



## Asian Journal of Economics, Business and Accounting

2(4): 1-10, 2017; Article no.AJEBA.32882

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# Impact of Interest Rate on Portfolio Management in Nigeria

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### Authors' contributions

This work was carried out in collaboration between all authors. Author AEA designed the study, performed the statistical analysis, while author BA wrote the protocol, the first draft of the manuscript and the literature searches. Author ACO did the analyses of the study. All authors read and approved the final manuscript.

### Article Information

DOI: 10.9734/AJEBA/2017/32882

#### Editor(s):

(1) Chan Sok Gee, Department of Finance and Banking, University of Malaya, 50603 Kuala Lumpur, Malaysia.

#### Reviewers:

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(2) Achille Dargaud Fofack, Cyprus International University, Cyprus.

Complete Peer review History: <http://www.sciencedomain.org/review-history/18757>

Original Research Article

Received 21<sup>st</sup> March 2017

Accepted 17<sup>th</sup> April 2017

Published 22<sup>nd</sup> April 2017

## ABSTRACT

This study carried out an investigation on the impact of interest rate on portfolio management in Nigeria. Specifically the study analyzed the impact of interest rate on both long term and short term portfolio investments in Nigeria using secondary data sourced from Central bank of Nigeria statistics bulletin and National bureau of statistics for the periods covering 1985 to 2014. The study employed the techniques of co-integration and error correction model, it was discovered that on the long run interest rate specifically prime lending rate significantly influenced portfolio management both on long and short term basis and that total savings exert significant positive impact on the portfolio investment both on long and short term basis. Hence the study recommended that monetary authorities should ensure that the nexus between interest rate and portfolio management is taken into consideration in the process of policy formulations.

*Keywords: Interest rate; investment; portfolio investment; portfolio management.*

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## 1. INTRODUCTION

Investment as the sacrifice of current consumption in order to enjoy higher level of future consumption can be viewed from two fundamental purviews: real investment purview and financial investment purview [1]. According to [2] real investment is the purchase/acquisition of physical capital such as land and machineries employed in production process, while financial investment is the purchase of paper security such as stocks and bonds. As explained by [1] financial investment is the current commitment of fund for a period of time in order to derive future payments that will compensate the investor for the time the fund was committed, the expected rate of inflation, and the uncertainty of the future payments.

Portfolio investment is a financial type of investments in bonds, stocks, and securities with focus other than gaining lasting management control of the issuing entity. Portfolio investment requires analysis of risk-reward trade off, because to get higher returns on investment, an investor must be prepared to take on a higher level of risk. Therefore for optimality of portfolio investment there is need for objective management [3]. One of the major advances in the investment field during the past few decades has been the recognition that the creation of an optimum investment portfolio is not simply a matter of combining a lot of unique securities that have desirable risk-return characteristics, as there is need for an investor to consider the relationship among the investments to build an optimum portfolio that will meet investment objectives.

Portfolio management is a strategic structure covering portfolio objectives and diversification outlines [4]. [5] Portfolio objectives majorly centers on maximization of wealth and minimization of loss. Investment diversification requires that asset be analyzed from internal, external and policy purviews. He pointed out that analysis of the investment from the internal purview entails dynamic analysis of the firm of interest in order to verify its possibilities of generating future cash flow that can guarantee the expected or optimal investment return. He further explained that external analysis compares other firm's performance to the performance of the firm of interest, while policy analysis focused on the likely effect of government policies on the firms operation. This argument brings policies

variables to the center of discussion of portfolio management.

In practice the value and structure of portfolio is influenced by policy measures which determines the quantity, price and value of money. Notably the impact of interest rate on portfolio management cannot be overemphasized. Interest rate as a policy variable undoubtedly influence the price and value of securities held [6]. Changes in interest rate will ultimately engender changes in the prices of securities both in the money and capital markets, as such there will be adjustment in the mix of portfolio by investors in the bit to hedge the interest rate risk. The nexus between policy variables such as interest rate and portfolio management had attracted great deal of research focus over time. [7] emphasized the positioning of bond portfolio for rising interest rate in the United States of America. They pointed out that sensitivity of securities to interest rate movement differs substantially based on duration, credit quality, and type of security etc, noting that corporate bonds (both investment-grade and high-yield) floating-rate notes, emerging-market debt, shorter-term issues, and certain types of structured securities may provide greater protection from losses during periods of rising interest rate. In such environments, spreads between Treasury yields and bond yields are lower-rated, higher-yielding securities tend to narrow largely because improving economic conditions typically lead to lower expected default rates for non-Treasury products, making them a potentially better relative value with a more favorable risk/reward tradeoff than Treasuries.

