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Macroeconomic Variables On Domestic Investment (Nigerian Experience)

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ABSTRACT
This study investigates the effect of macro-economic variables on domestic investment in Nigeria, where interest rate and inflation rate were considered as variables applied as proxy for macro-economic variables. In carrying out this study, it was discovered that there is a positive relationship between macro-economic variables and domestic investment. Therefore, areas that would improve the economy should be improved upon because it will make it more attractive for domestic investment in terms of considering various forms of interest rates to be applied in such areas.
Keywords: Economic Policies, Variables, investments, processes, Economic growth.

INTRODUCTION

Macro-economic variables are elements that are applied in describing an economic unit. And as such policy makers make use of them in their analysis (Onoh 2002). Economists also determine the overall performance of an economy at any given period of time. There are several macro-economic variables that are applied at various times in various economic decision-making Samuelson and Nordhans (2005). Government of different nations applied various economic policies to accomplish various macro-economic goals with the view of reconciling it with various macro-economic variables. Dinand (2016) asserted that economic policies and strategies can be pursued to achieve macroeconomic objective based on certain macroeconomic variables. While domestic investment is the measure of physical investment in a nation's economic activity. It is also an important component of GDP because it is used to provide an indicator of the future productive capacity of any given economy. Towards this backdrop, policy makers have considered the importance of macroeconomic variables in determining domestic investments in their countries. This could be attributed to the fact that policy makers are much concerned with the impact of domestic investment due to its importance in the measurement of a country's economic activity (Wood Ford, 2009). Therefore, the interplay between these three variables have fundamental implications on the economy as a result of macroeconomic stability and fiscal sustainability while Uche and Uzughalu, (2019) where of the opinion that deficit financing is a natural phenomenon in any economy. Thus domestic investment is viewed as one of the most important economic processes that countries attach great importance to due to its impact on economic growth. Therefore, the objective of this study is to evaluate the impact of macroeconomic variables on domestic investment.

LITERATURE REVIEWS

Macroeconomic variables are viewed as economic indicators that are considered to be pertinent to various economies at various levels which affects the generality of the economy. They are also considered as key

indicators of economic performance (Gordon, 1988). While Jumai (2014), Olotu (2017), Akpotu (2017) where of the opinion that macroeconomic variables, are regarded as a major area of concern in the field of finance due to its impact on the economy. This study therefore considered interest rate and inflation rate as the variables to be applied.

Interest Rate

In the views of Datta and Kumar (2011), they asserted that interest rate is the reward for not hoarding cash but rather for parting with liquidity for a specified period of time. This position is further amplified by the thinking of Ward and Oakley (2009) and Blinder (2012).

This is an amount of interest rate is considered to be per period as a proportion of the amount lent, deposited or borrowed which in referred to as the principal sum such rate is also referred to as an index of preference for a Naira of present over a naira of future income (Irving, 1907).

But the importance of interest is considered based on its equilibrating influence on supply and demand money. In the views of Benchumol (2016) he posited that channeling savings into a given financial asset and the willingness for the individual to incur financial consequences is greatly influenced by interest rate. Considering its linkage between the financial and real sector of the economy, this is transferred to the real sector. But in the views of World Bank (2012), he opined that high interest rate discourages investment borrowing while it encourages savings when the rate is high, we can therefore say that interest rate is crucial for economy growth and investment purposes. Thus, it will be economically expedient for economic planner to advocate for market driven interest rate rather than administrative fixed interest rate (Mpia, 2020).

