Impact of Monetary Policy on Consumption Expenditure in Nigeria

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Abstract

This study examined the impact of monetary policy on consumption expenditure in Nigeria using annual data from 1986 to 2021. The model for the work was built using Friedman's permanent income hypothesis. The study adopted the autoregressive redistributed lag model (ARDL), which shows that there is a long-run relationship between monetary policy and consumption expenditure. Data for the study was sourced from the Central Bank of Nigeria's statistical bulletin (2021) and the World Bank (2021). The variables of the model include; interest rate, money supply, exchange rate, Treasury bill, reserve requirement, and inflation as independent variables, while consumption expenditure was captured using durable and non-durable consumer goods. The findings revealed that interest rate, money supply, exchange rate, Treasury bill, reserve requirements, and inflation had a significant impact on consumption expenditure for the period under review in Nigeria. Based on the findings, the study recommends that the monetary authorities use the policy instruments at their disposal to influence consumption expenditure especially the durable component in the desired direction given that it's a signal of pessimism or optimism of future economic conditions.

Keywords: Monetary policy, consumption expenditure, Nigerian economy

JEL Classification: P2, P3, F14

Introduction

Consumption expenditures capture the general process of consumption, which is the use of goods and services to satisfy human needs. Economists such as John Maynard Keynes, believe consumption expenditure to be the most important short-run determinant of economic performance and a primary component of aggregate demand. Keynes argued that individuals could end up damaging production by limiting current expenditures—by hoarding money, for example. And most official aggregate metrics, such as gross domestic product (GDP), are dominated by consumption expenditure (Potters, 2021). Efforts by the central bank and policymakers geared towards consumption expenditure usually come through the instruments of monetary policy, which include direct and indirect instruments. The direct instrument, also known as qualitative instruments, confers on the monetary authority the power to regulate the terms on which credit is granted to a specific sector, which includes moral suasion, selective credit control, and prudential guidelines. While the indirect instruments are designed to control the volume of bank credit in the economy, which includes the use of open market operations, reserve requirements, and a minimum rediscount rate (Nnanna, 2001), In the Nigerian experience, indirect instruments have been largely employed, having gained wider acceptance after the structural adjustment program (SAP) in 1986. Some authors even argued that the focus given to them in the literature is due to the fact that they are easy to quantify.

Open market operations are the major instrument of monetary control in industrial countries and are becoming important to developing countries and economies in transition. Open market operations allow central banks great flexibility in the timing and volume of monetary operations at their own initiative, encourage an impersonal, businesslike relationship with participants in the marketplace, and provide a means of avoiding the inefficiencies of direct controls. By buying or selling bonds, bills, and other financial instruments in the open market, a central bank can expand or contract the amount of reserves in the banking system and ultimately influence the country's money supply (Axilrod, 1996). When the central bank sells such instruments, it absorbs money from the system. This causes a decrease in the money supply, which causes the interest rate to increase.

An increased interest rate causes consumption and investment spending to fall, and thus aggregate demand falls; conversely, when it buys, it injects money into the system (Srivastav, 2022). The increased money supply decreases the interest rate, which causes consumption and investment spending to grow; hence, aggregate demand rises. This method of trading in the market to control the money supply is called open market operations.

Another monetary tool employed by the apex bank is the reserve requirement, which enables the central bank to set the minimum amount that a commercial bank must hold in liquid assets. This is the percentage of customer deposits and other liquid assets that commercial banks must keep within their own institutions or with the central bank. The reserve requirement is set by the central bank to ensure that commercial banks have enough assets to pay their depositors in the event of unusually high withdrawals. The central bank uses this tool of monetary policy to influence the bank's ability to extend credit to its customers. Decreasing the reserve requirement tends to stimulate economic activity as banks have more assets to loan out to borrowers (Srivastav, 2022). This causes an increase in the money supply, which causes the interest rate to fall and consumption spending to increase. The interest rate as a tool of monetary policy affects consumption expenditure in an economy, as Lida (2020) asserts. Interest rates can affect consumer decisions largely because they provide a trade-off between saving and spending. Higher interest rates give consumers a greater incentive to put money in, for example, a savings account to earn interest. Lower interest rates reduce the cost of borrowing, encouraging consumers to use credit to make big purchases, such as buying a car. Seabury (2022) opined that at a low interest rate, people become eager to borrow money for investment purposes and to make large purchases. This implies that when consumers pay less in interest, it encourages them to finance more businesses due to the low cost of borrowing or make more purchases, which may in turn create a ripple effect of increased spending throughout the economy. Money supply on the other hand has its own share of impact on consumption expenditure. Because money supply is related to total spending, more money predicts increased spending, which in turn means higher production and employment (Mankiw, 2007). In view of the empirical analysis carried out by (Peter, 1974), money supply has a strong and significant impact on consumption spending at 99% confidence interval whereas Fuh (2016) found out that money supply has a negative effect on household consumption expenditure through its pass-through effect to inflation.

