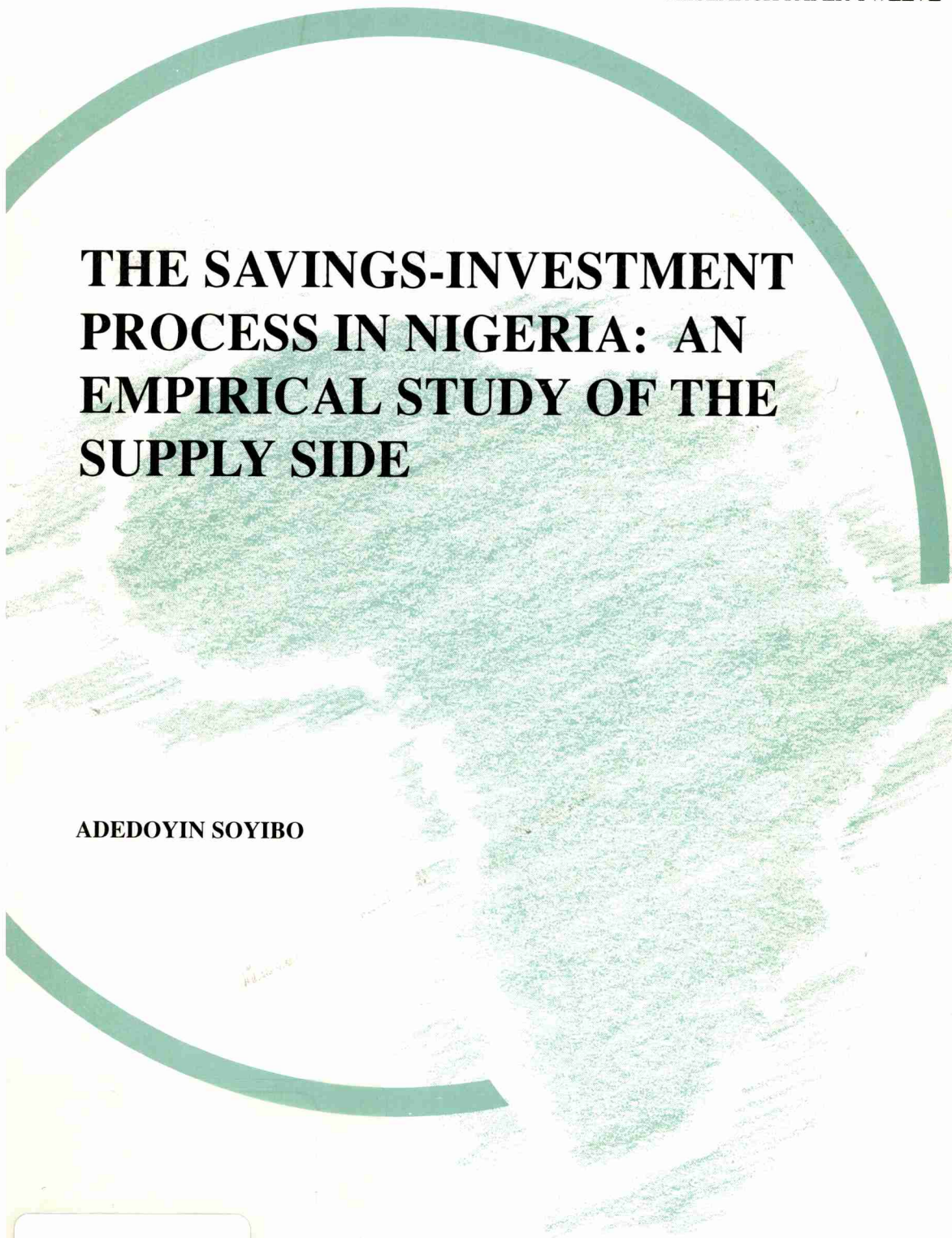


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THE SAVINGS-INVESTMENT PROCESS IN NIGERIA: AN EMPIRICAL STUDY OF THE SUPPLY SIDE

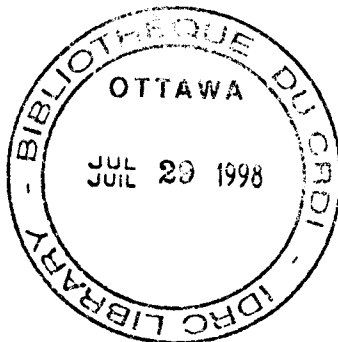
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The savings-investment process in Nigeria: an empirical study of the supply side



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The savings-investment process in Nigeria: an empirical study of the supply side

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I Introduction

Problem statement

Many developing countries, under a crushing burden of debt and other external disequilibria, have adopted programmes to restructure their economies. A major cornerstone of such adjustment programmes is the liberalization of financial markets and a greater role assigned to market forces in the allocation of financial resources, and generally involve interest rate deregulation and relaxation or cancellation of the policy of directed credits.

The policy of financial liberalization in developing countries seems to have been backed by the McKinnon-Shaw financial intermediation hypothesis which postulates that interest rates have a positive response to savings and economic growth (McKinnon, 1973; Shaw, 1973). The link between interest rate responsiveness and savings, as postulated by the McKinnon-Shaw hypothesis, is investment. However, behaviourally and operationally, savings and investment differ (Bhatia and Khatkhate, 1975; Fry, 1978), the transfer of savings to investment being dependent on a host of factors other than the real interest rate. Such factors include the availability of investment opportunities at rates of return exceeding cost of funds, the existence of private and social profitability differences, institutional constraints and the cost of administering funds. Thus, a study of the link between real interest rates and investment cannot be done solely via the McKinnon-Shaw hypothesis.

Unfortunately, studies of financial liberalization policies assumed the link between savings and investment as given and/or regard specification of the effect of the real interest rate on investment as difficult (Mwega *et al.*, 1990). Also, studies of the effect of adjustment programmes on economic growth tend to assume the existence of the Keynesian savings and investment macroeconomic balance (Ndulu, 1990). Yet, it is known that resource gaps constrain economic growth in developing countries.

The successful application of financial liberalization policies in developing countries, therefore, goes beyond demonstrating the applicability or otherwise of the McKinnon-Shaw hypothesis. There is a need to investigate the

behavioural relationships between investment and savings (perhaps via the real interest rate) to identify the determinants of the mechanism of transmission of savings to investments.

In Soyibo and Adekanye (1992a), the applicability of the McKinnon-Shaw hypothesis to Nigeria was established, though Shaw's hypothesis seems to be more strongly supported. This suggests that the debt intermediation hypothesis holds in Nigeria. To influence economic growth positively, the increased savings mobilized as a result of financial system liberalization would need to be transmitted to investment. An understanding of the savings-investment process therefore, can help inform policy decisions aimed at promoting economic development.

