An Assessment of the Determinants of the Nigerian Banking Industry Profitability Using Panel Evidence From Nigerian Commercial Banks

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Abstract
Prominent studies abroad which focused on the determinants of bank's interest margin and profitability have focused on whether banks in a particular country or panel have tended to exhibit different profit determinants and deposit behaviours. One question that these studies have not yet addressed is the actual determinants of bank profitability in Nigeria. Using the panel of respondents drawn randomly from 10 sampled banks based on their total deposit position at the entry point of the period of study 1996-2005, the study established that in Nigeria, the volume of operations more than any other factor determined the operating profits of commercial banks. The other factors include the level of market capitalisation, peer group ranking and combination of other important factors as determined by the tempo of the macro economic environment. This finding posed serious challenge to bank executives to identify important explanatory variables or determinants affecting their annual earnings to their forecast and build them into their chosen forecasting and profit planning models to improve forecast accuracy. The study calls for more commitment to trainings and model development based on the internal peculiarities of banks under study.

Introduction
In order for a business entity (whether public or privately owned) to continue to prosper, there is need for its earnings to be relatively stable for its expansion and growth over time. In addition to its level of earnings, its external environment must also be carefully understood and reliably anticipated. (Burns and Mitchell 1946) .Earnings and business environments are so serious issues that a business must study and understand in order to face its opportunities and threats with vigor and determination. Where for instance, the business does not recognize the effects of changes in external environment which may necessitate changes in business earnings, it may suffer some losses consequently. This perhaps explains why there has been continuing search by modern business to improve their methods of production necessary to cut down costs, and to develop new attributes/products, which may have wider appeal and satisfaction to their customers. On the other hand, the environmental and cyclical conditions are usually volatile and dynamic. (Sabo, 2003).This underscores the need for business firms to be able to reliably conduct forecast not only for their future demands/sales for their goods and services but also other variables that affect them directly such as their personnel and future profits. The volatility of the changes in the variables from the external environment in specific ways to the immediate factory level and to the remote industry and task environments can some times be very significant. This calls for managers ability to

appreciate and apply formal forecasting techniques to assist their banks achieve this veritable task.

The Problem
One major factor, which has often not been given appropriate attention, is the issue of strategic planning through forecasting and prediction of future performance indices of commercial banks (money deposit banks). To achieve this task, a bank must recognize and anticipate the important variable affecting its profit determination. The works of Stevens (1999), Blyther (2000) and Naceur (2002) established the inability of the business firms to adequately anticipate and forecast several operating variables in them as a very critical factor in explaining their non-performance. They argued that it is dangerous for a firm to fail to anticipate its cash flow sales, profits and production under whatever situation it finds itself.
 A number of studies have been carried out aimed at addressing various bank-operating parameters. For instance, Studies on the determinants of bank's interest margin and profitability such as Molyneux, and Thornton. (1992), Demerguç-Kunt and Huizinga (1999), Ben, Naceur and Goaied. (2001) Guru, Staunton and Balashanmugam (2002), have focused on whether banks in a particular country or panel have tended to exhibit different profit determinants. From studies, which sought to establish that bank performance is positively related to the annual percentage changes in the state's per capita income, to those that examined the relationship between the

return on equity and the capital asset, one issue that has not been adequately addressed is on the factors, which constitute the determinants of the bank profit in Nigeria.

Objectives of the study
 The objectives of the study are:
i)   To identify the determinants of the bank profit in Nigeria,
ii)   To assess the level of intensity of these factors in the profit determination of Nigerian banks; and
iii)   To   make recommendations capable of addressing the identified problems of Nigerian banks profitability.

Research Questions
The research question formulated for this study is:-
What are the important determinants of bank profits in Nigeria?

Justification of the Study
The findings of this study will go a long way in educating and enlightening the general business community on the need for proper planning of their operations through identification and recognition of the actual factors determining bank profit in Nigeria. This study is significant to the bank executives in that it will enable them reexamine their positions and adjust their forecasting and planning practices. This can assist them to take advantages of some developments and movement in the behaviors of the variables affecting their profits so that they are better guided in their planning.