Exchange rates are equally gaining prominence as a major factor that determines the level of consumption expenditure as a result of the increased level of openness among the countries of the world (Iyke & Ho, 2017). Alexander (1952) was one of the earliest to connect exchange rates to consumption. He contended that exchange rates influence consumption expenditure through their pass-through effects on inflation. Changes in the exchange rate might induce changes in the relative prices of goods and services, and the level of spending by individuals and firms, especially if significant levels of their wealth are held in foreign currencies. An appreciation in the value of the exchange rate makes imported goods and services relatively cheap, while depreciation makes exports cheaper to foreign buyers, thereby inducing higher competition in export markets at home. On the other hand, with depreciation, imports become more expensive and less competitive against goods produced by domestic producers. Aside from the role played by the exchange rate in determining the level of consumption expenditure, studies carried out by Bernanke and Gertler (1995); Erceg and Levin (2006); Monacelli (2009); Di Pace and Hertweck 2019, among others) revealed that since consumption expenditure is a composition of durable and non-durable consumer goods, the comovement between these major categories in response to monetary policy has received widespread attention from the literature and has been confirmed by empirical results by Barsky et al.(2003). This is because they have been found to be sensitive to policy actions from the monetary authorities. Consumption expenditure has been an important component of the gross domestic product and it is expected that all the country's' consumption spending should be above 60% of the GDP (OECD, 2022). In Nigeria, consumption expenditure has been on the increase from 58% in 2012 to 81% in 2016 but decreased to 62% in 2020, which were attributed to the nationwide lockdown that accompanied the Covid-19 pandemic.

On the empirical side, very little effort has been made to examine how monetary policy affects a specific component of consumption expenditure that is particularly susceptible to monetary policy changes in Nigeria. The majority of studies on the impact of monetary policy on consumption, such as Zhang and Wan's 2002 examination of household consumption and monetary policy in China, and Fuh's 2016 investigation of the effect of monetary policy on household consumption in Cameroun, Amali, 2020, examined household consumption and unconventional monetary policy in Nigeria. Related work dealt with monetary policy and some macroeconomic variables such as gross domestic product, balance of payments, inflation, etc. Eze (2020), on the other hand, examined the nexus between monetary policy and household consumption expenditure in Nigeria. The work disaggregated consumption spending into private consumption expenditure (PCE), government consumption expenditure (GCE), and aggregate consumption expenditure (ACE). The disaggregation of

consumption spending into private consumption, government consumption, and aggregate consumption spending is inappropriate because private consumption expenditure and government consumption expenditure are distinct components of aggregate consumption spending, whereas consumption expenditure in itself is a composition of durable and non-durable goods.

Ihuga, Metu, and Ezenekwe (2020) equally studied the effect of an expansionary monetary policy on household consumption in Nigeria using evidence from the money supply in order to show how an expansion in the money supply affects household consumption expenditure. However, these works did not operationalize the important components that make up the consumption expenditure itself, which includes durable and non-durable consumer goods. This study will, however, go further to incorporate exchange rate, open market operation, and reserve requirements in the model for the study and look at the two major components of consumption expenditure. In addition, the inclusion of the exchange rate in the model for the study is due to the fact that in an open economy like Nigeria, the monetary authorities use the exchange rate as a further tool. Given that consumer durables are one of the major categories of consumption expenditure and are sensitive to the monetary policy decisions of the monetary authority of a nation, its inclusion in the model for this study is pertinent, as it plays a major role in expenditure decisions because it's a signal of optimism and pessimism regarding future economic conditions. It is against this backdrop that this study sought to establish the need to examine the impact of monetary policy on consumption expenditure in Nigeria.

