

ABSTRACTS OF MY PUBLICATIONS

1. Foreign exchange derivatives in emerging economies: Evidence from Nigerian financial services industry.

Abstract

Developments in recent years have evidenced remarkable use of financial derivatives. However, this trend has not been attained by most developing economies. Consequently, the emanating questions are to what extent is the development of financial derivatives market in these countries? and; what factors influence the use of the instruments as risk management tools? To provide answers to these questions, this study has chosen companies quoted on the Nigerian Stock Exchange (NSE) as a reference point. To ensure objectivity, a structured approach directed towards key finance executives of the underlying companies. Input were sought in order to provide clarity to the most significant variables determining the development of derivatives market in Nigeria. Results showed using multivariate analysis and logistics regression that the use of derivative instruments in Nigerian financial services is significantly low and relevant factors affecting its development are notion of risk and financial benefits. The conclusion of the study advocated that regulatory authorities should provide appropriate framework to promote use of derivatives. Market agents should also engage in appropriate pattern of behaviour to support use of derivatives. It also provides suggestions for future research on derivatives as most adequate mechanisms for market development purposes.

2. Computer-Based accounting systems in Small and Medium Enterprises: Empirical evidence from a randomized trial in Nigeria.

Abstract

The advent of IT has offered significant improvement to the way financial transactions in business are processed by professional accountants. Hence, in most parts of developed countries, it is almost impossible to function as an accountant without requisite IT skills. However, the pattern seem not attain similar forte in SMEs especially in developing economies. Consequently, this study would provide answer to the degree of computer-based accounting systems adoption by SMEs in Nigeria. We have conducted an empirical investigation through a structured survey focused on finance and accounts executives of the enterprises that holds primarily responsibility for business transactions processing. This information was sought in order to expound on the extent of CBAS adoption by Nigerian SMEs. Respondents were obtained from manufacturing, agriculture, construction and mining, hotel and hospitality, IT services, medical services, wholesale and retail trade, and general services industries. Through a combination of cross tabulation and logistics regression analysis, our findings showed that the use of CBAS by Nigerian SMEs is highly significant as all companies operating in all industries surveyed uses one type of accounting software or another. This outcome suggests that professional accountants must endeavour to continually horn their skills for continued relevance in the profession.



J.A.M.R

Journal of African Macroeconomic Review Vol.3, No. 1 (2013)

ISSN 2220- 945X

JOURNAL OF AFRICAN
MACROECONOMIC
REVIEW

Foreign Exchange Derivatives in Emerging Economies: Evidence from Nigerian Financial Services Industry

TIJANI Oladipupo Muhrtala*

AJAPE Kayode Mohammed†

*[Corresponding Author], [Department of Accounting & Finance, Elizade University, Ilara-Mokin, Ondo-State, Nigeria], [P.M.B 002, Akure, Ondo-State], [oladipupotijani@gmail.com], [0803-8545945]

† [Department of Accounting, University of Lagos, Akoka-Yaba, Lagos, P.M.B. 1014], [ajape36@yahoo.com], [0806-5095598]

Foreign Exchange Derivatives in Emerging Economies: Evidence from Nigerian Financial Services Industry

Tijani Oladipupo M. and Ajape Kayode M.

Abstract

Developments in recent years have evidenced remarkable use of financial derivatives. However, this trend has not been attained by most developing economies. Consequently, the emanating questions are to what extent is the development of financial derivatives market in these countries? and; what factors influence the use of the instruments as risk management tools? To provide answers to these questions, this study has chosen companies quoted on the Nigerian Stock Exchange (NSE) as a reference point. To ensure objectivity, a structured approach directed towards key finance executives of the underlying companies. Input were sought in order to provide clarity to the most significant variables determining the development of derivatives market in Nigeria. Results showed using multivariate analysis and logistics regression that the use of derivative instruments in Nigerian financial services is significantly low and relevant factors affecting its development are notion of risk and financial benefits. The conclusion of the study advocated that regulatory authorities should provide appropriate framework to promote use of derivatives. Market agents should also engage in appropriate pattern of behaviour to support use of derivatives. It also provides suggestions for future research on derivatives as most adequate mechanisms for market development purposes.

Keywords: Financial Derivatives, Risk Management, Developing Economies, Regulatory Authorities.

JEL Classification Codes: G20; G21; G22; G24.

1. Introduction

Risk is an implicit characteristic of all financial realms. The wave of globalization and liberalization has engendered manifold increase in volume of trans-border trade and business. The result of this is the exposure of financial markets to volatility in interest, exchange rates, stock market prices and ultimately financial assets thus exposing the corporate world to unstable and growing financial risks. These growing risks often cause losses to otherwise profitable organizations which do not possess adequate risk management strategies. Hence, over the year's institutions across the world has had the importance of risk management underscored and often inculcate hedging against uncertainties in business (Vashishtha & Kumar, 2010).

