HEDGE ACCOUNTING AND FINANCIAL PERFORMANCE OF LISTED COMMERCIAL BANKS IN NIGERIA.

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Abstract

The study examined the effect of hedge accounting on the Financial performance of listed commercial banks in Nigeria. To achieve the objectives of the study ex-post facto research design was adopted. Secondary data was used through the use of annual reports and accounts of the selected commercial banks. The population of the study is made up of 14 listed commercial banks as at December 2022 while the sample size is 10 selected banks. Data was analyzed using panel data regression analysis. The finding revealed that (i) Hedge accounting (derivative asset and derivative liability) has no significant effect on the return on asset of listed commercial banks in Nigeria, (ii) Hedge accounting (derivative asset and derivative liability) has a significant effect on the return on equity of listed commercial banks in Nigeria. Based on the findings, the study recommends that banks should improve on accounting for hedging through derivative by fully adopting the prescription made by IFRS 7 and 9, this will give confidence to intending investors that the banks and in turn increase the return on asset of banks in Nigeria. Also, more funds should be committed to the use of derivatives for hedging against interest rate fluctuations that possibly affects the earnings of the banks.

Keywords: *Hedge accounting, Derivative asset, Derivative liability, Return on asset, Return on equity.*

1.0 INTRODUCTION

Risk management is an important component of financial management of organizations especially those involved in international trade because of their exposure to foreign currency price fluctuations. This follows high volatility in the foreign exchange market thereby creating uncertainty. The inherent forex risks lead to adverse exchange rates fluctuations that may result into organizational losses where foreign currencies are involved. Barney (2001)opines that forex risks are risks that are attributed to unexpected exchange rates changes and overall foreign exchange exposure. Companies are exposed to this risk if their project results actually depend on future exchange rates especially where future exchange rate changes are difficult to anticipate. Forex risk management entails adopting assessment programs that are meant to readily identify as well as quantify forex risks so as to counteract and mitigate the identified forex risks hence salvaging economic value of firms (Giddy, 2010).

Financial risk management has therefore become one of the most important business strategies of firms. Firms that do not adapt financial risk management strategies are likely to witness poor growth patterns compared to those that adapt financial risk management strategies. There exist several financial risk management strategies that may be used to reduce the financial risks such as portfolio diversification for diversifiable risks and hedging practices for non-diversifiable risks. (Sharpe, Alexander & Bailey 2013)

The operating environment for businesses has become very volatile following increased globalization and internationalization of firms. Together with this, the business environment in Nigeria has witnessed high variation in the foreign exchange rate over the recent past as the NigeriaNaira depreciates against the widely used United States Dollar. Since majority of the firms either source their inputs or sale their output internationally, they have been affected by the fluctuation in exchange rates calling on them to implement necessary measures to manage the foreign exchange risk. Therefore, the need for entities or investors to consider hedging activities arises in order to minimize the damage caused by the risks for the entities and investors. Firms employ the use of derivative financial instruments to hedge exposure to various risks. In the corporate world, the economic environments that business organizations operate in have over time grown more complex (Mbungu, 2013).

Hedging has conventionally been defined as a tactic for reducing the risk in upholding a market position while speculation refers to taking a position in the way the markets would shift. Nowadays, hedging and speculation strategies, together with derivatives, are versatile tools or methods that enable companies to administer risk more efficiently. A range of hedging techniques is accessible for managing currency risk. These methods may be classified under two clusters: internal techniques are those that are meant at reducing or averting an exposed position from occurring and external techniques are usually contractual measures expected to minimize exchange losses that may arise from an existing exposure (Giddy &Dufey, 2012).

Among risk mitigating strategy that is commonly used by firms is hedging. Hedging reduces the risk of future price movements which might affect a firm adversely if not well managed (Horne &Wachowicz, 2012). Hedging is done by a firm or individual to protect against a price change that would otherwise negatively affect profits (Brigham &Ehrhardt, 2014). It provides relatively inexpensive and highly liquid positions similar to those obtained with diversified stock portfolios (Sharpe, Alexander & Bailey, 2013). To hedge a firm can use a wide range of financial instruments, including forward agreements,futures contracts, options or swaps, to achieve their hedging goals. Bartram, Brown & Conrad (2011) on a survey of firms from 47 countries found out that the use of these instruments reduced firm's total risk and is moreexperienced in firms with higher exposures to interest rate risks, exchange rate risks and commodity prices risks.In United States, 83% of hedging firms use forward agreements, futures contracts, options or swapsto hedge foreign exchange risk, 76% use them to hedge interest rate risk and 56% use them to hedge commodity price risk(Bodnar& Wong, 2000). It follows therefore that forward agreements, futures contracts, options and swaps are commonly used in hedging interest rate risks, foreign exchange risks, and commodity price risks.

