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# ANALYSIS OF THE DETERMINANTS OF THE NIGERIAN BANKING SYSTEM'S PROFITS AND PROFITABILITY PERFORMANCE

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## 1. Introduction

The objective of this paper is to discuss and analyse the hypothesis that economic performance of a banking system is a function of its market structure, policy and demand variables with particular reference to the Nigerian commercial banking system.

As I stated in an earlier article, from the same broad research (Agu 1985b), the research task here is simple in concept but difficult in practice. This is because of inadequate data and information. The information at hand is flawed and incomplete. These imperfections are more severe in the early years of the period covered by this study, but even for recent years, they are serious. This study is considered a framework from which, it is hoped, will spring more sophisticated techniques for handling the conceptual difficulties encountered here.

In recent years, bank profits and profitability are increasingly being given more and more attention by bank management, supervisory authorities as well as stock holders. Top executives of banks in Nigeria are now more concerned about profitability especially now that profits no longer look after themselves as they did during the 1970's when the monetization of crude oil exports created favourable economic conditions which benefited the Nigerian banking system very much. Besides, the recent deregulation of the banking system under the Structural Adjustment Programme (SAP) has put added pressure on bank management to work for satisfactory profits.

## 2. Commercial Banks as Profit Maximizers<sup>1</sup>

It is pertinent to question the profit maximization assumption of banks. In fact it has been argued that one of the possible explanations for the weakness of structure-conduct-performance (s-c-p) relationship is the identification of the rational behaviour of banks with profit maximization (Clark, 1980). Banks are commercial business firms. Consequently following the text book theory of the firm, they have been erroneously regarded as profit maximizers. A profit objective is only one of the potentially large number of objectives which might reasonably be pursued by bank management. Thus the assumption that banks behave as if they are profit maximizers may be an inappropriate or inadequate explanation or description of commercial banks behaviour.

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<sup>1</sup> This section benefited from an earlier paper (See Agu 1985a).

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Simon (1979) argues that the assumption of rationality in firm behaviour be replaced by one of bounded rationality. (Simon had defined "bounded rationality" to mean "falling short of omniscience". In essence he suggests that firm decision making needs to be studied in much greater detail. He suggests the assumption of profit maximization be discarded or at least supplemented through additional behavioural assumptions. The behaviour of those charged with firm decision making is certainly affected by the availability of information and uncertainty about the future, as well as by the complexity of the firm they are responsible for. For these reasons alone, managers may regard profit maximization as unattainable and attempt instead to obtain a goal of "satisfactory" profit. In addition to the complexity of decision making, organizational and otherwise, it is unlikely that an objective of profit maximization is the only managerial goals, some of which may be in conflict with the goal of maximising profit.

However, a firm would be unlikely to pursue other objectives without keeping a close watch on profits. Management may feel it has a certain latitude to pursue additional objectives provided that the firm ownership is satisfied with the profit performance of management. Management may then target a rate of return on invested capital which will satisfy ownership and at the same time allow them to pursue other objectives which may be in conflict with a goal of profit maximization. The targeting of a rate of return on equity below that consistent with maximum profits has become known as satisficing.

The satisficing hypothesis suggests that management of firms which are in a position to satisfice derive their ability from two sources. First, the discretionary ability of management arises in part because of the increasing divergence between ownership and control of firms. The ownership of corporate stock tends to be dispersed among large numbers of stockholders with no single group or individual possessing a large enough block to exercise dominant control. The result of this separation of ownership and control has been to provide management with substantial autonomy in the operation of the firm. Second the discretionary ability of management is thought to be enhanced by imperfections in the capital or goods markets or conceivably in both. Imperfections in these markets are thought to provide management with monopoly power which would allow them to more easily reach their targeted rate of return on equity and thus free them to pursue their alternative objectives.

Judging against these two criteria, commercial banking industry appears to be an industry in which one might expect to find evidence of satisficing behaviour. First, there are obvious imperfections in banking markets. Even casual inspection reveals that banks everywhere operate in a heavily, regulated environment. Secondly, there is evidence

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of separation of ownership and control in commercial banking industry in Nigeria.

Other non profit objectives that management of banks may pursue include the goal of increasing the size of bank portfolio of deposits, increased market share, safety and soundness, the reduction of risk exposure while regulatory authorities might stress public service, deposit safety and customer convenience.