Derivatives provide effective solution to the problem of financial risk in business often caused by uncertainties and volatilities in assets value. In chemistry, derivatives are ascribed to mean substance related structurally to another substance and theoretically derivable from it, or a substance which can be made from another. This same principle applies finance. Derivatives in finance are used to mean financial instruments whose promised pay-offs are derivable from the value of something else, generally referred to as the underlying. The underlying is often a financial asset or rate, but necessarily do not have to be (Stulz, 2004). They are risk management tools which enable organizations

transfer risks. They do not possess any independent value; their value depends intrinsically on those of underlying financial or non-financial assets.

The derivatives market which evolved well over the past 25 years has grown significantly at an annual average of 24 percent to achieve a sizeable and truly global market value in excess of \$1.2 quadrillion, a notional value about 20 times the size of the world economy. Research has shown that no other class of financial asset has witnessed such innovation. Product and technology innovation accompanied by competition has fuelled the impressive growth that has created many new jobs in most economies especially in developed markets. Today, European derivatives players account for over 20 percent of European wholesale financial services sector revenues and in addition, contribute more than 0.4 percent of aggregate European GDP.

In order to explore the derivatives market in Nigeria and how companies hedge their financial risks, the research focused on the adoption of currency and interest rate derivatives and other variables capable of influencing their development. It is aimed at determining the level of derivative instruments used by a representative sample comprised of companies listed under the financial services sector of the Nigerian Stock exchange (NSE), and based on this information, identify what factors encourage companies to make use of derivatives and what others are highly unlikely to encourage them in minimizing

their risk exposures. With this objective in mind, the study also afford information as regards the importance to risk factor granted by financial services industry, and their strategies in managing such risks.

This study is one of the few of results of some modifications to earlier studies in this regard carried out in developed economies including the renowned Wharton School survey, a study about derivatives usage by non-financial corporations in the United-States (Financial Institutions Center, 1998) and that conducted in Peru on derivatives usage by non-financial firms in emerging markets in 2009 (Martin, Wolfgang, Jose & Dayana, 2009). One of the impacts of this study is that it provides a pattern which allows for international comparison. Paramount to typical statistical and descriptive information, other analytical techniques have been adopted to find out those factors influencing the use of derivative instruments to hedge risks arising from volatility of macro-economic variables.

The inquiry elicit information from companies listed in the financial services sector of the Nigerian Stock exchange (NSE) in particular Banking subsector, Insurance, Carriers and Brokers, other financial institutions including Mortgage for the purpose of identifying factors relevant to the use of derivative instruments. The factors identified shall form the basis for strategic decisions towards improving the use of these instruments for economies in which it is being

used extensively and also encourage other environments where they are currently not in use.

2. Review of Previous Studies

Several studies have researched into the use of derivatives in both financial and non-financial services industries both in the developing as well as developed economies. Shiu et. al., (2009) examined the determinants of derivatives usage and its impact on bank risk using banks listed on the Taiwan Stock Exchange for derivatives information covering 1998 to 2005. Using specific bank characteristics variables that proxy for the motivations and effects of banks participation in the derivatives market and end-quarter transaction volumes, the study revealed that the use of derivatives by banks do not affect observable risks.

In a related study, Financial Institutions Center (1998) tracked the use of derivatives in off-balance sheet contracts and risk management by insurance companies in US. Evidence consistent with the use of derivatives by insurers to hedge risks posed by guaranteed investment contracts (GIC's), Collateralized Mortgage Obligations (CMO's), and other sources of financial risks were found using multivariate modelling.

Yakup and Asli (2010) carried out an empirical research employing both financial and non-financial companies on the ISE-100. Results revealed that these companies which constitute 86 percent of total market capitalization on the exchange use derivative

instruments primarily for hedging purposes. However, the evidence also indicated that most of these companies usually prefer to report their gains or losses arising from trading in derivatives as “held-for-trading” as applies to the provisions of IAS 39 and IFRS 9 rather than applying “hedge accounting” as also provided therein. The basis for this as evidenced in the study is the inability of their trading assets meeting with the requirements described under the standard.

While the applicability of derivatives has been found to be common in financial services industry, others support the likelihood that companies in the real sector also make good use of them. Martin et. Al. (2009) considered companies operating under the non-financial services sector in Peru. The study through a structured survey directed to the chief financial managers of companies classified amongst the top 1000 obtained applicable data in order to determine factors that influence development of financial derivatives in Peru. Findings revealed that the use of these instruments in Peru is significantly low and that the most influential factors affecting its development include the degree of training in derivatives as well as market regulation.

Tadanori and Iwayan (2010), in a discussion paper in Japan also made use of survey data to examine the association between bank-firm relationship and the use of derivatives, in terms of decision to use or not to use as well as the degree of use of the instruments.

Employing a sample of 204 non-financial companies listed in NIKKEI 225 index between 2005 and 2009 and adopting prohibit regression; the study established that bank-firm relationship as well as firm size positively induces the decision to use derivatives. However, complementary use of Tobit regression test revealed that bank-firm relationship, firm’s size, leverage and dividend yield all have positive influence on the magnitude of the use of derivatives.

