

FINANCIAL MARKET DERIVATIVES AND THE PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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Abstract

This study examined the effects of the use of financial market derivatives on the performance of Deposit Money Banks (DMBs) in Nigeria. The study uses profit after tax (PAT) as a measure for the performance of deposit money banks, while Derivative Financial Liabilities (DFL), Derivative Financial Assets (DFA), Trading Income on Derivative (TID) and Total Asset (TA) were measures of financial market derivatives. Specifically, the study hypothesized that financial market derivatives do not affect the performance of Deposit Money Banks (DMBs) in Nigeria. To empirically achieve the objective and test the formulated hypothesis, the study utilized data covering five (5) years each from ten (10) deposit money banks that report some form of transactions which are of the nature of derivatives securities. The study employed descriptive statistics, correlation matrix and regression analysis to determine the relationship between the variables in the study. The findings from the empirical analysis of the study revealed that, there is a positive relationship between Derivative Financial Assets (DFA) and the performance of banks in Nigeria. That is, derivative financial asset significantly affects the performance of deposit money banks in Nigeria and that total asset which is significantly influenced by derivative financial assets is significant in determining the performance of the deposit money banks in Nigeria. Hence, the study concludes that the use of derivative is of immense

importance to the performance of banks in Nigeria. In the light of the foregoing findings, the study therefore recommends that government should not only develop local financial derivative securities that banks can access to hedge their risk exposure in the financial sector, they should also regularly organize conferences and symposia to broaden the knowledge base of Deposit Money Banks (DMBs) on the effective use of derivative financial securities to enhance their financial performance.

Keywords: Derivative Financial Asset, Deposit Money Banks, Performance, Descriptive statistics, Correlation matrix

INTRODUCTION

Derivatives are financial instruments that derive their values from the performance of underlying entity. This underlying entity can be an asset index, or interest rate. Derivatives are used for a number of purposes, such as hedging against future price movements of securities or against speculation or getting to trade assets or market. Some of the common derivatives include forwards, futures, options, swaps and variations. Derivative exchanges perform more complex functions than real market exchange. They are also being transformed and modernized. They are compatible with qualitative changes in the shareholder's economy, offering along with these changes, strategies and paths of socioeconomic change (F.D man, 2009).

Financial derivatives can be defined as financial instrument that are linked to a specific financial instrument or commodity, through which specific financial risk can be traded in the financial market. Financial derivatives should be treated as separate transactions rather than an integral part of the value of underlying transaction to which they are linked. Financial derivatives are used for some purposes including risk management, hedging, arbitrage between markets and speculation. Financial market's derivatives help to reduce risk thus allowing for greater fiscal autonomy and political sovereignty (Mullin & Murply 2009). According to Gay (2011), firms also use derivatives to reduce their financial distress risk and this distress risk has systematic component that is priced in the market.

Development of derivatives market is an offspring of modern globalization and liberalization of the world economy. A closed economy can also be predictable but poor, while an open economy can be wealthier as gains from trade that are realized, but they are also riskier. The growth of financial markets particularly derivative market help to enhance the effectiveness of the monetary policy, by speeding up the transmission process, influencing expectations, thus adding power or credibility to the process (Gupta, 2004:81).

Derivatives help to alter international transmission by making arbitrage less expensive to reduce transactional transmission by making use of market size. Empirical results show that development and spread of derivatives activities have resulted in better financial markets in terms of efficiency, capital raising, hedging and lower transaction cost (Gupta 2004:60).

The rationale behind the use of derivatives is that, by lowering transaction costs, it increases liquidity period. Valdex (1995), argues that financial derivatives compared with equivalent transaction in underlying assets derivatives can reduce the occurrence of large funds. The overall financial system will be enhanced by promoting the economic development of Nigeria as a country and Africa as a continent.