In spite of these other objectives, profitability performance goal must stand out head and shoulder above the other objectives if the bank is to be viable in the long run. Thus the rate of profit and profitability in banking is crucial for a number of reasons. First, profits are the foundation upon which rests two main pillars of banking strength: adequacy of capital and competence of management (Crosse and Hempel 1980).

One of the most important functions of bank profit is the generation of new capital. A bank's capital cushion is regarded nowadays as one of its main pillars of prudential strength and its prime purpose is to act as a potential cushion against unforeseen and severe losses. Retained earnings are the main source of this cushioning in the capital account. Not only do profits feed the capital account this way, but also losses to be absorbed in bank capital can be written off only against accumulated (retained) profits and earmarked reserves generated through accumulated profits in the capital account (Gardener, 1982).

Adequate profit performance is required to attract new capital. As Gardener (1982) argued banks are subject to the same market mechanism as other businesses when they seek to raise outside capital. If banks are to expand and meet the developing needs of a growing economy, new capital issues are periodically required both to purchase new infrastructure and to maintain balance sheet capital ratios. The terms on which banks can go to the market are influenced strongly by the profit performance. In fixing a bank's cost of capital the market is liable to downgrade a bank with a poor profit record.

Second, bank profits provide the first line of defence against the risk inherent in banking and therefore, reassure not only the depositors but also the stock holders of the safety of their investment particularly in times of economic adversity. As Bhatia (1978 p. 54) opined, profits perform many useful functions in an economic system. They allocate capital, compensate investors for risks assumed, reward operating efficiency resulting from price-output decisions and provide for future expansion. As observed by the committee of London Clearing Bankers (CLCB) (1978 p. 174), "unless the bank can earn an adequate return on the resources they employ, their ability to play their role in the economy fully and effectively will be prejudiced".

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Banks whose profits are below par are less likely to accept the risk of venturing into new markets, initiating programmes or convenience-oriented services for their customers. Contrary to the belief of some, there is a direct link between profitability performance and service to the public. There is therefore, an increased tendency for management, regulatory authorities, the stock holders and the investment community at large to look at the "bottom line" — profitability — as a measure of how well a bank is performing (Rose, 1981).

### **3. Determinants of Nigerian Banking System's Profits and Profitability Performance**

Data availability and the hypothesis of this paper dictate that the following factors be considered as determinants of bank profit and profitability performance:

- (i) Market structure variables which comprise total assets, deposit concentration ratio and number of bank offices.
- (ii) Policy variables which include time plus savings deposits to total deposits ratio, loans and advances to total deposits ratio.
- (iii) Demand variables which is proxied here by per capita income.

The main hypothesis of this paper is that bank market structure has a significant influence on bank performance *ceteris paribus*. This hypothesis is consistent with and based on the acceptance of the relevance of the 'structure-conduct-performance hypothesis' (S-C-P) to the commercial banking industry. The S-C-P hypothesis states that the structure of the market will influence the conduct or behaviour of the firm in the market and that the resulting behaviour will be reflected in the price and profit performance of the firm in the market.

We shall therefore analyse the different variables to see how they influence banks profit performance.

#### **3.1. Profit-Asset Relationship**

Total assets represent an important and generally used dimension in which the size of a bank is measured and is also a very important factor in operational efficiency of any economic unit. There is no doubt that large banks enjoy an advantage in market power compared to small banks. This is because of the theoretical possibility and often

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available economies of scale. Their size, for example, permits them to bargain more effectively, "administer" prices and in the end realise significant higher prices for the particular product. More importantly the size of total assets should, to some extent, indicate the ability or capacity to assume risk. A bigger bank, because of the sheer size of its assets is better cushioned for, and can better absorb "shocks" resulting from the risks inherent in portfolio management. This confidence-giving attribute should make the big bank more risk accepting and less risk-averting than small banks (Adewunmi, 1981).

Another important economy of scale which is relevant here is that because of large size big banks will invariably be more disposed to employ and maintain well informed and experienced management staff. At the same time it is just as true that to management and other personnel large banks are more attractive in many regards. Higher salaries, better training opportunity, many fringe benefits and last but not the least perceived high social prestige of large banks are reasons for this. Crosse and Hempel (1980) have observed that higher productivity reflects, among other things, the effectiveness of personnel training and that both big and relatively small banks' have demonstrated that the greatest savings in cost are to be found not in machinery alone but in more efficient procedures and more efficient management organization.