Several Wharton School survey also studied the use of derivatives by firms. One of such is that conducted in equity mutual funds with particular reference to options and swaps on the S & P 500 Index by Koski & Pontiff in 1996. The study found that 20 percent of the 675 equity funds analysed do invest in derivative instruments. The empirical investigation compared the return distributions of equity mutual funds that invest in derivatives to those that do not. In addition to analysing the use of derivatives to affect inter-temporary changes in funds risk, the result also revealed that equity mutual funds which invest in derivatives have similar risk as well as similar net return performance as compared to those that do not. Although changes in fund risk are negatively correlated with past performance, derivatives however allow funds to dampen these changes. The result of the study is consistent with the hypothesis that managers are slow in responding to unexpected cash flows and are inconsistent with gaming of incentive compensation systems.

Using data obtained from 105 non-financial firms listed on Karachi Stock exchange in Pakistan, Afza and Alam (2011) using Tobit model also identified factors affecting Firms' extent of both foreign-currency and interest rate derivative instruments. They discovered that firms' extent of derivative usage is positively related with lower financial distress costs, higher debt, underinvestment problem and fewer managerial holdings. In 2001, Fletcher et. al., in a contradictory position to what regulators in UK unit trusts would indicate as to the use of derivatives discovered that the cross-sectional variability of a number of risk measures tend to be larger for trusts that make use of derivatives as compared to those which do not. Although derivatives tend to have little impact on performance inferences as obtained from the overall sample of trusts the case is not same for other investment sectors of the trusts. The study also support the concept that trusts that use derivatives tend to have less severe changes in risk due to past performance during an accounting period.

It is a known fact that there are implicit risks associated with the management of financial assets. These risks are often identified by corporate executives who take operational treasury decisions in hedging against financial risks. One of the studies identified with this in Nigerian financial services sector was that conducted by Fadun (2013) which examined the risk associated with financial assets investment and the suitability of derivatives in managing such risks. With the use of the CBN

publications and existing literature on derivative instruments, the paper reinforced the suitability of derivative instruments in managing financial services sector risk exposure. In addition, the author also opined that derivatives provide massive economic benefits if properly engaged and that the development of derivatives market in Nigeria is *sine qua-non* for effective liquidity management and capital mobilisation in the economy.

3. Research Methodology and Methods

This section analyses the primary determinants of derivatives usage among financial services firms quoted on the Nigerian Stock Exchange (NSE). The independent variables which are described include tax environment, existing regulations for accounting purposes and the credibility of operations; feasibility of derivatives usage; stakeholders' reaction to the use of derivatives; perception of risk and market soundness; result of operations; perception about the legal scope; simplicity of derivatives operations in the market amongst others. These variables were subsequently delineated into factors and variables alike and finally, analyses were performed to establish the significance of explanatory variables identified.

3.1 Population and sample size

According to a survey report of International Swaps and Derivative Association (ISDA), over 94 percent of the world's largest corporations use derivative instruments for the purpose of hedging their financial

risk. Another study has also shown that foreign exchange derivatives are more in greater use as compared to interest rate derivatives (Adelegan, 2009). However, this growing use of derivatives has found its concentration mostly in developed economies. In Latin America, financial derivatives has its concentration in Argentina, Brazil, Chile and Mexico as these countries have organized markets as compared to the rest of Latin American countries wherein financial activity is relatively small ((Martin, 2009). In sub Saharan Africa, derivatives market has grown rapidly in recent years, supporting capital inflows and assisting market participants in pricing, unbundling and transferring financial assets risks (Adelegan, 2009). Nigeria has been considered in this study on financial derivatives usage in emerging economies because its financial system still poses a lot of development potentials. There exist no organized market where derivatives are currently traded; it also lacks standardized legal and tax regulatory framework. Although derivatives trading in Nigeria has its coverage under the provisions of the CBN Guidelines for Foreign Exchange Derivatives in Nigerian Financial Markets (CBN, 2011), there seem to be inadequate formalized and structured framework in terms of content management. Several other economies in Sub Saharan Africa as well as Latin America are characterized with similar conditions.

This data put together in the course of this research were based on the list of 42 companies under the financial services sector of the NSE. This sector

consist of Banking, Insurance carriers, Brokers and services, Mortgage, Brokers and Services, other financial institutions including registrars and asset managers; Micro-finance Banks. Altogether they have a market capitalization of N3.752 trillion, a figure constituting about 10 percent of the country's GDP. Consequently, 26 companies were included in the study via a random method making up 62 percent of the entire population. A 95 percent confidence interval was considered in determining the dimension of the sample and to obtain the valid size of 26 observations necessary to statistically represent the chosen population, taking into account the size and homogeneity of the evaluated segment.