Literature Review

Consumption Expenditure

In the view of World Bank (2015), consumption expenditure is the market value of all goods and services, including durable products (such as cars, washing machines, and home computers), purchased by households. It excludes purchases of dwellings but includes imputed rent for owner-occupied dwellings. It also includes payments and fees to governments to obtain permits and licenses. Here, household consumption expenditure includes the expenditures of non-profit institutions serving households, even when reported separately by the country.

Money supply: this refers to the total amount of money (currency and demand deposits) in circulation in a country at any given time. Currency in circulation is made up of coins and notes, while demand deposit are those obligations which are not associated with any interest payment and accepted by the public as a means of exchange drawn without notice by means of cheques. Money supply can be defined narrowly or broadly. In Nigeria, the narrow money supply (M_1) is defined as currency outside banks plus demand deposits of commercial banks plus domestic deposits with the central bank, less federal government deposits at commercial banks. In simple terms, M_1 is defined as:

$$M_1 = C+D \qquad 2.1$$

Where M_1 = narrow money supply, C = currency outside bank and D = demand deposits

Broad money, on the other hand, includes narrow money plus those assets which have the quality of liquidity. They can be readily and quickly converted to cash and the conversion is achieved. Broad money (M_2) is defined as M1 plus quasi money. Thus, M_2 is symbolically shown as:

$$M_2 = C+D+T+S \qquad 2.2$$

M_2 = broad money supply, C = currency in circulation, D = demand deposits, T = time deposits, S = savings deposits. Time deposits as used here are those obligations of the banks on which interest is paid and which at least potentially or formally can be made available to the depositors after some delays and notice (Anyanwu, 1993).

Basic Theories

Permanent Income Hypothesis

In his book published in 1957, Milton Friedman proposed the permanent income hypothesis to explain consumer behaviour. In his theory, Friedman stresses the fact that people can smooth their expenditure through lending and borrowing. For this reason, he rejected the idea of using current income to be the primary determinant of consumption expenditure. Thus, Friedman posited that what determines consumption is actually the long-term expected income, not the current income. He stressed that daily consumption is not determined by daily income but rather the average daily income that is earned within a period of time. For this reason, income

is divided into two categories, namely permanent and transitory. According to Friedman, permanent income is the amount of money a worker is expecting to get covering a period of time, which can change proportionately with the actual level of income, while transitory income is non-permanent and fluctuating income which a worker receives, where the amount he receives depends on how lucky he is and the amount of effort he makes. A transitory income can either be positive or negative based on whether actual income is above or below the permanent income. The theory is of utmost importance to the research work because it laid emphasis on how the consumer will smooth its consumption through lending and borrowing at the level consistent with their expected long term average income.

Irving Fisher and Intertemporal Choice

Irving Fisher developed the theory of intertemporal choice in the book "theory of interest (1930)" developed the model with which economists analyse how rational, forward-looking consumers make intertemporal choice that is, choices involving different periods of time. In Fisher's theory, most people would prefer to increase the quantity or quality of the goods and services they consume. The reason people consume less than they desire is that their consumption is constrained by their income. In other words, consumers face a limit on how much they can spend, called a budget constraint. To do this, he examined the decision facing a consumer who lives in two time periods. Period one represents the consumer's youth, and period two represents the consumer's old age. The consumer earns Y_1 and consumes C_1 in period one, and earns income Y_2 and consumes C_2 period two. Because the consumer has the opportunity to borrow and save, consumption in any single period can either be greater than or less than income in that period. The theory is of utmost important given that the study is centred around the effect of monetary policy on consumption expenditure. Fisher's intertemporal choice was able to explain how changes in real interest rate affects consumption which is an important tool employed by monetary authorities.