Inflation rate

This is regarded as the general increase in the price of goods and services within an economy over a given period of time. To a reasonable extent inflation is allowed in any given economy but where its rise becomes overwhelm spontaneous, it becomes a major economic issue. At this point, it is considered dangerous and policy makers will put in their best to bring it under control so as to avoid a major catastrophe in the economy while in the views of the monetarist, the most important factor that influences inflation is its impact on money supply. Inflation is also a sustained increase in the general price level of goods and services in an economy over a period of time and as such inflation reflects a reduction in the purchasing power per unit of money. Also a surge in the demand for products and services can also cause inflation since consumers are eager to pay more for such a product. But there is a general notion that high rates of inflation is caused by an excessive growth in money supply. While in the views of Romer, (2019), he asserted that long period of sustained inflation is caused by money supply growing faster than the rate of growth in an economy. Therefore, inflation is the decline of purchasing power of a given currency over a period of time. But Vaura (2014) posited that inflation aims to measure the overall impact of price charges for a diversified set of goods and services which also considers a single value representation of the increase in the price level of such goods and services in an economy over a period of time.

The effect of inflation differs on different segments of the economy. Some sectors are being such banks and other lending financial institutions adjust for inflation risk. Against this backdrop, monetary authorities of a given nation tries to keep inflation at a low or stable level. (Shostak, 2008). Therefore a nation's appropriate monetary authority must take necessary measures to manage money supply and credit with the aim of putting inflation under check.

Domestic Investment

This type of investment is regarded as expenditure on capital goods that are engaged in productive activities in the domestic economy by the business sector during a given period of time. Such investment creates various opportunities such as employment opportunities, technical advancement and new ways or techniques that should be applied in production in an economy. Therefore domestic investment, encourages production in the long run as a result of capital accumulation of stock.

The study centred on Macro Economic variables on domestic investments (the Nigerian Experience). Interest rate and inflation rate were considered as macro economic variables on domestic investment.

The data was sourced from CBN's statistical bulletin.

Causes Of Inflation In Nigeria

1. **Deficit Financing Of Government Spending:** In a situation where the spending of government increase beyond what taxation can finance, in order to incur the extra expenditure, the government resorts to deficit financing.
2. **Population Growth**: As the population grows, it increase the total demand in the market. Further, excessive demand creates inflation.
3. **Exports**: In an economy, the total production must fulfill the domestic as well as foreign demand. If it falls to meet these demands, then exports create inflation in the domestic economy.
4. **Trade Unions**: The union work in favour of the employees. As the prices increase, these union demand an increase in wages for workers. This invariable will increase the cost of production which will also leads to a further increase in prices.
5. **The Imposition Of Indirect Taxes**: Taxes are the primary sources of revenue for a government. Sometimes, governments impose indirect taxes like excise duty, VAT among others these indirect taxes increase the total cost for the manufacturers and/or sellers, and as such they will inturn increase the price of their products or services to have a minimal impact on their profits. The increase of higher taxes in Nigeria mostly, on imported goods. When there is scarcity of goods leading to an increase in prices it will also lead to inflation.

Effect Of Inflation In Nigeria

1. Erodes purchasing power
2. Encourages spending, investing
3. Raise the cost of borrowing
4. Reduces unemployment
5. Increase growth
6. Weakens or strengthens currency

METHODS

Model Speciation

This study adopted econometrics methods of data analysis. The data for analysis was obtained from CBN' statistical bulletin. The study also covered a periods of 36 years, with the model stated below

DI = F(inf, INT)

This is transformed using logarithms into $Log(D1) = \beta o + \beta 1 \log INfit + \beta 2 \log/NTit + Ɛit$

where log (D1) = log of Domestic investment

Log INF = log of inflation rate

Log INT = log of interest rate

Ɛit = disturbance term

βo = Constant term

β1 = Estimate parameters

Data and Variables

To analyze the impact of inflation (INFL) and interest rate (INTR) on domestic investment (Dl), we use yearly time series data covering from 1981 to 2021.The data on these variables are obtained from the CBN statistical bulletin and the analysis is done EViews version 10. As usual, we convert the data into minimize the disrupting effect of outliers on the empirical results.

Table I shows the summary statistics for the variables, while Figure 1 shows the time series plots of the data.