The choice of exchange risk hedging techniques can be influenced by a number of factors, namely; size, amount of research and development expenditure, exposure to exchange rates through foreign sales and foreign trade, liquidity of the firm, ownership structure among others (Allayanis&Ofek, 2001). Large companies are expected to have significant exposure to foreign exchange risk and it is believed that companies aggressively manage the risk (Bodnar& Wong, 2000). Smith, and Stulz (2005), found that larger firms that are dependent on export revenue have lower exposure to exchange rate risk.

Financial performance refers to the extent to which financial objectives of a firm are being met. Different methods, including stock market based and accounting based ones, are used to measure financial performance. Return on total assets (ROA) is the widely used accounting measure. It indicates the management's ability to convert assets into net earnings. The higher the ROA, the better the performance. There are other measures of financial performance which includes profit margin, return on equity, dividend per share and earnings per share among others (Li, Visaltanachoti, & Luo 2014).

Exchange rate fluctuations affect the value of firms differently from the share prices and return on investments by shareholders (Gutierrez, 2013). Movement in general exchange rate affects the

reporting of financial statements for firms operating in multiple markets as they convert one currency transactions into another for the purpose of financial statement preparation. However, in order to minimize the effect of general changes in foreign currency prices, companies cushion themselves through adoption of several mechanisms. These actions are aimed at minimizing the exposure thus improving the overall financial returns on investment. Hence the need to study the effect of hedge accounting on financial performance of listed commercial banks becomes necessary. However, the main objective of the study is to examine the effect of hedge accounting on the financial performance of listed commercial banks in Nigeria. Other specific objectives include:

(i) To examine the effect of hedge accounting (derivative asset and derivative liability) on the return on asset of listed commercial banks in Nigeria.

(ii) To determine the effect of hedge accounting (derivative asset and derivative liability) on the return on equity of listed commercial banks in Nigeria.

2.0 LITERATURE REVIEW

2.1 CONCEPTUAL FRAMEWORK

Concept of hedging

The origin of Hedge naming is due to conservatism concept. This is what the accounting practice established, i.e. precaution for future by considering all expected losses and not to record potential realizations until they are actually realized (Dohring, 2008). Hedging is synonymous with the term protection, which is the means by which the business enterprise can manage the financial risks to overcome systemic risks, market risk and mitigate their future impacts to the lowest level (Boot, 2014). Hedge accounting is a means of managing risks that uses one financial derivative or more of hedging instruments to avoid changes in fair value or cash flows of an asset, financial commitment or future operations (Giddy, &Dufey, 2012). Other definition of hedging accounting: it is an instrument of risk management uses a financial instrument to hedge against risks associated with some assets, liabilities or other financial operations.

Therefore, we must distinguish between hedging instruments and hedged item, as they are substantial elements of hedging accounting.

Hedging instrument: It is a financial derivative, financial asset or certain obligation to change derivative on hedging against exchange rate risks.

Hedged Item: it is either an asset or fixed and netobligation for investment in a foreign transaction that may expose the enterprise to changes risks in the fair value of future cash flows associated.

The researchers believe that in order to achieve matching principle, the hedging instrument is linked to the hedged item, so as the changes in the fair value or cash flows in the hedging instrument will be recognized in the same period of recognition the changes in the hedged item.

The objective of hedge accounting is to represent the effect of an entity's risk management activities that use financial instruments to manage exposures arising from particular risks that could affect profit or loss or other comprehensive income (OCI). According to Boot(2014) hedge accounting creates means through which businesses can manage financial risk to overcome the risks faced by mitigation. Hedge accounting is a technique that changes the normal basis for recognising gains and losses on associated hedging instruments and hedged items, so that both are recognised in P & L Account in the same accounting period to avoid mismatch in the timing of gain and loss recognition. It seeks to correct mismatch (created by the timing of gain and loss recognition) by changing the timing of recognition of gains and losses on either the hedged item or the hedging instrument.

As noted by Giddy, andDufey, (2012) hedge accounting is a special accounting treatment that enables a company to dampen earnings volatility resulting from mark-to-market accounting. Current and potential shareholders may shy away from investments with volatile earnings, which in turn

negatively impacts share prices and the cost of capital. Consequently, approximately 40% of all energy companies elect hedge accounting. The origins of the use of hedge accounting occurred when businesses dealing in financial derivatives found that financial derivatives and non-financial instruments were an alternative means of managing financial risk and achieving a desirable position in relation to risk (Gutierrez, 2013).