Review of Empirical Literature

Fuh (2016) investigated the effects of monetary policy on household consumption in Cameroon between 1980 and 2010 using the ordinary least squares method. The work uses economic model showing household consumption expenditure as a function of monetary and quasi money growth, real interest rate, total reserve and gross national income per capita. Given the trends of the variable estimated results indicated that monetary and quasi monetary growth had a negative impact on consumption. The study therefore recommended that instrument of monetary policy be used in the economy as a means of influencing household consumption. The study adopted OLS to posit the direct impact of monetary policy on household consumption while the present study adopts the autoregressive distributed lag model.

Owu-sekyere (2017) examined the impact of monetary policy on household consumption in South Africa employing the vector autoregressive technique. Quarterly data from 1994 to 2012 was used for the study. The variables of the model include Repo rate, real lending rate, domestic private credit to households and real aggregate household consumption of final good and services. The findings of the paper shows that there are microeconomic effects of changes in macroeconomic policy. Monetary tightening affects households' ability to borrow affordably and further worsens existing household debt, especially as household consumption in South Africa is largely driven by debt. This research work focused on household consumption in South Africa whereas this work focused on consumption expenditure in Nigeria.

Lee (2019) examined the effects of monetary policy on consumption and inequality in New York. He developed a New Keynesian model with heterogeneous agents augmented with two assets, labour market frictions combined with wage rigidity, and inventory holding. The variables of the model consist of price and the dividend rate of the equity respectively, gross nominal rate of return that is applied to a one-period government bond issued in period, the gross inflation rate, income tax rate and the lump-sum transfer from the government respectively. He discovered that the average consumption response to an expansionary monetary policy is much larger for households with larger wealth than for other households. The work focused on the effects of monetary policy on consumption and inequality but this work will focus consumption only

Amali (2020) examined household consumption and unconventional monetary policy in Nigeria from Q1 of 1995 to Q4 of 2018 using the structural vector auto-regression (SVAR). The variables employed in the study were household consumption, central bank credit easing, public social and economic spending, real GDP and real market lending rate. The findings revealed that the role of credit easing in the household consumption is not important in Nigeria, as a large part of the variation in household consumption can be explained by shocks to other economic activities. The study focused more on unconventional monetary policy without acknowledging the major cpmponents of consumption expenditure which includes durable and non-durable consumption goods.

Ribon (2020) investigated the distinct effect of monetary policy on households' consumption in Israel, based on information from the Household Expenditure Surveys for 2003 to 2018. He used the Local Projection framework to analyze the effect of (unexpected) monetary policy changes on consumption – durable and other (excluding housing expenses), based on data retrieved from the Israeli HES for the years 2003–18. The study found that monetary policy affects only durables expenditure, while its effect on nondurable consumption is mostly insignificant. Moreover, this effect is usually stronger for higher income households, consistent with the existence of the wealth effect found in several other papers. Therefore, contractionary monetary policy, which reduces higher income households' expenditure more than that of lower income households, will tend to reduce dispersion in consumption, while accommodative policy will increase dispersion. The work focused on Israel while this work focused on Nigerian economy.

Eze (2020) investigated the nexus between monetary policy instruments and household consumption in Nigeria from 1981 to 2016 using the vector error correction mechanism. The variables of the model include private consumption expenditure, broad money supply, government consumption spending, interest rate, bank rate, exchange rate and inflation rate. His findings revealed that apart from exchange rate, all other monetary policy variables employed in this study were revealed to be significant in the determination of consumption spending in Nigeria. The study did not establish the sensitivity of the durable component of consumption expenditure itself to monetary policy.

Ihuga Metu and Ezenekwe (2021) examined the effects of expansionary monetary policy on household consumption expenditure in Nigeria using time series data spanning from 1981 to 2019 using the vector error correction mechanism. The variables of the model include household consumption expenditure, money supply and inflation rate. Empirical results indicate that money supply has a positive and significant relationship with household consumption, whereas inflation has a negative relationship with household consumption. A further review of the impulse response function indicates that money supply positively contributes to household consumption in the short-run and long-run. The study used money supply (M2) to capture the effect of monetary policy on household consumption but this particular study will integrate other monetary policy tools such as interest rate, open market operation, reserve requirement and exchange rate.