At least two approaches can be adopted in this regard. First, the characteristics of the supply side can be determined, with an analysis of the factors affecting portfolio management decisions of suppliers of credit using their perceptions and objective data. Second, the characteristics of the demand can be studied, establishing the determinants of demand using perceptions as well as objective data. This paper concerns itself with the first approach, using principally primary data to analyse the perceptions of bankers. The limitations of this approach will be discussed later. However, a study of banking system operators' perceptions of the impact of the different regulatory regimes on the performance of the system has its own merits. It can spotlight the areas of general consensus as to the effectiveness or otherwise of government policy. Such a study can also be a type of *ex post* evaluation of the impact of government policy on the banking system from the point of view of those directly affected.

Bank portfolio management

The management of bank portfolios is concerned with the selection of the best mix of bank assets and liabilities for the attainment of the objectives of liquidity, solvency and profitability. Liquidity refers to the ability to settle liabilities on the due date while solvency is concerned with settlement of debts ultimately or at any time (Revell, 1975). Thus liquidity and solvency refer to the short-run and long-run perspectives of a similar concept. The objectives of liquidity, solvency and profitability usually conflict. Funds held in a demand deposit are completely liquid but earn nothing. Funds held in short-term securities earn interest but are not liquid. Funds committed to a business loan earn attractive income but are even less liquid. Thus the continual bank-management tradeoff is between liquidity and solvency on the one hand, and profitability on the other (Elliot, 1984). The way this tradeoff is perceived by

bank portfolio managers and the factors affecting its implementation have implications for the transmission of savings to investment.

Bank portfolio management is also affected by guidelines stipulated by theories of bank assets and liabilities management. There are four such theories (Elliot, 1984; Ratter and Silber, 1986; Adekanye, 1993; Osofisan, 1993):

- Commercial loan theory or the real bills doctrine;
- Shiftability theory;
- Anticipated income theory; and
- Liability management theory.

The commercial loan theory stipulates that bank loans are to be short-term, self-liquidating and productive 'commercial paper'. 'Short-term' suggests a maturity of less than one year and connotes only the seasonal aspect of business rather than providing the firm with permanent capital. 'Self-liquidating' means that the loan contains with itself its own means of repayment, while 'commercial paper' refers to the debts that arise in the course of commerce, that is, the processing, moving and marketing of goods. By this theory, banks should not grant long-term loans such as estate loans and loans for financing the purchase of plants and equipment because they are considered too illiquid. Banks will then tend to become specialist financial institutions serving primarily the credit needs of industry and commerce with households being their largest sources of funds. Assets of banks will tend to consist of commercial loans, cash, reserves and other loans while their liabilities, in order of importance, will consist of savings deposit, demand deposits and other borrowing (Soyibo, 1991).

With the shiftability theory, the important characteristics of a potential bank investment is dependent on the possibility of its being sold at little or no capital loss if the need arises to raise funds. Thus, the test of an acceptable bank asset becomes whether it can be 'shifted' to another owner at no financial loss (Elliot, 1984). In other words, liquidity is tantamount to shiftability (Luckett, 1984). The theory, it will be seen, takes a broad view of banking and redirects the attention of bankers and regulators from loans to investments as a source of liquidity. Investments that meet the shiftability theory criterion are generally short-term in nature, for example treasury bills, call loans and government securities. Two major differences can be seen in the portfolio mix of banks following the shiftability theory compared with those following the commercial loan theory. First, a higher proportion of assets are held in short-term securities than in the bills doctrine. Second, the proportion of loans for non-commercial purposes is higher in the shiftability theory. Such loans include mortgages, personal loans and longer-term business loans.

The anticipated income theory focuses attention on the types of loans appropriate for a bank to make. This, in contrast to the commercial loan theory, asserts that it is quite appropriate for a bank to give long-term and non-business loans as long as the borrower has the ability to repay the loan out of future earnings. Thus, under this theory, it is acceptable for banks to engage in a much broader range of lending longer-term loans to business, consumer installment loans and amortized real estate mortgage loans.

Liability management theory takes a more aggressive view of managing bank assets. The three traditional views of bank asset management outlined above believe that a bank has no control over the size or mix of its liability; it waits patiently for customers to bring money to it. However, liability management theory recognises that while the asset structure of a bank has a prominent role to play in providing it with liquidity, a bank can also use its liability for ensuring an appropriate level of liquidity. The liability management approach is a strategy for raising funds for investment by actively seeking liabilities whenever attractive investment opportunities appear and market conditions permit (Elliot, 1984).

Following the liability management theory, banks in the United States from the 1960s began pursuing potential depositors more aggressively by creating marketing departments. They used bank-related money market instruments such as federal funds, repurchase agreements, negotiable certificates of deposit and Eurodollars to implement liability management policy. These instruments are called purchased funds because they are bought in the market place. Unlike deposit liabilities, purchased funds command a market rate of interest, thus banks must deploy these funds in investments that earn more than the cost of acquiring them if they are to remain in profitable businesses (Osofisan, 1993).

Bank portfolio management can also be affected by the prevailing regulatory and economic environment. This relates to the type of banking regulation policies as well as monetary and fiscal policies being pursued by government. For example in Nigeria, Soyibo and Adekanye (1992b) characterized banking regulation practices in Nigeria into four main periods:

- Strict control, 1964-83;
- Less strict control, 1984-85;
- Moderate control, 1986; and
- Relaxed control/deregulation, from 1988 onwards.

These four periods can be brought together into two: a period of financial repression covering 1964-85, and a period of financial liberalization starting from 1986.

The period of financial repression was characterised by a highly regulated monetary policy environment in which policies of directed credits, interest rate ceilings and restrictive monetary expansion became the rule rather than the exception. Under the policies of directed credit, the economy was broadly classified into two: preferred and less preferred sectors. The preferred sectors had access to a greater proportion of the total credit of a bank's credit portfolio as well as lower rates of interest. The allocation rules were usually prescribed annually in the monetary and credit policy guidelines of the monetary authorities that usually accompanied government budgets. These guidelines also contained sanctions for contravention.

With the policy of financial liberalization, banks became free to charge their savings and lending rates and the policy of directed credit was relaxed to the extent that there were only two sectors given some degree of preference; manufacturing and agriculture. However, this 'preferential treatment' lacks the kind of strings attached to those that existed during the era of financial repression. Also, entry for new banks was liberalized among other complementary policies expected to promote competition in banking practice. Besides, new institutional frameworks for the operation of financial systems were put in place, as, for example, the promulgation of new financial system acts and regulations.

Objectives of the study

The study analyses perceived determinants of the transmission of savings mobilized by the Nigerian banking system into investment, particularly productive investment, from the point of view of suppliers of bank credit. Specifically, the study:

- Analyses the different factors underlying the lending decisions of Nigerian banks;
- Analyses the factors affecting the bank's portfolio management decisions generally and under different financial regulatory regimes;
- Analyses the structure of the bank's portfolios to see if there is any relationship between the bankers' perceptions and their actual performance;
- Identifies perceived determinants of the transmission of savings to investment in Nigeria;
- Analyses the opinions of bankers on the impact of different regulatory regimes on the savings-investment process in Nigeria; and
- Offers recommendations on how to facilitate the transmission of savings mobilized by the Nigerian banking system into productive investments.