The weighted maximum average investment in financial assets amongst the banks is N572 billion while the minimum averaged N119 billion. Investment in these instruments were discovered to be independent of balance sheet size but on inter-bank policies as some of the large sized banks investment in financial securities were relatively small compared to some smaller banks. If international exposure is considered as a principal factor for investment in derivatives, all the banks contained in the study showed very significant investment in financial assets mostly on an average of 26 percent of their total assets by 2011 year end. They all have investment interests in financial assets though, under the CBN Guide for investment in derivatives by banks, accounting and market valuation methodologies provides that authorized dealers of foreign exchange derivatives

should record them in their books as off-balance sheet ledger entries (CBN, 2011).

3.2 The Survey

The structure of the survey had its insight from questionnaire designed in studies conducted by Wharton School of Business at the University of Pennsylvania and subsequently applied in several other countries. The studies were aimed at investigating activities of derivative instruments across Europe and Latin America. Other elements considered in designing the questionnaire are those which had been hitherto adopted in soliciting information on the use of derivative instruments in other emerging economies including India, South Africa and other Asian countries. A number of filter questions considered important were also included. Amongst these are the levels of qualification, perception of the regulation of foreign exchange derivatives in Nigeria, on-the-job experience as well as international exposure to the securities market.

A total of two hundred copies of questionnaire were distributed across the study sample. Target respondents were primarily professionals in finance, treasury, risk management and similar units of the institutions under coverage. The instrument's internal consistency was estimated using Cronbach's Alpha coefficient which produced a value of 0.826 along the pilot survey conducted. The research period span between February and April, 2013. Consequently, when the 31 questionnaire items were evaluated, the

Cronbach's Alpha produced a coefficient of 0.767 while the final sampling error was calculated at 9.62 percent and ultimately considered acceptable for the investigation. These estimates are completely independent of previously known parameters.

The structure of the questionnaire and the elements therein afterwards was sustained by survey tabulation. Metrics were derived to the statistical analysis as dichotomous and categorical questions were served upon the descriptive analysis conducted. Validation of questionnaire items was provided via the use of filters. Such items include tendencies obtained in the survey and behaviour of respondents during the survey in cognizance with certain class of questions.

To gather results in accordance with the topic of interest, preliminary results analysis was performed via the survey tabulation. This allowed for comparative analysis as well as contrasts the tendencies of different variables. Afterwards, a multivariate analysis of data was conducted focusing on the exploration of degree of dependencies between the binary dependent variable (i.e. the use or non-of derivative instruments) and applicable independent variables which were established through experiential means. Steps involved in exploring this extent of relationship were carried out using factorial analysis and logistic regression. Factorial analysis was used to evaluate the impact of individual variables and their interactions in order to identify reduced number of factors that could readily explain them. The

applicability of logistic regression on the other hand was relevant so as to analyse the influence of those factors on the dependent variable. A stepwise procedure was used as a significant predictor in each of the regressions performed.

4. INTERPRETATION OF FINDINGS

4.1 Survey outcome

Input from questionnaire retrieved indicated a response rate of 87 percent as 173 copies of questionnaire were retrieved, duly completed and confirmed adequate for analytical purpose. Findings revealed that 34% of respondents (54) confirmed using derivatives. Out of this figure, 51 belong to the banking subsector while the rest were insurance companies. Under frequency of use, only 4% of respondents indicate “always” as 9% responded “frequently”; 23% handled them sometimes, and 13% used them at some in recent past. For the purpose of finding out the reasons those firms which uses derivatives did, 53% cited the exploration of the use of derivative security instruments; 31% responded that it is based on company’s financial policy; 11% considered that derivatives usage in the firm is as a result of the strategy best considered by the financial manager; and 5% cited benefit perception. However, when enquired, 62% indicated that their non-use of financial derivatives is in accordance with company’s financial policy while 74% answered that they are in the process of exploration.

With respect to hedging risks associated with financial assets investment, 27% indicated that they are affected by fluctuations in interest rate risks while 48% reported that foreign exchange risk is the influencing factor. Concerning knowledge of derivatives market operations, it was discovered that only 13% were well versed on derivatives as an instrument of hedging. Likewise, 69% of the study surveyed firms do not have structured training programs on the subject nor make use of derivatives. However, amongst the 86% of companies which has formalized programs for financial asset managers only 12% uses derivatives.

When enquired about factors inhibiting the development of derivatives market in Nigeria, the result presented in “Fig. 1” revealed that respondents constituting 58% indicated lack of knowledge. This was discovered to be a major constrain. This was followed by scarcity of derivatives instruments in the local market, amounting to 44%; the absence of an organized market as a limitation had a response of 26% while difficulty in evaluating derivatives instruments recorded 39% as unclear tax rules generated 53%.

