial to the economy by promoting high standard of living, reduces uncertainty about general price development, reduces inflation premium risk, supports to avoid unnecessary hedging activities, increases the benefit of holding cash, averts the arbitrary distribution of wealth and income, supports financial stability etc(Bank – Ola et al, 2020). Uche et al (2023) stated that price stability of money market instruments is very significant to the Nigerian economy because their outcomes are used to make financial decisions spontaneously. Umason (2018) maintains that an understanding of the transmission of money market instruments to price stability and other macroeconomic variables is a key for the monetary authorities to conduct effective and efficient monetary policy. Uche et al (2023) opines that the monetary policy objective of price stability can be blemished if the policy does not match with other fiscal measures in the economy. The authors further noted that it becomes vital to investigate monetary policy transmission such as the money market instruments and its effect on price stability in emerging nation like Nigeria.

Publication of the European Centre for Research Training and Development-UK

Research on money market instruments and price stability in the Nigerian economy has for long been of interest to bankers, economists, financial experts and policy makers. The study of money market instruments have produced mixed outcomes (example, Uche et al, 2023; Obi, 2021; Bank – Ola, 2020; Anowor et al, 2019; Akarara & Edoumiekumo, 2018; Etale and Ayuku, 2017; Eze and Mansi, 2017). Basically, these inconclusive results from prior empirical literatures on the relationship between money markets instruments and price stability in Nigeria may be due to the difference in methodologies, differences in measurement, sample size, area of the research and data span. However, emphasis on one of the macro economic objectives that is, price stability, is scarce. The persistent rise in the general level of prices in the Nigerian economy stimulated the need to investigate if the monetary policies using money market instruments implemented by the Central bank of Nigeria have been capable of addressing price instability in the country. Hence, this study intends to fill this gap, by using the major money market instruments (treasury bills, treasury certificate, development stock, certificate of deposit, commercial papers, and bankers acceptance) on price stability in Nigeria from 1981 to 2021. The specific objectives are to:

1. investigate the relationship between treasury bills and consumer price index in Nigeria;
2. evaluate the relationship between treasury certificates and consumer price index in Nigeria;
3. determine the relationship between development stock and consumer price index in Nigeria;
4. investigate the relationship between certificate of deposit and consumer price index in Nigeria;
5. examine the relationship between commercial papers and consumer price index in Nigeria;
6. evaluate the relationship between bankers acceptance and consumer price index in Nigeria; and
7. investigate the relationship between federal government of Nigeria bond and consumer price index in Nigeria.

This study was guided by the following research questions:

1. What is the relationship between treasury bills and consumer price index in Nigeria?
2. What is the relationship between treasury certificates and consumer price index in Nigeria?
3. What is the relationship between development stock and consumer price index in Nigeria?
4. What is the relationship between certificate of deposit and consumer price index in Nigeria?
5. What is the relationship between commercial papers and consumer price index in Nigeria? and
6. What is the relationship between bankers' acceptance and consumer price index in Nigeria?
7. What is the relationship between federal government of Nigeria bond and consumer price index in Nigeria?

The following null hypotheses were tested in this study:

H₀₁: Treasury bills have no positive and significant impact on consumer price index in Nigeria.

Publication of the European Centre for Research Training and Development-UK

H0₂: Treasury certificates have no positive and significant impact on consumer price index in Nigeria.

H0₃: Development stocks have no positive and significant impact on consumer price index in Nigeria.

H0₄: Certificates of deposits have no positive and significant impact on consumer price index in Nigeria.

H0₅: Commercial papers have no positive and significant impact on consumer price index in Nigeria.

H0₆: Bankers acceptance has no positive and significant impact on consumer price index in Nigeria.

H0₇: Federal Government of Nigeria bonds have no positive and significant impact on consumer price index in Nigeria.

LITERATURE REVIEW

Concept of Money Market Instruments: Money market is a component of financial market for short term investible fund where short term financial instruments or liquid assets with maturity of within one year are traded. Its major significance is that it is the machinery for the mobilization of short-term financial resources for economic growth. Investment that promotes liquidity and gives immediate income requires short term funding with maturity of within one year (Anowor & Nwanji, 2018). Nzotta (2014) state that the money market is a market which consists of structures designed for obtaining and mobilizing short term funds or exchanging financial assets representing short term claims. Okezie (2012) argued that money market is a market that deals with short term instruments that are readily convertible into cash and whose maturity range between a few days and two years. Appah and Tebepah (2017) described money market as all the facilities used for the purchase and sale of money for intermediate and deferred delivery and for the borrowing and lending of money for short periods of time. Nwonye et al (2020) noted that money market assists in the liquidity management of banks' as well as the transfer of monetary policies by providing appropriate financial instruments for liquidity intermediation. Umason (2018) underscored the significance of money market to both the government and business organisations as money market instruments supports in accomplishing government short-term decrease in revenue through sales of financial instruments such as treasury bills, treasury certificates, development stock, certificates of deposits, commercial papers, bankers' acceptance etc. Also businesses gain from money market by making it possible to invest surplus liquidity and source shortage of liquidity, while to the monetary authority money market as a device for the attainment of monetary policy objective such as price stability (Onodugo et al, 2018). Also, money markets allows the refinancing of short and medium-term to ease and moderate business liquidity and risk (Iwedi & Igbaniibo, 2015); and control of money supply and demand-pull inflation, determination of short-run interest rate (Obi, 2021).