Kim and Song (2021) explored the heterogeneous effects of monetary policy on consumption between workers and retirees using household-level data from the U.S., Italy, Japan and Korea. The variables employed by the study include monetary policy shock, retiree (dummy variable), consumption, income, and financial assets, the number of family members, household head's age. The survey period was between 2005 and 2017 for these countries and the study discovered that the consumption of retirees responds less sensitively to monetary policy shocks than that of workers, and that the different weight of interest income in the total income caused by the difference in financial asset holdings between these two groups is one of the main sources of this heterogeneity. The study focused on the consumption between workers and retirees whereas this study focused on consumption expenditure itself.

Duarte and Pereira (2022) examined the effect of monetary policy on household consumption expenditures in Portugal using quarterly data from 2000 to 2019. They employed the vector autoregressive and the variables of the model include housing price index, harmonised index of consumer prices, gross domestic product, non-durable consumption and a stock price index, EONIA rate. Their study found out that the wealthy hand-to-mouth households' consumption has the most significant reaction to monetary shocks because of extensive housing wealth and net interest rate exposure channels. In addition, due to its large size as a group in the Portuguese economy, they discovered that the wealthy hand-to-mouth households' consumption response explains why the aggregate consumption reacts more to monetary shocks in Portugal than in other European countries. The study was conducted in Portugal whereas this study will be conducted using Nigerian economy as a case study.

Theoretical Framework and Model Specification

The building of the model for this study takes off from the Friedman's permanent income hypothesis where consumption is explained by variations in interest rate. Milton Friedman holds that interest rate plays important role in determining consumption expenditure. According to Friedman, permanent income is the amount of money a worker is expecting to get covering a period of time, which can change proportionately with the actual level of income, while transitory income is non-permanent and fluctuating income which a worker receives, where the amount he receives depends on how lucky he is and the amount of effort he makes. A transitory income can either be positive or negative based on whether actual income is above or below the permanent income. According to permanent income hypothesis, permanent consumption is proportional to permanent income

$C^p = kY^p$ 3.1

Where Y^p is the permanent income

C^p is the permanent consumption

k is the proportion of permanent income that is consumed

The proportion of permanent income that is consumed depends on the rate of interest. At a higher interest rate, the people would tend to save more and their consumption expenditure will decrease. The lowering of rate of interest will have opposite effect on consumption expenditure

Thus rewriting the consumption function based on Friedman's permanent income hypothesis, we have

$C^p = k(r)$ ----------3.2

Equation 3.5 implies that the proportion of permanent consumption depends on the rate of interest (r).

In this study, we utilized autoregressive distributive lag model (ARDL) to evaluate the short run dynamics and long run linkages among the variables of interest. Equation 3.4 was expanded to include the other monetary variables that affect consumption expenditure; thus, the functional specification of the model was specified as follows:

CONDUR = f (INTR, MS, EXCH, TB, RR, INF) (3.3)

NCONDUR = f (INTR, MS, EXCH, OMO, RR, INF) (3.4)

CONDUR = Consumer durables

NCONDUR = non-consumer durables

INTR = Interest rate

MS = Broad money supply

EXCH = Exchange rate

TB = Treasury bills

RR = Reserve requirement

INF = Inflation

Econometric specification of the above models are specified as follows:

CONDUR = C1 +β1INTR + β2MS + β3EXCH + β4TB+ β5RR + β6INF + Ut 3.5

NCONDUR = C1 +β1INTR + β2MS + β3EXCH + β4TB+ β5RR + β6INF + Ut 3.6

Where; CONDUR & NCONDUR are dependent variable while interest rate, money supply, exchange rate, open market operation, reserve requirement and inflation are the independent variables.

μ = disturbance term/error term

C_1 = Constant term

β1 – β6 are parameters to be estimated.

Apriori Expectation

Based on theories and empirical studies, we expect the predictor variables such as interest, exchange rate, treasury bills, reserve requirement and inflation to have negative and indirect relationship with the dependent variable while money supply is expected to have a positive relationship with the dependent variables Therefore mathematically;

INTR/CONDUR < 0, MS/CONDUR > 0, EXCH/CONDUR < 0, TB/CONDUR < 0, RR/CONDUR < 0, INF/CONDUR < 0, INTR/NCONDUR < 0, MS/NCONDUR > 0, EXCH/NCONDUR < 0, TB/NCONDUR < 0, RR/NCONDUR < 0, INF/NCONDUR < 0.