Morgan [8] Established that interest rates are major drivers of bond prices, given the fact that rise in interest rates will bring about a fall in the value of bond and bond fund and vice versa. He established that bond prices are not immune to rising interest rate. Hence, portfolio management in volatile interest rate environment requires diversification to ensure maximum yield, diversified sources of return and reduced exposure to interest rate volatility. Premised on this background the study analyzed the impact of interest rate on portfolio management in Nigeria with an aggregated focus.

### 1.1 Statement of Problem

Portfolio management requires that consideration be given to the risk-return scenario of portfolio

mix, which often time makes investors to prefer risk-free government bond to other forms of securities available both at the money market and capital market.

In Nigeria over the years it was observed that the share of government bond in the domestic portfolio investment had increased significantly [9]. Also the share of government bond continues to rise. Statistics revealed that in 2005 government bond was 18.68%. In 2006 it rose to about 40.62% and continue rising with reported percentage share of 53.69% in 2007, 50.77% in 2008, 58.18% in 2009, 65.24% in 2010, 63.56% in 2011, 65.30% in 2012, 61.60% in 2013 respectively (CBN 2014). During these periods it was observed that the weighted deposit rate trended downward from 11.69% in 1996 to 3.83% in 2005, 2.82% in 2008, 1.41% in 2011, 1.70% in 2012 [9]. Given the trend of the share of government bond in the aggregate portfolio investment in the country and the corresponding interest rate movement it become a matter of interest for researchers to investigate portfolio management in the country. However an overview of extant literatures on portfolio management reveals the dearth of empirical investigation into the nexus between portfolio management and interest rate. Hence this study conducted an aggregated analysis of the impact of interest rate on portfolio management in Nigeria.

**Table 1. Federal government bond/ weighted deposit rate**

Year	Bond yield in %	Weighted deposit rate in %
1996	N/A	11.69
2005	18.68	3,83
2006	40.62	N/A
2007	53.69	N/A
2008	50.77	2,82
2009	58.18	N/A
2010	65.24	N/A
2011	63.56	1.41
2012	65.30	1.70
2013	61.60	N/A

Sources: CBN 2014

## 1.2 Objectives of the Study

The broad objective of the study is to analyze the impact of interest rate on portfolio management in Nigeria. While specific objective of the study is to examine the impact of interest rate on long term portfolio investment in Nigeria.

## 2. LITERATURE REVIEW

### 2.1 Conceptual Review

#### 2.1.1 Concept of portfolio management

Portfolio investment has been conceptualized to mean investment in financial assets such as shares, stocks, debt instruments, mutual fund etc. with varying risk and returns [2,10]. According to [1], investors in pursuance of optimal investment portfolio unavoidably become risk averse selecting assets with the lowest risk in the list of options open to them. Portfolio investment is hinged on the framework of risk-return trade-off, as higher return on investment is accompanied by higher level of risk [3]. According to [2] risk inherent in holding a security is a measure of the size of the variability or uncertainty of its return which often time is influenced by maturity, priority, liquidity and underlying activities. It therefore stands that the management of the risk-return trade-off of a set of portfolio towards optimality is what is refer to as portfolio management. Portfolio management entails managing combination of investment between short-term portfolio investment such as treasury bills, commercial papers, bankers acceptance, negotiable certificate of deposit etc. and long term investment assets such as debt securities, bonds, preferred stock, common stock with consideration to the risk and return involved [10]. [11] Portfolio management involves three main activities namely: selection of security, construction of all feasible portfolios with the help of the selected securities and taking decision on the weight/proportions of the different securities in the portfolio to ensure optimality [12].

#### 2.1.2 Concept of interest rate

Interest has been a subject of fierce controversy from very early times. In ancient times, interest was likened to usury and people were enjoined from accepting it on ethical and religious grounds. Interest rate is the price paid for inducing those with money to save it rather than spend it, and to invest in long-term assets rather than hold cash. [13] argued that there are many factors that are responsible for the variation in the structure of interest rate. These factors include government interventions, market expectations amongst others. According to Keynesian the determination of interest rate will be found in the money market and these are basically the supply and demand for money. He identified three motives for the desires to hold

cash; transaction motive, precautionary motive and speculative motive [14]. Interest rates reflect the interaction between the supply of savings and the demand for capital; or between the demand for and the supply of money. Rates of interest can be expressed as a percentage payable (on a coupon.), usually *per annum*; or as the present .discounted. Value of a sum payable at some future date (the date of .maturity). According to John Maynard Keynes interest rates were generally set in the market for loans. The interest rate was determined by the level of reward they demanded for tying up their money in bonds or other assets rather than keeping it in cash [15].