The next section of the paper discusses the methodology used. Section III discusses the results of the study and Section IV provides the conclusion.

II Methodology

Data collection

We have relied entirely on primary sources for the data in this study. The survey questions were given to a panel of top-level bankers selected randomly from a purposive cluster of banks (see Appendix A). The clustering was based on the following criteria:

1. Bank size, based on volume of deposits and assets. In this regard, three classes of banks were used: big, medium-sized, and small. The three big banks, namely, First Bank, Union Bank and the United Bank for Africa, constitute a self-representing cluster as they control a substantial share of the deposit market (for example, over 60% of total commercial bank deposits were mobilized by these three banks between 1982 and 1987).
2. Type of ownership. The banks were either wholly private, partly owned by government, or had foreign interests as well.
3. Possible influence on the policy of the banks' executives through membership of the Council of the Chartered Institute of Bankers of Nigeria (CIBN). In this regard, one or two banks, though quite new and small, became part of the sample because some of their executive officers were top members of the CIBN.

A total of 35 banks were selected, from which 40 officers of the rank of senior manager and above who are directly involved with credit/portfolio management in the banks were interviewed. Of the completed questionnaires 30 were usable for this analysis, representing a response rate of 75%. The questionnaire sought information from the respondents on issues such as lending and investment activities, opinions of government policies of financial regulation and liberalization, opinions of the transmission of savings to investment and the performance of the banking and finance industry both in mobilizing savings

and facilitating the savings mobilized under different regulatory regimes. Appendix A shows the questionnaire used.

It is debatable whether bankers should be asked questions on the reaction of other economic agents to policies of financial repression and liberalization (section C and part of D in Appendix A). The objective is to produce a comparative analysis of the response of suppliers and users of credit. While the direct response of users will be collected in a later study, suppliers can also be users of credit, and hence bankers may not totally be ignorant of the perceptions of users.

The use of perceptions in the analysis of the impact of public policy has its limitations. First, it can give an exaggerated view of the impact of policy. When the respondents have a tendency to oppose a policy, they tend to express negative views on the impact of it. The converse can also be true. In effect, in using perceptions to analyse government policy, the compounding effect of vested interests seems difficult to discount.

Second, perceptions are affected by individual differences, personal judgements and sometimes by group and societal pressures, and may not necessarily reflect the actual situation. In spite of these limitations, the survey does provide feedback to evaluate the impact on the people affected.

Method of analysis

We adopted the descriptive statistical analysis approach in analysing the data collected. Thus, we depended almost entirely on frequency distributions in making judgements about the relative importance of the variables of interest. In addition, in our analysis of the degree of importance attached to some factors by bankers in making lending and other portfolio management decisions, we also made use of the concepts of *lexicographic ordering* and *pre-emptive priority* of goal programming (Lee, 1972, 1976; Ignizio, 1976, 1982) as well as the concept of *vector dominance* of the vector maximum problem of the multi-criteria optimization problem (Cohon, 1978; Zeleny, 1974).

Lexicographic ordering is simply an ordering imposed by some type of ordinal ranking. However, the concept of pre-emptive priority introduces another dimension to lexicographic ordering. Once the ordering of any factor has been fixed at a higher priority, whatever the score of that factor using any other evaluator when considering a lower priority, the priority earlier determined at a higher level can no longer be degraded.

Sometimes a factor is important in that it has varying degrees of priority in people's preferences. For example, factors like increasing the profitability of a business concern and increasing the market value of the business are

important determinants of business performance. It is possible that the profitability factor is ranked 1 and 2 respectively by the highest percentage of respondents while the market value is ranked 2 by the next highest percentage of respondents. The principle of pre-emptive priority stipulates that the profitability factor be placed in rank 1 while the other factor is placed in rank 2, in spite of the fact that a greater percentage of respondents also ranked the profitability factor as 2 earlier. This ensures a consistency of ranks in situations where multiple factors affect the problems under study.

The concept of vector dominance is useful when evaluating one or several factors using more than one value of an evaluator simultaneously. In this case the scores of the factor on the several evaluators, or the several values of the same evaluator, become the components of a vector-valued function. Let x and y be n vectors, i.e., $x = (x_j)$ and $y = (y_j)$; $j = 1, 2, \dots, n$. Then x is said to dominate y , if and only if $x_j \geq y_j$ for all j and $x_j > y_j$ for at least one j .

III Analysis and discussion of results

Lending and investment activities

In investigating the lending and investment activities of the banks, the survey sought information on the relative importance attached to selected factors in lending and general portfolio management decisions under two major conditions. The first is an ideal one, where we wanted to know how the respondents would behave *purely* as bankers without any constraint. The other condition is constrained by their desire to be *successful* bankers in the Nigerian environment, for example, when constrained by policies of strict regulation.

Tables 1-3 give the results of the analysis. In selecting the ranks or priorities, we have used the concept of lexicographical ordering, pre-emptive priorities and vector dominance. For each factor, we consider first the percentage distribution of the different ranks assigned by the respondents. The rank that has the *highest* percentage distribution for the factor is judged the *assigned* rank by respondents. However, where two factors are assigned the same rank (as in the case when the highest percentage of respondents choose the same rank in each case), we then use the ratio of their percentage distributions as the weight showing the relative importance attached to the two factors at the same priority. This is similar to the concept of cardinal weights used in goal programming. Thus, in Table 1, though two factors are ranked as 1, the ratio of their percentage distribution suggests that 'ability of borrower to repay' is a factor judged to be 2.4 times more important than 'the profitability of the sector' by the respondents at the same priority.

Finally, using the concept of pre-emptive priority, once a factor has been judged important at a higher priority level, even if a greater percentage of respondents give it another rank at a lower level, its rank will not be lowered. We then go to the next rank that has not been placed until all the banks have been exhausted. Appendix Tables B1-5 give the data from which the analyses reported in Tables 1-3 are derived.

Table 1 shows that, behaving purely as bankers and under no environmental constraints, the respondents believed the six most important factors that would underlie their lending decisions were (in increasing order of importance):

- Ability of the borrower to repay;
- Profitability of the sector;
- The borrower's previous experience in a similar project;
- Returns to the bank;
- The borrower's contribution to the project; and
- Opportunity cost of the fund to the bank.

This finding suggests that in an ideal situation Nigerian bankers would tend to make bank asset management decisions following the anticipated income theory. This approach to bank asset management posits that the security of a loan is ultimately determined by the ability of the borrower to repay, which in turn is a function of the borrower's income over the future period when the repayment is due (Elliot, 1984).