Literature review
Berger (1995) examines the relationship between the return on equity and the capital asset ratio for a sample of US banks between 1983 and 1992. Using the Granger causality model, he shows that the return of equity and capital to asset ratio tend to be positively   related.   Demerguç-Kunt   and Huizinga.(1999) explore the profitability of a sample of insured commercial banks in the US for the periods 1980-1995 periods. They found that bank performance is positively related to the annual percentage changes in the state's per capita income. Angbhazo (1997) investigates the determinants of bank net interest margins for a sample of US banks for the period 1989-2003 period. The results for the pooled sample documents that default risk, the opportunity cost of non-interest bearing reserves, leverage and management efficiency are all positively associated with bank interest spread.

The main Studies on the determinants of bank's performance in emerging countries were carried out in Colombia (Barajas et al:1999), Brasil (Afanasieff et al.: 2002), Malaysia (Guru et al:2002) and Tunisia (Ben, Naceur and Goaied; 2001). Barajas et al. (1999) document significant effects of financial liberalization on bank's interest margins for the Colombian case. Although the overall spread has not declined after financial reform, the relevance of the different factors behind the bank spreads were affected by such measures. Another change linked with the liberalization process was the increase of the coefficient of loan quality after the liberalization. Afanasieff et al. (2002) make use of panel data techniques to uncover the main determinants of the bank interest spreads in Brazil. A two-step approach due to Demerguç-Kunt and Huizinga (2001) was to used measure the relative impact of the micro and macro   factors.   The   results   suggest   that macroeconomic variables are the most relevant elements to explain bank interest spread in Brazil.

Ben Naceur and Goaied (2001) investigated the determinants of Tunisian banks' performances during the period 1980-1995. They indicated that the best performing banks are those who have struggled to improve labour and capital productivity, those who have maintained a high level of deposit accounts relative to their assets and finally, those who have been able to reinforce their equity. Guru et al. (2002) attempted to identify the determinants of successful deposit banks in order to provide practical guides for improved   profitability   performance   of   these institutions. The study was based on a sample of seventeen Malaysian commercial banks over the periods 1986-1995. The profitability determinants were divided in two main categories, namely the internal determinants (liquidity, capital adequacy and expenses management) and the external determinants (ownership,   firm   size   and   external   economic conditions). The findings of their study revealed that efficient expenses management was one of the most significant in explaining high bank profitability. Among the macro-indicators, high interest ratio was associated with low bank profitability and inflation was found to have a positive effect on bank performance.

Molyneux and Thornton (1992) were the first to explore thoroughly, the determinants of bank profitability on a set of countries. They used a sample of 18 European countries during the 1986-1989 period. They found a significant positive association between the return on equity and the level of interest rates in each country, bank concentration and government ownership. Abreu and Mendes (2002)

investigate the determinants of bank's interest margins and profitability for some European countries in the last decade. They reported that well capitalized banks face lower expected bankruptcy costs and this advantage "translates" into better profitability. Although with a negative sign in all regressions, the unemployment rate is relevant in explaining bank profitability. The inflation rate is also relevant. Bashir (2000) examines the determinants of Islamic bank's performance across eight Middle Eastern countries for the 1993-1998. A number of internal and external factor were used to predict profitability and efficiencies. Controlling for macroeconomic environment, financial market situation and taxation, the results show that higher leverage and large loans to asset ratios, lead to higher profitability. The paper also reports that foreign-owned banks are more profitable than the domestic ones. There is also evidence that taxation impacts negatively on bank profitability. Finally, macroeconomic setting and stock market development have a positive impact on profitability.

Naceur (2003) investigated the impact of bank's characteristics, financial structure and macroeconomic indicators on bank's net interest margins and profitability in the Tunisian banking industry for the 1980-2000 period. His first major finding is that individual bank characteristics explained a substantial part of the within-country variation in bank interest margins and net profitability. Similarly, high net interest margin and profitability tended to be associated with banks that hold a relatively high amount of capital, and with large overheads. Other important internal determinants of bank's interest margins bank loans, which have a positive and significant impact. The size has mostly negative and significant coefficients on the net interest margins. This latter result may simply reflect scale inefficiencies. Second, the paper found that the macro-economic indicators such inflation and growth rates have no impact on bank's interest margins and profitability. Third, turning to financial structure and its impact on bank's interest margin and profitability, he found that concentration is less beneficial to the Tunisian commercial banks than competition. Stock market development has a positive effect on bank profitability. This according to Naceur (2003) reflected the complementarities between bank and stock market growth. He discovered that the disintermediation of the Tunisian financial system is favourable to the banking sector profitability.