## 2.2 Empirical Review

Balogun [5] Examined portfolio management: An appraisal of insurance industry's investment profile in Nigeria between 1985 and 2007. The study focused on life assurance on the basis that they have relatively stable idle fund at hand. Specifically the study examined the direction that investment moves in a deregulation interest rate regime on government securities in comparison with others. The study made use of deceptive and trend analysis from the result of the analyses it was discovered that the presence of flexible interest rate do channel investment and compulsory laws will only lead to disincentives as investors are interested in ventures with high yield.

Ekeocha [16] conducted an investigation of modeling the long run determinants of foreign portfolio investment in an emerging market, drawing evidence from Nigeria, the study models the long run determinant of foreign portfolio investment over the period of 1986-2006 using variables like market capitalization, sovereign risk premium, real exchange rate, level of financial openness and trade openness. Employing time series techniques of analyses including cointegration and error correction model (ECM) estimation. The study discovered foreign portfolio. Investment in the capital market, real interest rate and investment in the capital market, that foreign portfolio is negatively related to real exchange rate, market capitalization, trade openness and institutional quality in Nigeria.

Magali [17] Examined the effectiveness of loan portfolio management in rural SACCOS: evidence from Tanzania. The study made use of

496 loans from ABC rural SACCOS located in the northern zone of Tanzania to describe the effectiveness of loans portfolio management. The data analysis was done by quantitative methods. Data for the study was collected at the end of May 2013, the findings revealed that women constituted 52% of the loan portfolio, that loans were divided into 4 classes and the loans ranges was not very effective because loan given to different ages were classified in a single class. The regression result also revealed that the quality of loan portfolio was positively influenced by the loan size while the influence of gender and location of the borrowers were not significant and finally the study revealed that fluctuation of the prices of agricultural produce threatened the quality of loan portfolio. Hence it was recommended that ABC rural SACCOS should seek the effective insurance services, use the effective software for loan portfolio management, search the market for agriculture produce and write off non repaid loans.

Akingunnola et al. [18] Analyzed the impact of interest rate on capital market growth in Nigeria, shedding light on how other macro economics variables such as inflation rate, exchange rate also influence capital market growth. The study employed multiple regression analysis to determine the impact of interest rate and other macro economic variables, while pooled data regression method was used to estimate the specified model equation. The findings of the study revealed that interest rate have an adverse effect on capital market growth. The study recommended that interest rate must be properly put to check and that this must be done in relation to appropriate monetary policies to ensure macroeconomics stability.

Macdonald [7] Examined positioning bond portfolios for rising interest rate. They identified four factors to consider in designing an effective fixed income strategy including the prospect of rising interest rate. in their analysis it was emphasized that to hedge against rising interest rate considerations must be given to diversification of active portfolio management through flexibility. Hence, they concluded that the prospect of higher interest rate is real and that investors who are inclined to reduce their overall fixed income allocation because of interest rate concerns should do so judiciously, positioning their remaining exposure with an emphasis on diversification, active management and a long term perspective.

## 2.3 Theoretical Reviews

In an attempt to form theoretical underpinning for the study prominent theories on the discourse of portfolio management and interest rate were reviewed below:

### 2.3.1 Theories of portfolio management

#### *2.3.1.1 Traditional theory*

The most vital part of Markowitz' model was his description of the impact on portfolio diversification by the number of securities within a portfolio and their covariance relationships [19] Also, [20] further advanced the Efficient Frontier and Capital Market Line concepts in his derivation of the CAPM. Sharpe who later won a Nobel Prize in Economics for his seminal contributions, help to popularize and contributed immensely in this area. A year later, [21] derived the CAPM from the perspective of a corporation issuing shares of stock.

Traditional portfolio management approach however is theory that analyzed the investor, definition of portfolio objectives, investment strategy, diversification and selection of individual investment. Investor's study include an insight into his age, health, responsibility, other assets portfolio need, need for income capital maintenance, liquidity, attitude towards risk and taxation.