Benefits of hedge accounting

According to Judge(2016), hedging has several benefits to the hedging firm. The author explains that hedging reduces the expected corporate tax liability for a firm with a convex corporate tax schedule; it lowers the probability of the firm encountering financial distress which in turn lowers the expected costs of financial distress; reduces the risk imposed on the firm's managers, employees, suppliers, and customers; can control the conflict of interest between bondholders and shareholders, thus reducing the agency costs of debt; and hedging facilitates the financing of investment projects using internal funds and so decreases the reliance on costly external financing.

Several studies have analyzed the impact of the use of exchange rate hedging on firm value. Allayannis& Weston (2001) confirmed the existence of a positive and significant relation between the use of currency derivatives and firm value for a sample of American firms. The authors found a nearly 4.87% hedging premium. A study by Carter, Rogers, Simkins(2006), on effect of commodity price hedging by American airline companies showed that hedging with relation to oil prices in the airlines industry is positively related to firm value and the hedging premium reaches over 5%. The authors showed evidence that the greatest benefit of hedging in this sector would be the reduction in underinvestment costs because the fuel price is highly correlated to the investment opportunities in the sector. The study also showed that firms can survive from following appropriate hedging strategies where the "intensity" of hedging is positively associated with the firm value.Omagwa, (2005) investigated challenges facing the use of financial derivatives in hedging interest rate risk by commercial banks in Nigeria.

Brodsky (2010) noted that participants in the stock market utilized stock futures and options in respect to their portfolio strategies. The researcher however found out that future stock market compared to that of other financial derivatives such as interest rate also, stock index futures and options led to positive growth and liquidity of underlying stock market. Though the study focused on two financial derivatives, it does show a relationship between equity hedging practisesand firm performance. Pwc(2012) in their survey found out equity prices was one of the most areas that managers considered to be part of market risk. Gutierrez (2013) in his study identifies that the central bank plays an intervening role in the economy of a country due to its autonomy i.e. political and economic independence. The researcher points out that the political independence of the central bank enables it to resist governmental pressures which would otherwise increase fiscal effects such as the "burden of debt" or even economic slowdown because of lower tax receipts. The economic independence of central bank enables it foresee reduction of deficits arising from supply and demand of money in a country by forcing the government to reduce the deficit without necessarily printing more money, which may have an endogenous effect on the country's economy.

Goselin(2017), found no statistical evidence of relationship betweencentral bank performance and the degree of financialmarket development. However, in line with Krauseand Rioja (2006), found similarity in the sense that the strengthof the private banking sector was positively correlatedwith meeting targets more consistently, since thesoundness and financial strength of private banks areboth negatively correlated with inflation deviations. Reviewed studies have also shown mixed association between hedging and firm performance. For instance,Allayannis& Weston (2001) and Carter *et al*., (2006) shows that hedging have a positive effect on firm's performance. On the other handFauver&

Naranjo (2010); Dhanani *et al*., (2007); Bodnar& Wong(2003) show that hedging does not necessarily have a positive association with performance but depends on a country, industry and corporate governance of the company.

Hedging techniques

There are three types of foreign exchange risk: transaction, economic and translation exposure. Transaction exposure arises when a firm has contractual cash flows that are fixed in a foreign currency (Shapiro, 2013). If a firm has a receivable or a payable denominated in foreign currency, a change in the value of the foreign currency will increase or reduce the expected future cash flows. If the firm does not address this uncertainty, then the firm's value will be affected. Transaction exposure can be reduced by applying financial and operational hedging strategies. Economic exposure refers to the impact of exchange rate movements on the present value of expected future cash flows (Döhring, 2008). It is concerned with the effect of long-term movements in exchange rates on the firms' expected future cash flows and, in turn, their overall market values (Dhanani, 2013). Economic risk is sometimes considered to be an extension of transaction exchange risk in that it is related to cash flows that are yet to be received (Dhanani, 2013). Empirical studies carried out in the 1990s and earlier on economic exchange rate risk indicated that many firms often did little to manage economic risk. However, other studies showed that firms were actively managing economic exchange risk using operational hedging.
Translation exposure refers to the effect that an unanticipated change in exchange rates will have on the value of foreign subsidiaries' assets and liabilities dominated in foreign currency when these values are being translated into home currency on the consolidated financial statements of a firm (Shapiro 2013). The process of translation, coupled with movements in exchange rates, may give rise to translation gains or losses in the financial statements when firms try to balance the statements. These gains and losses are commonly termed as translation risk (Dhanani, 2013). Translation exposure can be controlled through a balance sheet hedge and derivatives hedge. The focus of this study was on transaction and economic risks because majority of Nigerian firms have few international subsidiaries, hence translation risk is rare.