Financial institutions derive some benefits from engaging in transactions that involves trading on financial derivatives such as swaps, options, forwards and futures. These transactions, apart from earning profits for the banks are also major risk management strategies used by the banks to hedge against unforeseeable business situations. Hence, the study seeks to investigate the impact of financial market derivatives on the performance of Deposit Money Banks (DMBs) in Nigeria. In the light of the foregoing, the study tests the following hypothesis stated in the null form:

Research Hypothesis

Ho₁. Financial market derivatives do not affect the financial performances of deposit money banks in Nigeria.

LITERATURE REVIEW

Conceptual Review

The term 'derivatives, refers to a broad class of financial instruments which mainly include *options* and *futures*. These instruments derive their value from the price and other related variables of the underlying asset. They do not have worth of their own and derive their value from the claim they give to their owners to own some other financial assets or security. A simple example of derivative is butter, which is derivative of milk. The price of butter depends upon price of milk, which in turn depends upon the demand and supply of milk. *The general definition of derivatives means to derive something from something else.* It could also mean a financial instrument, whose value is based on another security. The asset underlying a *derivative* may be commodity or a financial asset. Derivatives are those financial instruments that derive their value from the other assets. For example, the price of gold to be delivered after two months will depend, among so many things, on the present and expected price of this commodity (Vashishtha & Kumar, 2010).

A Brief Overview of Derivatives

The use of derivative expanded during the early 1970's due to uncertainty in the business environment. The increase in uncertainty of exchange rates, interest rate, and commodity price was traced back in the mid-1900s. However, volatility was continuous and market from 1973 when the Breton woods system of exchange rate was abandoned. High level of volatility followed (Gupta 2004). Thus there are numerous derivatives instruments. In many emerging markets economics, long term plans are underway to introduce derivatives exchange (Lien & Zhang 2008).

Derivatives have a long history and early trading can be traced back to Venice in the 12th century. 2 Credit derivative deals at that period took the form of loans to fund a ship expedition with some insurance on the ship not returning. Later in the 16th century, derivatives contracts on commodities emerged. During that time, the slow speed in communication and high transportation costs presented key problems for traders. Merchants thus used derivatives contracts to allow farmers to lock in the price of a standardized grade of their produces at a later delivery date. The growth of financial market in derivative market enhanced the effectiveness of monetary policies, by speeding up the transmission process by influencing expectations thus adding power or credibility to the process (Gupta 2004: 81).

Financial Market and Derivatives

Financial market is a market where financial instruments are exchanged or traded, and helps in determining the prices of the assets that are traded in. And this process is called the price discovery process. Financial markets may be classified on the basis of: types of claims – debt and equity markets; maturity – money market and capital market; trade – spot market and delivery market; deals in financial claims – primary market and secondary market

Linkages between the various investors and financial institutions are inherent in financial markets. Financial markets can be defined as a market in which people trade financial securities, commodities, and other fungible items of value at low transaction costs and at prices that reflect supply and demand. Market securities are bonds and stock, commodities which include metals or agricultural product.

Financial Markets according to Amadeo (2013) is simply the markets where stocks, bonds, commodities, foreign exchange and even derivatives are traded to raise cash for government or businesses, reducing companies' risks and increasing investors' wealth. The financial market is the avenue through which funds are generated, mobilized and availed effectively and efficiently from the all-savers camps to the users of funds. These activities involve the interplay of individuals, institutions and instruments. Financial instruments owned by

individuals in different institutions to provide the needed finance for the provision of essential goods and services to bring about economic growth and development. The Financial market according to Abiola and Okoduwa (2008), consists of two major segments, the money market and the capital market. The money market provides finance on short-term basis to individuals while the capital market provides finance to businesses, enterprises, corporate bodies, government agencies etc on long term basis.

According to Osaze (2007), Nigeria financial sector is unarguably the most important in the political economic system because it serves as the provider of the necessary lubricant that keeps the economy turning. The sector also provide funds needed for investment but allocates these funds efficiently as possible to those project that offer the best to fund owners. The health of the sector determines the wellbeing of the economy. When the sector is weak the economy suffers tremendously. It is money and managerial or technical competencies that drive economy and the financial sector not only provides the much needed money for building both managerial and technical capacities but provide fund viable growth creating and development oriented investment project.