Publication of the European Centre for Research Training and Development-UK

Money markets instruments are short term debt claims that are readily marketable or convertible into cash (Appah & Tebepah, 2017). These instruments serve as a buffer which banks rely on in time of cash crunch. According to Ndugbu et al (2016), money market instruments are made possible through the use of credit instruments of high quality such as treasury bills, treasury certificates, Bankers acceptance, commercial papers, eligible development funds, certificates of deposits etc. **Treasury Bills:** These are money market instruments issued by the Federal Government of Nigeria to borrow funds for short periods of about three months pending the collection of its revenues. They are sold at a discount and mature within 91 days of the date of issue and are default free (Appah & Tebepah, 2017; Eze & Mansi, 2017). **Treasury Certificate:** This is a medium term government security which matures after a period of one to two years and are intended to bridge the gap between treasury bill and long term government securities. According to Nzotta (2014), treasury certificate plays a major role in the development of the money market. **Development Stock:** These are fairly long term debt instruments issued by the Central Bank of Nigeria on behalf of the Federal Government. **Certificate of Deposit:** These are inter-bank debt instruments meant to provide outlet for commercial bank's surplus funds (Appah & Tebepah, 2017). Eze and Mansi (2017) noted that certificate of deposits are transferable investment instrument in the money market. **Commercial Papers:** These are short term unsecured promissory notes issued by a company with a high credit standing. These papers are subscribed by banks and the funds generated are used by the issuing company to finance working capital requirements (Appah & Tebepah, 2017). **Bankers Acceptance:** This is a written order drawn by an individual or firm upon a bank ordering the bank to pay a sum of money on a specified date in the future (Nzotta, 2014). **Federal Government Bonds:** This is an investment mechanism available by the Sovereign that will assist to attain the investment wishes of low-high income citizens in the economy by improving our savings culture whilst also performing as inefficient and efficient debt management structure for monetary management.

Concept of Price Stability: Price stability is when money preserves their value over time or their speed depreciation of purchasing power is very relaxed. It is the aggregate price level measured by consumer price index, gross national product deflator and produce price index (Nzotta, 2014; Appah & Tebepah, 2017). Bandoi et al (2009) argued that price stability performs a twin role in modern central banking. The authors further stated that price stability is both an *end* and a *means* of monetary policy. Basically, price stability conserves the reliability and purchasing power of the country's money. Ezirim (2012) opined that when prices are stable, individuals can hold money for transactions and other objectives without having to worry that inflation will reduce the real value of their money balances. Appah and Tebepah (2017) argued that stable prices permits individuals to depend on the naira as a measure of value when making long-term contracts, engaging in long-term planning, or borrowing or lending for long periods. Bandoi et al (2009) suggested that price stability encourages efficiency and long-term growth by ensuring a financial environment in which economic decisions can be made and money markets can function without distress about the volatile and variations in the purchasing power of money. This study utilized consumer price index as a measure of price stability. Nzotta (2014) noted that consumer price

Publication of the European Centre for Research Training and Development-UK index is a measure of the value of money that examines the average changes in the cost of a fixed or constant market basket of a fixed number of consumer goods and services purchased by urban wage earners.

Theoretical Review

This study anchored on the financial intermediation theory. This theory was advanced by the studies conducted by Goldsmith (1969); Mckinnon (1973); Senbet and Otchere (2005) that viewed money markets as an essential factor in the economic advancement as nations due to the differences in economic growth across nations as a result of the services rendered by financial institutions. McKinnon (1973) opined that there is a complementarity between money and physical capital which is replicated in the demand for money. The author further noted that the complementarity connects the demand for money unswervingly and clearly with the process of physical capital accumulation as a result of the conditions of money supply have a first order influence on decision to save and invest. Also, Shaw (1973) suggested a debt intermediation theory, whereby prolonged financial intermediation between the savers and investors causing financial liberalization and development that increases the incentive to save and invest, stimulates investments because of an increase in the supply of credit, and promotes the average efficiency of investment. Obi (2021) stressed the significance of free entry into and competition within the money market as conditions for effective financial intermediation.

Empirical Review

There are numerous prior empirical studies on the association between money market instruments and price stability in developed and developing countries. Some of these investigations are reviewed below with a view to observe the trends of the findings and the gaps in literature. Uche et al (2023) investigated money market instruments and price stability in Nigeria from 1990 to 2021. The study employed secondary data from the Central Bank of Nigeria statistical bulletin and econometric models for the analysis of data. The dependent variable price stability consisted of consumer price index and GDP deflator while the independent variable money market instruments consisted of treasury bills, discount windows, mutual funds and risk premium lending rate. The data collected from the secondary sources were analysed using descriptive statistics, correlation matrix, stationarity test, error correction model, CUSUM, CUSUMSQ and ARDL long run bound test. The findings indicated money market instruments negatively and significantly affect the long run relationship with consumer price index while money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. Okoyan and Eze (2021) investigated money market instruments and capital market performance in Nigeria from 1981 to 2018. The study used correlation research design and secondary data from the Central Bank of Nigeria for the period under review. The secondary data collected were analysed using Johansen cointegration, and Vector error correction model. The results disclosed that treasury bills (TB), and commercial paper (CP) showed negative relationship with capital market performance in Nigeria.

Publication of the European Centre for Research Training and Development-UK
Bank – Ola et al (2020) studied monetary policy and price stability in Nigeria from 1986 to 2019. The study employed correlational research design and time series data were collected from the Central Bank of Nigeria statistical bulletin and world development indicators. The independent variable of monetary policy were measured with cash reserve ratio, liquidity ratio, exchange rate, money supply and import of goods and services while the dependent variable price stability were proxied using consumer price index. The secondary data were analysed using descriptive statistics, unit root tests, diagnostic tests, VAR Lag Order selection, ADRL bound test for cointegration. The analysis of the data disclosed that cash reserve ratio positively and significantly affects consumer price index (price stability) while liquidity ratio, exchange rate and money supply negatively and insignificantly influences consumer price index (price stability) and import of goods and services positively and insignificantly influences consumer price index (price stability) in Nigeria. Akarara and Edoumiekumo, (2018) conducted a study of money market instruments and economic growth in Nigeria. The study applied ex post facto research design and data were collected from the Central Bank of Nigeria for the period under review. The secondary data collected from the CBN were analysed using Autoregressive Distributed Lag (ARDL) Bound Testing Approach to Cointegration to analyse the relationship between money market instrument and economic growth of the Nigerian economy. The independent variables consisted of certificate of deposit (COD), commercial paper (CPR), broad money supply (M2G), and treasury certificate (TRC) while economic growth used real gross domestic products (GDPR) as dependent variable. The econometric analysis indicated a long run relationship between money market instruments and economic growth in Nigeria.