Foreign exchange hedging techniques are measures undertaken by a firm to manage or deal with the exchange risk. There two ways of classifying foreign exchange risk hedging techniques, according to hedging literature and according to financial statements classifications (Döhring, 2008). The hedging literature classifies the techniques into financial and operational. Financial hedging techniques involve the use of financial derivatives like forwards, futures, money market hedge, swaps, options and foreign currency debt (Shapiro 2013). The operational hedging techniques incudes measures like: diversification across countries; operational matching of revenues and expenditure; netting inter-firm cash flows; currency choice in invoicing; leads and lags. The financial statement classification, on the other hand, classifies the techniques into: derivative hedge and natural hedge. Derivative hedges include Forwards, Futures, Options and Swaps. The natural hedge includes foreign currency debt hedge and operational hedge. This study adopted the classification according to financial statement classifications, since most Nigerian firms engage in natural hedging.

Forward contract is an agreement between two parties for the delivery of an underlying asset for a specified delivery price at a specified future date. The underlying asset can be foreign currency or a commodity. Forward contracts are privately negotiated agreements between two parties and do not necessarily have standardized contract size and maturity (Liu, 2007). Futures contracts, on the other hand, are similar to forward contracts except that futures contracts are standardized and are traded in organized exchange. Futures contracts were initially designed for commodity trading, but as trading continued to evolve, the initial definition of commodity broadened to include exchange currencies (Liu, 2007). Currently, currency futures contracts are the most commonly used financial derivatives by international investors.

Concept of firm performance

Organization performance checks the efficiency of management in the utilization of resources entrusted to them by the shareholders in generating wealth within a given time period. It shows how well the resources owned by an organization have been used by the management in generating the shareholders' wealth. It is measured by ratios at different points in time to establish how well the resources of the firm have been applied in generating wealth. The ratios are classified into different categories to establish the efficiency on different frontiers. Different ratios have been applied depending on the purpose of the measurement.

Ratios indicate if the firm is utilizing the resources at its disposal in achieving the objective set by the owners of a business of making them wealthier. The ratios are used to standardize measurement so as to enable comparison across the industry, same firm over a period of years or other firms in other industries. The main objective of checking financial performance of an organization is to establish how well the resources of the organization have been utilized in generating profits and wealth for the owners.

Frequently used overall financial result measures include firm size, return on shareholders' investment in the organization concerned, return on overall assets controlled by the organization, profitability index and return on total turnover sales. Other measures include return on investment among others (Bilson & Hsieh. 2008).

Most firms exist to make profit hence the general deduction is that the ultimate goal of most firms is to increase shareholders wealth. Various measures are used to measure firm profitability: the usage of overall financial results ratio indicators; Return on cash invested by shareholders (ROE) and the Return on Asset (ROA) which are the two most common ratios used to assess firm profitability. The ROA shows the efficiency of management in terms of generating earnings as a result of engaged assets. It is arrived at by dividing the annual earnings made by the total owned assets by the firm; this ratio is displayed as a percentage. The ROE on the other hand measures the earnings that are received per each penny contributed by the shareholders. This measure is what shareholders look at in order to analyze the returns attributable to their investment (Bilson & Hsieh. 2008).

The relationship between hedging strategies and financial performance of firms

Exchange rate fluctuations affect the value of firms differently from the share prices and return on investments by shareholders. Movement in general exchange rate affects the reporting of financial statements for firms operating in multiple markets as they convert one currency transactions into another for the purpose of financial statement preparation. However, in order to minimize the effect of general changes in foreign currency prices, companies cushion themselves through adoption of several mechanisms. These actions are aimed at minimizing the exposure thus improving the overall financial returns on investment.

Rutagi, (2017), established that changes in the cost of different currencies directly affect the prevailing prices of commodities on the domestic market hence the overall firm profitability. It also affects the volume of goods transacted as it influences the purchasing power of consumers. Foreign exchange rate exposure affects the overall financial returns recorded by organizations. These risks arise whenever an organization has cash obligations and assets to be collected in future,Smith &Stulz, (2015).

