The Effect of Corporate Diversification on the Profitability of the Financial Services Sector in Nigeria

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Abstract—This paper examines the effect of corporate diversification on the profitability of the Financial services sector in Nigeria. The study relied on historic accounting data generated from financial (annual) reports and accounts of sampled banks between the period 1998 and 2007 (a ten-year period). A regression equation was formulated, in line with previous studies to shed light on the effect of corporate diversification on the profitability of the Financial services sector in Nigeria. The results of the regression analysis revealed that diversification impacts strongly on banks profitability. Conclusively the paper produces strong evidence to assert that diversification impacts positively and significantly on banks profitability because among other things such diversified banks can pool their internally generated funds and allocate them properly.

Keywords—Diversification; firm size; operational efficiency; profitability

I. INTRODUCTION

THE choice of focus or diversification in the business activities of firms is the subject of a large body of literature in corporate finance. The evidence seems to indicate that diversification is value destroying, leading to what is known as the "diversification discount". Theoretical explanations for this include managerial risk aversion, agency problems between managers and shareholders, inefficiency of internal capital markets, and power struggles between different segments of a firm. However, diversification is particularly important for a bank, given its nature as a financial intermediary.

In a like-manner, efficiency is measured by how well banks achieve an optimal risk – return trade-off in the mix of their business activities. Banks as financial intermediaries generate financing from three sources: depositors, equity holders and debt-holders.

With regard to the overall effects of diversification on a bank's performance, [1] recommends that the optimal organization of a bank is one where it is as diversified as possible but [2] suggest that there seem to be diseconomies of diversification for a bank that expands into industries where it faces a high degree of competition or lacks prior lending experience.

[2] further suggests that these diseconomies arise in the form of a worsening of the credit quality of loan portfolios simultaneously with a fall in bank returns (perhaps due to worse monitoring, adverse selection, higher overheads, or some combination of these factors).

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Such diseconomies imply that the optimal industrial organization of a banking sector might be one that comprises several focused or specialized banks instead of a large number of diversified banks, an outcome that may also be attractive from a systematic risk standpoint. However, according to [3] diversification is particularly important for a bank, given its nature as a financial intermediary. In a like manner, the efficiency is measured by how well banks achieve an optimal risk trade-off in the mix of their business activities. On the other hand, [2] tested the following two hypotheses(i) diversification improves bank returns and (ii) diversification reduces the risk of banks; when studying the diversification effect on loan portfolios on the performance of a sample of Italian banks. They find that diversification reduces bank returns while producing a riskier portfolio. Furthermore, banks with higher risk are more likely to improve their returns with focus. Their test relies on showing that as focus increases, either returns rise and risk falls, or returns fall and risk rises.

The outcome is unambiguous for a bank when risk and return move in opposite directions. However, in the event that both risk and return move in the same direction, the implications are ambiguous. In practice however, banks cannot fully diversify all their risks. Overall, results support [4] hypothesis that diversification (focus) has a small benefit (cost) at low bank risk levels, and also has maximum benefit (cost) at moderate risk levels, and in fact, hurts (helps) bank returns at very high risk levels. This was found to hold for both industrial and asset sectoral focus, for return on bank assets as well as stock returns of banks, and for a variety of accounting and stock return based measures for unexpected and expected bank risk. In considering whether diversification improves bank efficiency or not, [2] stated that with respect to bank mergers, there are no important scale effects, but there can be important economies (and diseconomies) of scope to consider.

Thus, merger between banks with different business lines but with similarities in the regional composition in their portfolios can result in more efficient entities. In determining whether a merger between two financial institutions will be beneficial (in terms of improving bank efficiency), it is thus essential to consider the resulting change in the portfolio composition of the merged institutions.

Based on this, some critical questions need to be asked and answered by this paper. Such questions include: To what extent has corporate diversification affected the profitability of Nigerian banks? The objective of this paper is examine the impact of corporate diversification on the profitability of Nigerian banks; and the paper hypothesizes that diversification does not impact strongly on banks profitability. The rest of the paper is divided into four sections. Section 2 highlights the review of related literature. Methodological issues are the

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concern of section 3. Section 4 is devoted to presentation of the data and results. We present conclusions in section 5.