Table 1: Summary Statistics

Variables	Mean	Std. Dev	Skewness	Kurtosis	Jarque-Bera (P-value)
Dl	256.42	277.14	1.26	4.30	0.0011
INFL	0.19	0.17	1.88	5.36	0.0000
INTR	21.26	6.28	0.06	2.57	0.8428

ANALYSIS AND DISCUSSION

Stationarity Tests

Table 2 shows the ADF non-stationary test results for the study variables. Both level and first different tests are reported. The lag determination is based on Sehwarz information criterion (SIC).

Table 2: ADF nonstationarity tests; parenthesis contains probability values

Variable	Level Test	First Difference Test	Remark
LD I	-0.7552 (0.8207)	-6.7733 (0.0000)	1(1)
LINFL	-3.5382 (0.0119)	-	1(0)
LINTR	-3.1748 (0.0290)	-	1(0)

From Table 2, the results show that our variables have different levels of integration. The test on the Level data is not significant for LDI (p-value 0.8207), while it is significant at the 5% level for both LINFL (p-value 0.0119) and LINTR (p-value = 0.0290). However, the first difference test for LDI (p-value 0.0000) is highly significant. This shows that domestic investment is integrated of the first order, while both inflation and interest rate are integrated of the zero order. '[his implies that both short-run and long-run effects of inflation and interest rate on domestic investment can be captured using a well-specified ARDL model, since this framework does not discriminate variables based on their order of integration.

Estimation and Results

Table 3 reports the empirical estimates for the impact of inflation and interest rate on domestic investment. The Schwarz information criterion is used to determine the optimal specification of our empirical model and the results show that the criterion considers an ARDL (1, 0, 0) as the best description of the specified relationships (see Figure 2). This implies that a model with one period lagged value of domestic investment as an additional explanatory factor is the optimum specification of the relationship between inflation, interest rate, and domestic investment.

Further, we follow the HAC error procedure, which produces consistent and robust standard errors even in the presence of both serial correlation and heteroskedasticity.