The above signifies a negative and positive relationship and movement of exogenous variables on durable and non-durable consumer goods.

Empirical Results and Discussion of Findings

Unit Root Test

Unit root test is a test for stationarity of the variables using the Augmented Dickey-Fuller (ADF) test with the null hypothesis (H_0): there is no unit root in the variables. Alternative hypothesis (H_1): there is unit root. Unit root test is estimated because Ordinary Least square (OLS) gives spurious regression when it is non-stationary.

Table 1: Unit root (ADF test)

Variables	ADF Test	5% critical value	Order of integration	Remarks
CONDUR	-3.703391	-3.548490	1 (0)	Stationary
NCONDUR	-3.681958	-3.552973	1 (1)	Stationary
INTR	-6.174040	-3.603202	1 (1)	Stationary
MS	-3.882640	-3.548490	1 (1)	Stationary
EXCH	-4.086631	-3.544284	1 (0)	Stationary
TB	-4.850255	-3.544284	1 (0)	Stationary
RR	-5.638376	-3.595026	1 (0)	Stationary
INF	-4.593469	-3.548490	1 (0)	Stationary

Source: Authors' Computation, 2022.

From the above result, the ADF test, it posit that the variablesb are integrated of order zeros and one. This decision is based on the 5% critical values.

Test for Co-integration (Bound Test)

The logics behind the use of this approach is that the series are integrated of different orders i.e., the series are stationary at level and first difference.

Null hypothesis (H_0): there is no cointegration among the variables.

Alternative hypothesis (H_1): there is cointegration among the variables

Table 2: Bound Cointegration Test for model one

Table 4.4: ARDL Bounds Test		
F-Statistics = 6.062499		
Critical Value Bounds		
Significance levels	**I(0) Bounds**	**I(1) Bounds**
10%	2.26	3.35

5%	2.62	3.79

Source: Authors Compilation, 2022

Table 3: Test for Co-integration for Model Two

Table 3: ARDL Bounds Test		
F-Statistics = 6.163298		
Critical Value Bounds		
Significance levels	**I(0) Bounds**	**I(1) Bounds**
10%	2.26	3.35
5%	2.62	3.79

Source: Authors Compilation, 2022

The above two results verifies that there is evidence of cointegration among the variables of the model. This is due to the fact that the F-Statistics value (6.062499) is greater than the lower and upper critical bounds for all the significant levels.

Table 4: Result of Long run Estimates for Model 1
Dependent Variable: CONDUR

Variable	**Coefficient**	**Std. error**	**t-statistics**	**p-values**
D(INTR (-2))	-0.211360	0.081151	-2.604532	0.0212
D(MS)	0.001161	0.000392	2.961862	0.0376
D(EXCH(-3))	-0.008729	0.002783	-3.136556	0.0084
D(RR(-1))	-0.009714	0.002081	-4.668279	0.0430
D(TB)	-0.006969	0.002444	-2.851996	0.0041
D(INF)	-0.020005	0.052871	-3.378380	0.0081
C	3.122201	1.220374	2.558396	0.1248
ECT_1 (-1)	-0.214388	0.098606	-2.174183	0.0386
R^2 = 0.92	Adj.R^2 =0.89	F-stat= 375.97	Prob(f-stat) = 0.002	D.W= 1.96

Source: Authors Compilation, 2022

Table 5: Result of Long Run Estimates for Model 2

Dependent Variable: NCONDUR

Variable	**Coefficient**	**Std. error**	**t-statistics**	**p-values**
D(INTR(-3))	-10.68078	2.900317	-3.682624	0.0065
D(MS(-1))	0.117241	0.021974	5.335392	0.0334
D(EXCH(-3))	-1.909212	0.399231	-4.782229	0.0411
D(TB(-1))	-1.177914	0.290687	-4.052176	0.00558
D(RR(-1))	-0.536681	0.111915	-4.795456	0.0408
D(INF)	-0.303726	1.266352	-3.239843	0.0123
C	-1085.481	235.1402	-4.616317	0.0439

ECT_2 (-1)	-0.142870	0.075776	-2.885434	0.0402
R^2 = 0.95	Adj.R^2 =0.94	F-stat= 19.15841	Prob(f-stat) = 0.050	D.W= 1.78

From result presented on the table above, it revealed that all the variables such as interest rate, money supply and exchange rate, treasury bill, reserve requirements and inflation conformed to apriori expectation.