Under the caption “support for developing derivatives market in Nigeria, importance of knowledge variables recorded the highest as 71% of respondents opined the spread of information about derivatives as a means of developing the market. Although 67% were in support of developing an organized market, 56% pointed the

need to improve the current tax legislation. On issues affecting the use of financial derivative instruments, market risk constituted 67.95; evaluation, monitoring and supervision of hedge results weighed 54%; secondary market liquidity was 26%. Further revelations also has that the use of advanced methods for risk management in Nigerian financial institutions is minimum as only 12% make use of statistical methodology while 72% of the firms practice

empirical risk management through continuous supervision of general trend of market variables.

In accordance with information solicited on active securities trading in the capital market, 83% of the firms surveyed invest in financial instruments while 62% are active traders in Nigerian securities market. Others constituting 12% preferred to channel the use of derivatives through the banking system evidencing support for Over-the-Counter (OTC) securities trading

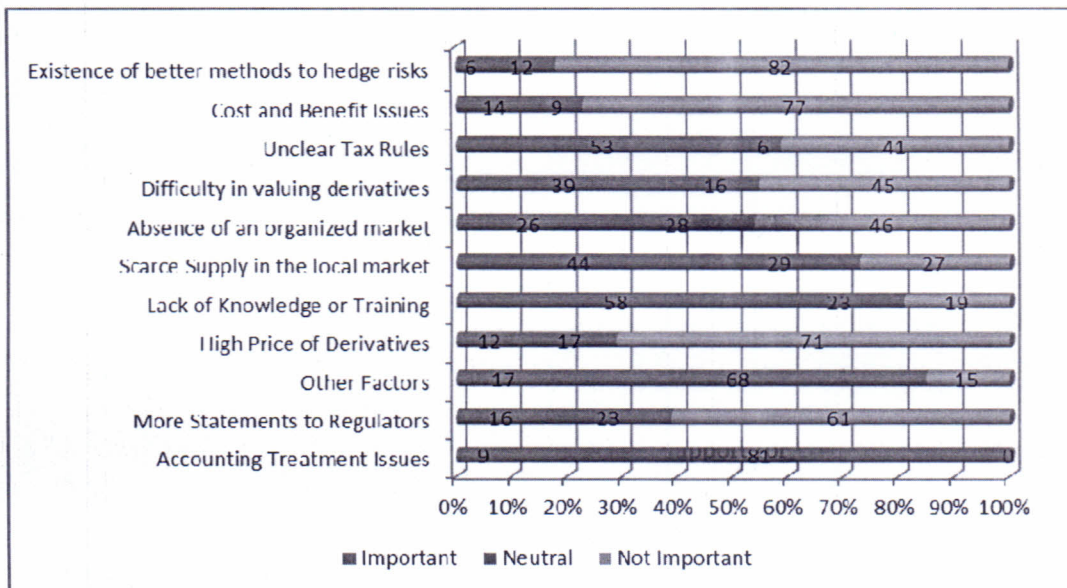


Figure 1: Challenges in Developing Derivatives Market in Nigeria.

4.2 Multivariate Data Analysis

For the purpose of multivariate statistical analysis, 14 variables were obtained from the questionnaire items. In order to verify the suitability of the applicable factorial analysis, the value of Kaiser-Meyer-Olkin (KMO) index resulted in 0.723. In verifying its

effectiveness, the communalities were also taken into cognizance. Eventually the main constituents were considered consequential as the first 5 variables which explained the 70.356% of observed variance of the 14 variables satisfied the criterion related to number of factors considered.

A Principal Components Analysis was conducted via extraction of applicable questionnaire items separating the constituents into “factor” and “variables” respectively as depicted below.

4.3 Results of Logistic Regression

In order to determine which amongst the factors had the most significant influence on the use of derivatives financial instruments, a logistic regression was performed. For this purpose, the dependent variable was “Use of financial derivatives” and the independent variables were the 5 factors identified in the factorial analysis in Table 1. With respect to the independent variables, results obtained from the factorial analysis were thereafter put together for each of the 26 observations in the survey, in accordance with the record of the statistical software (SPSS, Version 18) during the study. Five independent variables were obtained corresponding to the 5 variables. Afterwards, a stepwise procedure was used to ensure a best selection of variables; accordingly, the final result showed that the optimal variables for the model which possess the most significant relationship with the dependent variable “Use of derivative financial instruments” was: (a) notion of risk, and (b) financial benefits. Details of the logistic regression are as provided in Tables 2 to 6.

It is important to note that although theoretical evidence supports the view that interest rate and exchange rates are strongly related to risk management especially financial assets risk, these

variables did not result as relevant explanatory variables for derivatives usage in the study. Nevertheless, the factors of subjective character (i.e. the notion of risk and financial benefits) were discovered as the most significant variables (Tables 4 & 5).

5.0 Comparison of results with earlier studies

A study concerning analysis of factors determining the use of financial derivative instruments by commercial banks was conducted in U.S. by Hundman in 2001. The major results of the study sustained the notion that financial derivatives are primarily used to hedge interest rate risk. The outcome indicated that the lower a bank’s exposure to interest rate risk, the more likely the bank is to use derivatives. Likewise, size of a bank has direct relationship with the use of derivative instruments. It was also found that banks that utilize derivatives typically have higher capital asset ratio indicating that banks with relatively more credit risk are highly likely to use derivatives. Following similar statistical methods, the conclusions of the study are very similar to the ones reached herein.

