AN EVALUATION OF FINANCIAL RATIOS AS A TOOL FOR PREDICTING CORPORATE PERFORMANCE

A CASE STUDY OF AFRIBANK NIG. PLC AND BANK OF THE NORIH LTD.

BY

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BEING A PROJECT SUBMITTED TO THE DEPARTMENT OE BUSINESS ADMINISTRATION, AHMADU BELLO UNIVERSITY ZARIA IN PARTIAL FULfILMENT
OF THE REQUIREMENTS
FOR THE AWARD OF MASTER IN BUSINESS ADMINISTRATION (MBA) DEGREE

DECEMBER, 1995

DECLARATION

I hereby declare that this research project is the product of my research efforts and finding and that it has not been presented anywhere for the award of any degree.

The study is original and any references made to texts, articles, journals, and other person's work have been acknowledged accordingly. The responsibility for errors committed are entirely mine.

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CERTIFICATION

This project titled "AN EVALUATION OF FINANCIAL RATIOS AS A TOOL FOR PREDICTING CORPORATE PERFORMANCE: A CASE STUDY OF AFRIBANK NIG. PLC AND BANK OF THE NORTH LTD," meets the requirements and regulations governing the award of the Degree of Master of Business Administration (MBA) of Ahmadu Bello University Zaria and is approved for its contribution to knowledge and literary presentation.

....
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ABSTRACT

This project is meant to interprete. analyse and evaluate the performance of Afribank Nigeria PLc and Bank of the North ltd. using financial ratios as a tool of financial Analysis.

Eleven ratios were used to analyse and evaluate the performance of the banks which were chosen for the similarity age branch spread and staff size. Some of these ratios show specific problems such as low current ratio, high debt ratio. earning on investment and low liquidity position.

Finally, conclusions and recommendations have been drawn base on the interview conducted and problems highlighted by the ratio in the study.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Finance being a discipline of study in itself, constitutes a dorminant and important organ for every business organization whether big or small. It has been defined as the effective and efficient acquisition and utilization of funds for the achievement of organization goals.

Finance was separated from accounting and economics, which changed its functions from dealing with only descriptive study to that of vigorous analysis and normative theory in the early part of this century. At first, it dealt with only the instruments, institutions and procedural aspects of capital market. As time went on to the 1920s, technical innovation and new industries created a need for more funds. These developments resulted in a shift of emphasis from internal management to financial management. The depression a decade later focused the study of finance on defensive aspects of survival - preservation of liquidity, bankruptcy, liquidation and reorganization. With progression in the century, finance function took a dynamic role in a business organizations development; with growing influence, its scope now extends far beyond records, reports, paying bills and obtaining funds to the

more sophisticated analytical process of investing funds in assets and promulgating the best mix of financing decisions. Impliedly, the roles of management have to keep on changing according to the dictates of these developments. As such, the financial manager today has to make use of several tools so as to successfully manage a firm's resources.

Another important function of finance is analysis of financial data. This has been refered to by Meticalf and Fidardas "a process of evaluating the relationship between component parts of a financial statement to obtain a better understanding of a financial position and performance".

For the financial manager to undertake his responsibilities effectively and efficiently, there must be some tools and techniques which he rely on to obtain desired results. In recent years, one of the widely used and important tool or techniques is the financial ratio analysis. Studies have shown that financial ratios can be used for the purpose of evaluating a firms performance over a wide range of time. It is useful both as a way to anticipate future conditions and more importantly as a starting point for planning actions that will influence the future course of events. Persistent conclusions have been arrived at over the years that financial ratios are important analytical, planning and control devices.

Some of the uses of financial ratios are: Provision of

comprehensive information about a firm's financial condition;

Determination of a firms performance over a period of time possible; Controlling the performance of a firm by the use standards wherever possible; Unveiling the problem areas of the firms resources for necessary correction; Comparison of a firms performance with other firms in the same industry; Determination of credit worthiness of a borrowing firm.

For ratio analysis to be meaningfully interpreted, it has to be compared with some standards. The standards used for comparison are:- Ratios calculated from the past financial statements of the same firm which can be used to predict future performance; Ratios calculated using the projected or pro-forma financial statement of the firm; Ratios of some selected firms especially, the most progressive and successful at the same point in time; Ratio of the industry to which the firm belongs.

There is, therefore, the need for proper understanding of the efficiency of financial ratio in predicting corporate performance.

1.2 Statement of the Problem

As a result of the world economic depression as well as the recent development in our economy with regard to the Structural Adjustment Programme (SAP), there has been a dramatic turn in our economic indicators especially

investment potentials, loans and advances.

The conditionalities under the Structural Adjustment Programme (SAP) appeared to be harsh to the nation's economy yet financial institutions continued declaring huge profits annually. In fact, this period recorded the highest number of financial institutions established. Then comes the Prudential Guidelines. Most banks which hitherto were declaring huge profits started making losses. Distress in banking became the order of the day. Gone were the days when investing in a bank was a sure goldmine. It has therefore become necessary to scrutinize properly a anks potentials for success or otherwise before investing in such.

1.3 Purpose of the Study

Indeed, the need for this study need not be overemphasized. Over time, a lot of research work has been done on the use of financial ratio analysis in predicting corporate performance. The level of performance of any business is important to creditors, share holders, management and individuals. Thus predicting performance is important as it helps the firm to know how to plan for and cope with the future. The objective of this study is to determine how effective financial ratios can be regarded as analytical tools in analysing and evaluating the performance of financial institutions with particular reference to Afribank and Bank of the North during the

period under review (1988-1992).

1.4 Significance of the Study

As earlier defined financial management refers to the effective procurement and efficient utilization of funds. It is therefore important to point out that the success of any firm depends on the availability of funds for its operations. As such funds need to be acquired either by borrowing or by issuance of new shares, debentures and bonds. The financial position of a firm is therefore, of special interest to a number of people.

The suppliers of capital to a firm would like to know the financial position of the organization in which they have an investment. This is important as the analysis will enable the financiers analyze the risks and returns associated with the business. Present and potential labour would use the information to evaluate a firm's ability to pay higher wages and benefits. In addition, government regulatory agencies can also use the information from the financial analysis to establish rates and regulations based on the firms financial position. Management can assess itself with respect to strenghts and weaknesses of the firm it manages. Most importantly, comparison of organization's performance can be made to enable the owners know the improvement made in financial operation of the company and plan for the future financial position as well.

1.5 Scope of the Study

The study covers the period of five years from 1988-1992. It seeks to test the use of financial ratio analysis in predicting corporate performance. In this study, Liquidity, Activity, Profitability, Debt and Coverage ratios were used to evaluate the performance of Afribank Nig. Plc and Bank of the North Ltd.

1.6 Limitation

Some of the limitations of the study are as follows:-

Up to date standard industrial average ratios have not been developed in Nigeria. Comparison between a firms ratios and that of the industry has therefore not been possible.

Financial ratios have their own analytical limitations which inevitably applied to this study. One of the limitations is that inflation has badly distorted the firms balance sheet with an effect on the profit. Thus a ratio analysis of one firm over time, or a comparative analysis of firms of different ages must be interpreted with care.

Sometimes, financial statements do not contain enough information for accurate ratio analysis and the unwillingness of these companies to release their true financial statements.

Another limitation is that only few financial ratios have generally accepted standards or minimum cut off points. Ascertaining the minimum performance expected of a

firm in such cases is therefore a matter of personal judgement.

1.7 Definition of Some Related Terms

The following key terms appear frequently in the course of investigation and their definitions are useful in the understanding of the text.

1. Assets:- Are economic resources which are owned by a business and are expected to benefit future operations.
2. Liabilities:- Are debts payable in future by the firm to its creditors. They represent economic obligations to pay cash or provide goods or services in some future period.
3. Accounts Receivable:- Amounts which a company expects to collect from its customers for goods and services sold to them on credit.
4. Window dressing technique:- Techniques employed by a firm to make its financial statements look better to credit analysts.
5. Shareholders equity (Networth):- The excess of assets over liabilities. The amount of owners investment in a business plus profits from successful operations which have been retained in the business.
6. Net Working Capital:- Current assets minus current liabilities. Working capital represents the net amount

of liquid resources available to a business.

7. Liquidity:- The ability of an asset to be converted into cash without a significant price concession.
8. Common Stock:- A type of capital stock which possesses the basic right of ownership including the right to vote.
9. Bonds:- A formal certificate (or debt instrument) used by a corporation to borrow money on a longterm basis.
10. Dividends:- A distribution of cash by a corporation to its stockholders.
11. Annual Report:- A report issued annually by corporations to their stockholders that contain basic financial statements as well as management opinions of the past year's operations and the firm's future prospects.
12. Retained earnings:- The balance sheet account which indicates the total amount of earnings the firm has not paid out as dividend throughout its history; these earnings have been re-invested in the firm.
13. Financial Ratio:- An index which relates two accounting numbers and is obtained by dividing one quantity by the other.
14. Liquidity Ratios:- Ratios that shows the relationship of the firm's current assets to its current liabilities: i.e it measures a firm's ability to meet its short-term obligations.

15. Profitability Ratios:- A group of ratios showing the combined effects of liquidity, asset management and debt management on operating results. They relate profits to sales and investment.

16. Activity/Asset Management Ratios:- Ratios that measures how effectively the firm is using its assets.

17. Leverage Ratios:- Ratios that measures the extent to which the firm has been financed by debt.

18. Coverage Ratios:- These ratios relate the financial charges of a firm to its ability to service or cover them.

FOOTNOTES

1. James C. Van Horne (1990). Financial Management and Policy (eight edition) Prentice-Hall Inc., Englewood Cliffs N.J. USA PP. 3: 752-767.

2. James C. Van Horne and John M. Wachowicz JR (1993): Fundamentals of Financial Management (eight edition) Prentice-Hall Inc., Englewood Cliffs N.J., USA PP.143 & 721.

3. Weston J.F. and Eugene F. Brigham (1987): Essentials of Managerial Finance (eight edition). The Dryden Press. Chicago PP. 240 &226.

4. Walker B. Meigs and Robert F. Meigs (1979): Financial Accounting (third edition). Kingsport Press, Inc. PP.17, 18, 33 and 300.

CHAPTER TWO

LITERATURE REVIEW

2.1 Concept of Financial Ratios

To make rational decisions in keeping with the objectives of the firm, the financial manager must have certain analytical tools. The process of financial analysis that identifies the financial strenght and weakness of a firm by determining and establishing relationship between the items of the balance sheet and the profit and loss account helps him do this. This is trequently done through the use of financial ratios. Financial ratios are used to establish numerical relationship between variables contained in the financial statements of an organization. They give a comprehensive financial information about the state, conditions and performance of a business enterprise. Thus financial ratio analysis can be likened to a detective story - investigation aimed at revealing the performance and soundness of a particular investment.

Financial ratios are usually used to compare the conditions of activities of a particular period or to compare the conditions at different periods of time. Using the data provided by financial statements, various ratios can be calculated that permits an evaluation of most aspects of the fiims performance. Available evidence suggests that ratios do have predictive value at least in

respect to financial difficulties. Persistent conclusions have been arrived at over the years that financial ratios are important analytical, planning and control tools.