2.2 THEORETICAL FRAMEWORK

Optimal hedging theory

Optimal Hedging Theory was propounded by Dufey in the year 1972.According to Dufey, company's risk management covers a wide spectrum of theories rather than a single accepted framework. Optimal hedging theories have been developed over time. Most of them focus on the ability of hedging to increase firm value, management incentives and what type of derivatives firms should use. Moreover, there is an important trade-off between the cost and gains of risk aversion. However, the optimal hedging theory works as a guideline rather than a model of estimations. This is because it fails to reveal companies' different risk profiles, which differ by business, products and people. Another strand of theory claims that hedging stems from the incentive of managers to maximize their personal utility functions. Risk-averse managers engage in hedging if their wealth and human capital are concentrated in the firm they manage and if they find the cost of hedging on their own account is higher than the cost of hedging at the firm level. In addition, hedging may serve as a signal that helps outside investors better observe managerial ability. On the whole, however, there is mixed support for value maximization theories.

2.3 EMPIRICAL REVIEW

There exists a fairly impressive corpus of studies done in different countries on the foreign currency risk management through hedging techniques.

Pierce (2020) examined determinants of hedge accounting use and the effects of hedge accounting on financial reporting and capital markets. Using European FAS 161 disclosures, he found variation in firms' hedge accounting use and provide evidence that compliance costs of applying hedge accounting affect firms' decision to use hedge accounting. Firms decrease their reported earnings volatility via derivatives that receive hedge accounting and could further decrease their earnings volatility if hedge accounting were applied to all their derivatives. Inconsistent with arguments given for using hedge accounting, the study fail to find a decrease in investors' assessments of firm risk from using hedge accounting.

Jerome & Hang (2020) presents a quantitative review of the empirical literature analyzing the firm value effects of corporate financial hedging. Using meta-regression analysis to accumulate a hand-collected data set of 1016 estimates for the hedging premium reported in 71 previous studies, they found that the reported firm value effects of hedging are systematically higher for foreign exchange hedgers as compared to interest rate and commodity price hedgers. Their results also suggest that hedging premiums increase significantly when a study also considers operational hedging strategies in addition to financial hedging.

González, Santomil& Herrera (2020) evaluates the effect of enterprise risk management (ERM) on the performance and the financial stability of a sample of non-financial Spanish listed companies. The information about ERM is taken from the annual reports, management reports and annual corporate governance reports disseminated over four years (2012−2015). The data on performance and financial stability have been obtained through the SABI (Iberian Balance Sheet Analysis System) and Morningstar Direct. The results obtained show that the adoption of ERM is not associated with a change in the performance of Spanish companies (measured through the return on equity, return on assets and Tobin's Q) nor does it reduce the probability of bankruptcy. Having a chief risk officer (CRO) can actually reduce performance, although it can improve the degree of financial health measured as the distance to default. Regarding the relationship between the hedging of risks on the

profitability and the level of risk, we find evidence of improvement through the hedging of exchange risk.

Phana, Dang, Nguyena, Ngo & Hoang (2020) consider 77 Vietnam industry listed enterprises from 2012 to 2018 as research samples to establish indicators for evaluating the relationship between enterprise risk management (ERM) and firm value among industry enterprises in Vietnam. Using simple regression, their results show that the implementation of ERM in the previous year has strong positive relationship with firm value. These findings support the recent pressure on businesses to adopt more comprehensive risk management systems like the use of derivatives.

Nwaorgu, Ezenwanka & Okpalukeje (2019) explores the relationship between accounting derivatives and its value to the information provided in companies financial statements among listed banks in Nigeria. They employed a panel data set spanning through the period of 2012 and 2016. Using ordinary least square regression technique they found that derivative assets have no significant relationship with value relevance among listed commercial banks in Nigeria. Further investigation reveals that the variable of earnings per share and book value per share significantly enhances value relevance of quoted banks in Nigeria but book value per share was observed to be insignificantly related to value relevance.

Ekadjaja & Ekadjaja (2019) seek to examine the relationship between variables (derivatives) that can increase company value. Using a population of all companies listed in the Sharia Stock Index on the Indonesia Stock Exchange in 2014-2016. Multiple linear regression analysis is used to test the hypothesis. The result of the test showed that the Return on Asset and firm size variables have a significant positive effect on the firm value of derivative users. While capital expenditure and dividend yield showed that there is no significant effect on firm value and the leverage variable showed a significant negative effect on firm value.