Financial Derivatives

These are contracts whose value is determined by the value of one or more underlying asset. This derivative is broad due to the introduction of complex varying derivatives in the market. Thus a financial derivative has a large number of properties whose value can depend on one or more characteristics exhibited by the underlying asset. The main groups of these underlying assets are stock, foreign currencies, interest rate, stock indices and commodities. There are four main types of financial derivatives which are forwards, options, futures and swap.

Futures is a standardized forward contract to buy (long) or sell (short) the underlying asset at a specified price at a specified future date through a specified exchange. Futures contracts are traded on exchanges that work as a buyer or seller for the counterparty. Exchange sets the standardized terms in term of Quality, quantity, Price quotation, Date and Delivery place (in case of commodity).

Futures contracts being traded on organized exchanges impart liquidity to the transaction. The clearinghouse, being the counter party to both sides of a transaction, provides a mechanism that guarantees the honouring of the contract and ensuring very low level of default (Hirani, 2007). In case of futures contract, both parties are under obligation to perform their respective obligations out of a contract.

Forward is an agreement between two parties, a buyer and a seller, to purchase or sell asset at a later date at a price agreed upon. Forward markets have no formal corporate body

organized by the market. They trade in over the counter (OTC) market. A forward contract is an agreement between two parties to buy or sell an asset at a specified point of time in the future. In case of a forward contract the price which is paid/ received by the parties is decided at the time of entering into contract. It is the simplest form of derivative contract mostly entered by individuals in day-to-day's transactions. Forward contract is a cash market transaction in which delivery of the instrument is deferred until the contract has been made. Although the delivery is made in the future, the price is determined on the initial trade date. One of the parties to a forward contract assumes a long position (buyer) and agrees to buy the underlying asset at a certain future date for a certain price. The other party to the contract known as seller assumes a short position and agrees to sell the asset on the same date for the same price. The specified price is referred to as the delivery price. The contract terms like delivery price and quantity are mutually agreed upon by the parties to the contract. Lack of liquidity and counter party default risks are the main drawbacks of a forward contract. Future and forward have differences as well as similarities:

- 1) They are differ in the institutional setting in which they trade but principles of pricing are the same.
- 2) It cost nothing to enter into a forward but there is initial margin for the futures.
- 3) Profit and loss from future are evaluated everyday but forward is only realized at the expiry date.

Options are derivatives that represent a contract sold by one party (option writer) to another party (option holder). The option contract offers the buyer the right but not the obligation to buy (call) or sell (put) a security or other financial asset at an agreed upon price. Call option give option to buy at a certain price while that of put options give the option to sell at a certain price. Options are the standardized financial contract that allows the buyer (holder) of the option, i.e. the right at the cost of option premium, not the obligation, to buy (call options) or sell (put options) a specified asset at a set price on or before a specified date through exchanges. Options contracts are of two types: *call* options and *put* options. Apart from this, options can also be classified as OTC (Over the Counter) options and exchange traded options. In case of exchange traded options contract, contracts are standardized and traded on recognized exchanges, whereas OTC options are customized contracts traded privately between the parties.

Swap on the other hand, can be defined as a barter or exchange. It is a contract whereby parties agree to exchange obligations that each of them have under their respective underlying contracts or we can say, a swap is an agreement between two or more parties to exchange stream of cash flows over a period of time in the future. The parties that agree to the

swap are known as counter parties. The two commonly used swaps are: i) *Interest rate swaps* which entail swapping only the interest related cash flows between the parties in the same currency, and ii) *Currency swaps*: These entail swapping both principal and interest between the parties, with the cash flows in one direction being in a different currency than the cash flows in the opposite direction. It is an agreement between two counterparties to exchange a series of cash payment for actual period of time. The payment can be changed on fixed or floating interest rate, depending on the contract terms. The calculation of these payments is based on agreed amount, called the notional principal amount or simply the notional.