The firm itself and suppliers of capital - creditors and investors, all undertake financial analysis. The firm's purpose is not only internal control but also for better understanding of what capital suppliers seek in financial condition and performance from it. The type of analysis varies according to the specific interests of the party involved. Trade creditors are interested primarily in the liquidity of a firm. Their claims are short term, and the ability of a firm to pay these claims is best judged by the means of a thorough analysis of its liquidity. The claims of bond-holders, on the other hand are long term. Accordingly, they are more interested in the cashflow ability of the firm to service debt over the long run. The bond holder may evaluate this ability by analyzing the capital structure of the firm, the major sources and uses of funds, its profitability over time and projections of future profitability.

Investors in a company's common stock are concerned primarily with present and expected future earnings and the stability of these earnings about a trend as well as their covariance with the earnings of other companies. As a result, investors might concentrate their analysis on the profitability of the firm. They would be concerned with its

financial condition insofar as it affects the ability of the firm to pay dividends and avoid bankruptcy. In order to bargain more effectively for outside funds, the management of a firm should be interested in all aspects of financial analysis that suppliers of capital use in evaluating the firm. Management also employs financial analysis for purposes of internal control. In particular, it is concerned with profitability on investment in the vario s assets of the company and in the efficiency of asset management.

In addition to suppliers of capital and the firm itself, various government regulators may use financial analysis. In particular, regulatory agencies are concerned with the rate of return a company earns on its assets as well as with the proportion of non-equity funds employed in the business. Thus, the type of financial analysis undertaken varies according to the specific interest of the analyst.

2.2 Standards of Comparison

The ratio analysis involves comparison for a useful interpretation of the financial statements. A single ratio in itself does not indicate favourable or unfavourable condition. It should be compared with some standard. Standards of comparison may consist of:

(i) Ratios calculated from the past financial statements of the firm.

(ii) Ratios developed using the projected or pro-forma financial statements of the firm,

(iii) Ratios of some selected firms, especially the most progressive and successful at the same point in time and

(iv) Ratios of the industry to which the firm belongs.

2.3 Types of Comparison

There are two basic ways in which financial ratios can be used:

(1) In a cross sectional approach and

(2) Time series or trend analysis.

The Cross Sectional Approach: This approach involves the comparison of the ratios of one firm with those of similar firms in the industry or with industry averages at the same point in time. The typical business firm is interested in how well it has performed in relation to its competitors. If the competitors are also corporations, then their financial statements should be available for analysis. Often the firm's performance will be compared to that of the industry average. This comparison may allow the firm to uncover major operating differences which if changed will increase its efficiency.

Comparison with the industry must be approached with caution. It may be that the financial condition and performance of the entire industry is less than satisfactory and a company's being above average may not be

sufficient. In addition, various companies within an industry may not be homogeneous. Companies with multiple product lines often defy precise industry categorization; hence comparison with other companies in that industry may not be consistent. Also, caution should be taken when comparing companies within an industry as they may differ in sizes.

Time Series Analysis: This is done when the financial analyst measures a firm's performance over time. Comparison of the firm's current performance to past performances. Utilizing ratio analysis allows the firm to determine whether it is progressing as planned. Developing trends can be seen using multi-year comparisons: a knowledge of these trends can assist the firm in planning future operations.

The rationale behind time-series analysis is that the firm must be evaluated in relation to its past performances, any developing trends must be isolated and appropriate action must be taken to direct the firm towards its immediate and long-term goals. Time series analysis is often helpful in checking the reasonableness of a firms projected financial statements. A comparison of current and past ratio to those resulting from an analysis of pro-forma statements may reveal descrepancies or over optimism in the pro-forma statements. Therefore, care should be taken in comparing financial statements. Seasonality should also be taken into consideration because it can cause erroneous

conclusions and decisions. Lastly, it is very important to make sure that data from the financial statements being compared have been developed in the same way because any variation in the method may also lead to misleading conclusion.

2.4 Types of Financial Ratios

Financial ratios are traditionally classified into five groups based on the population of ratios in related literature. They are:

(1) Liquidity Ratios.

(2) Activity (Asset Management) Ratios.

(3) Profitability Ratios.

(4) Debt Management (Leaverage or Gearing) Ratios.

(5) Coverage Ratios.

As stated earlier no one ratio gives sufficient information by which judgement can be made on the financial condition and performance of a particular firm. Only when group of ratios are analysed could reasonable judgement be made. Although there are several ratios which can be computed to give information about a firms financial soundness, we shall for the purpose of this study, concentrate only on relevant and important ratios.

2.4.1 Liquidity Ratios

It is extremely necessary for a firm to meet its obligations as they fall due. Liquidity ratios measure that ability of a firm to meet its current (short-term)

obligations. That is it measures whether a firm has enough cash for its day-to-day requirements. An analyst gains an insight about the present cash solvency of a firm and its ability to remain solvent in the future in the event of adversities by using liquidity ratio. By relating the amount of cash and other current assets to the current liabilities, a quick and easy to use measure of liquidity is thus provided.

The common ratios which indicate the extent of liquidity or lack of it are:

(i) Current ratio and

(ii) Quick or Acid Test ratio.

Current Ratio:- Current ratio is the commonly used measure of short-term solvency since it indicates the extent to which claims of short-term creditors are covered by assets that are expected to be converted to cash in a period roughly corresponding to the maturing of the claims.

Mathematically, current ratio is expressed as:

$$\text{current ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Current ratio expresses the number of time current liability can be financed by current asset over a given period. As a conventional rule, a current ratio of two to one or more is considered satisfactory. This rule is based on the logic that in worse situation if the value of current assets become half, the firm will still be able to

meeti its short term obligations. The current ratio represents a margin of safety that is a "cushion of protection" for creditors.

The higher the current ratio, the greater the margin of safety. Firms with high current ratio generally attract short term loans. However, the current ratio is a crude and quick measure of the firms liquidity because it does not take into consideration the liquidity of the individual components of the current assets.

Acid Test or Quick Ratio:- This is a more accurate guide to liquidity. It is computed by dividing current assets less inventory by current liabilities.

$$\text{Acid Test/Quick Ratio} = \frac{\text{Current Assets Inventory}}{\text{Current Liabilities}}$$

The Acid Test ratio concentrates on the most liquid of the current assets (cash, marketable securities and receivables) to provide a more penetrating measure of liquidity. As asset is said to be liquid if it can be converted to cash immediately or reasonably soon without a loss in value. Generally, a Quick/Acid Test ratio of one to one is considered to represent a satisfactory current financial condition.

2.4.2 Activity [Asset Management] Ratios

This group of ratios is designed to measure how effectively the firm is managing its assets. This group of ratios are also known as performance ratios because they

measure the performance of a firm by indicating how effectively it utilizes its resources. Assets like fixed assets, stocks, receivables, etc are the resources of a firm and each is compared with sales to determine the rate at which it is turned over in a year. The activity ratios include:

1. Average Collection Period (ACP):-

The average collection period is used to appraise account receivables and it is computed by dividing account receivables by average daily sales to find the number of days that sales is tied up in receivables. It is mathematically expressed as:

$$ACP = \frac{\text{Receivables} \times \text{Days in Year}}{\text{Annual Sales}}$$

The above ratio tells us the average number of days receivables are outstanding, measuring the average time it takes to convert receivables into cash. This is important as it is erratic to regard all receivables as liquid since a sizable portion of it may be declared bad or doubtful. ACP, therefore, measures the quality of debtors since it indicates the rapidity or slowness of making payments. An excessive long collection period implies a very liberal and inefficient credit and collection performance. On the other hand, a low collection period is not necessary favourable.

2. Receivables Turnover Ratio:-

This ratio indicates the frequency with which receivables are turned into cash. It is obtained by dividing credit sales by receivables (Debtors).

$$\text{Receivables Turnover ratio} = \frac{\text{Credit Sales}}{\text{Receivables}}$$

Generally, the higher the value of the receivable turnover, the more efficient is the credit management.

3. Inventory Turnover Ratio:-

This is also called the inventory utilization ratio. It is the ratio of cost of goods sold to average inventory. The figure is not made available in financial statements as such analysts use sales.

Inventory Turnover Ratio is given as:

$$\frac{\text{Sales}}{\text{Inventory}}$$

The inventory Turnover Ratio shows how rapidly the inventory is turning into receivables through sales. Generally, the higher the inventory turnover ratio, the more efficient the inventory management of a firm. However, a relatively high inventory turnover ratio may be as a result of too low a level of inventory and frequent stockouts. It may also be as a result of too many small orders for inventory replacement. Either of these situations may be more costly to the firm than carrying a larger inventory and having a low turnover ratio. A lower

inventory turnover ratio implies excessive inventory levels than warranted by production and sales activity or a slow moving or obsolete inventory.

4. Fixed Assets Turnover Ratio:-

Fixed assets turnover ratio measures the efficiency with which the firms is utilizing its investments in fixed assets such as land, building, plants and equipments. This ratio is computed by the formular:

$$\text{Fixed Asset Turnover Ratio} = \frac{\text{Sales}}{\text{Fixed Assets}}$$

Fixed assets Turnover measures the turnover of fixed assets in terms of sales. A high fixed asset turnover indicates efficient utilization of fixed assets in generating sales.

5. Total Assets Turnover Ratio

Fixed assets plus current assets equal total assets. Total asset turnover ratio is calculated by dividing sales by total assets: also called Total Assets Utilization ratio.

$$\text{Total Asset Turnover} = \frac{\text{Sales}}{\text{Total Assets}}$$

This ratio is significant in that it shows the firm's ability of generating sales from all the financial resources committed to the firm. the higher this ratio, the better.

6. Sales to Network Ratio

This is calculated by dividing sales by

capital. Equity capital is same as networth or shareholders funds; it includes the capital invested and all reserves (revenue reserve - retained earnings and capital reserve). When the ratio is too high, overtrading is indicated and when too low, it depicts undertrading. When the ratio is one or slightly above or below, the firm is neither overtrading nor undertrading. Over trading and undertrading are both causes of a firm's financial problem . It is calculated by the formula:

$$\text{Fixed asset to Networth Ratio} = \frac{\text{Fixed Assets} \times 100}{\text{Networth}}$$

Once a company's fixed assets to networth ratio is high, it shows that a large share of owners capital has been invested on fixed assets as such, current and miscellaneous assets must share the remaining portion of the capital. Over investment in fixed assets is always a problem as it will result in poor credit rating.

2.4.3 Profitability Ration

Profitability is the net result of a large number of policies and decisions. The profitability ratios show the combined effects of liquidity, asset management and debt management on operating results. They measure the total effectiveness with respect to the returns on sales and capital invested. Logically, profit could be said to be the ultimate output of a firm and it will have no future if it fails to make sufficient profits.

Generally two major types of profitability ratios are calculated.

(i) Profitability in relation to sales.

(ii) Profitability in relation to investment.

Profitability in Relation to Sales:

It is not only important but necessary for firms to generate adequate profit on each unit of sales. If sales lack a sufficient margin of profit, it will be difficult for the firm to cover its fixed costs, fixed charges on debts and earn profits for shareholders. The ratios under the category are:

(1) Gross Profit Margin Ratio:

The gross profit margin ratio indicates the percentage of each naira sales remaining after the firm has paid for its goods. It is computed by dividing gross profit by sales.

$$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Sales}}$$

It is a measure of the efficiency of a firm's operations as well as an indication on how products are priced. the higher the gross profit margin, the better and the lower the relative cost of merchandise sold.