An examination of Tables 1 and 2 shows that the total assets of the Nigerian banks and banks' profitability maintained upward trends while the annual average growth rate of assets was 27.8 per cent for the period 1970-1981 that of profits was 28.3 per cent for the same period. For the two variables the rate of increase was highest in the period 1974-77; an explanation being the increased monetization of crude oil exports during the period. The influence of inflation on these variables was also high. The growth of total assets and profits of the banks during the period 1974-77 averaged 48.4 per cent and 46.2 per cent respectively. In 1978 when the total asset growth rate dropped to 6.7 per cent from 33.9 per cent in 1977 that of profits declined similarly from 89.9 per cent in 1977 to a low of 7 per cent.

When the relationship in the growth trend between total deposits and loans and advances on one hand, and bank profits on the other is examined, the picture remains the same. Both loans and advances and total deposits of banks maintained similar upward trend with banks profits. The annual average growth rate of 24.5 per cent for loans and advances is higher than that of 28.3 per cent and 29.3 per cent for profits and total deposits respectively. In 1978 when the growth rate of loans and advances declined slightly from 45.3 per cent to 33.4 per cent profits declined substantially from 89.9 per

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cent to 7 per cent. An explanation may, perhaps, be that the banks were not earning as much as they should from their loans and advances probably because of the controlled and administered loan rates. It seems rather that the banks earn more from their investments in government securities and service charges.

**Table 1**

PROFITS, NUMBER OF BANK OFFICES, ASSETS AND DEPOSITS OF THE NIGERIAN BANKING SYSTEM 1970-81 (Million naira)

Year	Net Profits (current prices)	Total Assets	Total Deposits	Time and Savings Deposits	Loans and Advances	GDP current prices	Number of Bank Offices
1970	14.6	1,152.0	625.8	336.8	351.3	5,621.0	318
1971	18.9	1,275.9	657.2	371.8	502.0	7,098.0	340
1972	27.8	1,437.5	776.2	461.2	619.5	7,703.0	358
1973	35.6	1,772.0	1,013.0	582.3	753.4	9,001.0	383
1974	43.5	2,811.2	1,693.9	973.2	938.1	16,962.0	403
1975	67.0	4,308.0	2,839.1	1,302.3	1,121.5	20,405.0	433
1976	79.5	6,371.4	4,164.2	1,979.1	2,122.9	25,449.0	450
1977	151.0	8,530.9	5,235.2	2,255.1	3,074.6	28,015.0	508
1978	161.6	9,105.7	5,302.6	2,601.7	4,109.7	28,737.0	585
1979	156.1	11,238.6	6,967.8	3,702.1	4,618.7	30,862.0	672
1980	157.2	13,717.4	8,842.7	5,111.9	6,379.1	51,156.0	740
1981	184.1	15,548.1	10,677.0	5,796.1	8,582.9	57,567.0	740

1 CBN (i) *Annual Report and Statement of Accounts* - various years  
(ii) *Economic and Financial Review* - various years  
(iii) *Monthly Report*, Dec. 1981 March 1982.

2 *Annual Reports* of various commercial banks for various years.

### 3.2. Profit - Bank Branches Relationship

Another measure of structure of the Nigerian banking system used in this analysis which is of particular concern to the regulatory authorities is the number of bank offices. Economic theory implies that a banking system consisting of numerous competing banks will perform better in terms of output and prices than a banking system dominated by a few banks. This is based on the assumption that financial services do not differ from other commodities as far as the desirability of satisfying the marginal criteria of welfare economics is concerned. Specifically, microeconomic theory holds that competitive economic structure results in allocationally efficient use of resources by competitive firms through cost minimization, and an efficient level of output by firms at the point

of average revenue (AR) marginal cost (MC) equality. An industry with an imperfectly competitive structure may, all things being equal, achieve cost minimization but not efficient level of output and it may require regulation to achieve maximum efficiency (Leland 1974).