Another study in the financial services industry was also carried out on U.S. banks’ use of derivatives by Moreno, Mayordomo and Pena in 2012. The aim was to investigate the impact of bank’s portfolio holdings of financial derivatives on individual contributions to systematic risks over and above the effects of variables related to size, interconnectedness,

sustainability and other balance sheet information. Using a sample of 91 U.S. banks' holding companies between 200 and 2011, results showed that banks' holding of foreign exchange and credit derivatives increases their contributions to systematic risk whereas holding of interest rate derivatives decreases it.

Results of both studies indicated above are closely related to the outcome of this analysis: (a) notion of risk; and (b) financial benefits. Both studies have close interconnectivity with this since the subjects of coverage are very similar although they have been applied in different environments.

5.1 Conclusion, Recommendations and Suggestion for further Study

The evidences supporting most empirical investigations into the use of derivatives in both developed and emerging economies has shown over the years that non-financial firms do not have a generalized approach to the use of derivatives even though findings revealed that these firms are aware about the existence and implications of both interest and foreign exchange risks. Indications are that similar circumstances do not exist in financial services even though the level of firm's participation as well as traded volume is low. The financial services industries across most economies are often always the most regulated due to their peculiar features and significant roles they play in the economy. Although their investment in derivatives especially in

developing economies appears to be significantly low compared to the size of those in financial assets, they seem to appreciate the notion that formalized risk management strategies are paramount in their survival. Earlier research outcome further buttressed the view that the notion of risk and financial benefits associated with trading in foreign assets and exposure to interest rate risks are important to prompt the development of the instruments especially in emerging markets like Nigeria. Without doubt as supported in this study, training in financial derivatives and hedging is currently limited, its deficiency has been considered a major impediment to achieving development of the derivatives market in Nigeria. Hence, banks, insurance companies and other companies in the financial services industry must endeavour to develop strategic training programs for their risk management and finance units.

The importance of regulations might be realized attending to its effects on feasibility of the use of derivatives in Nigeria. Tax, legal and accounting regulations must begin to count with a proper set of official rules. These have significant implications for taxes and accounting registry of companies. It has become very essential to prioritize stimulation towards developing and enhancing regulations on the use of financial derivatives in Nigeria. The CBN guide for foreign exchange derivatives in the Nigerian financial markets is a good step in the right direction. However, regulatory authorities must endeavour to take further steps towards developing a

comprehensive framework to enhance the operation of the market and provide adequate channel for all players both in financial and non-financial services industries alike. They must draw beyond the extent of approved products, prudential guidelines, accounting and returns methodology. Steps must also be taken to develop derivatives commodities market. The capital market must be developed to advance derivatives market.

In conclusion, an interesting area for further research would be to conduct similar studies in other African and Sub-Saharan markets in general. Nigerian authors might also explore that non-financial services sector companies quoted on the Nigerian Stock Exchange (NSE).

References

- [1]. Central Bank of Nigeria (CBN), (2011): Guidelines for Foreign Exchange Derivatives in the Nigerian Financial Markets, downloaded from <http://www.cenbank.org/out/2011/circulars/fmd/guidelines%20for%20in%20the%20nigerian%20financials%20markets.pdf> on 6th June, 2013.
- [2]. Financial Institutions Center. (1996): How Are Derivatives Used? Evidence from the Mutual Fund Industry. *The Wharton Financial Institutions Center*, 96-27.
- [3]. Hundman, K. (2001): An Analysis of the Determinants of Financial Derivatives Use by Commercoal Banks, *The Park Place Economist*, 7 (2), 83-92.
- [4]. International Monetary Fund. (2009): The Derivatives Market in South Africa: Lessons for Sub-Saharan African Countries. *IMF Working Paper*, WP/09/196.
- [5]. Jonathan, F., David, F., & Andrew, M. (2001): An Investigation of the Impact of Derivative Use on the Risk and Performance of UK Unit Trusts. *Journal of Accounting and Economics*, 4 (6), 76-83.
- [6]. Maria, M., Sergio, M., & Juan, P. (2012): Derivatives Holding and Systematic Risk in the US Banking Sector, Working Paper, no. 21/12, Universidad de Navarra, Navarra.
- [7]. Miguea, A., Wolfgang, R., Jose, L., & Dayana, Y. (2009): Derivatives Usage by Non-Financial Firms in Emerging Markets: The Peruvian Case. *Journal of Economics, Finance and Administrative Science*, 14 (27), 73-86.
- [8]. Olajide, S. (2013): Financial Services Sector Risks Management: The Derivatives Option. *International Journal of Humanities and Social Science Invention*, 2(1), 2319-7714.
- [9]. Rene, M. (2004): Should We Fear derivatives. *Journal of Economic Perspectives*, 18 (3), 173-192.
- [10]. Tadanori, Y., & Iwayan, N. (2010): Bank-Firm Relationship and the Use of Derivatives in Japan. Discussion Paper Series, no 1203 Graduate School of Business administration, Roko-Kobbe, Japan.
- [11]. Talat, A., & Atia, A. (2011): Determinants of financial derivative usage. *African Journal of Business Management*, 5(20), 8331-8336.
- [12]. Yakup, S., & Asli, T. (2010): Derivatives Usage in Risk Management by Turkish Non-Financial Firms and Banks: A Comparative Study, *Annales Universitatis Apulensis Series Oeconomica*, 12 (2), 663-671.
- [13]. Yung, S., Peter, M., & Yi-Cheng, T. (2009): Derivative Use and Bank Risk. *Journal of Accounting, Economics and Finance*, 23 (13), 1775-1865.