(2) Net Profit Margin Ratio

Net profit is obtained when operating expenses, interest and tax have been deducted from gross profit. The net profit margin is measured by dividing net

profit after tax by sales.

$$\text{Net Profit Margin} = \frac{\text{Net Profit after Tax}}{\text{Sales}}$$

It measures the efficiency of the firm's pro itability. This ratio also indicates a firms capacity to withstand adverse economic conditions. A firm with a high net profit margin ratio would be in an advar'ageous position to survive in the face of falling prices, rising cost of production or declining demand for produ:t than would be the case if it were low.

(3) Profitability in Relation to Investment

Making profit is just not enought. It has to be compared to the total capital invested by owners and creditors to see whether a firm produces a satisfactory profit on its asset base. Otherwise, it may be misusing its assets.

(1) Dividend Yield on Book Value

This is concerned with profit distributed to shareholders. It is the ratio of dividends proposed to book value of share holders' investment. This is given by:

$$\frac{\text{Proposed Dividend}}{\text{Shareholders Funds}}$$

The higher the ratio, the more attractive it is to invest in the firm.

(2) Earning Per Share

The earning per share represents the amount of

naira earned on behalf of each outstanding share of common stock. As such, the firm's earning per share is generally of interest to the management and current or potential shareholders. It is given by:

$$\text{Earning per share} = \frac{\text{Earnings available for common stock holders}}{\text{Number of shares of common stock outstanding}}$$

The above two ratios are closely watched by the investment public and are considered an important indicator of corporate success. The ratios tell us the earning power on shareholder book investment and is frequently used in comparing two or more firms in an industry for investment decisions.

(3) Return on Investment

The return on investment is often refered to as Return on Total Assets. It measures the overall effectiveness of management in generating profits with its available assets. It is calculated as follows:

$$\text{Return on Investment} = \frac{\text{Net Profit after Taxes}}{\text{Total assets}}$$

The higher a firm's return on investment the better.

(4) Return on Equity

The return on equity (Networth) ratio compares net profit after taxes to the equity that shareholders have invested in the firm. Computed thus:

$$\text{Return on Equity} = \frac{\text{Net Profit after taxes}}{\text{Shareholders equity}}$$

Common shareholders are entitled to residual profit. The rate for common dividend is not fixed as against that of preffered dividend. The earnings may be distributed or retained in the business. A high return on equity often reflects acceptance of strong investment opportunities and effective expenses management.

2.4.4 Debt Management [Leverage or Gearing] Ration

The extent to which a firm uses debt financing or financial leverage has a number of implications. As a general rule, there should be an appropriate mix of debt and owner's equity in financing the firms assets. The manner in which assets are financed has a number of implication.

First, by raising funds through debt, the owners can maintain control of the firm with limited investment. Secondly, creditors look to the equity or owner supplied funds to provide a margin of saftey. If the owners have provided only a small portion of total financing, then the risks of the enterprises are borne mainly by its creditors. Also, if the firm earns more on investments financed with borrowed funds than it pays interest, then the return on owners capital is magnified or leveraged. In addition, between debt and equity financing, debt is more risky from the firms point of view. The firm has legal obligation to

pay interest to creditors, irrespective of the profit made or losses incurred by the firm. If the firm fails to pay creditors in time, they can take legal action against it to get payments and in extreme cases, they can take the firm into liquidation.

Firms with low leverage ratios have less risk of loss when the economy is in recession, but they also have lower expected returns when the economy booms. Conversely, firms with high leverage ratios run the risk of losses during recession but have a chance of gaining high profits when the economy improves.

In practice, gearing is appreciated in two ways. One approach examines balance sheet ratios and determines the extent to which borrowed funds have been used to finance the firm. The other approach measures the risk of debt by income statement ratios designed to determine the number of times fixed charges are covered by operating profits. These sets of ratios and complementary and most analysts examine both leverage ratios. Common leverage ratios include:

1. Debt ratio.
2. Debt equity ratio.
3. Debt to total capitalization ratio.

Debt Ratio:

This ratio is concerned with the financial structure of the firm. The ratio is expressed in percentage and informs on the percentage of total financing provided

by creditors. It is derived by dividing a firms total debt by its assets.

$$\text{Debt ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Creditors prefer low debt ratio since the lower the ratio, the greater the cushion against creditors losses in the event of liquidation. The owners on the other hand may seek high leverage to magnify earnings or because selling new stock would mean giving up some degree of control. If the debt ratio is too high, there is a danger of encouraging irresponsibility on the part of the owners. The stakes of the owners can become so small that speculative activity, if successful, will yield substantial return to the owners. If unsuccessful however, only a moderate loss is incurred. It is important to note that the higher this ratio, the more financial leverage a firm has.

Debt to Equity:

This ratio indicates the relationship between the long term funds provided by the creditors and those provided by the firm's owners. It is commonly used to measure the degree of financial leverage of a firm. It is computed by simply dividing the total debt of the firm by its shareholders' funds.

$$\text{Debt to Equity} = \frac{\text{Total Debt}}{\text{Shareholders' equity}}$$

The creditors would generally like this ratio to be

low. The lower the ratio, the higher the level of the firms financing that is being provided by shareholders and the larger the creditor cushion (margin of protection) in the event of shrinking asset value or outright losses.

Debt to Total Capitalization:

This ratio is concerned with the importance of longterm capital structure. Longterm debt includes debentures, mortgages etc, while total capitalization consists of longterm debt plus shareholders funds. This ratio measures the amount provided by creditors in a firms permanent financing. The long term debt to total capitalization ratio has the same objective as debt equity ratio. It is calculated as:

$$\text{Debt-total capitalization} = \frac{\text{Long term debt}}{\text{Total capitalization}}$$

2.4.5 Coverage Ratio

Coverage or Valuation ratio are the measure a firm's value. They are designed to relate the financial charges of a firm to its ability to service or cover them. This category of ratios is not usually analysed by analysts because data for computing most of them are not made available to analysts. Secondly they are not of much informational value to analyst though they are of great interest to the firms existing and potential creditors who are interested in the firms ability to service its existing or additional proposed debts. The lower a firms' coverage

ratios, the more risky the firm is considered. Risky here refers to the firm's inability to meet its fixed obligations. The ratios inlude:

1. Times interest earned ratio.
2. Total debt coverage ratio.
3. Fixed charges coverage ratio.

Times Interest Earned Ratio:

This ratio measures the ability of the firm to meet its annual interest payments. It is determined by dividing earnings before interest and Tax (EBIT) by the interest charges.

$$\text{Times Interest Earned Ratio} = \frac{\text{EBIT}}{\text{Interest charges}}$$

Failure to meet annual interest cost can bring legal action by the firms creditors possibly resulting in bankruptcy. The highest the ratio, the greater the likelihood that a firm covers its interest payment without difficulty. It also sheds some light on the firms capacity to take on new debt.

Total Debt Coverage Ratio:

This is similar to the time interest earned ratio which measures a firms ability to fulfill its interest obligations. The total debt coverage ratio measures not only the ability to pay interest charges but also the ability to pay the principal of loans or make sinking fund payment. The ratio is given by:

$$\text{Total debt coverage ratio} = \frac{\text{EBIT}}{\text{Interest} + \frac{\text{Principal}}{1 - T}}$$

The lower the ratio, the less likelihood of a firm meeting its interest and loan repayments.

Fixed Charges Coverage Ratio:

This ratio expands upon the times interest earned ratio to include the firm's annual lease obligations.

Fixed charges are defined as interest plus annual longterm lease obligations and the fixed charge coverage. Ratio is conputed thus:

$$\text{Fixed charge} = \frac{\text{EBIT} + \underline{\text{Interest}}_{\text{charges}} + \underline{\text{Lease}}_{\text{obligations}}}{\text{Interest charges} + \text{lease obligations}}$$

$$\text{Coverage ratio} =$$

2.5 Limitations of Ratio Analysis

Although ratio analysis provide useful information concerning a companys' operation and financial condition, it does have some inherent problems and limitations that necessitate care and judgement. The following are some of the limitations of the ratio analysis:

1. Ratios are constructed from accounting data and accounting data are subject to different interpretations and even to manipulation. For example, two firms may use different depreciation methods or stock valuation methods, depending on

the procedure followed therefore, profits can either be raised or lowered.

2. Firms can employ Window Dressing technique to make their financial statements look better to credit analyst.
3. There is nothing sacred about the industry average figure because firms strive to achieve better than the industry average.
4. The ratios are generally calculated from past financial statements and are thus no indicators of the future..
5. When firms use different operating and accounting procedures, it may be difficult to compare their ratios.
6. The situations of companies are never the same. Similarly, the factors influencing the performance of a company in one year may change in another year. Thus the comparison of the ratios of two companies become difficult and meaningless when they are operating in different situations.
7. There is no industry standard as always recommended.

2.6 Important Discoveries on Financial Ratios

Researches have been conducted on financial ratios decades ago in order to acertain the performance of

business organizations. A number of emperical studies have tested the predictive power of financial ratios. Reliance on certain ratios depends on the analyst's perception of their predictive power relative to the problem at hand: a perception based on either subjective beliefs or emperial analysis. Most estimats of the predictive power of financial ratios are based on the analyst's past experience with them. By their very nature, these estimates tend to be subjective and to differ from one analysis to the other.

Since the beginning of the development of financial ratios different researchers have on different studies discovered some predictive power of financial ratios and they are as follows:

1. Financial ratios and corporate failure.
2. Financial ratios and corporate risk.
3. Financial ratios and bond rating.
4. Financial ratios and rapid growth and profitability of firms.
5. The usefulness of financial ratios to investors in common stock.

2.7 Financial Ratios and Corporate Failure

Past researches on the ability of financial ratio to predict some sort of business failure can be divided into two categories. The first category concentrates upon the predictive power of individual ratios based on either the ratios trend or its magnitude. The second category of

predictive ability studies utilize at multivariate approach. Relying primarily on the statistical technique, discriminant analysis researchers have been able to use sets of ratios to predict the continuation or otherwise of a firm. The works of the following people in the first category are taken into consideration.

Smith and Winakor (1935) studied a sample of 183 firms which have experienced financial difficulties during the period 1923-1931 and had failed by 1931. They analyzed the prior ten year trend by means of 21 ratios and concluded that the ratio of net working capital to total assets, whose decline began ten years before the occurrence of financial difficulties was the most accurate and steady indicator of failure. Their data indicated that the long term solvency ratios were equally good indicators.

Fitz Patrick (1931) followed a different approach by analyzing the prior three-to-five year trends of thirteen ratios of twenty firms that had failed during 1920-1929. He studied the data on a case-by-case method of analysis and followed it up by comparative analysis and matched sample of nineteen successful firms. He concluded that his ratios predicted failure to some extent through declining trends, but his best predictors were the net profit to networth and the networth to total debt ratios.