Table 2

ANNUAL CHANGES IN PROFITS, ASSETS, GDP, BRANCHES AND DEPOSITS OF THE NIGERIAN BANKING SYSTEM 1970-81

Percentages							
Year	Net Profits	Total Assets	Total Deposits	Time and Savings Deposits	Loans and Advances	GDP	Number of Bank Offices
1970							
1971	29.5	10.8	5.0	10.4	42.9	26.3	6.9
1972	47.0	12.7	18.1	24.0	23.4	8.5	5.3
1973	28.1	23.3	30.5	26.3	21.6	16.9	7.0
1974	22.2	58.6	48.7	67.1	24.5	88.4	5.2
1975	54.0	53.2	67.2	33.8	19.6	20.3	7.4
1976	18.7	47.9	46.7	52.0	89.3	24.7	3.9
1977	89.9	33.9	25.7	13.9	44.8	10.0	12.9
1978	7.0	6.7	1.2	15.4	33.7	2.6	15.2
1979	-3.4	23.4	31.4	42.3	12.4	7.4	14.9
1980	0.7	22.1	26.9	38.0	38.1	65.8	10.1
1981	17.1	13.3	20.7	13.4	34.5	2.6	0.0
Average annual growth rate	28.3	27.8	29.3	30.6	34.5	23.5	8.1

Source: Table 1.

Barnes (1982), however, noted that because of the problems of control or co-ordination as well as fixed costs at the branch bank level, high costs result if a given level of assets is split up among more and more branches. Nevertheless, a banking system in the process of expanding its branch network appears to attract more new business than might otherwise be expected (Wilson Committee, 1980).

An examination of Tables 1 and 2 again shows that bank profits increased with increase in bank branches up to 1977. Between 1970 and 1977 the highest rate of increase in bank profits was recorded in 1977 and the highest growth rate in bank branches of 12.9 per cent was recorded in the same year. The implication derived is that the branch ex-



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pansion from 1970 to 1977 might have been accompanied by significant expansion in the deposit base, hence a positive contribution to banks profits is made through the expansion in the average size of assets holdings. In addition, it may be presumed that the increased services and convenience resulting from a large number of bank offices during this period increased customer satisfaction and the spread of banking habit particularly in the rural areas thereby enhancing the earning ability of the banks.

The situation was a bit different in the period 1978-80. While the average annual growth rate of bank offices during this period was 13.4 per cent, that of bank profits was as low as 1.4 per cent. In 1979 when the rate of increase in bank offices was 14.9 per cent that of bank profits was negative, -3.4 per cent. An explanation which could be offered might be that the expansion in bank offices instead of being accompanied by a significant expansion in deposit base became a source of decreasing return due to the problem of co-ordination or control as well as high input prices at the branch level. The branch banking literature suggests that any economy of scale which accrue through branch banking expansion may be offset by the greater cost of operating multiple facilities.

Overall Table 4 shows that there is a statistical positive association between the banking system's profitability and the number of bank offices. A high and significant statistical correlation of 0.53 implies that more branches are desirable to increase bank profitability.

### 3.3. Profitability - Concentration Relationship

One of the most tested relationships in industrial organization literature is the profitability - concentration hypothesis. Economic theory suggests that other things being equal, firms having significant market positions in a highly concentrated market will tend to restrict output, charge higher prices, earn higher rates of return and use their entrenched position to retard the competitive efforts of other firms (Allardice and Erdevig, 1981 p. 4). Since the Nigerian banking system consists of many competing banks and yet a few large ones exert a great deal of influence on the market, there is the need for an index that measure the relationship between the number of firms and their share of the market. The index used in this study is the four bank concentration ratio calculated as:

$$CR = \frac{\sum_{i=1}^4 D_i}{D}$$

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where CR = concentration ratio

$D_i$  = deposits of the leading  $i$ th bank

$D$  = total deposits outstanding of the banking system.

The four bank concentration is considered an appropriate index because it encompassed banks from the two groups of banks in Nigeria viz mixed ownership banks and indigenous banks.

One summary measure of concentration that takes into account the total number of firms in a market and their market share is the Herfindahl index. The index is constructed by summing the squares of the market share of all firms in the market. That is:

$$\text{Herfindahl index} = \sum_{i=1}^N (X_i/S)^2$$

Where  $N$  = number of firms

$X_i$  = the absolute size of each of the firms

$S$  = the total size of the market.

One limitation to using the Herfindahl index is the frequent lack of information on the market share of individual firms, and this is particularly manifest in the Nigerian banking system where such necessary information on individual banks is lacking. As Shepherd (1979, p. 165) put it 'Herfindahl "summary" indexes require far more information and their weighting among firms is controversial'. Because of this limitation, it was not possible to use the Herfindahl index in this analysis.