Chua, Phua&Lok (2018) examined the effect of financial derivatives, director remuneration and board independence on earnings volatility. By using the top 100 non-financial listed companies in Malaysia, multiple regression analysis was conducted on the research model. The results exhibit that 54% of the top 100 Malaysian listed companies use derivatives. While, out of the top 100 listed companies, around 46 companies or 46% of firms are not using derivatives instrument. This shows that the usage of derivatives in Malaysia is not very common. In addition, the results show that the usage of derivatives is negatively related to earnings volatility while the directors' remuneration and board independence have no significant relationship with earnings volatility. The findings provide empirical evidence that the usage of derivatives can mitigate earnings volatility.

Hassan, Michael & Mena (2018) explored International Accounting Standards IFRS 7 to investigate the usage and motivation of hedging by non-financial Australian firms. They examined the usage of derivative instruments in relation to features such as firm size, the firm's return on equity, leverage, and growth characteristics using a panel data logistic regression model. The results of our panel data logistic regression indicate that the use of hedging instruments in Australia is influenced positively by the firm's gearing ratio and negatively by its propensity to growth.

Affaf, Sajid, Hamera&Aamer (2018) examined the determinant of hedging; the role of ownership concentration in risk management using derivative instruments by using a sample data of 101 non-financial firms listed on the Pakistan Stock Exchange (PSX) for six years, ranging from 2010–2016. The Mann-Whitney test for difference in users and no-users is applied along with logistic regression to check the effect of ownership concentration on derivative usage. The finding of the study reveals that concentrated owners are less likely to use derivatives for hedging purposes due to concentrated owners' interests (top five shareholders & largest shareholder, family owners). Whereas executives are more likely to engage in the use of derivatives to increase the value of their stocks. However, associated companies are significantly less involved in hedging activities. These results are

extremely advantageous for policymakers in corporations to create a more stable corporate environment.

Carter, Rogers &Simkins (2016) investigated jet fuel hedging behavior of firms in the US airline industry during 1992-2003 to establish whether such hedging increases the value of these firms. Using Tobin's Q as proxy for firm value, they found that jet fuel hedging is positively related to airline firm's value. The study revealed that the greatest benefit of hedging in this industry was the reduction in underinvestment costs since the fuel price is highly correlated to the investment opportunities in the sector.

Parlak&İlhan (2016) investigated the effect of foreign exchange open positions of manufacturing and service sector companies on financial performance in Turkey. The study used a sample of 30 firms for the period between third quarters of 2012 to the second quarter of 2015. Using the ANOVA test, the study revealed that companies with short foreign exchange positions were able to increase their overall profitability to a level comparable with companies with long foreign exchange positions when the local currency was overvalued, but these firms were exposed to serious losses when the local currency was devalued. Further, using regression analysis, the study indicated that companies with short foreign exchange position in the present period had higher liquidity, asset efficiency and lower overall profitability than companies with long foreign exchange position in the previous period.

Gleason, Kim &Mathur (2015) evaluated the relationship of the operational and financial hedging strategies of U.S. high technology firms. Using a sample of 216 firms and regression analysis, the study found that firms that use derivatives are large and spend more on research and development than non-derivative users. Further, the study found evidence that financial hedging and operational hedging are complementary and that financial hedging add value to the firm while operational hedging does not.

3.0 METHODOLOGY

Research Design

The study adopted *ex-post facto*research design. This design wasadopted because the researcher has no control over the exogenous variable and whatever happens occurred before the research.

Population refers to the total number of element under investigation. For this study, the population constitutes of the fourteen (14) deposit money banks that are listed on Nigerian Stock Exchange (NSE) market as at march 2020.

The sample size of the study is determined using a judgmental sampling technique. A judgmental/purposive sampling technique involves using certain predetermined criteria in selected a number of samples from the population to be examined during a course of research. Thus, the sample size of this study is based on the following criteria;

i. The deposit money banks used must be listed on the Nigerian stock exchange market as at the period of the investigation and must also be operational during the relevant period (2013-2022).

ii. Each listed deposit money bank must also have complete published financial statement covering the period under investigation (2013 to 2022).

iii. Each listed deposit money bank used must also have complete data covering derivative asset and liability reported in line with IFRS 9 for the period under investigation (2013 to 2022).

iv. Each listed deposit money bank used must report its financial statement using the Nigerian Naira as its reporting currency.

After considering the above criteria, the following 10 banks are selected for the study; Access bank PLC, First bank PLC, FCMB PLC, Fidelity bank PLC, Guarantee Trust Bank PLC, Sterling bank PLC, Stanbic IBTC bank PLC, United Bank for Africa, Union Bank and Zenith bank PLC.