#### *2.3.1.2 Markowitz modern portfolio theory*

The theory was advanced by Henry Markowitz in the early 1950's. It proposes a logical framework in which investors can optimize their risk and return. The major highlight of the theory is that diversification through portfolio formation can reduce risk and that return is a function of expected risk.

The Markowitz' portfolio selection theory is essentially a normative theory. [22] Defined a normative theory as one that describes a standard or norm of behavior that investors should pursue in constructing a portfolio. Conversely, Sharpe's asset pricing theory (CAPM) is regarded as a positive theory one that hypothesizes how investors actually behave as opposed to how they should behave. In the view of [23] investors are mainly concerned with two properties of assets: risk and return. [24] assert that this theory stressed that the risk of an asset

hardly matters to an investor, rather what really matter is the contribution to the investors overall risk.

### 2.3.2 Theories of interest rate

#### *2.3.2.1 Classical theory*

According to the classical theory interest rate is the factor that equilibrate the demand for investment and the supply of savings. The classical interest rate theory which was developed under the assumption of full employment of labour and capital is a flow analysis in which both investment and saving are flow variables directing attention to a period of time rather than to a point of time. However the classical theory of interest rate was severely criticized by Keynes to be incomplete as it considers only the real as distinct from the monetary and only the flow as distinct from the stock [25,26].

#### *2.3.2.2 Neoclassical theory*

The neoclassical theory of interest rate (loanable fund theory) developed among others by Knut Wicksell and Denis Holme Robertson states that long run equilibrium rate of interest is determined at the point of intersection of the demand curve and supply curve of loanable funds. According to this theory supply of loanable fund consist of the current savings, dishoarding of the existing cash balances and newly created money, while demand for loanable fund consist of borrowing for investment, hoarding to accumulate cash balances and reduction in the money supply by the banking system [25,26].

#### *2.3.2.3 Liquidity preference theory*

Liquidity preference theory propounded by Keynes states that the rate of interest is the price which equilibrates the desire to hold wealth in the form of cash with the available quantity of cash. In his opinion the rate of interest is purely a monetary phenomena and its determination has nothing to do with savings and investment [25,26].

## 3. METHODOLOGY

### 3.1 Model Specification

This study analyzed two single equation models which recognize Long Term Portfolio Investment (LTPI) and Short Term Portfolio Investment (STPI) as dependent variables, while

independent variables include Prime Lending Rate (PLR), Savings Rate (SAVR), and Total Savings (TSAV). The long term portfolio investment is proxied using Transactions in the Nigerian Stock Exchange including government bond, industrial loan, second tier securities, and Equities, while short term portfolio investment is measure in terms of value of money market instrument outstanding including treasury bills, treasury certificates, development stocks, certificate of deposits, commercial papers, as well as banker's acceptance. Thus the models of the study are specified below:

**Functional specification**

$$LTPI = f(PLR, SAVR, TSAV, U) \text{----- Model 1}$$

$$STPI = f(PLR, SAVR, TSAV, U) \text{----- Model 2}$$

**Linear specification**

$$LTPI = \alpha_0 + \alpha_1 PLR + \alpha_2 SAVR + \alpha_3 TSAV + U \text{----- Model 1}$$

$$STPI = \alpha_0 + \alpha_1 PLR + \alpha_2 SAVR + \alpha_3 TSAV + U \text{----- Model 2}$$

**3.2 Sources of Data and Methods of Estimation**

Data used in the study were sourced from the central bank of Nigeria (CBN) and National Bureau of statistics (NBS). Data collated covers a period of 29 years spanning from 1985 to 2014. The study employed techniques of co-integration and error correction model (ECM) to carry out correlation and stationary test on the data collected to ascertain the direction of relationship between the series, and the order of integration. The intention behind the use of co-integration and error correction model is to tack both long run and short run nexus between interest rate and portfolio management.

**4. EMPIRICAL RESULTS AND DISCUSSION**

**4.1 Correlation Matrix**

Table 2 presents the correlation coefficients between pairs of variables used in the study. The table revealed that there is positive correlation between long term portfolio investment and short term port-folio investment as well as total savings, while it negatively correlate with prime lending rate, and savings rate. The table also reveals that short term portfolio investment negatively correlate with prime lending rate and

saving rate but positively correlate with total savings. Also, the prime lending rate correlate positively with savings rate but negatively with total savings, as saving rate also correlation negatively with total savings. Further evidence from the table revealed that the correlation coefficients are strong for pairs of variables such as LTPI and SLPT, LTPI and TSAV, STPI and TSAV, mild for pairs of variables such as LTPI and SAVR, STPI and SAVR, SAVR and TSAV, and PLR and SAVR while the table the correlation between pairs such as LTPI and PLR, STPI and PLR, PLR and TSAV remained weak.