II. REVIEW OF RELATED LITERATURE

This research work rallied around the studies of [5] and [6]. [5] studied the diversification effect on firm value by evaluating US firms that have multi-segment investments in comparison with the sum of imputed stand-alone firms in the same industry. They came up with theoretical arguments that diversification has both value – enhancing and value reducing effects. They discovered that potential benefits of operating different lines of business within one firm include greater operating efficiency, less incentive to forego positive net present value projects, greater debt capacity, and lower taxes. Their research also believed that potential costs of diversification include the use of increased discretionary resources to undertake value decreasing investments, cross-subsidies that allow poor segments to drain resources from better – performing segments, and misalignment of incentives between central and divisional managers. They however, could not come up with clear prediction about the overall value effect of diversification.

[6] in their own research studied whether Corporate Diversification is beneficial in emerging markets. In their study, they focused on countries identified by IMF and The Economic Magazine as emerging market countries. Seven of such countries were used (Hongkong, India, Indonesia, Malaysia, Singapore, South Korea, and Thailand) all of which were located in Asia. They relied on firms that report consolidated financial statements. They ensured that the firms they used were all listed in stock exchanges. In their research, they maintained consistency with US data by excluding firms whose primary business were financial services, or that have diversified into financial services [6]. Their final sample consisted of 1,195 firms. Their research came up with facts that diversified firms' trade at a discount of approximately 7%, compared to single segment firms. They also studied whether they could link the characteristics of firms to the diversification discount.

The result showed that diversified firms are less profitable than focused firms but this result only explained part of the discount.

According to [7], the motive of banks for merging is for diversification. These authors in their paper formulated a single modeling framework to analyze the role of risk and diversification in banking competition and to quantify the impact of mergers on the welfare of borrowers and depositors. The model has two main ingredients – banks are assumed to be risk averse or behave in a risk averse fashion. This assumption is in line with the evidence in [8] who attribute the banks' choice of financial capital (above the cost-minimizing level) to risk aversion. Risk averse banks can improve their protection against financial risks by merging with other banks. Through such mergers, banks can achieve a larger scale, increase their geographical scope, and offer a more diverse mix of financial services. In addition, better diversified banks may take on additional risks, by holding riskier loans or reducing equity ratios [9].

Banks are imperfect competitors in the markets for loans and deposits. Following the Monti-Klein framework, banks are modeled as financial intermediaries that grant loans and collect deposits. A limited number of banks set loan and deposit rates independently. Subsequently, borrowers and depositors endowed with different preferences choose the bank to which they supply and from which they demand funds. [7] therefore contributed the following facts: one, the impact of the different types of risk on the competitive behaviour of banks. They noted that as the risk in the interbank market increases, banks reduce their deposit rates but increase their loan rates. They established that merged banks are able to diversify some of the risks and essentially reduce the risk cost associated with more borrowing or lending activity. When banks are imperfectly competitive, a cost reduction makes the merged bank more aggressive. In response to a tougher competitor, the rival banks have an incentive to act back their activity to the benefit of the merged bank. Although rivals might offer fewer loans and collect fewer deposits, the reduction is compensated by the increased activity by the merged bank. As a result, both lenders and borrowers might be better off as a result of the merger. In addition, diversification may help banks to explore better investment opportunities and create synergies in different regions and different business sectors, thereby enhancing firm value. These arguments suggest a negative relation between bank diversification and the cost of debt financing. The results therefore, suggest that different types of diversification involve different levels of trade-off between the benefits and costs.

It is also well documented that merger and acquisition (M & A) activities in the banking industry can achieve cost savings and synergy gains, as well as increased market power, thereby yielding a lower cost of capital [10]; [11]; [12]. Also, [5] found that consolidation in financial services industry has been consistent with greater diversification of risks on average but with little or no cost efficiency improvements.