The coefficient of the constant from model 1 implies that if INTR, MS, EXCH, TB and RR are set equals to zero, consumption expenditure (durable) will increase by about 3.12%. The coefficient of INTR from model 1 is -0.21, which implies that with the influence of all other variables held constant, an increase in interest rate by one percent on the average, will lead to a decrease in the consumption expenditure (durable) by about 0.21 Percent. The coefficient of MS is 0.001 percent point, this suggest that all things being equal, as MS increases by one percent on the average, consumption expenditure (durable) will increase by about 0.001 percent point

More so, the coefficient of EXCH is -0.08, which implies that with the influence of all other variables held constant, an increase in the exchange rate by one percent on the average, will lead to a decrease in consumption expenditure (durable) by about 0.08 Percent point while an increase in RR by -0.009 will lead to a fall in consumption expenditure (durable) by 0.009 percent point. Again, the coefficient of TB is -0.006, which implies that with the influence of all other variables held constant, an increase in the treasury bill by one percent on the average, will lead to a decrease in consumption expenditure (durable) by about 0.006 Percent point while an increase in INF by -0.02 will lead to a decrease in consumption expenditure (durable) by 0.02 percent point.

In the second model. The coefficient of the constant implies that if INTR, MS, EXCH, TB, RR and INF are set equals to zero, consumption expenditure (non- durable) will decrease by about 1085.48%. The coefficient of INTR from the model is -10.6, which implies that with the influence of all other variables held constant, an increase in interest rate by one percent on the average, will lead to a decrease in the consumption expenditure (non- durable) by about 10.6 Percent. The coefficient of MS is 0.11 percent point, this suggest that all things being equal, as MS increases by one percent on the average, consumption expenditure (non- durable) will increase by about 0.11 percent point

More so, the coefficient of EXCH is -1.99, which implies that with the influence of all other variables held constant, an increase in the exchange rate by one percent on the average, will lead to a decrease in consumption expenditure (non- durable) by about 1.99 Percent point while an increase in TB by -1.17 will lead to a fall in consumption expenditure (non- durable) by 1.17 percent point. Again, the coefficient of RR is -0.53, which implies that with the influence of all other variables held constant, an increase in the reserve requirements by one percent on the average, will lead to a decrease in consumption expenditure (non- durable) by about 0.53 Percent point while an increase in INF by -0.30 will lead to a reduction in consumption expenditure (non-durable) by 0.30 percent point.

From the regression table, it can be observed that multiple coefficients of determination (R^2) from the models are given as 0.90 and 0.95. This means that about 90% and 95% of the variation in consumption expenditure (durable and non-durable) are explained by changes INTR, MS, EXCH. TB, RR and INF. Also, from the serial correlation LM tests of both models, the chi-squared probability is greater than 0.05 that is (0.4601, 0.7203), we accept H_0. This means that there is no serial correlation between the dependent variables and independent variables in both models.

Discussion of Findings

The significant relationship between monetary variables and consumption expenditure found in this study generally are in agreement with the teachings of economic theory. Recent research on the effect of monetary policy on consumption expenditure suggests that shifts in policy variables- primarily monetary policy variables- exert an impact principally on the expenditure decisions of the household.

From the result of the analysis above, there is a negative effect of interest rate on consumption expenditures in Nigeria. This portrays the prevalence of the intertemporal substitution effects. If the rate of interest is high, households will be willing to keep their money in the financial market to take advantage of the rising interest rate hence, a decline in present consumption expenditure. However, when the rate of interest is low, there will be no incentive to keep money in the financial market hence; there is a likelihood that consumption will increase in this scenario. The negative and significant effect of interest rate is in line with the conclusion that interest rate exerts a significant effect on consumption expenditure. Also, higher consumption expenditure means higher

market for domestically produced goods and services, which also mean more employment for citizens and more tax for government in form of consumption tax, income tax (as more people get job), and industrial taxes. This finding was in contrast with the findings of Khasawneh 2015 who found out that the interest rate affect investment negatively but does not affect consumption and real GDP in the short run. However, studies by Nyong and Ubong (2020) revealed that interest rate exerts a significant and negative impact on consumption expenditure. Ashakah (2019) equally supported the view that interest rate exerts a negative impact on consumption expenditure