Similarly, Afanasieff et al. (2002) made use of panel data techniques to uncover the main determinants of the bank interest spreads in Brazil. A two-step approach due to Demerguç-Kunt and Huizinga (2001) was used to measure the relative impact of the micro and macro factors. The results suggested that macroeconomic variables were the most relevant elements to explain bank interest rates spread and profitability in Brazil. Ben Naceur and Goaied (2001) investigated the determinants of the Tunisian bank's performances during the period 1980-1995.

Methodology of the study
Survey method was adopted for the study. Panel sample from the 31 banks quoted on the stock exchange as at 31st Dec, 2002 was used for which a sample of ten (10) banks was drawn from these 31 banks by means of simple random sampling procedure. This gives a sampling fraction of 32%, which was considered adequate for a study of this nature.
In order to determine the appropriate sample size for the study. Three important criteria namely the level of precision (margin of sampling error), the confidence interval and the degree of the variability in the attributes of the sample measured were considered. A 95% confidence interval and 6% margin of sampling error, on an estimated population size of 310 i.e.(10 staff in each of the 31 quoted banks) was adopted. Using the sample size formula;

$$n = \frac{N}{[1 + N(e)^2]}$$

Where n=desired sample size, N=estimated population size, e= Margin of sampling error. Substituting these values into the formula for the sample size, gives us an appropriate sample size to be 146.50. Since this is just the minimum size required, we rounded the sample size off to 150 respondents; sending a total of fifteen (15) to each bank, which included some senior staff at the branch levels and top management at Head offices of the bank.

The primary data for the study were collected using random sampling procedure applied on two categories of respondents following the results of sample size formula above. The two categories of the panel of respondents were created for the study and each was administered with the same set of questionnaire. The proportion of the strata are 2:1 for top management staff at each of the corporate Headquarters of the banks and the management staff at the branch offices of the selected banks. The reason being that the task of forecasting in these banks at the overall level is on the top management, usually assisted by the branch management in the area of data input. Consequently, of the 150 respondents chosen for the study, 100 were drawn

from top management staff in charge of profit planning in the sampled banks at their various head offices (ten from each bank branch).The remaining 50 (five from each bank branch) respondents were drawn from the senior management staff of the sampled banks at branch levels. Each of the bank branches randomly selected was represented by five respondents drawn randomly from the branches of banks under study.

An important characteristic/feature of the two strata of the panel of the respondents is that both are experienced management staff either at the branch level or at the head offices that is responsible for the preparation of forecast at the branch level or its collation and preparation at the corporate Headquarters level. These two categories of respondents, appeared to have more insight into their bank profit forecasting, planning & determination processes and procedures compared to the other staff that were not in any way involved with the forecasting procedures of the banks.

Response Rate
In order to find answer to the research question stated earlier, the following table presents summary of responses:-
The table below summarizes the Questionnaire responses obtained from the total administered for the study:

Table 1: Summary of Responses to the Questionnaire

Type of Bank difference	Number of Questionnaire Administered	Number of Questionnaire Returned	Percentage Returned	Number Not Returned	Percentage Not Returned
Branches	50	39	78%	11	22%
Head offices	100	87	87%	13	13%
Total	150	126	84%	24	16%

Source: Questionnaire, 2006.

Table 2: Summary of Questionnaire Responses by Bank

Name of Bank		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First Bank of Nig	13	10.3	10.3	10.3
	Guaranty T Bank	14	11.1	11.1	21.4
	UBA	13	10.3	10.3	31.7
	Zennith Bank	12	9.5	9.5	41.3
	Access Bank	11	8.7	8.7	50.0
	Eco Bank	12	9.5	9.5	59.5
	Wema Bank	12	9.5	9.5	69.0
	Inland Bank	12	9.5	9.5	78.6
	Manny Bank	14	11.1	11.1	89.7
	Omega Bank	13	10.3	10.3	100.0
	Total	126	100.0	100.0	

Source: Questionnaire, 2006.

From Table 1 above, a total of 150 copies of questionnaire were sent out to the selected banks in the sample. A total of 15 copies of questionnaire were dispatched to each of the banks under studied out of which 10 copies of the questionnaire were administered on the top management officers concerned with forecasting and profit planning at each of the head offices of the ten banks and 5 copies on the top management of the branch in each of the 10 banks studied.