Theoretical Review

The Modern Portfolio Theory of Investment

The Modern Portfolio Theory (MPT) is an improvement upon traditional investment models. It is an important advancement in the mathematical modelling of finance. The MPT encourages asset diversification to hedge against market risk as well as risk that is unique to a specific company. The theory (MPT) is a sophisticated investment decision approach that aids an investor to classify, estimate, and control both the kind and the amount of expected risk and return; also called Portfolio Management Theory. Essential to the portfolio theory are its quantification of the relationship between risk and return and the assumption that investors must be compensated for assuming risk. The Modern Portfolio Theory (MPT) departs from traditional security analysis in shifting emphasis from analyzing the characteristics of individual investments to determining the statistical relationships among the individual securities that comprise the overall portfolio (Edwin & Martins, 1997).

The MPT mathematically formulates the concept of diversification in investing, with the aim of selecting a collection of investment assets that has collectively lower risk than any individual asset. The possibility of this can be seen intuitively because different types of assets often change in value in opposite ways. But diversification lowers risk even if assets' returns are not negatively correlated-indeed, even if they are positively correlated.

Empirical Review

Empirical literature on financial market derivatives and bank performance in Nigeria is somehow scanty hence this study is termed explorative. However, few related studies have been reviewed thus: Chanzu and Gekara (2014) investigated the effects of the use of derivatives on financial performance of companies listed in the Nairobi Securities Exchange (NSE), with the main objective of determining how risk management, efficiency, price stabilization and price discovery in derivative affect the financial performance of companies in NSE. The study adopted a

descriptive research design with the use of correlation analysis to analyse the responses from questionnaires. Other qualitative responses were analysed using content analysis. The study finds that, apart from price stabilization other variables contributed positively to the financial performance of companies listed in NSE.

Also, Lenee and Oki (2016) investigated financial derivatives and financial and non financial firms' performance in the UK using Panel Least Square (PLS) regression. Their findings reveal that financial firms tend to hedge more of interest rate risks while non financial firms hedge more of foreign exchange rate risks. In addition, hedging interest rate risks by both groups with the use of a combination of forwards and futures derivatives was found to be positive and statistically significant with return on assets as firm performance, but directly has a reverse effect when only swap derivatives were used.

In another study, Olawale (2015) examined the effect of credit risk on the performance of commercial banks in Nigeria. Using the ratio of loan and advances to total deposit, the result reveals that there is a significant relationship between bank performances in terms of profitability and credit risk management which is loan performance.

Similarly, Olusanmi, Uwuigbe and Uwuigbe (2015) investigated the effect of risk management on Banks financial performance in Nigeria. The study employed Ordinary Least Square (OLS) regression technique to test the formulated hypothesis. Their findings showed the existence of a negative non significant relationship between risk management and bank's performance measured by return on equity.

In the same vein, Kolapo, Ayeni and Oke (2012) examined credit risk and commercial banks' performance in Nigeria using panel model analysis. The result showed that the effect of credit risk on bank performance is cross-sectional invariant. That is the effect is similar across banks in Nigeria. Though the degree to which individual banks are affected was not captured by the method of analysis utilized.

Furthermore, Tijani and Mathias (2013) also investigated corporate use of derivatives and financial risk management in Nigeria with evidence from non financial firms. The study employed multivariate analysis and logistic regression tests on SPSS version 18. Their findings revealed very low usage of derivatives. And this was traced to lack of knowledge on the use of derivatives and the underdeveloped nature of our financial market.

In yet another study, Adeusi, Akeke, Adebisi, and Oladunjoye (2013), examined risk management and financial performance of banks in Nigeria. Adopting a panel data estimation technique, their findings revealed an inverse relationship between financial performances of banks and doubtful loans, and capital asset ratio was found to be positive and significant. This finding implies that the higher the managed funds by banks the higher the performance.