Table 1 Degree of importance attached to selected factors by respondents in taking lending decisions purely as bankers

Factors	Priority	Percentage of respondents selecting rank	Weight
Ability of borrower to repay	1	63.3	2.4
Profitability of sector of operation	1	26.7	-
Previous experience of borrower in similar project	2	31.0	-
Returns to bank	3	27.6	-
Borrower's contribution to the project	4	26.7	-
Opportunity cost of the fund to the bank	5	26.9	-
Collateral offered	6	26.7	-
Sanctions for disregarding government credit policy	7	41.4	-
Social responsibility/government credit policy guidelines	8	50.0	-
Other factors	9	68.0	-

Table 2 Degree of importance attached to selected factors by respondents in taking lending decisions as these affect their success in Nigeria before and after deregulation

Factors	Priority		Percentage of respondents selecting rank	
	Before 1987	After 1987	Before 1987	After 1987
Ability of borrower to repay	1	1	61.5	58.6
Returns to bank	2	5	29.6	33.3
Previous experience of borrower in similar project	3	3	20.7	25.0
Borrower's contribution to the project	4	4	29.6	23.3
Profitability of sector of operation	5	2	20.0	27.6
Collateral offered	6	6	28.9	20.0
Opportunity cost of the fund to the bank	7	7	25.0	23.3
Sanctions for disregarding government credit policy	8	8	27.6	24.1
Social responsibility/government credit policy guidelines	9	9	42.9	28.3
Other factors	10	10	75.0	75.0

The importance attached to profitability of the sector, previous experience of the borrower in a similar project, and the borrower's contribution, can be seen to be related to the borrower's future income. This is in contrast to the two other approaches to bank asset management, namely the commercial loan theory and the shiftability theory (Elliot, 1984; and Ritter and Silber, 1986).

Table 2 shows the degree of importance attached to the selected factors by the respondents when constrained by the Nigerian environment in making their lending decisions before and after the policy of financial liberalization. It shows that, given the constraints of the Nigerian environment, the degree of importance attached to the various factors when the respondents make their lending decisions has changed, although the ability of the borrower to repay is still judged the most important factor. Besides the effect of the Nigerian environment, change in financial regulation policies also has some effect.

When the importance of the constraints of the Nigerian environment is considered, it can be seen that the profitability of the sector of operation was degraded to the fifth priority, its place being taken by returns to the bank, which previously ranked third. It is not surprising that both ability of the borrower to repay and the profitability of the sector are the two most important factors given the ambition of the average person to succeed in his or her chosen profession. This shows that the respondents behave rationally.

One interesting observation after liberalization is that the profitability of the sector of operation and returns to the bank swapped position. Thus, after liberalization, the factors which affect the lending decisions of the respondents (in decreasing order of importance) were:

- Ability of the borrowers to repay;
- Profitability of the sector of operation;
- Previous experience of the borrower in a similar project;
- The borrower's contribution;
- Returns to the bank;
- Collateral offered.

In effect, the degree of importance attached to the factors after liberalization was more or less the same as under the ideal situation when the respondents behaved *purely* as bankers. This is not surprising, as the constraints under liberalization are much fewer than those under the era of financial repression.

The respondents did not appear to be concerned about the sanctions imposed by the Central Bank of Nigeria (CBN) for disregarding its credit policy prescriptions. This suggests that the respondents tended to behave more as rational profit maximizing investors irrespective of the type of financial regulation policy in place. This has an important policy implication and tends to give *ex post* justification for the liberalization policies being pursued by government. The major policy implication is that, given the behaviour of the operators of the Nigerian banking system, punitive sanctions do not serve as the intended deterrent to disregarding the monetary policy guidelines. If government wants to be socially responsible by investing in sectors that are socially but not economically profitable, it should therefore seek other approaches.

Another important finding of Table 2 is that the respondents still behaved in accordance with the prescriptions of the anticipated income approach in taking their asset management decisions.

Table 3 shows the degree of importance attached to selected factors by respondents in making general portfolio management decisions. This table shows that prior to financial liberalization both returns on investment and

meeting the demand deposit requirements of the customers had the same priority, though the former was 1.7 times as important as the latter. On the surface, it would appear as if there was no significant difference in the rankings before and after liberalization. But by invoking the concept of preemptive priority or non-archimedean ordering (Kornbluth, 1973), it will be seen that the two orderings are different. Thus, before liberalization, meeting the demand deposit of customers was a factor placed as priority 1, while after liberalization it was priority 3. This is not surprising because the 'protective' policies for customers' deposits, like the operation of the Nigerian Deposit Insurance Scheme, came into being with liberalization and these might have affected the lower ranking given to meeting the deposit requirements of customers after liberalization. Again, it will be seen that sanctions imposed by the CBN for not meeting its credit policy guidelines were given rather low priority.

In making portfolio management decisions, the opportunity cost of the fund invested is highly ranked both before and after liberalization. Thus, in Table 3, before liberalization it is ranked 3, while after liberalization it is ranked 2. There are at least two implications of this finding. First, it means that in making portfolio management decisions, productivity of the investment was given pride of place by the respondents. Second, in making investment decisions, productivity of the investment was given a higher priority after liberalization than before.

Table 4 shows the structure of the loan portfolios of some of the banks surveyed. Only 12 of the responding banks satisfactorily completed this part of the questionnaire. Besides, it will be seen that the number of observations used tends to decrease the further back we go in time. One important finding is that the relative share of agricultural loans (a preferred sector) was much lower than other sectors. It ranged between 5.6% and 17.6%, on average. Manufacturing, another preferred sector, performed better, its relative share ranging between 27.5% and 40.0%, on average. The performance in terms of relative allocation of loans to other sectors (less preferred) is much better. Apparently, these sectors are more profitable to the banks than manufacturing or agriculture.

Table 3 Degree of importance attached to selected factors by respondents in making bank portfolio management decisions before and after deregulation

Factors	Priority		Percentage respondents selecting rank		Weight	
	Before 1987	After 1987	Before 1987	After 1987	Before 1987	After 1987
Returns on investment	1	1	55.2	33.3	1.7	-
Meeting demand deposits requirements of customers	1	3	33.3	20.2	-	-
Opportunity cost of the funds invested	3	2	34.5	26.7	-	-
Maximization of shareholders' wealth	4	4	35.7	20.0	-	-
Meeting CBN's prudential requirements	5	5	37.5	30.0	-	-
Sanctions imposed by credit policy guidelines	6	6	35.7	26.7	-	-
Competition from other banks	7	7	26.7	20.0	-	-
Social responsibility issues relating to achieving government policy objectives	8	8	53.5	46.7	-	-
Other factors	9	9	100.0	95.0	-	-