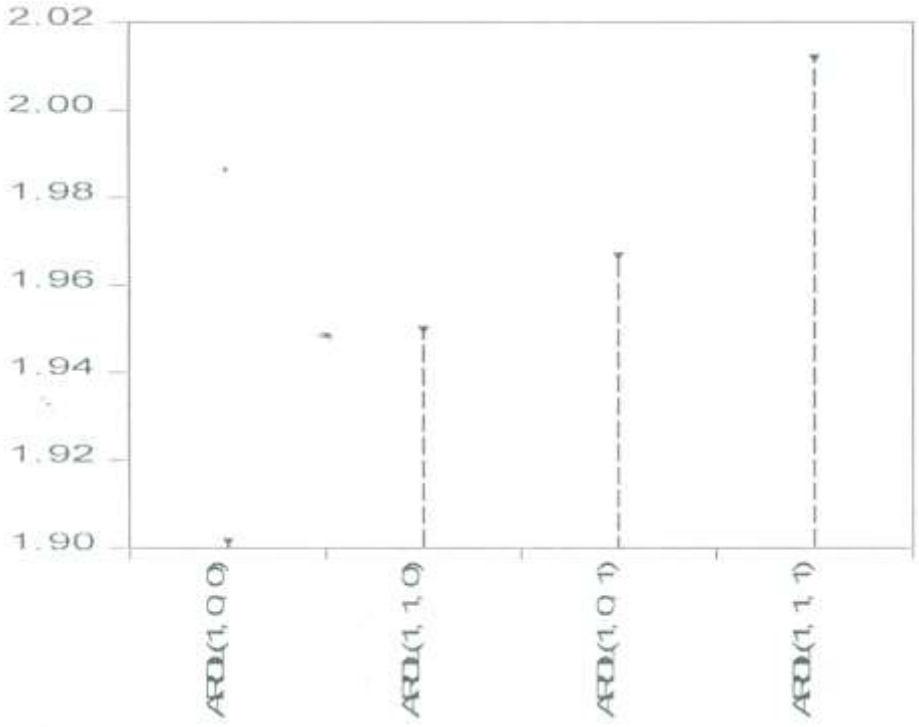

Figure 2: SIC Model Selection Criterion

Table 3: Estimated Model Results

Variable	Coefficient	P-value
Intercept	-0.9957	0.2087
LDI(-l)	0.9729	0.0000
I.INFL	0.2127	0.0775
LINTR	0.5470	0.0433
CointEq (-I)	-0.0270	0.0000
R-Squared	0.9505	
Adj. R-squared	0.9464	
P-statistic	230.89	0.0000
Durbin-Watson	2.3860	

From table 3, the adjusted R-squared of 0.9464 shows that the estimated DI model is highly fitted. While the F-statistic (p-value 0.0000) indicates that the dynamic relationship between inflation, interest rate and domestic investment is highly statistically significant. The Durbin Watson statistic (DW 2.3860) is greater than 2, indicating that negative autocorrelation may be present in the model residuals. However, this would not adversely affect our empirical results since the estimation is based on robust standard errors suggested by Newey and West (1987).

Our results also indicate that domestic investment is positively and highly significantly related to its own one period lagged value. The coefficient on LDI(-l) has an estimated value of 0.9729 with a p-value of 0.0000, showing that a 1% increase in domestic investment in the current period would lead to close to 1% increase in the next period domestic investment, other explaining factors remaining constant. This implies that domestic investment is persistent and can he predicted from its own immediate history.

Further, the results show that the relationship between inflation, interest rate and domestic investment has no long-run dimension, with the error correction term (CointEq: beta -0.0270, p value = 0.0020) having

the expected negative sign, which is what one would expect if domestic investment had a stable long-run path with both inflation and interest rate. This negative sign, therefore, shows that it takes domestic investment about 0.O3years to its long-run equilibrium path with inflation and interest rate after moving away from it due to short-run disruptions.

Inflation and Domestic Investment

Our results show the relationship between inflation and domestic investment has no dynamic effect. The coefficientson LINFL is estimated at 0.2127, with a probability value of 0.0775, indicating that inflation has a positive but weakly significant contemporaneous effect on domestic investment. The estimated coefficient implies that celeris paribus, domestic investment would concurrently increase by approximately 0.21% following a 1% increase in the rate of inflation. This result is consistent with domestic investment theory, which emphasizes that higher level of inflation is associated increased domestic investment. Hence, any monetary policy that focuses on controlling the rising inflation level would concurrently impede domestic investment.

Interest rate and Domestic Investment

Our results show the relationship between interest rate and domestic investment has no dynamic effect. The coefficient on LINTR is estimated at 0.5470, with a probability value of 0.0433, indicating that interest rate has a positive and significant contemporaneous effect on domestic investment. The estimated coefficient implies that ceteris paribus, domestic investment would concurrently increase by approximately 0.54% following a 1% increase in interest rate. This result does not agree with the monetary policy theory, which predicts a negative relationship between interest rate and domestic investment. 1-lence, our results suggests that an expansionary monetary policy that reduces interest rate would adversely concurrently reduce domestic investment.

CONCLUSION

This study investigates the impact of inflation and interest rates on domestic investment in Nigeria using the ARDL model. The analysis is based on time series data collected at yearly statistical bulletin from CBN. Our results, which are based on the model that controls both serial correlation and heteroskedasticity problems, shows that both inflation and interest rate have a positive and significant contemporaneous impact on domestic investment. Therefore, the monetary authority and policies makers should from time to time re-evaluate their policy stance on these variables.

RECOMMENDATION

The study therefore recommends that since these variables impacts on the economy, policy markers should be more concerned about when these variables could be adjusted for positive results on the economy. This is because where these decisions are not properly addressed on these variables, their impact will be negative on the economy. The money authorities should also consider where to make expenditure on the economy based on positive rankings.

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