APPENDIX
Results of Logistic Regression

Table 2:

Block 1: Method = Enter

Omnibus Tests of Model Coefficients				
		Chi-square	Df	Sig.
Step 1	Step	21.331	15	.127
	Block	21.331	15	.127
	Model	21.331	15	.127

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	199.362	.116	.161

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
TaxLegislation			3.471	4	.482	
TaxLegislation(1)	.213	.574	.138	1	.710	1.238
TaxLegislation(2)	-20.996	21531.079	.000	1	.999	.000
TaxLegislation(3)	-.620	.553	1.257	1	.262	.538
TaxLegislation(4)	.064	.519	.015	1	.902	1.066
AccountingTreatment			2.735	4	.603	
AccountingTreatment(1)	-.830	.765	1.176	1	.278	.436
AccountingTreatment(2)	-.148	.821	.033	1	.857	.862
AccountingTreatment(3)	-.351	.766	.210	1	.647	.704
AccountingTreatment(4)	-.191	.865	.049	1	.825	.826
CredibilityinOperations			6.772	4	.148	
CredibilityinOperations(1)	-.587	.553	1.128	1	.288	.556
CredibilityinOperations(2)	.525	.558	.885	1	.347	1.690
CredibilityinOperations(3)	1.091	.625	3.044	1	.381	2.978
CredibilityinOperations(4)	.451	.477	.895	1	.344	1.570
ProposaltoDifuseInformation			4.706	3	.195	
ProposaltoDifuseInformation(1)	1.123	.544	4.262	1	.439	3.074
ProposaltoDifuseInformation(2)	.562	.455	1.523	1	.217	1.754
ProposaltoDifuseInformation(3)	.344	.503	.469	1	.494	1.411
Constant	-.671	.895	.563	1	.453	.511

a. Variable(s) entered on step 1: TaxLegislation, AccountingTreatment, CredibilityinOperations, ProposaltoDifuseInformation.

Block 0: Beginning Block

Classification Table^{a,b}

Observed		Predicted			
		Use of Derivative Instruments		Percentage Correct	
		0 No	1 Yes		
Step 0	Use of Derivative Instruments	0 No	115	0	100.0
		1 Yes	58	0	.0
	Overall Percentage				66.5

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.684	.161	18.064	1	.000	.504

Table 3:

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	48.372	8	.167
	Block	48.372	8	.167
	Model	48.372	8	.167

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	172.321	.244	.338

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	Frequencyofuse			11.892	4	.218	
	Frequencyofuse(1)	23.157	12707.700	.000	1	.999	1.140E10
	Frequencyofuse(2)	1.263	1.106	1.304	1	.254	3.535
	Frequencyofuse(3)	2.329	1.133	4.224	1	.240	10.272
	Frequencyofuse(4)	.472	1.216	.151	1	.698	1.603
	AnalystsReaction			6.659	4	.155	
	AnalystsReaction(1)	.585	.618	.897	1	.344	1.795
	AnalystsReaction(2)	.641	.671	.912	1	.340	1.898
	AnalystsReaction(3)	-1.331	.920	2.096	1	.148	.264
	AnalystsReaction(4)	.486	.682	.508	1	.476	1.627
	Constant	-2.524	1.202	4.411	1	.436	.080

a. Variable(s) entered on step 1: Frequencyofuse, AnalystsReaction.