Table 4 Structure of loan portfolios of banks surveyed, 1980-89 (million naira)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Total agricultural loans	90.7 (7.6)	129.8 (8.5)	437.0 (9.6)	423.8 (9.0)	778.2 (15.4)	549.6 (12.5)	942.7 (18.8)	1047.7 (16.5)	1375.5 (17.6)	1121.5 (12.1)
No. of observations	4	4	7	8	10	10	12	11	11	11
Average/bank	22.7 (5.8)	32.4 (6.5)	62.4 (8.4)	529.7 (9.0)	77.8 (14.1)	55.0 (11.4)	78.6 (17.5)	95.2 (15.3)	125.1 (17.6)	102.0 (12.6)
Total manufacturing loans	355.1 (29.8)	527.1 (34.3)	1627.8 (35.9)	1841.8 (39.0)	1593.6 (31.6)	11929.4 (27.1)	1814.5 (36.2)	2221.1 (34.8)	2419.8 (30.9)	3930.3 (42.3)
No. of observations	3	3	6	8	9	9	11	10	11	11
Average/bank	118.4 (30.4)	175.7 (35.1)	271.3 (36.4)	230.4 (39.1)	177.1 (32.1)	132.6 (27.5)	165.0 (36.7)	222.1 (35.3)	220.0 (30.9)	354.8 (40.0)
Total other loans	744.2 (62.6)	878.3 (57.2)	2472.3 (54.5)	2452.0 (52.0)	2677.4 (53.0)	2653.7 (60.4)	2261.7 (45.0)	3111.6 (48.7)	4030.7 (51.5)	4234.6 (45.6)
No. of observations	3	3	6	8	9	9	11	10	11	11
Average/bank	248.1 (63.8)	292.8 (58.1)	412.1 (55.2)	306.5 (51.9)	297.5 (53.8)	294.9 (61.1)	205.6 (45.8)	311.2 (49.5)	366.4 (51.5)	385.0 (47.4)
Total all loans	1190.0 (100.0)	1535.1 (100.0)	4536.9 (100.0)	4727.9 (100.0)	5049.1 (100.0)	4396.3 (100.0)	5018.9 (100.0)	6380.4 (100.0)	7825.5 (100.0)	9286.4 (100.0)
Total average loans	389.2 (100.0)	500.9 (100.0)	745.8 (100.0)	589.4 (100.0)	552.4 (100.0)	482.4 (100.0)	499.1 (100.0)	628.5 (100.0)	711.5 (100.0)	841.7 (100.0)

Note: numbers in parenthesis are percentages

On average, the relative share of the loan portfolio of the banks studied to their sectors varied between 45.8% and 63.8%. This result is not surprising. In fact, it corroborates the finding of Table 3 that in making portfolio management decisions, banks rank productivity of their investment very high.

Perceived effects of government regulatory policy on savings and investment

Table 5 sets out the views that over 5% of the respondents supported on the effects of the government policy of directed credit on savings and investment. The table shows that the majority of the respondents supported the view that while the policy tended to discourage savings because of its low nominal interest rate, it has also had a positive effect on investment, particularly in sectors which otherwise would not be able to attract credit due to their high-risk nature, low rate of return or long gestation period.

Some of the respondents felt that the policy of directed credit might have encouraged rural borrowers and indigenous businessmen to save given the fact that they know they are given some preference in the allocation of credit. However, the policy is also perceived as having undermined the productivity of investment and led to a misallocation of scarce resources.

Table 6 shows the perceptions of the respondents of the effects of the policy of financial liberalization on savings and investment in Nigeria. As many as 70% of the respondents were optimistic about its positive effects on savings. However, Soyibo and Adekanye (1992a, 1992b) have shown that this support may be weaker than claimed here, as only 20% of their sample held the view that stiffer competition from banks was a result of the policy. This is compatible with the results of NDIC (1989) on the impact of the interest rate 'war', as well as with Soyibo and Adekanye (1992b).

There was a consensus of opinion among respondents that the policy of financial liberalization resulted in high costs of funds, which tended to stifle productive investments, particularly in the small business sector. The impact of conflict of policy, e.g., curtailing inflation through the use of a credit expansion limit, was judged by 27% of the respondents as impairing even the slight positive impact which policy had on productive investment.

One other positive result of the policy, as perceived by the respondents, was its impact on investment in money market instruments. The policy was believed to have increased capacity utilization in industry. However, some of the respondents (7%) believed it promoted investment in the distributive sector to the detriment of productive investment. Thus, the perception of respondents of the impact of the policy of financial liberalization on investment does not

seem to be as strong as their perception of its effects on savings. There is, therefore, a need to fully investigate the *actual* effects on investment, if possible using primary data.

Table 5 Perceptions of respondents on the effect of the policy of directed credit on savings and investment

Perceived effects on savings	Percentage of respondents
1. Tended to discourage savings due to low interest rates	57
2. Encouraged savings by rural borrowers and indigenous business managers because they know they have some priority in lending	10
3. Encouraged the existence of money outside the banking system	7
Perceived effects on investment	Percentage of respondents
1. Has affected investment positively because it led to the growth of sectors which otherwise would not have attracted credit	57
2. Undermined productivity of investments	17
3. Led to misallocation of resources because of misapplication of loans	10
4. Discouraged people in the high-risk but preferred sectors from thoughtful planning and displaying commitment to their projects	7

Factors perceived as affecting the transmission of savings to investment

The factors affecting the transmission of savings to investment in Nigeria, as perceived by the respondents, are summarized in Table 7. Comparing this with Table 5, it can be seen that there was some degree of agreement among the respondents as to the negative effect of strict government regulation of the financial system. Thus, in Table 7, as many as 67% of the respondents saw government monetary policy restrictions like CBN's credit expansion ceilings, interest rate ceilings, etc., as adversely affecting the transmission of savings to investment.

Other important factors identified were:

- Inadequate information about investment opportunities;
- An unpredictable economic/industrial environment;
- Non-availability of viable productive ventures; and
- A poor enabling environment/lack of adequate infrastructure.

To solve the problems posed by these factors the government and the private sector need to work together to find ways of providing information about available investment opportunities and to provide a conducive investment environment.

Among the recommendations offered by the respondents for facilitating the transmission of savings to investment were:

- Relaxation of the credit expansion limit;
- Improvement of basic industrial infrastructure;
- Bridging the gap between the investing public and banks through a mass investment enlightenment programme in which government, the public and the banks will co-operate in a complementary arrangement;
- More effective monitoring of the naira exchange rate which tends to affect the offshore components of Nigerian investment;
- Effective administration of the agricultural credit guarantee scheme which has the potential for increasing the willingness of banks to support agricultural investment; and
- Intensification of the use of capital market instruments to fund investment, e.g., unit trusts.