Eze and Mansi (2017) carried out an investigation into the causality between money market instrument and economic growth in Nigeria from 1990 to 2014. The study employed ex post facto research design and time series data were sourced from the Central Bank of Nigeria statistical bulletin and the data collected from the secondary sources were analysed using descriptive statistics, unit root test, unit root test, ordinary least square, parsimonious error correction and pairwise granger causality analysis. The independent variable of money market instrument consisted of treasury bills, treasury certificates, certificates of deposits, and banker's acceptances while dependent variable of economic growth used gross domestic product. The results indicated that an insignificant relationship between treasury bills treasury certificates and economic growth; a significant relationship between certificate of deposit and bankers acceptance on economic growth in Nigeria.

METHODOLOGY

This study of money market instruments and price stability employed both ex post facto and correlational research designs while the sample size of data for the study was attained through purposive sampling technique. The sample size consists of yearly time series data from 1981 to 2021. Data were obtained from Central Bank of Nigeria (CBN) statistical bulletin and National

Publication of the European Centre for Research Training and Development-UK Bureau of Statistics (NBS). The secondary data obtained were analysed using univariate, bivariate and multivariate analysis. Table 1 below shows the variables used in the study.

Table 1: Variables Employed in the Study

Type	Variable	Symbol	Explanation	Source
Dependent	Price Stability	CPI	Consumer Price Index	Nzotta (2014); Appah&Tebebah, (2017); Bank – Ola et al, (2020); Uche et al (2023)
Independent	Money Market Instrument	TRB	Treasury Bill	Nzotta (2014); Appah&Tebebah, (2017); Uche et al (2023)
Independent	Money Market Instrument	TRC	Treasury Certificate	Nzotta (2014); Appah&Tebebah, (2017); Eze and Mansi (2017)
Independent	Money Market Instrument	DVS	Development Stock	Nzotta (2014); Appah&Tebebah, (2017); Eze and Mansi (2017)
Independent	Money Market Instrument	COD	Certificate of Deposit	Nzotta (2014); Appah&Tebebah, (2017); Eze and Mansi (2017)
Independent	Money Market Instrument	CMP	Commercial Paper	Nzotta (2014); Appah&Tebebah, (2017); Eze and Mansi (2017)
Independent	Money Market Instrument	BAA	Bankers’ Acceptance	Nzotta (2014); Appah&Tebebah, (2017);Eze and Mansi (2017)
Independent	Money Market Instrument	FGB	Federal Government Bond	Nzotta (2014); Appah &Tebebah, (2017); Eze and Mansi (2017)

Source: Desk Research 2023

This study is guided by the linear model below:

$$\text{Price Stability} = f(\text{Money Market Instruments}) \text{----- (1)}$$

$$\text{CPI} = \beta_0 + \beta_1 \text{LogTRB} + \beta_2 \text{LogTRC} + \beta_3 \text{LogDVS} + \beta_4 \text{LogCOD} + \beta_5 \text{LogCMP} + \beta_6 \text{LogBAA} + \beta_7 \text{LogFGB} + \varepsilon \text{--- (2)}$$

Where:

CPI = Consumer Price Index; TRB = Treasury Bills; TRC = Treasury Certificate; DVS = Development Stock; COD = Certificate of Deposit; CMP = Commercial Papers; BAA = Bankers

Publication of the European Centre for Research Training and Development-UK
Acceptance; FGB = Federal Government of Nigeria Bond; $\beta_0 - \beta_6$ are the coefficients of the regression, while e is the error term capturing other explanatory variables not explicitly included in the model. The p value shows what is the smallest level at which we would be able to accept the null hypotheses of a test. We used a 5% level of significance; hence we conclude that the coefficient is significantly different from zero at the 5% level if the p-values is less than or equal to 0.05. If it is greater than 0.05 then we cannot reject the null hypothesis that the coefficient is actually zero at our 5% significance level.

RESULTS AND DISCUSSIONS

This section is designed to enable the researcher to present the secondary data collected from the expose-facto work and the results obtained are analyse with the help of e-view 12. in addition, the researcher also provided a conclusive discussion of the results and establishing necessary inferences and implications based on the impact of money market instruments and price stability in Nigeria from (1981 to 2021).

Descriptive Statistic (Univariate Analysis)

Univariate analysis is a basic kind of analytical technique for statistical data. However, the data contains just one variable and does not have to deal with the relationship of a cause and effect. The main objective of the univariate analysis is to describe the data in order to find out the patterns in the data. This is done by looking at the mean, median, standard deviation, Skewness, Kurtosis, Jargue- Bera and Probability etc.