Data for this study is obtained from secondary sources.

Data on Derivative asset, Derivative liability, return on asset, return on equity,Earnings per share and Profit after Tax were all collected from 2013-2023. These data were obtained through the annual reports of the sampled banks. The study also gathered useful secondary data through internet as well as the use of publications and reports of their financial statement through the website of the Nigerian Stock Exchange Market.

Multiple panel regression technique using ordinary least square regression (OLS) are carried out to test for the effect of derivative asset and liability on the value of listed deposit money banks in Nigeria.

Using simple regression analysis, the model was modified as follows

$ROA_{it} = \beta_0 + \beta_1 DA_{it} + \beta_1 DL_{it} + u_{it}$.....(i)

$ROE_{it} = \beta_0 + \beta_1 DA_{it} + \beta_1 DL_{it} + u_{it}$.....(ii)

Where

ROA = return on asset

ROE= return on equity

DA = derivative asset

DL = derivative liability

$\beta_{0=}$ constant slope to be estimated

$\beta_1 - \beta_4$ = interceptto be estimated

U = error term

4.0 RESULTS AND DISCUSSIONS

The data extracted were estimated based on the regression analysis to determine the effect of the variables. Return on asset (ROA), and return on equity (ROE) were used as the dependent variables while derivative asset (DA), and derivative liability (DL) were used as the independent variable. The adjusted R square which is the coefficient of determination and the F statistic was used to ascertain the significance of the overall model. Specifically, the probability of the F-statistic test was used to test the hypotheses of the study to determine the relationship between the variables. The data for the various variables are shown in the appendix 2.

DATA ANALYSIS

Data analysis for objective one

Table 1

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 12/14/21 Time: 06:29
Sample: 2013 2022
Periods included: 10
Cross-sections included: 10
Total panel (balanced) observations: 100
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.167086	1.166855	1.000198	0.3197
LOGDA	-0.529891	0.278388	-1.903427	0.0599
LOGDL	0.452324	0.288635	1.567115	0.1203

Effects Specification	S.D.	Rho
Cross-section random	0.369508	0.0212
Idiosyncratic random	2.513712	0.9788

Weighted Statistics			
R-squared	0.036430	Mean dependent var	0.433704
Adjusted R-squared	0.016563	S.D. dependent var	2.534732
S.E. of regression	2.513653	Sum squared resid	612.8898
F-statistic	1.833662	Durbin-Watson stat	1.870419
Prob(F-statistic)	0.165324		

Unweighted Statistics			
R-squared	0.040465	Mean dependent var	0.478272
Sum squared resid	624.7401	Durbin-Watson stat	1.834940

The panel data results shows the effect of hedge accounting on return on asset of listed firms in Nigeria. The coefficient of determination R-square of 0.0364 implied that 3.6% of the sample variation in the dependent variable financial performance (ROA) is explained or caused by the explanatory variables hedge accounting (DA and DL) while 96.4% is unexplained. This remaining 96.4% could be caused by other factors or variables not built into the model. The value of R-square is an indication of positive relationship between the dependent variable (ROA) and independent variables (DA and DL). The F-statistic was also used to test the overall significant of the model. The F-value of 1.833662 with p-value of 0.165324 is an indication that the model is statistically insignificant at 5 percent level of significant. Finally, the test of autocorrelation using Durbin-watson shows that the Durbin-watson value of 1.870419 falls outside the conclusive region of Durbin-watson partition curve. Hence, we can clearly say that there is no sign of autocorrelation.

Data analysis for objective two

Table 2

Dependent Variable: ROE
Method: Panel Least Squares
Date: 12/14/21 Time: 06:32
Sample: 2013 2022
Periods included: 10
Cross-sections included: 10
Total panel (balanced) observations: 100

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.235330	0.082667	2.846718	0.0055
LOGDA	-0.009530	0.021118	-0.451282	0.6529
LOGDL	-0.007476	0.023770	-0.314519	0.7539

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.246821	Mean dependent var	0.138751
Adjusted R-squared	0.152674	S.D. dependent var	0.174310
S.E. of regression	0.160453	Akaike info criterion	-0.709461
Sum squared resid	2.265583	Schwarz criterion	-0.396840
Log likelihood	47.47304	Hannan-Quinn criter.	-0.582938
F-statistic	2.621647	Durbin-Watson stat	1.090548
Prob(F-statistic)	0.006113		