Table 6 Perceptions of respondents on the effect of the policy of financial liberalization on savings and investment

Perceived effects on savings	Percentage of respondents
1. Resulted in higher level of savings because of the resultant higher interest rate in nominal terms and multiplicity of financial instruments	70
2. Resulted in stiffer competition between banks because of increase in the number of banks and better utilization of resources	20
3. The effect of the policy on the declining value of the naira tends to erode the propensity to save	7
4. Changed the concept and practice of banking with introduction of the People's Bank and Community Banks	7
5. Discouraged the operations of black market by the non-bank financial institutions which have become unofficial deposit-takers	7
Perceived effects on investment	Percentage of respondents
1. Resulted in high cost and hence tended to discourage productive investment, particularly in the small-business sector	60
2. The slight positive effect it had on productive investment seemed to have been curtailed by the retention of the credit expansion limit	27
3. Investment in money market instruments positively affected	17
4. Has promoted increased capacity utilization in industry	7
5. Has promoted investment in distributive sector to the detriment of productive investment	7
6. The resultant effect on the value of the naira has discouraged investment that requires foreign inputs	7

Table 7 Perceptions of respondents on factors affecting transmission of savings to investment

Factors	Percentage of respondents
1. Monetary policy restrictions and government policy, for example, the CBN's credit expansion policy	67
2. Inadequate information about investment opportunities	30
3. Unpredictable economic/industrial climate	23
4. Cost of funds	23
5. Availability of viable productive ventures	20
6. Poor enabling environment/ lack of adequate infrastructure	20
7. Expected returns on investment	17
8. Lack of entrepreneurial zeal on the part of investors	10
9. Investment policies of banks	7
10. Nature and duration of deposits	7

IV Summary, conclusions and recommendations

This study characterizes the major factors perceived by bankers as affecting the savings-investment process in Nigeria. In making lending decisions, the respondents tend to behave in accordance with the anticipated income theory of asset management, whether they were constrained by the realities of the Nigerian environment or not. This suggests that among Nigerian bankers professionalism is given pride of place. In addition, under changing financial control regimes, there is a shift in the importance attached to factors used in making lending decisions. In particular, there seems to be a close relationship between the rankings the respondents gave when they behaved purely as bankers and those that related to the era of liberalization.

Neither do the respondents appear to be concerned by the sanctions imposed by the CBN for not meeting its stipulated credit policy guidelines. This suggests that Nigerian bankers tend to behave as profit maximizing investors irrespective of the sanctions imposed for not meeting government social responsibility objectives. The study also shows that in making portfolio management decisions the importance attached to meeting the demand deposit requirements of banks' customers was less important after liberalization, apparently because of liberalization policies such as the operation of the Nigerian Deposit Insurance Corporation. Another important finding is that productivity of investment, while a factor in making portfolio management decisions, was accorded higher priority after liberalization.

In general the study gives an *ex post* factor justification for the policy of liberalization pursued by government. However, the respondents believed that the results of the policy in stimulating productive investment were mixed. Thus, for example, while they believed it affected investment in money market instruments positively, there was a possibility of small businesses being adversely affected because of higher cost of credit. Many of the results of the study also confirm the results of our earlier studies on the effect of liberalization on the mobilization of savings in Nigeria. Thus, like Soyibo and Adekanye (1992a, 1992b), this study shows that the respondents believed that the policy of liberalization brought about an increase in the number of banks,

which, while increasing financial products, can affect savings adversely through an interest-rate war. It also shows that the policy has affected the concept and practice of banking through the introduction of the People's Bank and Community Banks.

The study has led to some important policy recommendations:

- That the policy of liberalization, though commendable by actors in the Nigerian banking system, needs other complementary policies to reduce its negative effects on investment;
- Use of punitive sanctions on banks for disregarding government monetary policy guidelines, particularly in promoting investments in sectors that appear socially but not commercially profitable, may not be effective. A combination of moral persuasion and a reward system for those heeding such objectives may be better;
- The need to provide adequate information about available investment opportunities. A tripartite arrangement involving government, financial institutions (the banks and non-banks) and the investing public (through the various private sector organizations) could help to stimulate and sustain interest in this direction;
- The study has shown that the Nigerian banks surveyed tend to make portfolio management decisions based on the anticipated income theory of asset management in which the organization is constrained by customers in relation to the volume of deposits they willingly bring. As observed elsewhere (Soyibo, 1991), Nigerian banks may need to complement this practice by adopting a more aggressive approach to asset management using the concept of liability management. In this approach, banks do not take their liability as given and then tailor their assets structure to meet it. Rather, they set a target asset structure and deliberately seek a liability structure to meet the targeted asset structure through planned and careful exploitation of strategic and marketing management policies.

While this study has highlighted the views of providers of finance on the savings-investment process in Nigeria, there is still a need to discover the behavioural characteristics of the users of finance. Accordingly, an area of future study could involve the actual practice of the investment public, perhaps using the methodology of a focus study to investigate empirically a randomly selected sample of customers of banks to determine the structure of their investment portfolios and the ways they used the funds obtained from banks.

Such a study might reveal some interesting policy recommendations aimed at facilitating the savings-investment process in Nigeria.

Appendix A: Questionnaire: key concerns of the savings-investment process in Nigeria

A. Background information

1. Name of bank:
2. Head office address:
3. Year of incorporation:
4. (a) Year when licence was granted:
(b) Year business commenced:
5. Type of bank:
 1. Commercial
 2. Merchant
6. (a) Approved share capital
(b) Paid-up share capital

B. Lending and investment activities

7. Please rank the following factors in the order of importance you attach to them in your lending decisions *purely* as a professional banker (1 = most important, 2 = next most important, etc.)

Factors	Rank
1. Profitability in the sector of operation	
2. Ability of the borrower to repay	
3. Previous experience of borrower in similar project	
4. Borrower's contribution to the project	

Housing loans
Other loans

10. In making portfolio management decisions please rank the following factors in the order of importance in which they affect your bank's investment decisions.

Factors	Rank	
	Before	After
	1987	1987
1. Returns on investment		
2. Opportunity cost of the funds invested		
3. Completion from other banks		
4. Social responsibility issues relating to achievement of government development objectives		
5. Meeting Central Banks' Prudential Regulations		
6. Meeting Demand Deposit requirements of customers		
7. Sanctions imposed by Credit Policy Guidelines		
8. Maximization of shareholder's wealth		
9. Other factors (please specify)		

C. Opinions on government policy

11. Please state your opinion on government policy of directed credit as it affects *savings* in Nigeria.
12. Please state your opinion on credit as it affects *investment* in Nigeria.
13. Please state your opinion on government policy of financial liberalization begun in 1987 as it affects *savings* in Nigeria.
14. Please state your opinion on the government policy of financial liberalization begun in 1987 as it affects *investment* in Nigeria.

D. Opinions in transmission mechanisms between savings and investment in Nigeria

15. Please list the *key* factors affecting the transmission of deposit mobilized by banks into investment in Nigeria.

16. In your own opinion, what are the problems inhibiting the transmission of deposits mobilized by banks into investment in Nigeria?
17. What policy recommendations will you offer government to facilitate the mobilization of savings in Nigeria?
18. What policy recommendations will you offer government to facilitate the transmission of savings to investment in Nigeria?
19. How will you assess the performance of Nigerian banks in the mobilization of savings over the indicated time periods?

Before	After
1987	1987

Poor
Fair
Very fair
Good
Very good
Excellent

20. What factors are responsible for the assessment given in Question 19?
21. How will you assess the performance of Nigerian banks in facilitating the transmission of savings to investment over the indicated period?