Table 2 Descriptive Statistics

	TRB	TRC	DVS	COD	CMP	BAA	FGB	CPI
Mean	987.7456	7.069512	2.038780	14.12366	69.68366	21.00000	2254.319	19.67390
Median	471.9300	0.000000	1.830000	0.260000	8.020000	11.97000	0.000000	12.89000
Maximum	3786.140	39.71000	4.910000	82.46000	822.7000	81.83000	13465.27	72.81000
Minimum	5.780000	0.000000	0.000000	0.000000	0.070000	0.010000	0.000000	4.670000
Std. Dev.	1187.949	12.94187	1.783379	26.07146	160.8716	24.39398	3755.046	17.20185
Skewness	1.045366	1.704281	0.173299	1.531242	3.264526	1.213518	1.633803	1.678011
Kurtosis	2.616847	4.189486	1.479815	3.688127	14.07087	3.363448	4.485532	4.657778
Jarque-Bera	7.718196	22.26501	4.153117	16.83106	282.2041	10.28860	22.01026	23.93566
Probability	0.021087	0.000015	0.125361	0.000221	0.000000	0.005833	0.000017	0.000006
Sum	40497.57	289.8500	83.59000	579.0700	2857.030	861.0000	92427.07	806.6300
Sum Sq. Dev.	56448950	6699.684	127.2176	27188.84	1035187.	23802.65	5.64E+08	11836.15
Observations	41	41	41	41	41	41	41	41

Source: Author's Computation using E-Views, 12

Publication of the European Centre for Research Training and Development-UK

Table 2 gives a summary of money market instruments and price stability in Nigeria indicators as obtained from Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS). The study looked at 41 years (1981-2021) for each of the series as reported in the Table. The variables considered for this study includes; Consumer Price Index (CPI), Treasury Bills (TRB), Treasury Certificate (TRC), Development Stock (DVS), Certificate of Deposit (COD), Commercial Papers (CMP), Bankers Acceptance (BAA) and Federal Government of Nigeria Bond (FGB).

Generally, the summary statistics in the Table shows that federal government of Nigeria used more money market instruments of federal government of Nigeria bond (FGB) than treasury bills (TRB), commercial papers (CMP), bankers acceptance (BAA), certificate of deposit (COD), treasury certificate (TRC) and development stock (DVS). This is reflected in the fact that about N2254.319b was averagely recorded from 1981 to 2021 as money market instruments of federal government of Nigeria bond (FGB) follow by N987.745b on treasury bills (TRB), N69.123b on commercial papers (CMP), N21.000b on bankers acceptance (BAA), N14.123b on certificate of deposit (COD), N7.069 on treasury certificate (TRC) and N2.038b on development stock (DVS). Furthermore, the table 2 above showed that all the seven variables that represent money market instruments has a positive growth rate as indicated between the minimum and maximum statistical values. FGB has the highest grow rate from N0.00b to N13465.27b follow by TRB grow from N5.780 to 3786.140b, CMP from N0.077b to 822.700, BAA grow from N0.0100b to b81.830, COD grow from N0.000b to N82.460b, TRC grow from N0.000b to N39.7100b and DVS grow from N0.000b to N4.9100b. Also, the summary statistics in the Table shows that consumer price index (CPI) has an average (Mean) value of N19.673b with a positive minimum and maximum value ranging from N4.670b to 72.8100b

Furthermore, the table above disclosed that all of the variables are positively skewed, which means that the right tail of their distributions will always be longer and include more extreme values than the sample mean. Also, the kurtosis values of 4.189, 3.688, 14.5070, 3.363, 4.485 and 4.657 showed that all the variables (TR, COD, CMP, BAA, FGB and CPI) was leptokurtic and looked different from a normal distribution because they have has a kurtosis value that is greater than 3, which indicates that the distributions will have a greater number of values that are higher than the sample mean value. But the kurtosis values of 2.616 and 1.479 indicated that these two variables (TRB & DVS) was a platykurtic value which is less than the kurtosis value of (3). Finally, the Probability of the Jarque-Bera stat for TRB, TRC, COD, CMP, BAA, FGB and CPI was 0.021, 0.000, 0.000, 0.000, 0.005, 0.000 and 0.000, implying that they were not normally distributed while only DVS value of 0.125 were normally distributed, hence, the researcher need to carry out a normality and diagnostics test to confirm the normality of the variables before further estimation.

Unit Root Test

One of the requirements of time series analysis regression approach is that the variables of interest must be stationary. Also, one of the requirement in the multiple regression procedure is that there

Publication of the European Centre for Research Training and Development-UK must be no I(2) or more variables involved. Therefore, to test the ordered integration or time series properties of the selected variables in this study, we employed ADF and PP unit root tests. Table 3 below shows the results of the tests.

Table 3 Results from Unit Root Test

Method 1	Augmented Dickey Fuller							
	TRB	TRC	DVS	COD	CMP	BAA	FGB	CPI
Level	0.280	0.0644	0.8056	0.9980	0.1796	0.2934	0.0131	0.0228
1 st difference	0.0132	0.0000	0.0046 1	0.3738	0.0000	0.0000	-	-
2 nd difference	-	-	-	0.0000	-	-	-	-
Order of integration	1(1)	1(1)	1(1)	1(2)	1(1)	1(1)	1(0)	1(0)
Method 2	Phillips-Perron							
	TRB	TRC	DVS	COD	CMP	BAA	FGB	CPI
Level	0.9988	0.0688	0.9189	0.2978	0.1510	0.3372	1.0000	0.0262
1 st difference	0.0043	0.0000	0.0142	0.0000	0.0000	0.0000	0.5247	-
2 nd difference	-	-	-	-	-	-	0.0000	-
Order of integration	1(1)	1(1)	1(1)	1(1)	1(1)	1(1)	1(2)	1(0)

Source: Author's Computation using E-Views, 12

The stationarity properties of the data were examined using the Augmented Dickey-Fuller unit root tests and Phillips-Perron unit root test. From table 3 above, FGB and CPI were stationary at level using ADF unit root test while TRB, TRC, DVS, CMP and BAA variables were not stationary at levels using ADF unit root test, hence they were converted to 1st difference after which TRB, TRC, DVS, CMP and BAA were stationary at 1st difference while COD were stationary at 2nd difference. Furthermore, the table also indicates that, CPI were stationary at level using PP unit root test while TRB, TRC, DVS, COD, CMP and BAA variables were not stationary at levels using PP unit root test, hence they were converted to 1st difference after which they were stationary at 1st difference while FGB were stationary at 2nd difference.