Charles Merwin (1942) culminated the above two studies in his study of a sample of 939 firms in the period 1926 to

1936. He divided his sample into two groups, "continuing" (successful) and "discontinuing" (unsuccessful) firms and analyzed numbers of ratios of each group. He accomplished this by comparing industry mean ratios of the discontinuing firms with "estimated normal" ratios which were estimates of what the discontinuing firms ratios would have been had they maintained the same average ratios as the continuing firms. He concluded that three ratios were very sensitive predictors of discontinuance, up to as early as four to five years in some instances. These ratios were networking capital to total assets, networth to total debt and the current ratios.

The second category relied primarily on statistical technique of discriminant analysis.

Beaver (1967) considered a sample of seventy-nine large firms that failed and compare with corresponding non-failed companies of the same size and industry and the same period of time. These samples were used to test the predictive ability of thirty financial ratios. The mean values of the ratios for the two samples were compared over the five years prior to failure. He discovered that the mean ratios of the failed firms differ significantly from that of the non-failed firms. It also deteriorated markedly as failure approached.

In a study, Beaver (1968) examined the ability to predict failure from changes in market price of stock.

Using four ratios cash flow to total liabilities, net income to total assets, total debt to total assets with the market behaviours of price on a sample of seventy-nine failed and a corresponding number of non-failed fi s of approximately the same size and industry, he found that the media market price of the failed companies declined at an increasing rate as failure approached relative to that for non-failed companies. The largest price decline occu d in the inal year. Beaver concluded that investors djust stock prices to the deteriorating condition of f ling companies. Moreover, he found the evidence consistent with investors assessing likelihood for failure on the basis of financial ratios.

Daniel (1968) employed correction factor analysis and wise regression to select financial statement data and ratios which best correlated with failure and non-failure as the dependent variable. The discrminant function was found to have considerable power in identifying failing firms.

Deakin (1972) used fourteen rtios, studied a pair of thirty two failed and non-failed forms for the period between 1964 and 1970 in a discriminant function and he discovered that he could predict bankruptcy three years before the failure.

Edminister (1972) tested the predictive abili y of financial ratios on small business starting with fifteen

ratios. he concluded that current assets to current liabilities, working capital to sales, current liabilities to networth, net income plus depreciation and amortization to current liabilities, networth to sales, inventory to sales incorporated indiscriminant function predicted failure for up to three years on cummulative data analysis.

Wilcox (1973) used a pair samples of fifty failed and non-failed firm over a period of 1949 to 1971. He adjusted both the cash position and the cash flow for both samples and used the gambler's run model in which he ranked the risk of bankruptcy of all firms in the sample for five years prior to failure.

Altman (1968) used multiple discriminant analysis (MDA) as no one particular ratio is strong enough to measure the performance of a firm. Altman therefore used various ratios as variable in a discriminant function to predict and categorize firms into bankrupt and non-bankrupt. He took 22 ratios and submitted them to linear discriminant approach (LDA) and came out with five ratios. He took sixty-six organizations, 33 bankrupt and 33 non-bankrupt and mixed them up then finally calculated their Z values. He defined Z as the overall index or barometer or even temperature and finally arrived at the following:

$$Z = a_1x_1 + a_2x_2 + a_3x_3 + a_4x_4 + a_5x_5$$

$$Z = 0.012x_1 + 0.014x_2 + 0.033x_3 + 0.006x_4 + 0.99x_5$$

where x_1 = Ratio of working capital to total assets

x_2 = Retained earnings to total assets

x_3 = EBIT to total assets

x_4 = Market value of equity to Book value of total debt

x_5 = Sales to total assets

Altman used Z values as follows:

If Z value is greater than 2.99, the firm is healthy.

If Z value is less than 1.81 then the firm is bankrupt.

He later discovered the critical Z or grey zone to be 2.675 and maintained that any firm with Z value above 2.675 is a non-bankrupt firm and that below 2.675 he classified to be bankrupt. He found that he could predict bankruptcy with an accuracy of 50, 72 and 95% for the third, second and first years respectively, prior to failure. The model was extremely accurate in classifying 95% of the total sample correctly. A type I error occurs when a firm is classified as healthy when it is actually bankrupt. A type II error also occurs when a firm is classified as bankrupt when actually it is healthy.

Altman, Haldeman and Narayanar (1977) reviewed Altman's study and adopted it to the period 1969-1975. They used a sample of fifty-three failed and fifty-eight non-failed firms including retail firms. The employed factor analysis and seventy variables which were reduced to seven. Current ratio, the size of total assets, interest ratio,

retained earnings, return on assets (net income to total assets) and equity to total assets. This was incorporated in a discriminant function and the model predicted f ilure with 96 and 70% accuracy in the last and the year prior to failure respectively.

Moyer (1977) employed Altmans discriminant functions of ratios as parameters generated from a different period (1946-1965) on newly generated data (1965-1975) and found that the predictive ability of the model has d opped considerably. He found the predictive ability of the model to be increasing as he excluded "superfluons" variables from it. He also found the model to be a better failure predictor than other models when he compared them.

2.0 Financial Ratios and Corporate Risk

Most of the studies in the area of prediction of corporate risk by means of financial ratios were conducted in the 1970s. The following studies are considered useful to that effect:

Orgler (1970) developed a credit scoring model for commercial bank loans using twenty-one ratios selected from all but valuation ratio category. He found that he could predict good loans with some degree of success that could be considered as a risk measure for investors.

Altman *et al* (1974) used discriminant analysis on forty-one ratios and using data on 134 firms. They discovered their model to be useful predictor of risky

loans (those with repayment problems).

Falk and Heintz (1975) analyzed fourty-one industries for two years (1971-1972) using total assets to sales, total assets to working capital and average accounts receivables to sales as a composite index for each of the industries. Their aim was to analyze the characteristics of each industry as reflected in its financial ratios as to be able to rank them according to risk. They succeeded in ranking a number of industries based on their findings.

Financial Ratios and Bond Rating

A study by Hickman (1948) dealth with the return on corporate bonds issued between 1900 and 1943. He concluded that times interest earned ratio and net profit to sales ratio were useful predictors of default on bond issues whether used jointly or separately. The firms with higher ratios went into default less frequently than those with lower ratios.

Saulnier *et at* (1958) studied the U.S. federal lending and loan insurance for the period 1934-1951 and concluded that firms with very low current ratio, networth to total debt ratio were more likely to default on loans. Also firms with deteriorating current ratios prior to borrowing defaulted about twice as often as those with stable or increasing ratios.

Moore and Atkinson (1961) examined the aggregate data involving changes in the bank credit use and financial

ratios during 1955-1957. They found that firms with higher current ratio and working capital to total assets, net worth to total debt and net profits to networth ratios increased their use of credit more than firms with lower ratios.

Wojenlower (1962) examined the quality of bank loans and analyzed those loans that were criticized loans by banks in 1957 from three federal reserve districts in the U.S. He showed that the criticized loans involved firms with low current ratios and net working capital to total assets in all the industries and the networth to total debt ratio was below average in two-third of the cases.

Jen (1963) considered the availability of bank credit to a sample of small firms and indicated that the net profit to total asset and debt to total asset ratios constituted principal determinants of credit availability.

Horrigan (1966) used regress rating as dependent variables against the financial ratios of some companies he selected and developed a model known as the multiple regression model which consisted of debt subordination, sales to networth and operating incomes (sales). On the basis of this invention, predicting the top six bond classification to both Moody's and standard and poor ratings, he predicted about fity-two percent and fifty eight percent of standard and poor and Moody's rating respectively.

In a similar way, Pague and Soldosky (1969) developed a regression model with dichotomous 0-1 percent variables so as to predict whether a bond should be classified as having Aaa and Baa rating. The model succeeded in classifying a number of bonds with such variables as: net income to total assets, debt to total assets, net income to interest and net profit to total assets. The analysis was limited to investment bonds as in Moody's rating.

Weston (1970) used a multiple regressi n model counting four variable; the logarithms earning variability, period of solvency, market value of all bonds outstanding and market value of stock to debt ratio to predict up to sixty-two percent of the actual rating of Moody's.

Pinches and Mingo (1973) analyzed 192 bonds for one year 1967. Financianl data were calculated on th rty-five different variables. They used factor analysis and m-group multiple disciminant analysis and they developed a model consisting of six variables; subordination, (which represents the legal status of bonds), year of consentive dividend issue size (this indicated that bond ratings and the size of bond issue are related), net income plus interest to interest (coverage ratio), five years mean of long term debt to total assets (measures capital structure) and net income to total assets. The model grouped 182 bonds with 69.7 percent success of actual bond ratings by M ody's.

2.9 Financial Ratio and Rapid Growth and Profitability of Firms

Some of the notable works conducted in this area are as follows.

Horrigan (1965) determined that some short-term liquidity and long term solvency ratios in 1937 were significantly different between profitable and unprofitable firms with the profitable firms showing higher ratios, but capital turnover ratios were not significantly different. Jackend-Off (1962) found that financial ratios consistently and clearly distinguished between profitable and non-profitable firms in the period 1949-1955. The current ratio, the working capital to total assets and networth to total debt ratios of profitable firms were consistently higher but the relationship of total assets to turnover appeared to be inverse to the sizes of the firms. In another study of various trade industries in 1956, it indicated that short term liquidity and long-term solvency ratios of profitable firms were higher, profit margins and inventory turnovers of profitable trade concerns were also higher but working capital turnover was low.

Osaze (1981) in a study on financing rapid growth firms in Nigeria discovered that ratios adequately discriminated between growing and non-growing firms.

The Usefulness of Financial Ratios to Investors in Common Stock

O' Connor (1923) used correlation analysis to reduce

from 33 to 10 ratios, the number of variables employed in his model for predicting average investors rate of return on common stock and he noted that a generally low (i.e less than 0.25) inter-correlation existed between the ten indicated potential effectivenesss as predictors. It should be noted however that O'Connor's conclusion has been rejected by another researcher Abdul-Khalik (1972).

According to Abdul-Khalik, the regression equation and the estimated parameters used by O'Connor were invalid for the prediction they were meant for. He gave his reasons for the assertion and these reasons were accepted by O'Connor and other researchers.

2.10 Recent Developments in Financial Ratios

Investment decisions have assumed an important position in the development of financial management, where the first contributions have been made in the area of financial ratio analysis to provide more accurate tools of assessing business performance. The prominent among them are Univariate Multivariate analysis and Osaze's Index of Risk.

Univariate Analysis

This approach is called beta analysis. The analysis examines the association between relative risk measure of a security and a single accounting variable. The univariate analysis requires comparing earnings with the earnings of other firms, just as ratios are compared with

industry average. The univariate analysis was first published by Ball and Brown (1969), when they examined 269 firms quoted on the New York stock exchange over the period between 1946 and 1966.

Multivariate Analysis

As an extension of financial ratio analysis, multivariate analysis deals with the prediction of corporate bankruptcy. There are many contributions but the most prominent is that of Edward I. Altman's (1968) Multivariate Discriminant Analysis (MDA). It is not possible to predict the overall financial health of an organization by using a single ratio. Altman, therefore, uses various ratios on the variables in a discriminant function to categorise borrowers into two groups. Those that did and those that did not go bankrupt.