Before	After
1987	1987

Poor
Fair
Very fair
Good
Very good
Excellent

22. What factors are responsible for the assessment given in Question 21?

Appendix B: Data tables

Table B1 Distribution of respondents' choice of ranks of the factors affecting lending decisions purely as bankers (numbers in parenthesis are percentages)

Rank	Profitability in sector of operation	Ability to repay	Borrower's previous experience in similar projects	Borrower's contribution to project	Returns to your bank	Collateral offered	Opportunity cost of fund to bank	Social responsibility of government credit policy	Sanctions for government credit policy's disregard	Other factors
1	8 (26.7)	19 (63.3)	-	-	1 (3.4)	1 (3.3)	-	1 (3.3)	1 (3.4)	-
2	5 (16.7)	6 (20.0)	31 (9.0)	4 (13.3)	4 (13.8)	2 (6.7)	2 (7.7)	1 (3.3)	2 (6.9)	-
3	4 (13.3)	2 (6.7)	3 (10.3)	6 (20.0)	8 (27.6)	2 (6.7)	4 (15.4)	1 (3.3)	-	-
4	5 (16.7)	1 (3.3)	3 (10.3)	8 (26.7)	4 (13.8)	4 (13.3)	3 (11.5)	-	1 (3.4)	-
5	2 (6.7)	2 (6.7)	8 (27.6)	2 (6.7)	5 (17.2)	3 (10.0)	7 (26.9)	3 (10.0)	1 (3.4)	-
6	3 (10.0)	-	2 (6.9)	7 (23.3)	5 (17.2)	6 (20.0)	4 (15.4)	-	2 (6.9)	1 (4.0)

cont ...

Table B1 cont ...

Rank	Profitability in sector of operation	Ability to repay	Borrower's previous experience in similar projects	Borrower's contribution to project	Returns to your bank	Collateral offered	Opportunity cost of fund to bank	Social responsibility issues of government credit policy	Sanctions for government policy's disregard	Other factors
7	1 (3.3)	-	3 (10.3)	2 (6.7)	2 (6.9)	8 (26.7)	2 (7.7)	2 (6.7)	5 (17.2)	-
8	2 (6.7)	-	1 (3.4)	1 (3.3)	-	4 (13.3)	-	5 (16.7)	12 (41.4)	-
9	-	-	-	-	-	-	4 (15.4)	15 (50.0)	5 (17.2)	3 (12.0)
10	-	-	-	-	-	-	-	2 (6.7)	-	17 (68.0)
Total	30	30	29	30	29	30	26	30	29	25

Table B2 Distribution of respondents' choice of ranks of the factors affecting lending decisions purely as they affect banks' success in Nigeria before 1987 (numbers in parenthesis are percentages)

Rank	Profitability in sector of operation	Ability to repay	Borrower's previous experience in similar projects	Borrower's contribution to project	Returns to your bank	Collateral offered	Opportunity cost of fund to bank	Social responsibility issues of government credit policy	Sanctions for government credit policy's disregard	Other factors
1	6 (16.7)	16 (61.5)	-	-	-	1 (3.7)	2 (3.6)	-	1 (3.4)	-
2	4 (13.3)	4 (15.4)	5 (17.2)	3 (11.1)	8 (29.6)	2 (7.4)	3 (10.7)	2 (7.1)	2 (6.9)	-
3	3 (10.0)	3 (11.5)	6 (20.7)	4 (14.8)	4 (14.8)	5 (18.5)	1 (3.6)	1 (3.6)	1 (3.4)	-
4	5 (16.7)	1 (3.8)	5 (17.2)	8 (29.6)	3 (11.1)	2 (7.4)	4 (14.3)	-	-	-
5	6 (20.0)	1 (3.8)	6 (20.7)	5 (18.5)	6 (22.2)	3 (11.1)	3 (10.7)	2 (7.1)	2 (6.9)	-
6	4 (13.3)	1 (3.8)	4 (13.8)	4 (14.8)	5 (18.5)	7 (25.9)	3 (10.7)	1 (3.6)	1 (3.4)	-
7	1 (3.3)	-	2 (6.9)	2 (7.4)	1 (3.7)	2 (7.4)	7 (25.0)	1 (3.6)	7 (24.1)	1 (5.0)

cont ...

Table B2 cont ...

Rank	Profitability in sector of operation	Ability to repay	Borrower's previous experience in similar projects	Borrower's contribution to project	Returns to your bank	Collateral offered	Opportunity cost of fund to bank	Social responsibility issues of government credit policy	Sanctions for government credit policy's disregard	Other factors
8	1 (3.3)	-	1 (3.4)	-	-	4 (14.8)	2 (7.1)	6 (21.4)	8 (27.6)	2 (10.0)
9	-	-	-	1 (3.7)	-	-	3 (10.7)	12 (42.9)	7 (24.1)	2 (10.0)
10	-	-	-	-	-	1 (3.7)	-	3 (10.7)	-	15 (75.0)
Total	30	26	29	27	27	27	28	28	29	20

Table B3 Distribution of respondents' choice of ranks of the factors affecting lending decisions purely as they affect banks' success in Nigeria after 1987 (numbers in parenthesis are percentages)

Rank	Profitability in sector of operation	Ability to repay	Borrower's previous experience in similar projects	Borrower's contribution to project	Returns to your bank	Collateral offered	Opportunity cost of fund to bank	Social responsibility issues of government credit policy	Sanctions for government credit policy's disregard	Other factors
1	6 (20.7)	17 (58.6)	2 (7.1)	-	2 (6.7)	1 (4.0)	2 (6.7)	1 (3.4)	1 (3.4)	1 (5.0)
2	8 (27.6)	7 (24.1)	3 (10.7)	2 (6.7)	5 (16.7)	2 (8.0)	3 (10.0)	2 (6.9)	2 (6.9)	-
3	2 (6.9)	3 (10.3)	7 (25.0)	3 (10.0)	2 (6.7)	4 (16.0)	3 (10.0)	-	2 (6.9)	-
4	5 (17.2)	1 (3.4)	4 (14.3)	7 (23.3)	6 (20.0)	2 (8.0)	5 (16.7)	-	-	-
5	2 (6.9)	-	6 (21.4)	8 (26.7)	10 (33.3)	1 (4.0)	2 (6.7)	1 (3.4)	2 (6.9)	-
6	3 (10.3)	1 (3.4)	3 (10.7)	5 (16.7)	5 (16.7)	5 (20.0)	4 (13.3)	-	1 (3.4)	-
7	-	-	3 (10.7)	2 (6.7)	-	5 (20.0)	7 (23.3)	3 (10.3)	5 (17.2)	-

cont ...

Table B3 cont ...