Also, money supply has a positive and significant effect on consumption expenditure in Nigeria. This is because an increase in money supply, leads to a decrease in the interest rate which encourages borrowing. This implies that consumers now have more money in their hands to spend on both durable and non-durable consumer goods. This conforms to theoretical expectation because an increase in the supply of money, typically lowers interest rate which in turn generates more investment and puts more money in the hands of consumers, thereby stimulating spending. This finding is in line with the finding of Ihuga. Metu & Ezenekwe 2020 who were able to posit that money supply has a positive and significant effect on consumption expenditure.

In addition, exchange rate exerts a negative impact on consumption expenditure because a weaker domestic currency means that the price, we pay for foreign goods will generally rise significantly. A real depreciation of the domestic currency makes export more competitive abroad and import less competitive domestically thereby increasing demand for domestically produced goods and stimulates spending. This finding is in line with previous studies (Chari et al., 2002; Obstfeld, 2007; Ezeji & Ajudua, 2015), which found that consumption expenditure decreases as the local currency depreciates and increases as the local currency appreciates. However, findings from other studies (Benigno & Thoenissen, 2008; Corsetti, Dedola, & Leduc, 2008; Opazo, 2006) support the notion that a real depreciation of the local currency can lead to an increase in real consumption.

Also, a reserve requirement exerts a negative and significant impact on consumption expenditure in Nigeria from the above result. This implies that an increase in reserve requirements reduces the amount of money the banks can extend in the form of loan, this will result to an increase in interest rate thereby discourages borrowing. This borrowing is expected to allow the household access to fund to finance their consumption expenditure primarily the durable consumer goods. On the other hand, treasury bill exerts negative and significant effect on consumption expenditure for the period under review. The monetary authority uses the purchase and sale of treasury bill in the open market to contract or expand the money supply. This implies that the sale of treasury bill will result to a contraction of the money supply thereby leading to a reduction in consumption expenditure.

Also, inflation exerts a negative impact on consumption expenditure. This implies that as the general price level increases, consumption expenditure decreases. Taylor (2013) supports the notion that an inverse relationship exists between the price level (also referred to as inflation) and real consumption. Ezeji & Ajudua (2015) also tested the effect of inflation on consumption expenditure and found that increases in inflation hamper consumers' purchasing power, which results in lower consumption expenditure.

Conclusion and Recommendation

Having examined the impact of monetary policy on consumption expenditure in Nigeria using ARDL technique to test some explanatory variables, the researcher concludes that there is a significant impact of monetary policy on consumption expenditure in Nigeria. Sequel to the findings of the study, the study recommends the following: The negative impact of interest rate (INTR) on consumption expenditure implies that interest rate in Nigeria is one of the major factors affecting consumption expenditure. Since an increase in interest rate discourages consumer spending, it therefore shows that monetary authorities should target friendly interest rate as such would enhance individual borrowings which in turn encourages consumption expenditures in Nigeria especially the durable component of consumption expenditure.

Given the positive and significant impact of money supply on consumption expenditure. The study recommends that the monetary authority should formulate and implement monetary policies that would ensure optimal money stock which will in turn reduce interest rates without creating excess liquidity. Given also that there's a significant and negative impact of exchange rate on consumption expenditure, the study recommends an import substitution strategy which will reduce the high level of importation in the economy which puts so much pressure on the exchange rate. This will in turn increase our export and reduce so much dependence on imported goods.

Given the negative and significant effect of reserve requirements and treasury bill on consumption expenditure, the study recommends that there is a need for the monetary policy authorities to take into account the policy simulations that will stabilize borrowing specifically for durable consumer goods in Nigeria. Also, given the negative impact of inflation rate on consumption expenditure, the study recommends monetary authorities to take monetary measures that will reduce the inflation rate in the country in order to encourage consumption spending in Nigeria.

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