With regard to the benefits of diversification through mergers and acquisitions, [13] added that diversification through mergers and acquisition is an instrument for enhancing banking efficiency, size, and development roles. It was equally noted that mergers and acquisitions trend is influenced by factors such as prospects of cost-savings due to economies of scale as well as more efficient allocation of resources; enhanced efficiency in resource allocation; and risk reduction arising from improved management. According to the study of [14], he observed that although the number and size of mergers within the banking industry have steadily increased, there is no clear evidence that banking mergers are economically valuable to shareholders upon announcement. Several studies find that on average, the sum of the weighted gains to the partners arising from mergers is negligible.

[14], in his study examined the wealth effect of bank mergers by distinguishing between types of mergers. Specifically, mergers are classified according to their focus or diversification along the dimensions of activity and geography. The study determines the value effect, for bidders and for targets of mergers, and the combined value effect for

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these players for each group according to the focusing versus diversifying classification. The results show that bank mergers that focus both geography and activity are value-increasing whereas diversifying mergers (who diversify either geography or activities or both) do not create value. Overall mergers in the banking industry neither create nor destroy shareholders wealth, but mergers that focus both geography and activities earn a positive 3% return. Bidders in this group do not destroy value, while bidders in the other groups do destroy value.

III. METHODOLOGY AND MODELS

As an Ex-post-facto design according to [15], this type of research involves events that have already taken place (already exists) and as such no attempt was made to control or manipulate relevant independent and dependent variables. As an analytical research, all manners of tools (mathematical, econometric, statistical etc,) were employed in the appraisal of data with the aim of establishing relationships. The population of this study is presumed to cover the twenty five (25) banks which emerged (out of 89 banks) having met the minimum capitalization requirement, at the close of the first phase of the consolidation programme on 31st December, 2005 but for the analysis, eighteen (18) banks selected through the [16] constitutes our sample. The study relied on historic accounting data generated from financial (annual) reports and accounts of sampled banks between the period 1998 and 2007 (a ten-year period).

The hypothesis diversification does not impact strongly on banks profitability was tested using multiple linear regression analysis: Regression model used for the hypothesis is as shown below:

$$ROTA_i,t = \beta_o + \beta_1 OD_i,t + \beta_2 GD_l,t + \beta_3 LogTA_i + \beta_4 LR_it + \beta_5 OE_i,t + \mu_I,t \quad (1)$$

Where $ROTA_i,t$ = Return on Total Assets of the bank$_i$, at time t, as a measure of profitability.

OD   =   Operational Diversification
GD   =   Geographical Diversification
LogTA =   Log of Total Assets
A.   LR   =   Liquidity Ratio
B.   OE   =   Operational Efficiency
C. β_o =   Constant of regression
D. β_1 - β_5 =   Coefficients of the independent variables
E. μ =   The stochiastic error term

Variables

Profitability. Previous studies reveal various measures of profitability such as return on investments (ROI), Return on Total Assets (ROTA), Earnings before interest and Tax (EBIT). Earnings Before Tax (EBT), EBIT less Non-operating Income, operating Income, or Gross Profits as the numerator, while the commonly used denominators are common Equity, Total Assets, stockholders' Equity, Shareholders' Funds and Net Fixed Assets plus working Capital[17], [18]). From among these and in line with the predictions of [19] this study defines profitability as the return on total Assets (ROTA).

$$ROTA = \frac{\text{Net Profit After Tax + Pref. Dividend. (if any)}}{\text{Total Assets}} \quad (2)$$

Liquidity Ratio: This is defined as the ratio of Total specified liquid assets to Total Current liabilities of each bank which must be held by the bank. It can be calculated thus:

$$\text{Liquidity Ratio} = \frac{\text{Total Specified Liquid Assets}}{\text{Total current liabilities}} \quad (3)$$

Firm's size. Although there exist two measures of firm size – namely Total Assets and Turnover [20], [21], this research adopts Total Assets for firm size.

Thus firm size = Average level of log of Total Assets (log TA)…….. (4)

Because firm (bank) size and excess value may be correlated [22] we include firm (bank) size, which we measure by total assets as a control variable in all our models.