Bali, Hume, & Martell (2004) in their study of derivatives and interest rate risk, demonstrate that there is no significant effect of credit derivatives on interest rate exposure. Furthermore, Hentschel and Kothari (2001) in their study conclude that when compared to non-users; users of derivatives are less prone to risk.

In another study by Chaudhry (2000) as well as Reichert and Shyu (2003) examined the effect of derivative instruments on bank risk in industrial countries. Their findings reveal that the use of options tends to increase all types of bank risk for all US banks. However, Swaps have a negative effect on bank risk, while the effect of forwards on bank risk is not significant. Similarly, Reichert and Shyu (2003) find that the use of options increases the interest rate beta for all US, European and Japanese banks, while both interest rate and currency swaps generally reduce risk. Focusing only on credit derivatives, Instefjord (2005) noted that credit derivatives increase bank risk in England.

In another study, Shanker (1996) investigates the effect of the use of derivative instruments on different types of bank risk. The result reveals that the use of swaps, future, and options reduce interest-rate risk. Choi and Elyasiani (1996) find that options are positively related to both interest-rate and currency risk, while currency swaps reduce exchange rate risk. Finally, and similarly to the study by Yong *et al.* (2009), Hirtle (1996) finds that the use of interest-rate derivatives increases the interest-rate exposure of Bank Holding Companies (BHC).

Finally, Puranandam (2006) in his empirical investigation of 8000 (eight thousand) banks on the use of interest rate derivatives, it suggest that potential benefit of derivatives usage is its ability to allow an organization to maintain a smooth operating policies in the event of external shocks. He also observed that interest rate risk has a significant impact on the banking sector and provides a useful setting to test the theories of risk management.

METHODOLOGY

Sampling and Data

The judgmental sampling design was employed to select ten (10) deposit money banks from the Nigerian Stock Exchange (NSE) to carry out the empirical analysis. These deposit money banks are Guarantee Trust Bank Plc (GTB), United Bank for Africa (UBA) Plc, Unity Bank Plc, Fidelity Bank Plc, Sky Bank Plc, Sterling Bank, Eco Bank Plc, Zenith Bank Plc, Wema Bank Plc, and First City Monument Bank (FCMB). Five years, between 2010 and 2014 were used for the empirical analysis. Data were sourced from the annual reports and statement of accounts of the respective deposit money banks for five years each.

Method of Data Analysis

The study used descriptive statistics, correlation matrix, covariance matrix and ordinary least square (OLS) linear regression model with correction for first order autoregressive errors by using Cochrane Orcutt in testing the hypothesis of the study, and E-view 8.0 econometric statistical software package was used. The signs and significance of the regression coefficients was relied upon in examining the nature and influence of the independent and dependent variables as to determine both magnitude and direction of impact. Also, the study tested the hypothesis to enable us determine the effects of financial market derivatives on the performance of deposit money banks in Nigeria.

Model specification

The model for the study is based on the modification of Lenee and Oki (2016) who investigated financial derivatives and financial and non financial firms' performance in the UK. The model for this study is functionally specified below:

$$\text{Bank Performance (PAT)} = f(\text{DFL}, \text{DFA}, \text{TID}, \text{TA}) \text{-----} (1)$$

The econometric form of the model is specified thus:

$$\text{PAT} = b_0 + b_1 \text{DFL}_t + b_2 \text{DFA}_t + b_3 \text{TID}_t + b_4 \text{TA}_t + \text{Ut} \text{-----} (2)$$

Where:

PAT	=	Profit after Tax
DFL	=	Derivative Financial Liabilities.
DFA	=	Derivative Financial Assets.
TID	=	Trading Income on Derivatives
TA	=	Total Assets
Ut	=	Stochastic Error Term;
B ₀	=	Intercept for Estimation.