Bivariate (Correlation) Analysis

It is imperative to test the strength of the research questions after completing the univariate analyses. Thus, this section of the study is concerned with the determining the relationship strength of the formulated hypotheses in 1-10. To effectively carry out the testing of the hypotheses, Everitt and Dunn (2001) was adopted as a guide to determine the R-value and the extent of the relationship between the variables.

Table 4: Correlation Matrix

	CPI	TRB	TRC	DVS	COD	CMP	BAA	FGB
CPI	1	-0.30560...	0.45323...	0.41532...	-0.22397...	-0.22595...	-0.31100...	-0.23474...
TRB	-0.30560...	1	-0.40657...	-0.81916...	0.80379...	-0.06334...	0.18558...	0.91922...
TRC	0.45323...	-0.40657...	1	0.44957...	-0.29109...	0.15796...	-0.24424...	-0.30660...
DVS	0.41532...	-0.81916...	0.44957...	1	-0.59637...	-0.34698...	-0.61737...	-0.68832...
COD	-0.22397...	0.80379...	-0.29109...	-0.59637...	1	-0.04801...	-0.02677...	0.86632...
CMP	-0.22595...	-0.06334...	0.15796...	-0.34698...	-0.04801...	1	0.71150...	-0.06242...
BAA	-0.31100...	0.18558...	-0.24424...	-0.61737...	-0.02677...	0.71150...	1	0.05750...
FGB	-0.23474...	0.91922...	-0.30660...	-0.68832...	0.86632...	-0.06242...	0.05750...	1

Source: Author's Computation using E-Views, 12

Table 5 shows the direction of the relationship that exists between each independent variables and dependent variable. The independent variables is money market instruments measured by Treasury Bills (TRB), Treasury Certificate (TRC), Development Stock (DVS), Certificate of Deposit (COD), Commercial Papers (CMP), Bankers Acceptance (BAA) and Federal Government of Nigeria Bond (FGB), while the dependent variable is price stability which were measured by Consumer Price Index (CPI). The table shows that Treasury Bills (TRB) and Treasury Certificate (TRC) has moderate positive relationship with Consumer Price Index (CPI) (0.453 and 0.415) while Development Stock (DVS), Certificate of Deposit (COD), Commercial Papers (CMP), Bankers Acceptance (BAA) and Federal Government of Nigeria Bond (FGB) has weak negative relationship with Consumer Price Index (CPI) in Nigeria (-0.305, -0.223, -0.225, -0.311 and -0.234).

Diagnostic Test Results

The following sections discuss the results of the diagnostic tests that were conducted to ensure whether the data fits the basic assumptions of the classical Error Correction Model and Granger Causality Test. The implication of the test, limits therein, test results and their discussion are also presented.

Normality Test

The normality test was conducted to establish whether the observed values follow a normal distribution. The Residual histogram normality test was used to establish whether the observed values of the variables on the estimation of the model are normally distributed. The results of the Residual histogram normality test are presented in figure 1

Publication of the European Centre for Research Training and Development-UK

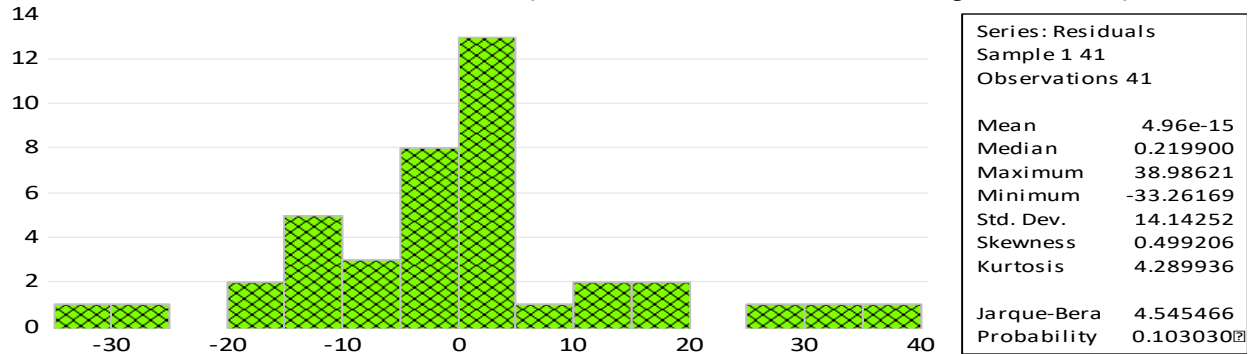


Figure 1: Histogram of Residuals on the Model

Source: Author’s Computation using E-Views, 12

The figure 1 above disclosed diagnostic test using normality test of residuals histograms as criteria for decision. The result indicates that the skewness value is positive implies that the model has long right tail, the kurtosis value is greater than 3 that is clearly mesokurtic and finally, Jarque-Beta probability value were 0.103 which is greater than 0.05 and this means that that the residuals are normally distributed hence Error Correction Model and Granger Causality Test model can be estimated.

Heteroskedasticity Test

Test for heteroskedasticity was conducted to test whether the residuals were constant. The study conducted the White test and Breusch-Pagan-Godfrey test for heteroskedasticity was conducted to test whether the residuals were constant. The null hypothesis for the test is that the residuals are homoskedastic which should be shown by a P-value of more than 0.05. The results of the test are presented in Table.

Table 5: Heteroskedasticity Results

Heteroskedasticity Test: White

Null hypothesis: Homoskedasticity

F-statistic	1.906219	Prob. F(35,5)	0.2440
Obs*R-squared	38.14157	Prob. Chi-Square(35)	0.3285
Scaled explained SS	40.64584	Prob. Chi-Square(35)	0.2356

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

F-statistic	3.258055	Prob. F(7,33)	0.0696
Obs*R-squared	16.75546	Prob. Chi-Square(7)	0.0790
Scaled explained SS	17.85558	Prob. Chi-Square(7)	0.0826

Source: Author’s Computation using E-Views, 12

Publication of the European Centre for Research Training and Development-UK

The table 5 above presented the heteroskedasticity diagnostic test using, White heteroskedasticity and Breusch-Pagan-Godfre heteroskedasticity test as the criteria for decision. The results of the White heteroskedasticity and Breusch-Pagan-Godfrey heteroscedasticity test illustrate a high P-value, this suggests an acceptance of the null hypothesis and conclude that the residuals have a constant 11 variance (Homoscedasticity).