However, no single measure adequately describes market concentration. No satisfactory explanation of the size distribution of firms has yet been derived from economic theory (Curry and George 1983). The concentration ratio, for example, can only suggest that the small number of large firms makes restrictive pricing and output decisions more possible than if there were many firms of equal size. It does not mean that large firms are actually engaging in anti-competitive conduct. The existence of a few firms may simply reflect economies of large scale (Salley, 1972 p. 72). The shortcoming notwithstanding, the concentration ratio is regarded as one of the few general measures of structure available to the economist (Bain, 1959). Shepherd (1964, p. 200) contends that 'for all its shortcomings the homely concentration ratio is a direct and fairly clear indication of industry structure'.

Traditionally, the structure - conduct-performance would suggest a positive relationship between market concentration and profitability of a firm. However, banks or firms

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in a more highly concentrated market where potential profits are high are in a position to forego some potential profits in the pursuit of potentially conflicting goals; two examples of which are sales and sales revenue maximization (Clark 1980).

On a *priori* basis, therefore, the relationship between bank profitability and the degree of market concentration is less clear. It depends very much on the objectives the bank management wants to pursue. From Table 3 there is no clear relationship between bank profitability and market concentration in the Nigerian banking system. For instance, the sharp increase in market concentration in 1972 was not proportionately reflected in banks profitability in the same year. Similarly the gradual decrease in market concentration between 1977 and 1981 did not reflect negatively or positively in the behaviour of banks profitability performance. However, from Table 4 it is seen that there is a negative and weak statistical relationship between the banking system's market concentration and its profitability performance. The statistical relationship of -0.278 implies that market structure has no apparent effect on the Nigerian banking system's profitability performance.

Table 3

## PROFITABILITY OF THE NIGERIAN BANKING SYSTEM AND ITS DETERMINANTS

Year	Net Profits Capital	(Percentages)			Time and savings deposits Total deposits	Loans and advances Total deposits	(Million naira) per capita income	Number of bank offices
		Net Profits Assets	Deposit concentration					
1970	25.5	1.3	45.8	53.8	56.1	84.9	318	
1971	26.9	1.5	54.4	56.6	76.4	104.7	340	
1972	36.2	1.9	98.9	59.4	78.0	110.8	358	
1973	41.4	2.0	73.1	57.5	74.4	126.3	383	
1974	43.5	1.5	49.9	57.5	55.4	232.0	403	
1975	52.6	1.6	47.5	45.9	54.1	272.4	433	
1976	50.6	1.2	45.0	47.5	51.0	331.4	450	
1977	74.9	1.8	53.1	43.1	58.7	356.0	508	
1978	60.5	1.8	50.8	49.0	77.5	356.5	585	
1979	47.6	1.4	45.3	53.1	66.4	373.6	672	
1980	41.6	1.1	47.9	57.8	69.6	604.0	740	
1981	56.2	1.2	35.8	35.6	52.8	662.5	740	

Source: Table 1.

There has been a continual reduction since 1970 in the importance of large-scale banks

in the Nigerian banking system. The market share of the few large banks has dropped from over 98 per cent in 1972 to 35.8 per cent in 1981. (See Table 3). If from this point of view, it can be affirmed that the degree of market concentration of the banks has for sometime been falling, it implies that at the same time there has been a substantial growth in the importance of small banks and that there has been a continual increase over the years in the total number of banks and bank offices operating in the system. On the whole, it can be said that the dimension of banking structure is becoming more balanced partly because of the controls exercised by the authorities on entry and the encouragement given by the Central Bank of Nigeria (CBN) to the banks to open new offices in the rural areas. The small banks have benefited from the rural expansion because they have the local advantage and protected, as they were by, among other things, the criteria adopted by the CBN for the opening of new offices. The bigger banks, on the contrary, which own most of the bank offices in the large cities have scaled down their desire to grow and have therefore increased deposits less quickly.

**Table 4**

CORRELATION BETWEEN THE NIGERIAN BANKING SYSTEM'S PROFITABILITY AND ITS DETERMINANTS

	Deposit concentra- tion ratio	Time and savings deposits Total deposits	Loans and advances Total deposits	Number of bank offices	Per capita income
<u>Net Profits capital</u>	-0.27	-0.77	-0.16	0.53	0.55
<u>Net Profits assets</u>	0.11	-0.13	-0.28	-0.42	-0.54