ANALYSIS AND FINDINGS

Descriptive Statistic

The descriptive statistics for the study is presented in table 1. The results of the descriptive statistics shows that the variables used in the study are normally distributed. This is shown by high values of Jarque-Bera statistics accompanied by very low probability values showing statistical significance at 1% level of significance. Amongst the variables, only ROA exhibit negative skewness while the other variables are positively skewed. Only ROA has a very low value for the standard deviation while the other variables have relatively high standard deviation values which implied deviation from the mean point.

Table 1: Descriptive Statistic for the Variables

	PAT	ROA	DFA	DFL	TA	TID
Mean	8229558.	0.015371	2.35E+10	3.44E+10	3.14E+08	2.32E+10
Median	47254.00	0.013814	1.55E+10	1.78E+10	6523960.	8.57E+09
Maximum	93431604	0.079936	2.67E+11	2.73E+11	2.13E+09	3.56E+11
Minimum	-22582339	-0.055948	4.000000	4.000000	443977.0	-2.56E+09
Std. Dev.	22894777	0.021314	4.18E+10	5.12E+10	5.23E+08	5.18E+10
Skewness	2.734709	-0.201442	4.658164	2.934640	2.024636	5.529863
Kurtosis	9.795790	5.513791	25.97399	12.57244	6.440911	35.84144
Jarque-Bera	158.5361	13.50304	1280.413	262.6667	58.82597	2501.829
Probability	0.000000	0.001169	0.000000	0.000000	0.000000	0.000000
Observations	50	50	50	50	50	50

Source: Author's Computation using E-View 8.0, 2018.

Presentation of the Correlation Matrix

Table 2: Correlation Matrix for Dependent Variable (Firm Performance)
& Independent Variables (DFA, DFL, TA, TID)

	PAT	ROA	DFA	DFL	TA	TID
PAT	1.000000					
ROA	0.573800	1.000000				
DFA	0.454489	0.218279	1.000000			
DFL	-0.083833	0.143733	0.198747	1.000000		
TA	0.890120	0.312175	0.339008	-0.155287	1.000000	
TID	-0.114211	-0.127165	0.027590	-0.031445	-0.174686	1.000000

Source: Authors' Computation Using E-View 8.0, 2018.

The results of the correlation matrix shows that there is strong positive relationship between the total assets, derivative financial assets and banks financial performance using profit after tax as a proxy for performance. The relationship between derivative financial liability and financial performance using profit after tax as a proxy is very weak and shows a negative relationship. This negative relationship implies that the more the derivative financial liabilities of the banks the less will be the performance of the indicator for financial performance of the banks. The trading income on derivative shows relatively weak relationship with the bank financial performance

with a correlation value of -0.114211 for PAT. This relationship is negative one, meaning a decrease in trading income for the banks. The relationships between the independent variables do not show evidence of autocorrelation which will allow us to reliance on the subsequent results from other regression analysis.

Table 3: Regression Results for the Effect of Financial Derivatives on Bank Performance with Correction for Cochrane Orcutt

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-3113606.	1421671.	-2.190103	0.0343
PAT(-1)	0.276261	0.098171	2.814077	0.0075
DFA	0.000168	3.94E-05	4.268940	0.0001
DFL	-9.13E-06	1.88E-05	-0.485696	0.6298
TA	0.011664	0.003948	2.954194	0.0052
TID	-1.32E-05	1.97E-05	-0.671988	0.5054
AR(1)	-0.210545	0.139656	-1.507605	0.1393
R-squared	0.825063	Mean dependent var		4843766.
Adjusted R-squared	0.799462	S.D. dependent var		15909968
S.E. of regression	7124711.	Akaike info criterion		34.53007
Sum squared resid	2.08E+15	Schwarz criterion		34.80296
Log likelihood	-821.7218	F-statistic		32.22833
Durbin-Watson stat	2.451724	Prob(F-statistic)		0.000000
Inverted AR Roots	-.21			

Source: Authors' Computation using E-View 8.0, 2018.