Table 6: Ramsey Results

Ramsey RESET Test

Equation: UNTITLED

Omitted Variables: Squares of fitted values

Specification: CPI TRB TRC DVS COD CMP BAA FGB C

	Value	df	Probability
t-statistic	0.204572	32	0.8392
F-statistic	0.041850	(1, 32)	0.8392
Likelihood ratio	0.053585	1	0.8169

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	10.44938	1	10.44938
Restricted SSR	8000.435	33	242.4374
Unrestricted SSR	7989.985	32	249.6870

LR test summary:

	Value
Restricted LogL	-166.2869
Unrestricted LogL	-166.2601

Source: Author's Computation using E-Views, 12

The result of Ramsey test suggests that the estimated parameters of the models are stable.

Table 7: Error Correction Model

Dependent Variable: D(CPI)

Method: Least Squares

Date: 04/26/23 Time: 14:22

Sample (adjusted): 2 41

Included observations: 40 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.02010	18.21819	0.824456	0.4160
D(TRB(-1))	-0.003344	0.008712	-0.383873	0.7037
D(TRC(-1))	0.639938	0.247631	2.584239	0.0147
D(DVS(-1))	0.938494	4.658377	0.201464	0.0416
D(COD(-1))	0.032870	0.202160	0.162594	0.8719
D(CMP(-))	-0.043347	0.028909	-1.499455	0.1439
D(BAA(-1))	0.134644	0.226476	0.594515	0.0364
D(FGB(-1))	0.000544	0.002096	0.259513	0.7970
ECM(-1)	-0.405897	0.350283	-3.157158	0.0039
R-squared	0.682270	Mean dependent var		19.63025
Adjusted R-squared	0.505188	S.D. dependent var		17.41869
S.E. of regression	15.52914	Akaike info criterion		8.518422
Sum squared resid	7475.783	Schwarz criterion		8.898420
Log likelihood	-161.3684	Hannan-Quinn criter.		8.655817
F-statistic	2.258533	Durbin-Watson stat		1.723826
Prob(F-statistic)	0.049669			

Source: Author's Computation using E-Views, 12

The result from table 7 shows the estimated coefficient of the ECT-1 is -0.4058. The error correction term is the short-run estimate and has a negative significant value of (0.4058). This means that the error correction term is the speed of adjustment correcting back the shock at the rate of 40.05 percent annually. This means that a 40.05% gap between long-run equilibrium value and the actual value of the dependent variable (CPI) has been corrected. The negative sign signifies the existence of cointegration among the variables. The R-squared adjusted of 0.6822 (68%) shows that money market instruments variables can jointly affect about 68% of changes in price stability of Nigeria. The F-statistics probability value of 0.049 shows that, the model is statistically significant.

Furthermore, the results of the short run model are reported in the above table indicates a negative and insignificant short run relationship between treasury bills (TRB) and consumer price index (CPI). A 1% increase in TRB leads to 0.3% increase in CPI. Treasury certificates (TRC) has a significant positive impact on consumer price index (CPI) which implies that a 1% increase in TRC will lead to 63.9% unit increase on CPI. Development stocks (DVS) has a significant positive

Publication of the European Centre for Research Training and Development-UK
 impact on consumer price index (CPI) which implies that a 1% increase in TRC will lead to 93.8% unit increase on CPI. Certificates of deposits (COD) has an insignificant positive impact on consumer price index (CPI) which implies that a 1% increase in COD will lead to 3.2% unit increase on CPI. Commercial papers (CMP) has an insignificant negative impact on consumer price index (CPI) which implies that a 1% increase in CMP will lead to 4.3% unit decrease on CPI. Bankers acceptance (BAA) has a significant positive impact on consumer price index (CPI) which implies that a 1% increase in BAA will lead to 13.4% unit increase on CPI. And finally, federal government of Nigeria bonds (FGB) has an insignificant positive impact on consumer price index (CPI) which implies that a 1% increase in COD will lead to 0.0% unit increase on CPI.

Table 8: Granger Causality Test Result

Pairwise Granger Causality Tests

Date: 04/26/23 Time: 14:28

Sample: 1 41

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
TRB does not Granger Cause CPI	40	0.94573	0.3371
CPI does not Granger Cause TRB		0.69888	0.4085
TRC does not Granger Cause CPI	40	11.3016	0.0018
CPI does not Granger Cause TRC		0.38565	0.5384
DVS does not Granger Cause CPI	40	3.58118	0.0032
CPI does not Granger Cause DVS		1.72585	0.1970
COD does not Granger Cause CPI	40	0.19947	0.6578
CPI does not Granger Cause COD		0.55345	0.4616
CMP does not Granger Cause CPI	40	0.31801	0.5762
CPI does not Granger Cause CMP		0.14830	0.7024
BAA does not Granger Cause CPI	40	1.93048	0.0430
CPI does not Granger Cause BAA		0.25533	0.6163
FGB does not Granger Cause CPI	40	0.42425	0.5189
CPI does not Granger Cause FGB		1.12641	0.0154

Source: Author's Computation using E-Views, 12

The result from the Granger causality test was shown in table 8 above. Firstly, the result revealed that the treasury bills does not causality the consumer price index in Nigeria likewise consumer price does not causality the treasury bills in Nigeria which led to the acceptance of the null hypothesis based on the P-value (0.337). Secondly, the result revealed that the treasury certificates