Source: Computer print out

The possibility cannot be excluded that the negative and weak association between market concentration and bank profitability and the more sluggish growth of large banks partly reflect the centralization and rigidity of banks' management, particularly that of big banks, which deprive them of the flexibility needed to exploit their geographical structure and to meet their ever increasing demand for bank services. Implied, therefore, is that the Nigerian banking system is non competitive. Thus Nigerian banks tend to

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restrict output not by charging high prices for their services but by fixing low prices and avoiding risks. Consequently, they do not earn as high rate of return on their equity as they would otherwise have. In his study Caves (1970, p. 284) in examining Galbraith's *The New Industrial State*, has suggested that one of the most important of Galbraith's arguments is the 'oft-ignored aspect of the large firm's behaviour: that a significant portion of the potential profits latent in its position of market power is taken in the form of avoiding uncertainty'. If, therefore, as this study and our analysis suggest that the degree of risk aversion is greater for banks in more highly concentrated markets, that further provides, at least, a partial explanation for the weak and negative statistical relationship between the bank market structure and profitability performance of the Nigerian banking system.

#### 3.4. Profitability and Policy Variables

According to the portfolio balance model of asset diversification, the optimum holding of each asset in a wealth holder's portfolio is a function of policy decisions determined by a number of factors such as vector of rates of return on all assets held in the portfolio, a vector of risks associated with the ownership of each financial asset and the size of the portfolio. Consequently portfolio diversification and the desired portfolio composition of commercial banks are the result of policy decisions of the management. The desired portfolio composition involves the exact mix of business which is necessary not only to ensure that banks maintain their respective desired market profile but also to ensure that they maintain the relative profitability of their different services which changes with interest rate movements.

On a *a priori* grounds, therefore, the deposit mix i.e. time and savings deposits to total deposits ratio and the level of intermediation indicated by loan-deposits ratio are considered appropriate policy variables influencing a banking system's performance. In a study of medium size banks Bryan (1972) found that the most important single factor explaining profitability is the ratio of time plus savings deposits to total deposits. The deposit mix by determining the liquidity needs of the banking system affects the volume of earning assets. The intermediation ratio reflects the credit policy formulated by the banks.

The relationship between time plus savings deposits to total deposits ratio and banks profitability seems uncertain. There are two sides to the argument. The first is that the ratio of time and savings deposits to total deposits may be expected to exhibit a negative relationship with bank profits. An increase in the proportion of time and savings deposits to total deposits implies a low time level of real output of the banking system. Besides,

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time and savings deposits require explicit interest cost to attract. Because they are a more costly source of bank deposits, the greater the proportion of time and savings deposits to total deposits, the greater the interest cost of funds, and thus the lower the profit rate. It is further argued that the stability in the banks deposit base is accounted for mainly by total demand deposits.

This may be due to the often observed fact that in Nigeria the small savers who are the principal holders of savings deposits display a more erratic deposit and withdrawal behaviour than firms which are the principal holders of demand deposits. Therefore, the more the banks have a higher proportion of more erratic time and savings deposits in their deposit portfolio, the higher will be the cost and, *ceteris paribus*, the lower will be the profits.

On the contrary, the ratio of time and savings deposits to total deposits might be expected to be positively related to banks rate of profits. Clark (1980, p. 92) has argued that time and savings deposits represent a much more stable source of funds than do demand deposits. (see also Morrison and Selden 1965, p. 13). As a result bank primary and secondary reserves may be reduced the greater the bank's proportion of time and savings deposits to total deposits thereby leading to increased investment of bank funds and thus increased profitability.

From Table 3, there seems to be no indication of any clear relationship between bank profitability and the ratio of time and savings deposits to total deposits. Table 4 however indicates that there is a negative statistical association between the deposit mix and banks profitability. The inverse significant statistical relationship of 0.77 between time and savings deposits to total deposits ratio and banks profitability implies that the banks have not been able to minimize their total resource costs by a clever combination of cost effective source of deposits.

Surprisingly, the loan-deposit ratio has a negative and weak statistical association with the profitability performance of the Nigerian banking system. The weak and inverse relationship of -0.16 and -0.28 for both measures of profitability may imply that the banking system increased loans and advances by reducing interest charges. A further explanation may be in terms of the capital budgeting process used by firms. An increase in interest rate, an important measure of the cost of capital, adversely affects the net present value of a project being considered for funding, and thereby the demand of a firm for funds (Weston and Brigham, 1977, p. 257-308).