Blum (1974) developed the failing company model using 115 failed and 115 non-failed firms during 1954-1968. He selected for each firm in his sample a firm that did not fail in the same industry of approximately the same asset size, number of employees and collected data for the fiscal years. His conclusion was that the model he used distinguished failing from non-failing firms with accuracy of approximately 95% when failure occured one year from the last financial statement date. the model was also 50% correct in predicting failure two years before its occurrence and 70% for three, four and five years prior to

actual failure.

Osaze's Index of Risk

Osaze (1985) developed a financial composite index for predicting corporate failure in Nigeria. The index was developed specially for use in developing countries like Nigeria to compensate for the too much reliance on financial ratio analysis and other models developed in Europe and America for prediction of risk in a business or more clearly, corporate failure.

The Osaze's Index of Risk was developed after he reviewed the works of Beaver W.H. (1966); Altman E.I. (1968); Johnson C.G. (1970); Bolton Report (1971); Deakin (1972); Edminster R.O. (1972); Fham (1975); Libby (1975); Tamari M. (1978); Parosh and Tamari (1979) and some other selected ratios. These ratios in the index were selected as the ones found to tbe applicable to Nigerian situation. The table below gives the details of the model.

OSAZES INDEX OF RISK

	FACTOR	POINT
1.	Net Worth Total Assets:	
	Firms with over 50% Networth to Total Assets	12
	41 - 50%	10
	31 - 40%	8
	21 - 30%	6
	10 - 20%	4
	Less than 10%	0

2. Retained Earnings to Net Profit:

Firms with over 30% of Retained earnings to Net Profit	12
21 - 30%	10
16 - 20%	8
11 - 15%	6
5 - 10%	4
Less than 5%	0

3. Profit Trend over 5-years (Net Profit-Sales):

Firms with profit every year and rising net profit-sales	16
Firms with stable level of profit each year	12
Firms with profits each year but no uniform trend	10
Firms with profit each year but a declining trend	8
Firms with loss in any one of the last three years only	6
Firms with loss in first three years only	2
Firms with loss in all five years	0

4. Earning Before Interest and Taxes to Total Assets

Firms with over 30% of EBIT to Total Assets	12
21 - 30%	10
16 - 20%	8
11 - 15%	6
5 - 10%	4
Less than 5%	0

5. Current Ratio

Firms with a ratio of over 2 times	12
1.51 - 2 times	10
1.11 - 1.5 times	8
0.91 - 1.10 times	6
0.50 - 0.90 times	4
Less than 0.5 times	0

6. Working Capital to Total Assets

Firms with over 30% of working capital to Total Assets	12
21 - 30%	10
16 - 20%	8
11 - 15%	6
5 - 10%	4
Less than 5%	0

7. Cashflow to Total Debt .

Firms with ratio of over 50% of Total Debt	12
41 - 50%	10
31 - 40%	8
21 - 30%	6
11 - 20%	4
Less than 10%	0

8. Sales to Account Receivables

Firms with sales of over 5 times Debtors	12
Firms with sales 4 to 5 times Debtors	10
Firms with sales of 2 times Debtors	8
Firms with sales of 1 to 2 times Debtors	6
Firms with sales of 0.5 to 0.9 times Debtors	4
Firms with sales of less than 0.5 times Debtors	0

Note:- The factor gives the ratio to be calculated and their weights/yardstick of measurement, while the points give the scoring of each factor.

To determine the risk associated with a business using this model:

1. Firms with over 60 points when their total scores added are unlikely to fail;
2. Those with less than 40 points have a higher probability of failure; and
3. Firms with between 40 and 60 points need to be scrutinized properly before a decision is taken as to their potentials for bankruptcy or success. This is where other subject factors like management capacity and economic indicators should prove highly invaluable.

FOOTNOTES

1. Fitz Patrick P.J. (1931); Symptons of Industrial Failure. Catholic University of America Press, Washington D.C.
2. Fitz Patrick P.J. (1932); A Comparison of the Ratios of Successful Industrial Enterprises with those of Failed Companies. The Accountants Publication Co., Washington D.C.
3. Smith F.R. and Winakor H.A. (1935); Changes in the Financial Structure of Unsuccessful Industrial Corporation S. Bureau of Business Research, Bul. No.51, University of Illinois.
4. Chudson W.A. (1945); The Pattern of Corporate Financial Structure. National Bureau of Economic Research, New York.
5. Hickman W.G. (1958); Corporate Bond Quality and Investors Experience. Princeton University Press, Princeton N.J.
6. Sauliner R.I *et al* (1958); Federal Lending and Loan Insurance. Princeton University Press, Princeton N.J. pp.456-481.
7. Moore G.H. and Atkinson T.R. (1961); Risks and Returns in Small Business Financing. Forty-first Annual Report National Bureau of Economic Research pp.66-67.
8. Wojenlower A.M. (1962); The Quality of Bank Loans. A

Study of Bank Examination Records National Bureau of Economic Research. New York.

9. Jen F.C. (1963); The Determinants of the Degree of Insufficiency of Bank Credit to Small Business. Journal of Finance pp.694-695.

10. Horrigan H.O. (1965); Some Emperical Basis of Financial Ratio Analysis. Accounting Review. pp. 285 and 294.

11. Beaver W.H. (1967); Financial Ratios as Predictors of Failure. Journal of Accounting Research pp.71-127.

12. Beaver W.H. (1968); Market Prices, Financial Ratios and Predictors of Failure. Journal of Accounting Research pp.179-192.

13. Altman E.I. (1968); Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. Journal of Finance 23 pp589=609.

14. Altman E.I., Haldeman R.C. and Naraganar (1977); ZETA Analysis: A New Model to Identify Bankruptcy Risk of Corporation. Journal of Banking and Finance Vol.1 pp.29-54.

15. Pogue T.F. and Soldosky R.N. (1969); What is in a Bond Rating. Journal of Finance and Quatitative Analysis Vol.4 pp.201-228.

16. Orgler Y.E. (1970); A Credit Scoring Model for Commrcial Loans. Journal of Money Credit and Banking 2 pp.435-445.

17. Deakin B.E. (1972); Discriminant Analysis of Prediction of Business Failure. Journal of Accounting Research 10 pp.67-79.

18. Edminister R.O. (19720); An Emperical Test of Financial Ratio Analysis for Small Businesses Failure Prediction. Journal of Financial and Quantitative Analysis Vol.7 pp.1477-1493.

19. Wilcox I.W. (1973); A Prediction of Business Failure using Accounting Data. Emperical Research in Accounting. Supplement to Vol.II of the Journal of Accounting.

20. Pinches G.E. and Mingo K.A. (1973); Multivariate Analysis of Industry Bond Ratings. Journal of Finance pp.1-18.

21. Deakin B.E. (1975); Distributions of Financial Accounting Ratios: Some Emperical Evidence. Accounting Review 50 pp.90-96.

22. Horrigon H.O. (1968); A Short History of Financial Ratio Analysis. Accounting Review 43 pp.284-294.

23. Blum M. (1974); Failing Company Discriminant. Journal of Accounting Research 12 pp.1-25.

24. Falk H. and Hentz J.A. (1975); Assessing Industry Risk by Ratio Analysis. Accounting Review 50. pp.758-779.

25. Moyer R.C. (1977); Forcasting Financial Failure. Financial Management 6 pp.11-17.

26. Abdel-Khalil A.R. and El-Sheshai K.M. (1980); Information Choice and Utilization in an Experiment on Default Prediction. Journal of Accounting Research 18.

27. Co'lin R.A. (1980); An Emperical Comparison of Bankruptcy Prediction Models. Journal of Financial Management pp.52-57.

28. Osa_e B.E. (1981); An Emperical Study of Financing and Financial Control Characteristics of small Ra id Growth Enterprises in Nigeria. Unpublished Ph.D Dissertation, University of Bath.

29. James C. Van Horne (1990); Financial Management and Policy (eight edition). Prentice-Hall Inc. Englewood Cliff N.J. U.S.A. p.769.

30. James C. Van Horne and John M. Wachowicz Jr. (1993); Fundamentals of Financial Managements (eight edition). Prentice-Hall Inc. Englewood Cliff N.J. USA pp.31, 126, 145-148, and 158.

31. Weston J.F. and Engene F. Brigham (1987); Essentials of Management Finance (eight edition). The Dryden Press Chicago pp.240-258.

32. Okeji I.F. (1994); Principles of Finance (Notes, Questions and Answers). Askome & Co. Publishers, Samaru - Zaria, Nigeria.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Sample Selection

In all, two banks were selected for this study. Each was studied for the period 1988-1992 (five years). As none of the banks was quoted on the Nigerian Stock Exchange during the period covered by this study, data were not available to the public. the researcher had to make personal request to the executives of the selected banks. Success in this regard depended very much on his approach and accessibility. It is solely due to this anticipated problem that this study was restricted to only two banks. The selected banks were incorporated in Nigeria about the same period. They have comparable number of staff and branch spread.

The period (1988-1992) was selected because the Structural Adjustment Programme (SAP) aimed at revamping the prevailing ailing economy was fully operational at that time. Moreso, it is within the same period that Foreign Exchange Market (FEM) and the Prudential Guidelines were established.

3.2 Data Collection

Historical data are usually classified into two main categories based on their sources.

Primary Source: These are data which have been recorded by an actual witness or participant in an event (document) or the historical object itself (remain) which is available for examination.

Secondary Source: These refers to data which have been recorded by someone who obtained his data indirectly. Even if the source talked to an actual observer or an actual participant in an event, his information would not be regarded as coming from a primary source.

Primary sources of data are more reliable than secondary sources because of the distortion caused along the communication line in secondary sources of data.

The search for relevant information for this study started with requesting for the history and annual reports of the selected banks. The required data were obtained from the annual reports and they were used for the calculation of the relevant ratios for the analysis.

The financial statements of the firm's represent important information regarding its operation and final condition, but they never quite reveal the entire picture. For this reason, it is impossible for the researcher to make really intelligent decisions about a firm if his information is only limited entirely to the data presented in its financial statements. Additional information for this study was therefore, obtained from interviews with officials of the banks using unstructured questionnaire.

While the ratios selected belonged to the five traditional categories of financial ratios i.e Activity, Profitability, Liquidity, Leverage and Coverage ratios, the number of ratios calculated under each category varied with the data available in the report. As such, few ratios were selected from each category. Besides, some ratios provide exactly the same infomation as others while others do not aid the analyst with information about the firm. The efore, eleven ratios were used for each bank under the distinctive five different categories of ratios from data available in the banks' respective annual reports.

3.3 Types of Ratios Used in the Study

There are various types of financial ratios, that are basically categorized under five broad headings. The categories are Liquidity Ratios, Activity Ratios, Leverage Ratios and Coverage Ratios. A number of ratios were calculated in each of the above-mentioned categories.

The following ratios under the five categories were computed to furnish adequate information as required by the nature of the study within certain limitations.

1. Liquidity Ratios:- Under this category, only current ratio was calculated.
2. Activity Ratios: Here, working capital to total assets was calculated.
3. Profitability Ratios: In this category, earning per share, net profit margin, Return on

Investment and Return on networth ratios were calculated.