The panel data results showed the effect of hedge accounting on return on equity of listed firms in Nigeria. The coefficient of determination R-square of 0.247 implied that 24.7% of the sample variation in the dependent variable financial performance (ROE) is explained or caused by the explanatory variables hedge accounting (DA and DL) while 75.3% is unexplained. This remaining 75.3% could be caused by other factors or variables not built into the model. The value of R-square is an indication of positive relationship between the dependent variable (ROE) and independent variables (DA and DL). The F-statistic was also used to test the overall significant of the model. The F-value of 2.621647 with p-value of 0.006113 is an indication that the model is statistically significant at 5 percent level of significant. Finally, the test of autocorrelation using Durbin-watson shows that the Durbin-watson value of 1.090548 falls outside the conclusive region of Durbin-watson partition curve. Hence, we can clearly say that there is no sign of autocorrelation.

Discussion of Results

Result in hypothesis one revealed that hedge accounting (derivative asset and derivative liability) has no significant effect on the return on asset of listed commercial banks in Nigeria**.** The decision is based on the fact that the P-value is greater than 0.05. This result is in line with the findings of Chua, Phua and Lok (2018) who examined the effect of financial derivatives, director remuneration and board independence on earnings volatility in Malaysia by using the top 100 non-financial listed companies in Malaysia. The employed the use of multiple regression analysis. Their results exhibit that 54% of the top 100 Malaysian listed companies use derivatives. While, out of the top 100 listed companies, around 46 companies or 46% of firms are not using derivatives instrument. This shows that the usage of derivatives in Malaysia is not very common. In addition, the results show that the usage of derivatives is negatively related to earnings volatility. On the other hand, the study contradicts the findings is contrary to the findings of Nova, Antonio, and Brandão (2015) which examined the impacts of risk hedging strategies with financial derivatives on firm's market value, their findings revealed that there exists a positive and significantly relationship between asset structure and financial performance.

Result in hypothesis two revealed that Hedge accounting (derivative asset and derivative liability) has significant effect on the return on equity of listed commercial banks in Nigeria. The decision is based on the fact that the P-value is greater than 0.05. The finding is consistent to the findings of Chege (2016), who examined the relationship between hedging strategies and financial

performance of nonfinancial firms listed at the Nairobi Securities Exchange. His findings revealed that strong positive correlation exists between financial performance (ROA) and the application of lead and lag hedging strategy among non-financial listed firms at the NSE.

Result in hypothesis three revealed that Hedge accounting (derivative asset and derivative liability) has no significant effect on earnings per share of listed commercial banks in Nigeria. The findings is consistent to the findings of Altuntas, Liebenberg, Watson, and Yildiz (2017) who explored the relation between hedging, cash flows, and firm value. Specifically, the study assessed the impact of derivatives hedging on firm value both directly and indirectly through its effect on cash flow volatility. Their study found that both derivatives hedging and cash flow volatility are negatively related to firm value. In contrary to the findings of Nova, Antonio, and Brandão (2015) revealed that there exists a positive and significantly relationship between asset structure and financial performance.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion

The study conducted on the effect of hedge accounting on the financial performance of listed commercial banks in Nigeria. The study was carried out using secondary data. Derivative asset and derivative liability were used to measure hedge accounting while return on asset, return on equity, earnings per share and profit after taxwere used to measure financial performance. It was deduced from the empirical studies that majority of work used only return on asset and return on equity as measure for financial performance without considering other variables like earnings per share and profit after tax. The complete variables are used in this study. Data were collected from the selected listed commercial banks in Nigeria. Data collected were analyzed using panel data based multiple regression analysis after testing some pre estimation test. The result of the analysis revealed that while hedge accounting has no significant effect on return on asset, return on equity and earnings per share but have an effect on profit after tax.

Recommendations

In line with this study's findings, the following recommendations become imperative:

i. Also, the information disclosure about the use of derivatives by the listed banks is not enough to attract investors, since investors in the banking sector are often skeptical about the volatility of bank investment due to interest rate and foreign exchange fluctuation. If the banks improve on accounting for hedging through derivative by fully adopting the prescription made by IFRS 7 and 9, this will give confidence to intending investors that the banks and in turn increase the return on asset of banks in Nigeria.

ii. The return on equity of commercial banks have shown positive effect due fluctuation in exchange market. However, it is recommended that commercial banks should fully adopt the prescription made by IFRS 7 and 9. This will help in reducing the lost attributable to foreign exchange risk and fluctuation thereby increasing the return on equity of commercial banks in Nigeria.

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