Publication of the European Centre for Research Training and Development-UK

does causality the consumer price index in Nigeria but consumer price does not causality the treasury certificates in Nigeria which led to the rejection of the null hypothesis based on the P-value (0.0018). Thirdly, the result revealed that development stocks does causality the consumer price index in Nigeria but consumer price does not causality the development stocks in Nigeria which led to the rejection of the null hypothesis based on the P-value (0.0032). Fourthly, the result revealed that certificates of deposits does not causality the consumer price index in Nigeria likewise consumer price does not causality the certificates of deposits in Nigeria which led to the acceptance of the null hypothesis based on the P-value (0.6578). Fifthly, the result revealed that commercial papers does not causality the consumer price index in Nigeria likewise consumer price does not causality the commercial papers in Nigeria which led to the acceptance of the null hypothesis based on the P-value (0.5762). Sixthly, the result revealed that bankers' acceptance does causality the consumer price index in Nigeria but consumer price does not causality the bankers acceptance in Nigeria which led to the rejection of the null hypothesis based on the P-value (0.0430). Finally, the result revealed that federal government of Nigeria bonds does not causality the consumer price index in Nigeria but consumer price does causality the federal government of Nigeria bonds in Nigeria which led to the acceptance of the null hypothesis based on the P-value (0.5189).

DISCUSSION OF FINDINGS

Treasury Bills and Price Stability

The findings from the empirical analysis indicated that treasury bills negatively and insignificantly impact on price stability (consumer price index) in Nigeria. The findings from the research concur with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index while the results disagree with the study of Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. The studies of Faith et al. (2020) established a positive association between money market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Treasury Certificates and Price Stability

The results from the empirical analysis revealed that treasury certificates positively and significantly impact on price stability (consumer price index) in Nigeria. The result from the study agrees with (Faith et al. 2020; Kimberly 2022; Umanson 2018; and Uruakpa 2019). Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. Whereas the study disagree with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index. The studies of Faith et al. (2020) established a positive association between money

Publication of the European Centre for Research Training and Development-UK
market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Development Stock and Price Stability

The evidence from the empirical analysis disclosed that development stocks positively and significantly impact on price stability (consumer price index) in Nigeria. The result from the study agrees with Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. Whereas the study disagree with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index. The studies of Faith et al. (2020) established a positive association between money market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Certificate of Deposit and Price Stability

The findings from the empirical evidence showed that certificates of deposits positively and insignificantly impact on price stability (consumer price index) in Nigeria. The result from the study agrees with Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. Whereas the study disagree with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index. The studies of Faith et al. (2020) established a positive association between money market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Commercial papers and Price Stability

The findings from the empirical analysis indicated that commercial papers negatively and insignificantly impact on price stability (consumer price index) in Nigeria. The findings from the research concur with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index while the results disagree with the study of Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. The studies of Faith et al. (2020) established a positive association between money market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using

Publication of the European Centre for Research Training and Development-UK
parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Bankers Acceptance and Price Stability

The results from the empirical evidence revealed that bankers acceptance positively and significantly impact on price stability (consumer price index) in Nigeria. The result from the study agrees with Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. Whereas the study disagree with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index. The studies of Faith et al. (2020) established a positive association between money market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Federal Government of Nigeria Bonds and Price Stability

The findings from the empirical evidence revealed that federal Government of Nigeria bonds positively and insignificantly impact on price index (consumer price index) in Nigeria. The result from the study concurs with Uche et al (2023) that money market instruments positively and significantly affects the long run relationship with GDP-deflator in Nigeria. Whereas the study disagree with Uche et al (2023) that money market instruments negatively and significantly affect the long run relationship with consumer price index. The studies of Faith et al. (2020) established a positive association between money market instruments and economic growth and Eze and Ayunku (2017) indicated that money market significantly impact on the Nigerian economy using parsimonious error correction. These diverse results were as a result of poor regulatory quality, poor level of good governance, and high corruption which distorts monetary policy, fiscal policy and other economic policies of government which in turn affects the prices of goods and services in Nigeria.

Summary, Conclusion and Recommendations

The study investigated the relationship between money market instruments and price stability in Nigeria for the periods of 1981 to 2021. Previous studies were reviewed on money market instruments and prices stability and the study employed, correlation matrix, diagnostic test, error correction model and granger causality test in order to ascertain the relationship between the short run and long run on the independent and dependent variable. Money market instruments were proxied with treasury bills, treasury certificate, development stock, certificate of deposit, commercial papers, and bankers' acceptance while price stability was measured consumer price index. The findings from the analysis indicated that treasury bills has a negative and insignificant

Publication of the European Centre for Research Training and Development-UK

impact on consumer price index in Nigeria; treasury certificates has a positive and significant impact on consumer price index in Nigeria; development stocks has a positive and significant impact on consumer price index in Nigeria; certificates of deposits has a positive and insignificant impact on consumer price index in Nigeria; commercial papers has a negative and insignificant impact on consumer price index in Nigeria; bankers acceptance has a positive and significant impact on consumer price index in Nigeria and finally, federal Government of Nigeria bonds has positive and insignificant impact on consumer price index in Nigeria. From the result, the study concludes a short run and long run relationship between money market instruments and price stability in Nigeria. Based on these findings and conclusions, the following recommendations are made:

1. The government should improve on the quality of governance to ensure that prices of goods and services and monetary instruments are stabilized.
2. The Nigerian government should improve on the fight against corruption in the country to stabilize the prices of goods and services in the country.
3. The stakeholders in the financial sector should improve on strategies that would improve policies and strategic reforms to encourage the use of money market instruments by financial institutions for price stabilization.
4. Money market instruments policies and reforms by regulatory authorities should be suitably integrated as these instruments have showed to influence meaningfully on financial institutions performance and price stabilization.
5. The government should create a friendly investment environment by concerned government and regulatory agencies. This will further deepen the popularity of money market instruments and subsequently create market for those instrument(s) that relate mixed findings on price stability.
6. Government should both in short and long-run prioritized policies geared towards increasing/developing money markets operations in Nigeria in order to make the economy more stable.
7. The cost of raising funds in the money market in Nigeria is regarded to be very high. Hence, there should be a reduction of the cost so as to improve competitiveness and attractiveness as a major source of raising funds.