4. Leverage Ratios: Debt, Debt-Equity and Total debt to Networth ratios were calculated.

5. Coverage Ratios: Finally, Times Interest earned ratio and Total debt coverage ratio were calculated under this category.

3.4 Limitations

Although ratios are very useful tools in analysing the financial position of a firm, they do have limitations which if care is not taken may render the information obtained faulty leading to invalid conlusion or even unreliable recommendations. Therefore, it is recommendable to bear in mind some of the major limitations of financial ratios such as inadequacy of data, lack of industrys average against which to make comparison, subjectivity of accounting data etc.

This limitations can be surmmarised as follows:

(1) Only the published annual reports and accounts of the selected banks were used in the analysis as there was no other source of information.

(2) Industry averages were not available to compare the performance of the companies. Therefore, this made decision and judgement difficult and inconclusive.

(3) Most of the ratios under activity and coverage could not be calculated because of the absence of relevant data in these areas.

(4) The ratios were constructed from accounting data and accounting data are subject to different interpretations and manipulations.

(5) Ratios by themselves could not describe a dynamic system while flow variables used in ratio analysis are defined over a fixed period. They lack an explicit dependency upon time.

(6) Current ratios can be manipulated through a practice known as window dressing. This involves temporary payment of debts just prior to the financial statement data resulting in an improvement of the current ratios.

(7) Ratios provide information about the current status of the firm, but they do not provide information about alternative strategies to be used and the intervening economic conditions confronting management, investors and creditors.

(9) Inflation is one of the external factors which affect the analysis of the overall performance of a firm. Cost accounting data are distorted from year to year as a result of inflation. Therefore, financial ratios particularly those dealing with profitability are distorted.

This study has therefore been carried out within the framework of these limitations.

3.5 Brief History of the Selected Banks

Bank of the North Limited

Bank of the North Limited was incorporated on September 17, 1959 with an initial paid up share capital of £12,500. The Bank commenced business in January 1960 at two branches located at Kano and Kaduna. It is presently owned by the sixteen Northern State Governments and the Northern Nigeria Development Company Limited (NNDC). The latter is itself owned by the sixteen Northern State Governments.

Bank of the North Limited made progress in the first ten years of its operations. By 1970, the issued share capital of the Bank had risen to ₦27 million, while the number of branches stood at twelve with an establishment size of over 360. The total assets of the Bank stood at ₦30 million with loans and advances amounting to ₦17 million.

The second decade of the Banks operations (1971-1980) was marked with rapid progress, growth and profitability. The authorised share capital rose to ₦30 million of which ₦14.7 million was fully paid up. By 1980, the Bank's total assets came to ₦900 million and for the first time, in 1980, the after tax profit exceeded the ₦10 million mark.

By the close of the third decade, the Bank had witnessed substantial growth in all areas. Loans and advances grew from ₦400 million at the beginning of the decade to ₦1.329 billion by December 1990. Total deposits

during the same period went up to #2.070 billion. Statutory and General Reserves rose from #24 million in 980 to #102.61 million in 1990. Over the same period, shareholders' funds grew from #40 million to #163.935 million.

The Bank currently operates 103 branches in 23 States of the Federation and the Federal Capital Territory, Abuja. Plans are underway to cover the remaining States soon. Its total assets now stand at about #5.922 billion with an authorized share capital of #200 million, of which #78.32 million is fully paid up. And the total deposits as at the end of 1994 stood at #2.78 billion, while total loans and advances for the same period amounted to #2.1 billion. The staff strenght is currently over 4,400.

Aribank Nigeria Plc

Afribank recieved banking licence on October 20, 1959 and opened the first branch in the city of Kano on January 4, 1960, principally to finance the exportation of some commodities such as groundnuts. It was then known as Banque Internationale Pour L' Afrique Occidantale (BIAO).

The origin of BIAO dates back to around 1853 when the branch was first established in Senegal, it was then known as Banque du Senegal. Later, this was changed to Banque Pour L'Afrique Occidantale (BAO). The word Internationale was added later when the Banks ownership included the First National City Bank.

BIAO was one of the first banks to set up shop in West Africa. At a point, the Bank's activities in the area were so pervading that she was given the authority to issue currency notes (a Central Bank function) in the French speaking West African countries. IBWA/AFRIBANK was established as a subsidiary of BIAO.

In compliance with Federal Government's orders, the Bank's Headquarters was in 1960 set up at 94, Broad Street, Lagos. It has remained there till today. The establishment of IBWA/AFRIBANK coincided with the emergence of the country's oil industry. The Bank soon developed links with some oil companies and in order to serve their needs more promptly, the Bank set up two more branches in PortHarcourt and Aba just before the outbreak of the civil war in 1967. With the promulgation of the Nigerian Companies Decree in 1968, it became imperative for all firms in Nigeria to be incorporated as Nigerian companies. On May 30, 1969, BIAO was incorporated under the name International Bank for West Africa (IBWA) - the English equivalent of BIAO.

On account of the indegenisation, the Federal Government in 1976 acquired 60 percent of the equity structure and those of all banks for that matter. This left BIAO with 40 percent of the IBWA/AFRIBANK equity capital. By December, 1976, the Bank got her share capital increased from ₦3.6 million to ₦6 million. In 1971, the Bank got her first Nigerian Chairman in the person of Alh. T. Galadima.

That same year, BIAO itself experienced changes in her own equity structure. The Union Bank of Switzerland bought over 20 percent of the 49 percent of BIAO equity capital, held at the time by Citibank N.A. A further 20 percent of this portion was taken up by Banco da Brazil, while the remaining nine percent was bought by the "Compaignie Internationale Aficaine de Banque Holding S.A. Luxermbourg". The year 1979 saw the paid up capital of IBWA/AFRIBANK increasing to ₦15 million. Also, that year saw for the first time, the appointment of a Nigerian as the Bank's Managing Director in the person of Mr. O.O. Olashore. In 1980, the Federal Government gave up 10 percent of her equity holding in the Bank to staff. Two years later, the Bank adopted AFRIBANK as her sub-name. The name "AFRIBANK" is common to all banks in the BIAO Group. The Bank changed its name finally to Afribank Nig. Ltd. with effect from January 1, 1990. It went public in 1993 with its shares being quoted in the stock exchange market. This led to a change in status from AFRIBANK Nigeria Limited to AFRIBANK Nigeria Plc.

The growth of Afribank can be likened to the proverbial mustard seed. From a humble beginning in 1960 when the first branch was established in Kano, the Bank has not only grown to be represented in many towns in the country, but has metamorphosed into what is now known as the Afribank Group.

The Afribank Group is currently made up of five subsidiaries each registered and operating as an independent company. This has made Afribank truly a financial supermarket as most of the customers' need for financial services can be satisfied, all at the same time by the Group. The various subsidiaries of the group are:-

- AFRIBANK Nigeria Plc
- AFRIBANK International Limited (Merchant Bankers)
- AFRIBANK Insurance Brokers
- AFRIBANK Estates Company Limited and
- IBWA Finance Company Limited, Dublin (an offshore investment company)

Afribank Nigeria Plc is the parent company of the Group and performs the role of a holding company in addition to its main activity as a commercial bank.

Afribank Nigeria Plc's authorized share capital as at 1993 stood at #600 million and a deposit base of over #7 billion. It's total assets stood at #11.1 billion while loans and advances was #1.89 billion in 1993. The Bank is currently represented in virtually all the states of the federation with over 110 branches and a staff strenght of over 4000.

FOOTNOTES

1. Jonathan O. Ndagi (1984); Essential of Research Methodology for Nigerian Educators. United Press Limited, Ibadan p.88.
2. Walter B.M. and Roberts F.M. (1979); Financial Accounting (third edition). Kingsport Inc. p.333.
3. James C. Van Horne (1990); Financial Management and Policy (eight edition). Prentice-Hall Inc. Englewood Cliffs N.J. USA p.
4. Annual Reports and Accounts of Afribank (1993).
5. The Afribank Group. All you need to know (1993).
6. Profile and Services of Bank of the North Ltd. (1993).
7. Annual Reports and Accounts of Bank of the North Ltd. (1988-1992).

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

This chapter is concerned with analysing the financial ratios of the two, banks. Investors, management, employees and Government are interested in the financial positions and they have enough justification for their interests. Each of the ratios serve some purpose in order to satisfy the various interests of these bodies mentioned above.

Since the organizations we are dealing with are all financial institutions, most of the financial ratios under the five major categories rendered are unimportant in our study. Therefore, in our analysis, only those ratios considered relevant for the study are computed. These analysis are made on individual yearly basis and comparison between years of one firm and the other was made. No specific industry average is available for comparison. However, these analysis are conducted in the light of the economic and other factors revealed in the various statements of accounts.

4.1 Liquidity Ratio Analysis

Financial Ratios used in determining the position of a company is divided into two categories. The short-term ratios or liquidity ratios and the long term liquidity ratios also called Debt ratios. Liquidity ratios are concerned with the company's ability to meet its short-term

obligations and the two commonly used are current ratios and Acid Test ratio which provide a general picture of adequacy of working capital and the ability to meet daily cash obligations of the company.

The general accepted standard in the available literature is 2:1 for current ratio and 1:1 for Acid Test ratio.

4.1.1 Current Ratio

The highest current ratio recorded for Bank of the North was 1.05 in 1989. This means that the Bank did not have the accepted standard of 2:1 in any of the five years studied. The bank had current ratio of 1.03, 1.05, 1.03, 1.01 and 1.00 for the years 1988 to 1992 with a mean value of 1.02. The bank can be said to be in a position to pay off some of its liabilities through the collection of outstanding loans. However, raising additional funds will somehow prove difficult especially with the steady decline of the ratio from 1989 to 1992.

Afribank has comparable current ratio of 1.05, 1.04, 1.00, 1.00 and 1.01 from 1989 to 1992. These low values of current ratio means that the bank also did not have the accepted standard of 2:1 in any of the five years. The highest ratio of 1.05 in 1988 means that the bank's current assets are 0.05 times more than the current liabilities while the lowest ratio of 1.00 means that current assets equals current liabilities indicating an inadequacy of

working capital. The mean ratio for the firm was 1.02.

Comparing the current ratio of the two banks reveals that it may prove a bit difficult for Bank of the North to source additional funds with its declining current ratio caused by poor liquid asset. Same can be said for Afribank thought it can easily pay off its current liabilities by selling some of its investments at an appreciable price without necessarily selling any stock.

4.2 Leverage (Debt) Ratios

Debt ratios deal with long term liquidity of the firm. They measured the extent to which total assets of a firm have been financed using borrowed funds. Those interested in these ratios are mainly long term creditors and shareholders. All debt ratios indicate the financial structure and competitive position of the firm. The lower any debt ratio the better for the firm because it shows strong ownership and management positions.

4.2.1 Debt Ratio

The debt ratio for the two banks is extremely high at ninety percent and above throughout the years studied. The mean mean ratio for Afribank and Bank of the North are 93% each. Thus the banks have financed over 90% of their assets with borrowed funds. Simply 7% of their total assets were financed by current liabilities. the banks have relied on the use of non-owner financing to a far greater extent. This in turn will mean that the bank will have difficulties

in borrowing additional fund in the future.