Empirical Validation of Hypothesis

From the result in table 3, the hypothesis that financial derivatives do not affect the financial performance of Deposit Money Banks (DMBs) in Nigeria is thus rejected and concludes that financial market derivatives do affect the performance of Deposit Money Banks in Nigeria. This conclusion is premised on the significance of the major variable of interest in the study (DFA) which is Derivative Financial Assets and is statistically significant at 1% level as revealed by the

respective p-value 0.0001. Also validated by this conclusion is the t-statistic which is equally significant with the value of 4.3 which is greater than 2.

DISCUSSION OF FINDINGS

The regression results in table 3 shows that PAT(-1), DFA, and TA are statistically significant at 1% level of statistical significance. This means that DFA as well as TA significantly influence the performance of deposit money banks in Nigeria. The other variables DFL and TID are not statistically significant at 1% level of significance. The model parameters performed very well. The model equation (3) shows that only DFL and TID are negatively related to the dependent variable (PAT) while the other variables are positively related.

The result also revealed that total asset is statistically significant in determining the variation of the dependent variable at 1% level of significance. Also significant at 5% level of significance is PAT(-1). The model parameter performed considerably well.

For the overall significant of the model, the F statistic is significant at 1% level of significance. The R-square shows that the systematic variation in the dependent variable is explained to the tune of 82.5% by the independent variables while the Adjusted R-squared of 79.94% shows the good fitness of the model.

The model specification shows that all the variables are positively signed except for TID that has a negative sign which shows an inverse relationship between the variable TID and PAT. Though in this regression estimation in table 4.3, there is no serial correlation but the study made adjustment for autoregressive of order one (1). The model equation with their respective values is restated below:

$$\text{PAT} = -3113605.56 + 0.2762614928*\text{PAT}(-1) + 0.0001680364307*\text{DFA} - 9.126729326\text{e-}06\text{DFL} + 0.01166365973*\text{TA} - 1.322110862\text{e-}05\text{TID} + [\text{AR}(1)=-0.2105453939] \text{----- (3)}$$

A cursory look at the findings of the study reveals that the objective of the study has been sufficiently achieved. This is going by the significance of the major variable of interest in the study. Thus, it can be adequately inferred that financial market derivatives do significantly impact deposit money banks in Nigeria. This finding is somewhat consistent with the Modern Portfolio Theory (MPT) which encourages asset diversification to hedge against market risk as well as risk that is unique to specific asset. The point of convergence between modern portfolio theory and the use of financial derivatives is that both are used to hedge against risk. While the thrust of the MPT is hedging against risk through diversification, deposit money banks use financial market derivatives to hedge against risk through “derivative principle” from a mother instrument.

CONCLUSIONS AND RECOMMENDATIONS

The major conclusions that can be drawn from this study is that banks use financial market derivatives to hedge against risk in order to enhance their returns and the general financial performance of the banks. This conclusion is consistent with previous studies such as Lenee and Oki (2016), who found that financial firms hedge more of interest rate risk while non financial firms hedge more of foreign exchange rate risk. In the light of the foregoing conclusions, the following recommendations were made:

1. Government should develop local derivative financial instruments that Nigerian banks can readily access to mitigate their risky position in the financial sector.
2. Deposit money banks in Nigeria should minimize their financial derivative liabilities holdings.
3. Financial regulators should organize conferences and symposia for deposit money banks in order to enhance their knowledge base on the effective use of financial market derivatives. This will engenders the banks' holdings of derivative assets to increase their total assets that will in the long run enhance the performance of Deposit Money Banks in Nigeria.

SCOPE FOR FURTHER RESEARCH

Following from the conclusion and recommendations above, it is observed that the study dwells mainly on the significant use of financial markets derivatives within the banking sector of the Nigerian economy. It is therefore suggested that further research in this area should be carried out on the significant use of financial market derivatives transcending the banking sector. In essence, the use of derivatives should be tested in other area aside the banking sector.

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