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### 3.5. Profitability and Demand Factors

Economic conditions within a market may be expected to influence bank behaviour through the demand for banking services. The demand for banking services should be greater the greater the relative influence of the market. Per capita income is used here to provide an index for the demand factor for bank services. Thus higher per capita income might ordinarily be identified with a higher rate of return on equity. In addition market demand also has a direct effect on bank revenue and the size of bank earning assets. The greater the market demand for bank services (as captured by high per capita income), the greater one might expect the bank revenue on earning assets and bank earning asset size to be, hence the better the profitability performance of the banks.

Table 4 indicates that there is a positive significant statistical association between the demand for banks services and banks profitability. However, given the Central Bank of Nigeria's (CBN's) ceiling on loan rates particularly to the preferred sectors of the economy, it is expected that returns to banking assets will be inversely related to economic development. This explains the negative statistical association of -0.54 between per capita income and the yield rate on assets.

### 4. Conclusions

Evidence from our discussion and analysis indicates that market structure as measured by concentration ratio had no significant and statistical association with banks profitability performance. However, market structure as measured by the number of bank branches was found to be statistically significantly correlated with banks profitability performance. The implication of this, therefore, is that a relatively simple description of structure such as the number of bank offices matters. Expansion of bank branches is desirable for increased bank performance. There is however, a limit to such expansion. The expansion will be tolerated as long as it leads to greater incremental revenue to the banking system than incremental expenses.

The significant statistical association of the number of bank offices with banks profitability notwithstanding, on the balance, the impact of market structure on the Nigerian banking system's performance is not strong. There is, therefore, no strong evidence to accept "the structure performance hypothesis" in the experience of the Nigerian bank-

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ing system. The policy and demand factors are important determinants of profitability of the Nigerian banking system.

The implications of these findings for the banks and the regulatory authorities are clear. For the banks, there is the need to minimise their total resource cost by a clever combination of cost-effective source of deposits. This is necessary because expense control is the most important factor in achieving high bank profitability. In addition, banks in a developing economy like Nigeria must stimulate demand for their loans by deliberate policies on core factors of demand for their services such as the interest rates.

The regulatory authorities, on the other hand, should continue with the policy of expansion of bank offices. Furthermore, regulators should, at least, be wary of mergers in relatively unconcentrated markets as in relatively concentrated markets. This is particularly important since there have been suggestions for bank mergers in the country. More generally, as Stigler (1950) and Hart (1975) have argued, mergers between firms of intermediate size may lead to increased competition for the larger existing firms. This is certainly a possible outcome though not the only one. Mergers of firms of intermediate size could also lead to a more cohesive oligopoly group and thus more effective collusive behaviour.

Furthermore, regulatory emphasis should be more on policy factors. To regulate the policy variables optimally, the monetary authorities should create an encouraging environment to enable the banks adopt policies that will enhance their performance. The monetary authorities should to a great extent release their firm control on interest rates structure. Such a measure will lead to positive loan and deposit rates policy as well as positive and dynamic portfolio policy decisions by the banks.



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**Abstract**

*The paper analyses the hypothesis that economic performance of a banking system is a function of its market structure, policy and demand variables with particular reference to the Nigerian banking system. Economic performance here refers to the profit and profitability performance of the banks. Although there are other objectives that bank management may pursue, profitability performance goal stands out head and shoulder above the other if the bank is to be viable in the long-run.*

*The paper therefore identified and discussed the following factors as the determinants of bank profitability performance:*

- i. Market structure variables which comprise total assets, deposit concentration ratio and number of bank offices*
- ii. Policy variables which include time plus savings deposits to total deposit ratio, loans and advances to total deposits ratio*
- iii. Demand variables which is proxied here by per capita income.*

*The study reveals that market structure as measured by the number of bank offices matters for bank profitability performance in Nigeria. This notwithstanding, however, on the balance, the impact of market structure on the profitability performance of the Nigerian banking system is not strong. The policy and demand factors are found to be important determinants of profit ability performance of the Nigerian banking system.*

*These findings have implications for the banks as well as for the regulatory authorities. For the banks, there is the need to minimize their total resource cost by a clever combination of cost-effective source of deposits. This is very important because expense control is the most important factor in achieving high bank profits. The regulatory authorities, on the other hand, should continue with the policy of expansion of bank offices as long as it leads to greater incremental revenue to the banks than incremental expenses. Furthermore, regulatory emphasis should be more on policy factors. The monetary authorities should, to a great extent, release their firm control on interest rates structure.*