Rank	Profitability in sector of operation	Ability to repay	Borrower's previous experience in similar projects	Borrower's contribution to project	Returns to your bank	Collateral offered	Opportunity cost of fund to bank	Social responsibility issues of government credit policy	Sanctions for government credit policy's disregard	Other factors
8	3 (10.3)	-	-	3 (10.0)	-	4 (16.0)	3 (10.0)	5 (17.2)	7 (24.1)	2 (10.0)
9	-	-	-	-	-	-	1 (3.3)	14 (48.3)	9 (31.0)	2 (10.0)
10	-	-	-	-	-	1 (4.0)	-	3 (10.3)	-	15 (75.0)
Total	29	29	28	30	30	25	30	29	29	20

Table B4 Distribution of respondents' choice of ranks of the factors affecting bank's investment or portfolio management decisions before 1987

Rank	Returns on investment	Opportunity costs of funds invested	Competition from other banks	Social responsibility issues relating to achievement of government development objectives	Meeting CBN prudential regulations	Meeting demand deposit requirements of customers	Sanctions imposed by credit policy guidelines	Maximization of shareholders' wealth	Other factors
1	16 (55.2)	4 (13.8)	1 (3.3)	1 (3.3)	1 (4.2)	9 (33.3)	-	2 (7.1)	-
2	8 (27.6)	8 (27.6)	1 (3.3)	1 (3.3)	-	1 (3.3)	5 (17.6)	4 (14.3)	-
3	2 (6.9)	10 (34.5)	1 (3.3)	-	4 (16.7)	5 (16.7)	1 (3.6)	3 (10.7)	-
4	2 (6.9)	4 (13.8)	5 (16.7)	3 (10.0)	1 (4.2)	3 (10.0)	4 (14.3)	10 (35.7)	-
5	-	2 (6.9)	5 (16.7)	3 (10.0)	9 (37.5)	3 (10.0)	4 (14.3)	-	-
6	-	-	6 (20.0)	1 (3.3)	4 (16.7)	3 (10.0)	9 (35.7)	5 (17.6)	-
7	-	1 (3.4)	8 (26.7)	4 (13.3)	5 (20.8)	4 (13.3)	4 (14.3)	2 (7.1)	-

cont ...

Table B4 cont ...

Rank	Returns on investment	Opportunity costs of funds invested	Competition from other banks	Social responsibility issues relating to achievement of government development objectives	Meeting CBN prudential regulations	Meeting demand deposit requirements of customers	Sanctions imposed by credit policy guidelines	Maximization of shareholders' wealth	Other factors
8	-	-	3 (10.0)	16 (53.3)	-	2 (6.7)	1 (3.6)	2 (7.1)	-
9	-	-	-	1 (3.3)	-	-	-	-	17 (100.0)
Total	29	29	30	30	24	30	28	28	17

Table B5 Distribution of respondents' choice of banks of the factors affecting bank's investment or portfolio management decisions after 1987

Rank	Returns on investment	Opportunity costs of funds invested	Competition from other banks	Social responsibility issues relating to achievement of government development objectives	Meeting CBN prudential regulations	Meeting demand deposit requirements of customers	Sanctions imposed by credit policy guidelines	Maximization of shareholders' wealth	Other factors
1	13 (43.3)	5 (16.7)	4 (13.3)	1 (3.3)	5 (16.7)	6 (16.7)	3 (10.3)	4 (13.3)	-
2	10 (33.3)	8 (26.7)	2 (6.7)	-	1 (3.3)	3 (10.0)	3 (10.3)	5 (16.7)	-
3	5 (16.7)	7 (23.3)	2 (6.7)	1 (3.3)	5 (16.7)	6 (20.0)	1 (3.3)	5 (16.7)	-
4	2 (6.7)	4 (13.3)	7 (23.3)	3 (10.0)	2 (6.7)	3 (10.0)	1 (3.3)	6 (20.0)	-
5	-	4 (13.3)	2 (6.7)	5 (16.7)	9 (30.0)	2 (6.7)	6 (20.0)	2 (6.7)	-
6	-	1 (3.3)	3 (10.0)	1 (3.3)	6 (20.0)	3 (10.0)	8 (26.7)	4 (13.3)	-
7	- (3.3)	1 (20.0)	6 (13.3)	4 (6.7)	2 (6.7)	5 (16.7)	5 (6.7)	2	-

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References

- Adekanye, F.A., 1993, 'Commercial bank performance in a developing economy: a multivariate regression analysis approach', PhD thesis, Department of International Banking and Finance, Business School, City University, London.
- Bhatia, R.J. and D.R. Khatkhate (1973) 'Interest rates, savings, and growth in LDCs: an assessment of recent empirical research', *World Development*, Vol. 16, No. 5, pp. 589-605.
- Cohon, J.L., 1978, *Multi-objective Programming and Planning*, Academic Press, New York.
- Elliot, J.W., 1984, *Money, Banking and Financial Markets*, West Publishing Company, New York.
- Fry, M.J., 1978, 'Money and capital or financial deepening in economic development', *Journal of Money, Credit and Banking*, Vol. 10, No. 4, pp. 464-75.
- Ignizio, J.P., 1976, *Goal Programming and Extensions*, Lexington Books, Massachusetts.
- 1982, *Linear Programming in Single and Multiple Objective Systems*, Prentice Hall, Englewood Cliffs, NJ.
- Kornbluth, J.S.H., 1973, 'A survey of goal programming', *Omega*, Vol. 1, No. 2, pp. 193-205.
- Lee, S.M., 1972, *Goal Programming for Decision Analysis*, Averbach Publishers Inc, Philadelphia.
- 1976, *Linear Optimization for Management*, Petrochelli/Charter, New York.
- Luckett, D.G., 1984, *Money and Banking*, McGraw Hill, New York.
- McKinnon, R.I., 1973, *Money and Capital Market in Economic Development*, The Brookings Institution, Washington, DC.
- Mwega, F.M., S.M. Ngola, and N. Mwangi, 1990, 'Real interest rates and the mobilization of private savings in Africa: a case study of Kenya', AERC Research Paper No. 2, African Economic Research Consortium, Nairobi.



- Ndulu, B.J., 1990, 'Growth and adjustment in Sub-Saharan Africa', a paper presented at the World Bank Economic Issues Conference, Nairobi, Kenya, June.
- Nigeria Deposit Insurance Corporation (NDIC), 1989, *Annual Reports and Statement of Accounts*, Lagos, December 31.
- Osofisan, A.O., 1993, 'An asset portfolio management model for Nigerian Commercial Banks: a case study', Department of Economics, University of Ibadan, MBA Project Report.
- Revell, J., 1975, *Solvency and Regulation in Banks*, University of Wales Press, Cardiff.
- Ritter, L.S. and W.L. Silber, 1986, *Principles of Money, Banking and Financial Markets*, Basic Books Inc., New York.
- Shaw, E., 1973, *Financial Deepening in Economic Development*, Oxford University Press, New York.
- Soyibo, A., 1991, 'Managing bank assets in a depressed economy', a paper presented at the Union Bank of Nigeria Area Managers' Conference, Ibadan, 17-18 May.
- Soyibo, A. and F. Adekanye, 1992a, *Financial System Regulation, Deregulation and Savings Mobilization in Nigeria*, African Economic Research Consortium, Nairobi.
- 1992b, *The Nigerian Banking System in the Context of Policies of Financial Regulation and Deregulation*, African Economic Research Consortium Workshop, Nairobi.
- Zeleny, M., 1974, *Linear Multiobjective Programming*, Springer-Verlag, New York.



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