REFERENCES

- Akarara, E.A., &Edoumiekumo, G.S. (2018). Non-bank financial institutions versus economic growth: The Appulse in Nigeria. *Wilberforce Journal of Social Sciences (WJSS)*, 1(2), 80-94.
- Anowor, O. F. & Nwanji, M. O. (2018). Are there nexus between public expenditures and economic growth in Nigeria? - A Re-Examination. *International Journal of Applied Economics, Finance and Accounting*, 2(2), 40-46. <http://onlineacademicpress.com/index.php/IJAEFA/article/view/43>

Publication of the European Centre for Research Training and Development-UK

- Anowor, O. F. Nwonye, N. G.; Okorie, G. C. & Ojiogu, M. C. (2019). Health outcomes and agricultural output in Nigeria. *International Journal of Economics and Financial Research*, 5(5), 106-111. [https://arpgweb.com/pdf-files/ijefr5\(5\)106-111.pdf](https://arpgweb.com/pdf-files/ijefr5(5)106-111.pdf)
- Appah, E. & Tebepah, S.F. (2017). *Money, Financial Institutions and Markets*, Ezevin-Minting Publishing Enterprises.
- Bandoi, A., Berceanu, D. & Danciulescu, D. (2009). Price stability and financial stability in the context of Euro system's monetary policy. *European Research Studies*, XII (4), 1 – 18.
- Bank-Ola, R.F., Temiluyi, O.O. & Johnson, A. A. (2020). Monetary policy instruments and price stability in Nigeria: An ARDL Bound Testing Approach, *International Journal of Management, Social Sciences, Peace and Conflict Studies*, 3(3), 473 – 485.
- Central Bank of Nigeria (2012). What is Monetary Policy? *Understanding Monetary Series No. 1 (2011)*
- Ekezie, E. S. (2012). *Elements of Banking: Money, Financial Institutions and Markets*, Africana –Feb Publishers Limited.
- Etale, L.M. & Ayunku, P. E. (2017). The relationship between interest rate and economic growth in Nigeria: An error correction model (ECM) approach. *International Journal of Economics and Financial Research*, 2(6), 127-131.
- European Central Bank (2020) Price Stability. Available at <https://www.ecb.europa.eu/mopo/html/index.en.html>
- Eze, G. P. & Mansi, N. (2017). Money market and economic growth in Nigeria: A causality analysis. *Online Journal of Arts, Management and Social Sciences*, 2(1), 140 – 163.
- Ezirim, C.B. (2012). *Finance Dynamics: Principles, Techniques and Applications*, Markowitz Centre for Research and Development.
- Faith, I.O., Hakeem, T.S., & Samuel, O.A. (2020). Impact of selected money market instruments on Nigerian economic growth. *Ilorin Journal of Human Resource Management (IJHRM)*, 4(1), 131-143.
- Goldsmith, R. W. (1969). *Financial Intermediaries in the American Economics since 1900*. Princeton: Princeton University Press.
- Iwedi, M. & Igbani, D. S. (2015). The nexus between money market operations and economic growth in Nigeria: An empirical investigation. *International Journal of Banking and Finance Research*, 1(2), 1-17.
- Kimberly A. (2022). Money market instruments and how they are used. Available at: <https://www.thebalance.com/money-market-instruments-types-role-in-financial-crisis-3305528>
- Mckinnon, R. I. (1973). *Money and capital in economic development brooking institution*. Washington, DC.
- Ndugbu, M. O., Duruechi, A. H. & Ojiegbe, J. N. (2016). Money market instruments and bank performance in Nigeria. *Journal of Economics and Sustainable Development*, 7(10), 95 – 104.
- Nwonye, N. G., Anowor, O. F., Uzomba, P. C., Abu, A., Chikwendu, N. F., Ojiogu, M. C., Edeh, C. C. (2020) Financial intermediation and economic performance in Nigeria: An ARDL

-
- Publication of the European Centre for Research Training and Development-UK
Approach, *International Journal of Advanced Science and Technology*, 29(7),8353-8361.
<http://sersc.org/journals/index.php/IJAST/article/view/24866>
- Nzotta, S. M. (2014). *Money, Banking and Finance*, Osprey Publishers
- Obi, C. O. (2021). Money markets instruments and economic growth of Nigeria. *European Journal of Management and Marketing Studies*, 6(2), 150 – 166.
- Okoyan, K. & Eze, G. P. (2021). Effect of money market instruments on capital market performance in Nigeria. *European Journal of Accounting, Auditing, and Finance Research* 9(2), 67-80,
- Onodugo, V. A., Anowor, O. F., & Ofoegbu, G. N. (2018). The effectiveness of monetary policy in tackling inflation in emerging economy. *Opción (Universidad del Zulia, Venezuela)*, 34(14), 314 – 355.
- Pavtar, A. (2019). The nexus between money market instruments and Nigerian's economic growth: A time series analysis. *Journal of Accounting and Financial Management*, 2(3), 22-39.
- Senbet, L. W. & Otchere, I. (2005). Financial sector reforms in Africa: *perspectives on issues and policies*. Annual World Bank Conference on Development Economics (ABCDE), Dakar, Senegal.1-61.
- Shaw, E. S. (1973). *Financial deepening in economic development*. Oxford University Press.
- Uche, S.C., Nwonye, N.G., Ugwuanyi, C.C. & Ukpai, K.U. (2023). Evaluating the impact of money market instruments on price stability in Nigeria. *IIARD International Journal of Banking and Finance*, 9(1), 1– 23.
- Umason, P. (2018). Money market instruments and Nigeria inflation rate: A time-series study. *Asian Finance & Banking Review*, 2(2), 1-13.