Block 0: Beginning Block

Classification Table^{a,b}

Classification Table					
Observed			Predicted		
			Use of Derivative Instruments		Percentage Correct
			0 No	1 Yes	
Step 0	Use of Derivative Instruments	0 No	115	0	100.0
		1 Yes	58	0	.0
Overall Percentage					66.5

a. Constant is included in the model.

b. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.684	.161	18.064	1	.000	.504

Table 4:

Block 1: Method = Enter

Omnibus Tests of Model Coefficients

		Chi-square	Df	Sig.
Step 1	Step	19.612	12	.025
	Block	19.612	12	.025
	Model	19.612	12	.025

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	201.081 ^a	.107	.149

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	MarketRisk			14.029	4	.007	
	MarketRisk(1)	1.776	.690	6.633	1	.010	5.905
	MarketRisk(2)	1.846	.576	10.261	1	.001	6.336
	MarketRisk(3)	.402	.572	.494	1	.022	1.495
	MarketRisk(4)	.700	.455	2.372	1	.024	2.015
	CreditRisk			1.374	4	.039	
	CreditRisk(1)	-.158	.567	.078	1	.007	.854
	CreditRisk(2)	.309	.542	.325	1	.043	1.362
	CreditRisk(3)	.323	.579	.311	1	.013	1.381
	CreditRisk(4)	-.109	.651	.028	1	.026	.896
	ProposalMarketTransaction			.270	4	.009	
	ProposalMarketTransaction(1)	.208	.687	.092	1	.011	1.231

ProposalMarketTransaction(2)	.277	.687	.163	1	.028	1.319
ProposalMarketTransaction(3)	.003	.522	.000	1	.006	1.003
ProposalMarketTransaction(4)	-.005	.436	.000	1	.008	.995
Constant	-1.504	.591	6.467	1	.011	.222

a. Variable(s) entered on step 1: MarketRisk, CreditRisk, ProposalMarketTransaction.

Variables in the Equation						
		B	S.E.	Wald	df	Sig.
Step 0	Constant	-.684	.161	18.064	1	.000

Table 5:

Block 1: Method = Enter

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	38.870	12	.000
	Block	38.870	12	.000
	Model	38.870	12	.000
Model Summary				
Step		-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1		181.823 ^a	.201	.279

Variables in the Equation						
		B	S.E.	Wald	df	Sig.
Step 1 ^a	MonitoringHedgeResults			12.218	4	.016
	MonitoringHedgeResults(1)	.758	.556	1.857	1	.017
	MonitoringHedgeResults(2)	1.196	.927	1.667	1	.019
	MonitoringHedgeResults(3)	.372	.587	.402	1	.042
	MonitoringHedgeResults(4)	-.807	.567	2.023	1	.015
	LegalRequirements			7.376	4	.011
	LegalRequirements(1)	-1.242	.872	2.031	1	.015
	LegalRequirements(2)	-.374	.898	.174	1	.036
	LegalRequirements(3)	-.847	.869	.950	1	.033
	LegalRequirements(4)	-2.095	1.023	4.194	1	.041
	SecondaryMarketLiquidity			11.902	4	.018
	SecondaryMarketLiquidity(1)	.592	.524	1.273	1	.025
	SecondaryMarketLiquidity(2)	2.144	.647	10.980	1	.001
	SecondaryMarketLiquidity(3)	-19.949	12387.251	.000	1	.009
	SecondaryMarketLiquidity(4)	.360	.541	.443	1	.050
	Constant	-.316	.975	.105	1	.074

a. Variable(s) entered on step 1: MonitoringHedgeResults, LegalRequirements, SecondaryMarketLiquidity.

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 0	Constant	-.684	.161	18.064	1	.000	.504

Table 6:

Block 1: Method = Enter

Omnibus Tests of Model Coefficients				
		Chi-square	df	Sig.
Step 1	Step	138.934	8	.089
	Block	138.934	8	.089
	Model	138.934	8	.089

Model Summary			
Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	81.759 ^a	.552	.766

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	ExchangeRate			.348	4	.987	
	ExchangeRate(1)	.000	1.633	.000	1	1.000	1.000
	ExchangeRate(2)	-.288	1.118	.066	1	.797	.750
	ExchangeRate(3)	-.134	.967	.019	1	.890	.875
	ExchangeRate(4)	-.405	.898	.204	1	.651	.667
	InterestRate			.000	4	1.000	
	InterestRate(1)	42.394	20772.060	.000	1	.998	2.579E18
	InterestRate(2)	42.427	17244.473	.000	1	.998	2.667E18
	InterestRate(3)	20.960	15175.053	.000	1	.999	1.267E9
	InterestRate(4)	.066	15876.437	.000	1	1.000	1.069
	Constant	-20.960	15175.053	.000	1	.999	.000

a. Variable(s) entered on step 1: ExchangeRate, InterestRate.

Table 1
Analysis of Principal Components

Factor	Questionnaire Item (Variable)
Feasibility of use	11iii:Amendment of Tax Legislation 12i:Degree of concern with respect to the use of derivatives 12iv:Credibility in Operations 11i:Drawn-out Information about the use of derivatives
Knowledge of market and Training	8: What is the Frequency of use of derivatives financial instruments in your firm? 12v:
Opinion about financial Risk	12iii:Market Risk 12ii:Credit risk 11ii:Standardized Market for derivatives trading
Financial Benefits	12vii:Evaluation and Requirements of Hedge results 12vi:Legal requirements 12viii:Secondary market Liquidity
Volatility of Interest and Exchange Rates	1i:Impact of interest rate volatility on operations 1ii: Impact of exchange rate volatility on operations