**4.2 Unit Root Test**

Table 3 reports the unit root test results of the series used in the study. The table reveals that all the variables included in the models of the study are non-stationary series that only become stationary after first differencing. Hence the table shows that variables used in the models are integrated of order one i.e. I(1) which connotes that they retain external shock only for a short period of time.

**4.3 Co-integration Results**

This section presents the result of the co-integration test conducted in the study to ascertain if there is presence of long run relationship amidst the variables despite the presence of unit root. The test is conducted to test the null hypothesis of no co-integrating equation in the two models specified. The study made of Johansen co-integration test given the fact that all the variables are integrated of the first order.

Table 4a and 4b report results of co-integration test conducted in the study for the two models respectively, alongside the normalized long run equation. Notably co-integration results reported in Table 4a and 4b reveals rejection of the null hypothesis of no co-integrating equation in favour of one co-integrating equation for the two models respectively. However the normalized long run estimation revealed that prime lending rate, savings rate and total savings negatively influenced long term portfolio investment on the long run while it has a negative impact on prime lending rate, and total savings, saving rate exerts positive influence on short term portfolio investment on the long run. Notably the standard error test of significance reveals that only prime lending rate exerts significant influence on both long term portfolio investment and short term

portfolio investment respectively. It thus implies that on the long run (when the effect of shocks has been neutralized by the passage of time) increase in prime lending rate will significantly culminate into increased long term portfolio investment and short term portfolio investment in Nigeria. This finding aligns with evidence provided by [27].

**Table 2. Correlation matrix**

	LTPI	STPI	PLR	SAVR	TSAV
LTPI	1				
STPI	0.83526690	1			
PLR	-0.26086227	-0.23732284	1		
SAVR	-0.57058041	-0.64313948	0.41735569	1	
TSAV	0.82476843	0.98717899	-0.23677023	-0.59349278	1

**Table 3. Augmented dickey fuller unit root test of all variables (1985-2014)**

Variables	ADF stat	1% critical value	5% critical value	Order of integration	Remarks
LTPI	-4.671635	-3.689194	-2.971853	I(1)	Stationary
STPI	-4.414130	-3.724070	-2.986225	I(1)	Stationary
PLR	-5.082314	-3.699871	-2.976263	I(1)	Stationary
SAVR	-4.734855	-3.689194	-2.971853	I(1)	Stationary
TSAV	-4.176929	-3.689194	-2.971853	I(1)	Stationary

Note: \* (\*\*) denotes significance at 1%(5%) significant levels respectively

**Table 4a. Co-integration Result (Model 1)**

Series: LTPI PLR SAVR TSAV

Eigen value	Trace statistics	5 percent critical value	Probability	Hypothesized no of CE (s)
0.618946	56.27150	54.07904	0.0314	None *
0.407861	29.25671	35.19275	0.1896	At most 1
0.360364	14.58432	20.26184	0.2512	At most 2
0.071340	2.072351	9.164546	0.7633	At most 3

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

The normalized long run equation is thus estimated as:

LNLTP	LNPLR	LNSAVR	LNTSAV	C
1.000000	-18.07233 (6.29970)	-2.244511 (4.70612)	-3.527368 (1.69094)	73.38365 (15.1616)

**Table 4b. Co-integration result (Model 2)**

Series: STPI PLR SAVR TSAV

Eigen value	Trace statistics	5 Percent critical value	Probability	Hypothesized no of CE(s)
0.695786	33.32067	28.58808	0.0114	None *
0.447199	16.59718	22.29962	0.2579	At most 1
0.333813	11.37318	15.89210	0.2254	At most 2
0.194802	6.066662	9.164546	0.1856	At most 3

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

The normalized long run equation is thus estimated as:

LNSTPI	LNPLR	LNSAVR	LNTSAV	C
1.000000	-1.316541 (0.26299)	0.139286 (0.20706)	-0.815884 (0.07440)	2.515910 (0.60082)

#### 4.4 Error Correction Model (ECM) Results

This section presents the parsimonious error correction models for models 1 & 2, which was derived using general to specific approach to streamline the over-parameterized estimations for the two models respectively. The result reported the speed of adjustment as represented by the coefficient of a period lagged residual series ECM(-1) made for the two models of the study.