4.2.2 Debt Equity Ratio

This ratio is at times referred to as long-term debt to Total Capitatlization. It indicates the extent to which a firm has used long term debt in its permanent financing.

For Bank of the North, the ratio is 10%, 8%, 8%, 9% and 8% for the years 1988 to 1992 respectively with a mean ratio of 9%. Bank of the North therefore obtained little of its permanent financing from debt sources. This is a favourable condition because not more than 10% of the banks financial activities was financed by creditors while 90% by the owners. Afribank's debt equity ratios are 12%, 9%, 6%, 3% and 13% respectively for the years under study with a mean value of 9%. This also indicates a favourable condition for the bank. The bank had as low as 3% of its financial activities being financed by creditors in 1991.

4.2.3 Total Debt to Networth

Bank of the North had total debt to networth ranging from 19.79 in 1992 to 10.32 in 1989. Afribank too had total 15.33 in 1992 to 8.96 in 1989. The mean value for Bank of the North is 16.12 while that of Afribank is 12.63. These values show that creditors supplied more funds than the owners and as such Management actions are restricted for the liabilities had to be paid as they are due.

4.3 Profitability Ration

The ratios discussed here help us to answer important

questions regarding the effectiveness of a firms management in making profits from the resources entrusted to them. For discussion purpose we will divide profitability ratios into two groups: profitability in relation to sales and profitability in relation to investment. However, since we are dealing with banks, we would therefore concentrate our efforts on the second category. This category of profitability ratios attempts to measure a firms profit used to generate these profits. Thus these ratios are very useful in assessing the overall effectiveness of the firms management.

4.3.1 Earning Per Share

The earning per share represents the number of naira earned by each outstanding share of common stock. Bank of the North's earning per share for the five year period are 108k, 120k, 50k, 10k and 28k while Afribank had earning per share of 62k, 84k 38k, 10k and 20k for the same periods.

Afribank's earning per share is not that impressive when compared with that of Bank of the North for the first two years i.e 1988 and 1989. Considering the fact that the value of the shares for both companies was ₦1.00. The reduced earning per share declared by Afribank in 19) was due primarily to the dilution of its shares. The mean ratio stood at 63k for Bank of the North and 48k for Afribank.

4.3.2 Net Profit Margin

The bottom line in any business endeavour is to spin

profits, which as it were, is an important index in evaluating firms and bussiness success. Net profit margin measures the percentage of each sales remaining after all expenses including tax have been deducted. Bank of the North had an unimpressive Net Profit Margin of 9% for 1988 and 1989, 10% for 1990, 2% for 1991 and 6% for 1992 as compared with Afribank with 13% and 18% for 1988 and 1989 respectively. This however declined to 7% for 1990 to 1992. The mean ratio for Bank of the North is 7% while for Afribank is 10%.

4.3.3 Return on Investment

Return on investment or return on total assets relates after tax income to the firm's total investment in assets. Big assets, fat capital and big business do not show how efficient an institution is but the revenue, the assets and capital sunk into various investment windows are able to earn over the period. The return on asset criterior is a time measure of the efficiency and actual performance of their investment portfolio.

For Bank of the North the ratios are 1% for 1988, 1989 and 1990, 0.3% and 0.4% for 1991 and 1992 respectively. the mean ratio for the years is 1%. The earnings are very low hence the bank's performance is poor.

Afribank has relatively higher earnings with ratios of 2%, 3% for 1988 and 1989 and 1% for 1990, 1991 and 1992. The mean value of 2% shows it had poor performance thought

it had a better performance than Bank of the North.

4.3.4 Return on Networth

This ratio measures the rate of return on the shareholders investment. Bank of the North had a return on Networth of 19%, 17% , 15%, 4% and 9% for the year under review. There is a steady decline from 1988 to 1991 with a little increase in 1992. This indicates a not too impressive result. This is due to low earnings before taxes. Afribank on the other hand, had a better result of 28%, 31%, 16%, 15% and 22% for the period under review. The mean ratio for Bank of the North is 13% while for Afribank, it is 22%.

4.4 Coverage Ratios

These ratios measures the firm's ability to meet certain fixed charges. They are often concerned with the fixed changes resulting from the firms debt. In this category, two ratios are calculated for the analysis. They are Time interest earned ratio and Total debt coverage ratio.

4.4.1 Times Interest Earned Ratio

This ratio measures the firms ability to pay its contractual interest payments. The higher the value of this ratio, the better positioned the firm to fulfil its interest obligations.

The Time interest earned ratio for Bank of the North are 1.37, 1.42, 1.24, 1.05 and 1.04. This is a favourable

result as it show that the bank can meet its interest payment obligations out of their annual operating earnings at least one time the average value for the years under review is 1.22.

Afribank has a slightly better result of 1.2, 1.18, 1.3, 1.24 and 1.42 showing a steady increase in the last three years. It also has a mean value of 1.27.

4.4.2 Total Debt Coverage

This ratio measures the firm's ability to repay the principal amount as well as its interest changes.

Bank of the North has a rather poor standing with ratios of 0.08, 0.1, 0.08, 0.08 and 0.09 for the years 1988 to 1992 respectively. The mean value is 0.09. This means that the bank will not be able to meet its total debt repayment obligation and interest charges as at when due. Afribank also has a poor but slightly better result of 0.13, 0.15, 0.11, 0.8 and 0.8 for the period under review. Afribank too will not be able to meet its total debt repayment obligation and interest charges as at when due. The mean value is 0.11.

4.5 Activity Ratios

Activity ratio measures how effective a firm employs the resources it possesses. The ratio involves comparison between the level of sales and investments in various assets accounts. Since Banks are not manufacturing or trading companies all the activity ratios could not be

calculated in this study.

4.5.1 Working Capital to Total Assets

The ratio for Bank of the North for the years under study are 0.03, 0.05, 0.03, 0.01 and 0.003 while that of Afribank is 0.04, 0.04, 0.03, 0.001 and 0.005. The mean value of 0.02 for Bank of the North and 0.02 for Afribank indicates very low working capital. The two Bank had positive working capital for the period under review.

TABLE 1

FINANCIAL RATIOS OF AFRIBANK NIGERIA PLC

		YEAR ENDED 31ST DECEMBER				
	RATIOS	1988	1989	1990	1991	1992
	LIQUIDITY					
(1)	CURRENT RATIO	1.05	1.04	1.00	1.00	1.01
	PROFITABILITY					
(1)	EARNING PER SHARE	0.62	0.84	0.38	0.10	0.20
(2)	NET PROFIT MARGIN	0.13	0.18	0.07	0.07	0.10
(3)	RETURN ON INVESTMENT	2%	3%	1.3%	1%	1%
(4)	RETURN ON NETWORTH	28%	31%	16%	15%	22%
	LEVERAGE (DEBT) RATIO					
(1)	DEBT RATIO	92%	96%	91%	93%	93%
(2)	DEBT-EQUITY RATIO	13%	10%	15%	7%	16%
(3)	TOTAL DEBT TO NETWORTH	13.6	8.9	11.4	13.8	15.3
	COVERAGE RATIO					
(1)	TOTAL DEBT COVERAGE RATIO	0.13	0.15	0.11	0.08	0.08
(2)	TIME INTEREST EARNED RATIO	1.20	1.18	1.30	1.24	1.42
	ACTIVITY RATIO					
(1)	WORKING CAPITAL TO TOTAL ASSETS	0.04	0.04	0.03	0.001	0.005

Computed from Annual Reports 1988-1992.

TABLE 2

FINANCIAL RATIOS BANK OF THE NORTH LIMITED

		YEAR ENDED 31ST DECEMBER				
	RATIOS	1988	1989	1990	1991	1992
	LIQUIDITY RATIO					
(1)	CURRENT RATIO	1.03	1.05	1.03	1.01	1.00
	PROFITABILITY RATIO					
(1)	EARNING PER SHARE	1.08	1.20	0.50	0.10	0.28
(2)	NET PROFIT MARGIN	0.09	0.09	0.10	0.02	0.06
(3)	RETURN ON INVEST.	1%	1%	1%	0.2%	0.4%
(4)	RETURN ON NETWORTH	19%	17%	15%	4%	9%
	LEVERAGE (DEBT) RATIO					
(1)	DEBT RATIO	94%	91%	94%	95%	92%
(2)	DEBT-EQUITY RATIO	12%	9%	9%	10%	9%
(3)	TOTAL DEBT TO NETWORTH	16.91	10.32	15.86	17.73	13.79
	COVERAGE RATIO					
(1)	TOTAL DEBT COVERAGE RATIO	0.08	0.10	0.08	0.08	0.09
(2)	T MES INTEREST EARNED RATIO	1.37	1.42	1.24	1.05	1.04
	ACTIVITY RATIO					
(1)	WORKING CAPITAL TO TOTAL ASSETS	0.03	0.05	0.03	0.01	0.003

Computed from Annual Report 1988-1992.

FOOTNOTES

1. Annual Report for Afribank 1988-1990.
2. Annual Report for Bank of the North Ltd. 1988-1990.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

5.1 Summary

The purpose of this research was to study in detail financial ratios and to see if they serve as indicators of corporate profitability. The first chapter discussed the significance of financial ratios, and highlighted the function of financial ratios as yardstick frequently used to analyze the financial position and performance of an enterprise. However, ratios are used internally by the company's management who are concerned with all aspects of the company's financial situation. Financial ratios are also of interest to current and prospective shareholders whose primary interest is in the firm's present and projected level of earning. Although share holders main concern is profitability they also pay close attention to measures of liquidity and leverage, in order to determine the likelihood of the firm's continued existence.

The firm's creditors are primarily interested in both the short-term liquidity of the firm and the ability of the firm to service its debt over the long run. Therefore, the management attempts to operate in a manner that will result in ratios that will be considered favourable by both parties, since they are aware of the type of benefits evaluated by owners and creditors.

The literature of the subject matter discussed the five categories of financial ratios and the manner in which they are computed.

The analysis using the five categories of financial ratio shows the performance, strenght and weakness of the two banks studied (Bank of the North and Afribank).

5.2 Conclusion

This study was aimed at evaluating the profitability of some banks through the use of financial ratio analysis. In all, two comercial banks were studied for the period of five years each with the period ranging from 1988 to 1992. The ratio calculated gave a reasonable idea of the banks main strenght and weakness. The current ratio of the two banks appears to be very low and therefore unsatisfactory. And as such it will be difficult if not impossible for the two banks to raise additional funds through borrowing because creditors would be reluctant to lend the banks money.

The banks leverage ratios are very high especially the debt ratio. It means the banks relied heavily on borrowed funds to finance their assets. To some extent, this accounted for the very high interest payment encountered by the banks. Hence contributed to the very low return on investment experienced by the banks during the five years of operation studied.

Coverage ratios are another problems peculiar to the

two banks especially the times interest earned ratio. In all the years under review, the times interest earned for the banks did not go beyond one time. This however, indicates the poor performance of the banks with regards to their earning before interest and tax as well as the rapidly growing interest expense that has never been controlled.

Finally, working capital to total asset ratio is generally very poor.

5.3 Recommendations

The analysis made in this study has shown that the two banks have some financial problems which are peculiar to both of them. As a result, some recommendations are given below which should serve as guides towards solving the problems of the banks.