From the table the 126 copies of the questionnaire returned out of the 150 administered, represents 84% were returned, while the remaining 24 copies of questionnaire represents 16% were not returned up to the time of compiling this report. The branches returned a total of 39 copies of the questionnaire representing 78% of the total and the head offices returned a total of 87 copies of questionnaire which represents 87% of the total. Hence, 84% of the copies of questionnaire that returned and found useful were used for the study. This high response rate was due to the fact that majority of the respondents are located in one head office and as such getting them in one location at the respective head offices did not provide much difficulties as anticipated. This is revealed by Table 2, below which presents the return of the copies of questionnaires by banks:-

From the analysis of the questionnaire, 60 of the respondents out of 126 respondents representing 47.6% fell between the ages of 41 – 50 years of age, while 53 respondents representing 42.1% fell between the age of 31 – 40 years, with those of ages 21 – 30 years and 51 – 60 years representing 7.1% and 2.4% respectively. This revelation is not difficult to appreciate considering the fact that most of the respondents are at high-level management who must have gained a lot of experience in the industry, while still serving. Male respondents represented 83% while female respondents constituted only 17% of the total respondents.

The data revealed that holders of first degrees or its equivalent accounted for 44% i.e. (56) and holders of second degree or its equivalent represented 49%. The Diploma holders accounted for 5%, while

holders of other professional certificates accounted for the remaining 2%. The questionnaire also reveals that 57 respondents representing 45% had at least 16 years of working experience, while 37 respondents representing 29% had working experience of between 11 and 15 years. Less than five years working experience is accounted for by 6.3%, while 5 – 10 years of working experience was accounted for by 24 respondents i.e. 19%.

Data Analysis

The study tried to utilise the panel evidence from the Nigeria commercial banks and use it in assessing the significance of each of the identified profit determinant in the Nigerian banking industry. Hence using the panel of respondents for the study

Table 3 indicated that 53 of the respondents 42.1% agreed that the volume of their operations is the most important factor considered in their profit planning. Level of market capitalization is represented by 10 respondents, which is 19%. Also, 33 respondents representing 26% agree that all of the above factors are usually taken into consideration in preparing profit forecast by their banks. 6 respondents however did not respond to this question and the valid responses have been adjusted accordingly as presented in the table above. This finding is consistent with that of Fatokun(2004), who conducted study on quantitative procedures for estimating cost of ordinary share capital of quoted Nigerian banks. Fatokun (2004) identified a number of factors which include; competition in the banking industry, fortunes of the bank (uncertainty and risk), political Instability, frequent changes in government policy e.g., preference for a specified sector, dividend and investment decisions made by the banks. Others include interpretation of dividend and investment decisions of banks by the stock market; monetary policy guidelines issued by the Central Bank of Nigeria, Volatility of the foreign exchange market (FEM), Interest rate regime and General economic conditions. He argued that variation in these factors would always have its attendant's consequence on the earning capacity of the banks and their overall performance.

Table 3: Responses on aspect of operation considered in profit forecasting

Determinant of profit considered		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Volume of operations	53	42.1	44.2	44.2
	Level of market capitalization	10	7.9	8.3	52.5
	Peer group ranking	24	19.0	20.0	72.5
	All of the above	33	26.2	27.5	100.0
	Total	120	95.2	100.0	
Missing	NR	6	4.8		
Total		126	100.0		

Source: Questionnaire, 2006.

Concluding Remarks

It was observed that quite a number of factors interact together to influence banks' profitability. The magnitude of the factors however depends on the changing trends of the economy. They also vary from one bank to the other.

Hence, arising from the findings of this study, there is need for:

i Management of banks to identify the various forecasting techniques and applications and test them for suitability to their peculiar situations before implementing the techniques that turn out with the least forecasting error.

ii Bank management set up competent researches; side by side with in-house machinery to identify study and monitor important parameters affecting its earnings and cause research to be mounted on how such could be modelled into its selected technique to achieve minimum forecast errors.

iii There is need for bank management to give high priority to researches, training and development so that bank-planning staff can be acquainted with the latest developments and techniques that can improve their performance. The study therefore calls for sponsoring of professional training on forecasting using latest software to complement the working experience of the staff involved. Sponsoring staff for advanced academic programmes could also greatly assist the bank staff in appreciating the models and applying them to their specific areas of needs.

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