Operational efficiency: According to [23], and [20], a good measure of operational efficiency is the ratio of expenditure (operating expenses) to income.

$$OE = \frac{\text{Operational Expenses}}{\text{Income}} \quad (5).$$

In this research work just as in [6], the operational efficiency has been proxied by capital expenditure to Gross income

$$\text{That is, OE} = \frac{\text{Capital expenditure}}{\text{Gross income}} \quad (6)$$

Ownership: Two main sets of ownership characteristics are adopted in the general regression models: Firstly, in terms of Operational diversification (OD) or diversification dummy (DD) whereby an indicator variable is set equal to one if the bank has subsidiaries/Affiliates; and/or conducts GROUP ANNUAL reports and accounts but equal to zero if the bank has no subsidiaries/Affiliates and thus has only the 'BANK' annual reports and accounts. Secondly, in terms of Geographical diversification (GD) an indicator variable is set equal to one if the bank has dominant foreign interest (51% and above) but equal to zero for banks with dominant local interests.

IV. RESULTS AND DISCUSSION OF FINDINGS

This hypothesis state that:

H_0:   Diversification does not impact strongly on banks profitability.

H_1:   Diversification impacts strongly on banks profitability.

This hypothesis is tested using both the pooled ordinary least square (OLS) Multiple Regression Technique and the Panel Regression Technique. The major equation for the regression as stated above showed profitability (measured by Return on total Assets) as a function of diversification size, liquidity, ownership and operational diversification, the result of the regression is as shown below in table I.

Table I shows the effects of diversification variables on bank performance alongside the diversification proxies and the control variables. The result with pooled regression reveals that the degree of geographical diversity (i.e whether a firm has foreign shareholders or not) is positively and significantly related with bank performance.

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TABLE I
ESTIMATED COEFFICIENTS FOR BOTH THE POOLED AND PANEL REGRESSION
MODELS WITH BANK PERFORMANCE (PROFITABILITY) AS THE ENDOGENOUS
FACTOR (EFFECT OF DIVERSIFICATION VARIABLE ON BANK PERFORMANCE)

Variables		Pooled		Panel	
		Coefficients	t-values	Coefficient	t-values
Operating efficiency		0.859*	2.26	0.473	1.29
Geographical		0.890*	2.71	0.815*	2.66
Operational Diversification		-0.624*	-3.59	-0.707*	-4.32
Liquidity ratio		0.207	1.07	0.013	0.71
Constant			7.204*	37.86	7.397
R^2	Within	-	-	0.129	40.34
	Between	-	-	0.002	-
	Overall	0.115	-	0.108	-
F-test	5.67	-	6.12	-	-
Prob>F	0.000	-	0.000	-	
No of observations	179	-	179	-	

* Regression is significant at 5 percent level of significance. Source: Research Survey, 2007.
F-value and probab >F are equivalent of Wald chi-square in the case of panel data.

In other words, the higher the degree of foreign control a bank enjoys, the better the performance of the bank. This is unlike the result of [5] which reports no significant differences between the two sets of firms in terms of geographical diversification. On the other hand, operational diversification (that is whether a bank reports group accounts or not) is negatively and significantly related with its performance; and this is in consonance with the a priori expectation of this research. In operational efficiency and bank profitability however, the result reveals a positive/ significant coefficient of the operational efficiency proxy. This explains that the better a bank level of operational efficiency in terms of its ability to reduce the level of expenditure – the better the overall performance of the banks. In comparison with the expected, the result agrees with the a priori expectation in sign and direction. Thus the result reveals that the null hypothesis should be rejected and the alternate accepted- meaning that diversification impacts strongly on bank profitability.

V. CONCLUSION

The paper set out to examine the effect of corporate diversification on the profitability of Nigerian banks.

The outcome of the study is summarised by the results of the hypotheses tests. The results of the regression analysis revealed that the null hypothesis should be rejected and the alternate hypothesis accepted. That is to say that diversification impacts strongly on banks profitability. This is equally in support of the assertion that diversification through mergers and acquisition is an instrument for enhancing banking efficiency, size and development roles [13]. In the same vein [24] and [25] agrees that diversified firms are more profitable because of their ability to pool internally generated funds and allocate them properly. It is contended that such efficient allocation of resources and economies of scale are expected to have a positive impact on valuation.Conclusively , it is established that profitability first declines with group size and scope, but then increases later above a threshold level.

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