The result of parsimonious error correction model presented in Table 5a and 5b for models 1 and 2 above reveals that there existed pronounced

feed-back of the previous period disequilibrium, from the long-run trend. Specifically, the results indicated feed-back of about 97% and 50% for models 1 and 2 respectively, which connotes that about 97% and 50% of the short run inconsistencies for the models 1 and 2 are corrected annually and incorporated into the long run dynamics. Notably Table 5a and 5b revealed that in the short run, the prime lending rate exerts negative impact on both long term portfolio investment and short term portfolio investment though such impact is not significant. Savings rate exerts positive impact on long term portfolio investment but negatively influence short term portfolio investment in the short run without any

**Table 5a. Parsimonious (ECM) model 1**

Series: LTPI PLR SAVR TSAV

Variable	Coefficient	Std error	t-statistics	Prob.
C	-28177.19	53468.22	-0.526989	0.6040
D(LTPI(-1))	1.150757	0.210593	5.464361	0.0000
D(LTPI(-2))	-0.277476	0.228702	-1.213267	0.2392
D(PLR)	-11660.75	9858.295	-1.182836	0.2507
D(SAVR)	11242.49	23937.36	0.469663	0.6437
D(TSAV(-1))	1119.319	95.30528	11.74456	0.0000
ECM(-1)	-0.970309	0.268552	-3.613115	0.0017

R-Squared=0.906553  
Adjusted R-Square=0.878518  
Durbin Watson stat=1.966695  
F-statistics=32.33736  
Prob(f-statistics)= 0.000000

**Table 5b. Parsimonious (ECM) model 2**

Series: STPI PLR SAVR TSAV

Variable	Coefficient	Std Error	t-statistics	Prob.
C	80.72217	51.28024	1.574138	0.1339
D(STPI(-1))	0.931370	0.295569	3.151107	0.0058
D(STPI(-2))	2.006067	0.287278	6.983013	0.0000
D(STPI(-3))	2.968273	0.334402	8.876363	0.0000
D(PLR)	-10.13620	9.296732	-1.090297	0.2908
D(SAVR(-1))	-29.66936	22.68671	-1.307786	0.2084
D(TSAV)	0.344758	0.084013	4.103608	0.0007
D(TSAV(-2))	0.693679	0.208725	3.323408	0.0040
ECM(-1)	-0.496524	0.232290	-2.137519	0.0474

R-Squared=0.955320  
Adjusted R-Square=0.933117  
Durbin Watson stat=1.410601  
F-statistics=451.8915  
prob(f-statistics)= 0.000000



evidence of significance. However from the parsimonious result it was revealed that in the short run, total saving positively influence long term portfolio investment as well as short term portfolio investment, notably the table revealed that in the short run the influence of total savings on portfolio both long term and short term tends to be significant.

Table 5a and 5b reported an R-square values of 0.906553 and 0.955320 for models one and two thus suggesting that about 91% and 96% of the systematic variation in long term portfolio investment and short term portfolio investments respectively can be explained by variation in prime lending rate, savings rate and total savings in the economy. Reported in Table 5a and 5b are f-statistics values of 32.33736 and 451.8915 respectively and corresponding probability values of 0.0000, hence confirming the goodness of fit of the two models. While the reported Durbin-Watson statistics of 1.966695 and 1.410601 suggest that there is no auto-correlation between successive values of error term of model 1 while that of model 2 is inconclusive.

## 5. CONCLUSION AND RECOMMENDATIONS

From the analyses conducted in the study, it becomes obvious that in the long run specifically prime lending rate significantly influence portfolio management on the aggregate in Nigeria, with declining prime lending rate culminating into increase portfolio investment both on long and short term basis. However the influence of interest rate (prime lending rate) on the short run though agrees with what ensued on the long run tend not to be significant, while on the short run total savings reflects significant positive impact on the portfolio investment both on long and short term basis. Hence it stands that on the aggregate, interest is a key determining factor of portfolio management in Nigeria, given the notable influence of prime lending rate on the long run and the influence of total savings on the short run. Based on this discovery the study therefore recommends that:

1. Monetary authorities should be aware of the connection between interest rate and portfolio management and take that into consideration during the process of policy formulation to ensure that on the aggregate portfolio investments in the country are adequately and rightly fine-

tuned to foster the necessary growth at the corporate and national level.

2. The Government should also provide a good enabling environment for investment to grow and attract foreign direct investment by providing more opportunities by deepening financial market and making more financial instruments available.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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