I Both Banks show low current ratio for the years studied. This indicates a low liquidity position. It is recommended that they increases their current assets by investing more on short term investments which can easily be converted to cash without lose in value. The banks have enough liquidity to meet their essential liquidity needs i.e (current liabilities), but if it does not have adequate liquidity to fund its customers' loan requests, not only will they miss an opportunity to employ funds at an attractive yield, but they could lose the entire customer relationship

to another bank that is able to fund the loan request. To meet income and growth objectives, it is necessary to go beyond essential liquidity and establish objectives for adequate liquidity.

II Reasonable working capital should be maintained by developing the best current liability and current asset mix.

III Use of current liabilities to finance fixed assets is counter productive and should be discouraged.

IV The banks should increase the size of the r fixed assets without necessarily tampering with the proportion of their current assets.

V The base of the quoted investment should be broadened for Afribank while Bank of the North should have its stocks quoted and broaden its investments through the purchase of debenture and bonds.

VI The banks should also reduce the portion of their long-term debt.

VII The banks should reduce the size of their current and long-term debt through the sales of stock instead of borrowing.

VIII They shoud increase the size of their total assets both current and fixed assets).

IX Raising their loans and advances extended to debtors a little higher.

X They should also increase their leasing business. This

can enable them earn additional income on leased equipment and increase the portion of their total assets as well.

XI The management must try as much as possible to raise the level of their earning through a drastic reduction in operating expense like administrative expenses, depreciation etc. This can improve the position of earning before interest and tax which was very low throughout the period under consideration.

XII The banks should reduce the amount of annual interest charges. This arose due to their excessive borrowing finance fixed asset and long term debt servicing. When these solutions are utilized indiciously, the problme of low return of ivestment will also be overcomed.

XIII Return on Investment which was low for the years studied indicates inefficient resource management. It is recommended that cash management be more effective by investing cash in government securities and treasury bill.

XIV Divestment from present areas of investment should be undertaken if no longer profitable and the resources re-invested in more lucrative investments.

XV A greater deposit base will also increase the amount of loans the banks can give and consequently an increase in earnings. Increased deposit or deposit mobilization strategies should be formulated and

pursued vigorously. Concentrating more on corporate clients is more likely to yield greater deposits.

XVI Banking by its very nature is a highly leveraged situation. Banks are using depositors funds and other borrowed money to fund loans and other investments and are supporting the entire arbitrage with a relatively small amount of capital. Both Banks were levered by 12% or more for the years studied. The high leverage position of the banks makes them vulnerable to credit risks. Credit risk is perhaps the single greates risk encountered by these financial institutions. To reduce this risk, it is recommended that the banks' officers authorized to approve credit facilities should be people who are experienced and will exercise reasonable judgement when approving loans. This would lead to less deliquent loans which require great deal of lawyers and managements time which causes the banks' operating expenses to increase.

XVII Loan concentration in a particular area or industry should also be avoided.

XVIII Efforts to recover debts already classified as bad/doubtful should be intensified as these will now represent profits to the banks.

XIX Management efficiency can be enhanced by establishing standards of performance for staff and ensuring strict compliance with these standards.

XX Employment of qualified and relevant calibre of staff and imparting on them the requisite training necessary for performance of their duties is recommended.

XXI Putting into place good welfare and staff incentives and motivation packages for increased staff productivity is also recommended for both banks.

XXII Embarking on public image enhancement programme to better the public's perception of them is highly recommended.

Finally, with SAP, banks now operate under changing external conditions, increasing uncertainties and intense competition; all of which call for major discontinuities between the past and the future. Gone are the days of armchair banking. Only strategic planning and management is capable of sustaining an organization and propelling it into greater heights under this situation.

FOOTNOTES

1. Victor A. Ogundipe (1989); Corporate Image: A Strategic Imperative in the Nigerian Banking Sector (second edition). Economic Communications Ltd. Lagos pp.1-15.
2. Edison E. Easton and Byron L. Newton (1958); Accounting and the Analysis of financial Data McGraw-Hill Book Company Inc N.Y., USA pp.351-372.
3. John W. Bitner with Robert A. Goodard (19); Successful Bank Asset/Liability Management: A guide to the future beyond gap. Braun-Brumfield Inc USA pp.177-224.

BIBLIOGRAPHY

1. Abdul-Khalil, A.R. and El-Shashai, K.M. (1980); Information Choice and Utilization in an Experiment on Default Prediction. Journal of Accounting Research 18.
2. Altman, E.I. (1968); Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. Journal of Finance 23 pp. 589-609.
3. Altman, E.I.; Haldeman, R.C. and Naraganar (1977); ZETA Analysis. A New Model to identify Bankruptcy Risk of Corporation. Journal of Banking and Finance Vol. 1 pp.29-54.
4. Beaver, W.H. (1967); Financial Ratios as Predictors of Failure. Journal of Accounting Research 5 pp. 71-102.
5. Beaver, W.H. (1968); Market Prices, Financial Ratios and Predictors of Failures. Journal of Accounting Research 6 pp. 179-192.
6. Blum, M. (1974); Failing Company Discriminant Analysis. Journal of Accounting Research 12 pp. 1-25.
7. Chudson, W.A. (1945); The Pattern of Corporate Financial Structure New York National Bureau of Economic Research.
8. Collins, R.A. (1980); An Emperical Comparison of Bankruptcy Prediction Models. Financial Management (1980) pp.52-57.
9. Derkin, B.E. (1980); A Descriminant Analysis of Prediction of Business Failure Journal of Accounting Research 10 pp.90-96.
10. Derkin, B.E. (1975); Distribution of Financial Accounting Ratios and Accounting Review 50 pp.90-96.

11. Edison, E. Easton and Byron, L. Newton (1958); Accounting and the Analysis of Financial Data. McGraw-Hill Book Company Inc. N.Y. USA pp.351-372.

12. Edminister, R.O. (1972); An Emperical Test of Financial Ratio. Analysis for Small Business Failure Prediction. Journal for Financial and Quantitative Analysis Vol.7 pp.1477-1493.

13. Falk, H. and Heintz, J.A. (1975); Assessing Industry Risk by Ratio Analysis, Accounting Review 50 pp.758-779.

14. Fitz, Patrick P.J. (1931); Symptons of Industrial Failure. Catholic University of America Press, Washington D.C.

15. Fitz Patrick P.J. (1932); A Comparison of the Ratio of Successful Industrial Enterprises with those of Failed Companies. The Accountants Publication Co., Washington D.C.

16. Guthman, H.G. (1964); Analysis of Financial Statements Prentice-Hall, Inc, Englewood Cliffs, N.J.

17. Hickman, W.G. (1958); Corporate Bond Quality and Investors Experience. Princeton, N.J. Princeton University Press.

18. Horrigan, J.C. (1968); A Short History of Financial Ratios Analysis. Accounting Review 43 pp. 284-294.

19. Horrigan, H.O. (1965); Some Emperical Basis of Financial Ratio Analysis. Accounting Review pp.285 and 294.

20. James, C. Van Horne (1990); Financial Management and Policy (eight edition). Prentice-Hall Inc., Englewood Cliffs N.J., USA.

21. James, C. Van Horne and John, M. Wanchowicz Jr. (1993); Fundamentals of Financial Management (eight edition). Prentice-Hall Inc., Englewood

Cliffs N.J., USA.

22. Jen, F.C. (1963); The Determinants of the Degree of Insufficiency of Bank Credit to Small Business. Journal of Finance.

23. John, W. Bitner with Robert, A. Goddard (1992); Successful Bank Asset/Liability Management: A guide to the future beyond gap. Braun-Brumfield Inc. USA.

24. Jonathan, O. Ndagi (1984); Essentials of Research Methodology for Nigerian Educators. United Press Limited, Ibadan

25. Moore, G.H. and Alkinson, I.R. (1961); Risks and Returns in Small Business Financing. Fortyfirst Annual Report. National Bureau of Economic Research.

26. Moyer, R.C. (1977); Forcasting Financial Failure. Financial Management 6 pp.11-17.

27. O'Connor, M.C. (1973); On the Usefulness of Financial Ratios to Investors Stock. Accounting Review 48 pp. 339-352.

28. Okeji, I.F. (1994); Principles of Finance (Notes, Questions and Answers). Asekome & Co. Publishers, Samaru - Zaria, Nigeria.

29. Orgler, Y.E. (1970); A Credit Scoring Model for Commercial Loans. Journal of Money Credit and Banking 2 pp.435-445.

30. Osaze, B.E. (1981); An Emperical Study of Financing and Financial Control Characteristics of Small Rapid Growth Enterprises in Nig. Unpublished Ph.D. Dissertation, University of Bath.

31. Pandy, I.M. (1993); Financial Management. Vikae Publishing House Put Ltd, New Delhi.

32. Pinches, G.E. and Mingo, K.A. (1973); Multivariate Analysis of Industry Bond Ratings. Journal of Finance 28 pp. 1-18.

33. Pogue, T.F. and Soldosky, R.N. (1969); What is in a Bond Rating. Journal of Finance and Quantitative Analysis Vol.4.

34. Saulliner, R.I. et al (1958); Federal Lending and Loan Insurance. Princeton, New Jersey, Princeton University Press.

35. Smith, R.F. and Winakor, A.H. (1935); Changes in the Financial Structure of Unsuccessful Industrial Corporations. Bulion No. 51 University of Illinois, Bureau of Business Research.

36. Victor, A. Ogundipe (1989); Corporate Image: A Strategic Imperative in the Nigerian Banking Sector (Second Edition). Economic Communications Ltd. Lagos.

37. Walter, B. Meigs and Robert, F. Meigs (1979); Financial Accounting (third edition). Kingsport Press Inc.

38. Weston, J.F. and Eugene, F. Brigham (1987); Essentials of Managerial Finance (eight edition). The Dryden Press. Chicago.

39. Wilcox, J.W. (1973); A Prediction of Business Failure Using Accounting Data. Emperial Research in Accounting. Supplement to Volume II of the Journal of Accounting Research.

40. Wosinlower, A.M. (1962); The Quality of Bank Loan. A Study of Bank Examination Records. New York. National Bureau of Economic Research.

41. Annual Reports and Accounts of Afribank 1988-1992.

42. Annual Reports and Accounts of Bank of the North 1988-1992.

43. Corporate Profile and Services of Bank of the North Ltd. (1993).

44. The Afribank Group. All you need to know.

APPENDIX I

INTERVIEW QUESTIONNAIRE

1. What are your comments on your bank's profit performance for the last ten years?
2. How has the Government policies affected your Bank's operations with regards to SAP and the prudential guidelines?
3. In your opinion, what are the changes needed to increase the bank's profitability.
4. What is responsible for the low return on investment ratio calculated fro your firm for the period 1988-1992.
5. What are the efforts being made to recover your bank's bad and doubtful debts.
6. Are there any plans to increase your bank's share capital?
7. What method do you normally used to projects operational performance.
8. How do they use ratios to measure performance?
9. If ratios are not used what yardstick is use for measuring performance?
10. In your opinion are ratio relevant for measuring performance?
11. What percentage of your deposits are from corporate bodies?
12. Considering the use of ratios, which types do you consider more relevant in measuring performance?