FINANCIAL RATIO ANALYSIS AS A PREDICTOR OF COMPANY FAILURE

BY

ONYA EWA ONYA

A DISSERTATION SUBMITTED TO THE POSTGRADUATE
SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA.

IN PARTIAL FULFILMENT OF THE REQUIREMENT
FOR THE DEGREE OF MASTER OF SCIENCE
(ACCOUNTING AND FINANCE)

FEBRUARY, 1997

DECLARATION

This Dissertation entitled FINANCIAL RATIO ANALYSIS AS A PREDICTOR OF COMPANY FAILURE is my original work which could not be found elsewhere, whether published or unpublished. Although certain references were made to earlier works but they have been fully acknowledged. I therefore accept full responsibility for any mistake(s) that may be found in this work.

Ewa Onya.

CERTIFICATION

This is to certify that this research work entitled FINANCIAL RATIO ANALYSIS AS A PREDICTOR OF COMPANY FAILURE carried out by Onya Ewa Onya has met the regulations governing the award of the Degree of Master of Science in Accounting and Finance of Ahmadu Bello University, and has been approved for its contribution to knowledge and literary presentation.

Chairman Supervisory Committee — Date. 28-11-97

Members Supervisory Committee — Date. 14/2/99

Head of Department — Date. 14/2/99

Dean, Postgraduate School — Date. 30/09/99

ACKNOWLEDGEMENT

This research work is so tasking and demanding that it would have been almost impossible to accomplish it without the ample and invaluable support of several individuals that space will not be sufficient to mention here. To all I express my sincere gratitude. However, I need to make mention of the chairman of my dissertation committee, Mr Abraham A. Ityokyaa and O. T. Odiongenyi. To them I owe special debt for all his encouragement and advice throughout the work, even at the time I have given up hope of completing the programme. I also wish to acknowledge the efforts of the Post Graduate Co-ordinator in the Department of Accounting, Mr. A. Silva, whose help and advise can not be quantified. Others that need to be mentioned include: Mr. Ikechukwu Onya, my brother, who supported the idea of my going to school and saw that it materialized; Mr. Ikechukwu Egwu, a friend and a comforter during worst times of the task; Mr Chike Oguejiofor, who has been more than a friend; the entire brothers and sisters who were praying for me all through this period and the entire members of ONYA FAMILY, for understanding the purpose and their moral support. My kind appreciation goes to my beloved wife, Augustina Onya; Brother Andrew T. Uhaa; my room-mate, Simon Inegedu, who was more than a room-mate to me and other members of the M.Sc. Accounting and Finance class of 1990/91 Session. I will ever remain grateful to all who have contributed in one way or the other to the success of this work. God bless you all. Thanks to ALIYU ATIKU for sparing his time to type this work in spite of his tight academic schedule.

DEDICATION

To my parents, for having me.

To my wife for everything else.

ABSTRACT

Purpose and contribution: The purpose of this study is to empirically investigate the performance of financial ratios in predicting corporate distresses in Nigeria in the context of assessing its conformity with the literature in the area. The major contributions of this research include:

(1) The evidence provided in the study serves as a basic document to the credit officers in evaluating companies'solvency.

(2) The recommended model can help credit officers in assessing and predicting the degree of risk attached to the possibility of company failures.

(3) The model for predicting corporate distresses developed by Altman (1968) is proved by this work not to be workable when applied to companies in Nigeria.

Study Design: Survey method was employed in carrying out the investigation. Neither questionnaires nor interviews were conducted, only that Annual Financial Statements of fifty (50) companies were analyzed. Results were analyzed with the aid of models.

Major Findings: Based on the analysis the univariate approach gives only trends of performance of companies but not a real benchmark or a cut-off level of failure, or non-failure performance of companies. The multivariate technique performs better since it is a combination of the univariate ratios. Therefore since it sheds light on companies health it is thus recommended by this study.

TABLE OF CONTENTS

CONTENTS **PAGE**

Title Page.....

Declaration..... i

Certification..... ii

Acknowledgement..... iii

Dedication..... iv

Abstract..... v

Table of Contents..... vi

List of Tables..... viii

CHAPTER ONE: INTRODUCTION

1.1 Background to Study 1

1.2 Motivation for the Research..... 5

1.3 Statement of Research Problem 6

1.4 Objective of Study..... 9

1.5 Significance of the Study.....11

1.6 Intented Contribution to Knowledge & Society.....12

1.7 Scope and Limitations..... 14

1.8 Definition of Terms..... 16

1.9 Remainder of the Thesis.....17

CHAPTER TWO: LITERATURE REVIEW

2.1 Concepts & Tools of Ratio Analysis.....18

2.2 Company Failure.....20

2.3 Techniques of Financial Statement Analysis.....24

2.3.1 Common Size Statement Analysis....24
2.3.2 Financial Ratio Techniques....25
2.4 Classes of Financial Ratios....27
2.5 Characteristics of Failure....49
2.6 Use of Financial Ratios in Company Failure Prediction Models....54
2.6.1 Use of Individual Ratios in Prediction....55
2.6.2 Limitation of Individual Ratios in Prediction....59
2.6.3 Use of Multivariate Approach to Failure Prediction....60

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Overview....74
3.2 Methods and Sources of Data Collection....77
3.3 Methods of Data Analysis....79

CHAPTER FOUR: ANALYSIS

4.1 Introduction....81
4.2 Presentation of Data....82
4.2.2 Results....88
4.3 Analysis of the Result....96
4.3.1 Using Altman's Model....96
4.3.2 Using Taffler's Model....98
4.4 Discussion and Interpretation....100

CHAPTER FIVE: SUMMARY, RECOMMENDATION AND CONCLUSION

5.1 General Review.....102

5.2 Summary and Interpretations.....102

5.3 Recommendation.....104

5.4 Suggestion for Further Research.....105

5.5 Conclusions.....106

Bibliography.....108

Appendices.....116

LIST OF TABLES

Table 1	Effects of Interests Payments on Operating Assets	33
Table 2	Ratio Analysis Results	42
Table 4.1	Z-Score of Selected Quoted Companies using Altman's Model 1981 to 1990	89
Table 4.1A	Z-Score of Selected Unquoted Companies using Altman's Model From 1986 to 1990	91
Table 4.2	Z-Score of Selected Quoted Companies using Taffler's Method From 1981 to 1990	93
Table 4.2A	Z-Score of Selected Unquoted Companies using Taffler's Model From 1986 to 1990	95

Chapter 1

BACKGROUND INFORMATION

1.1 INTRODUCTION

The evolution of ratio analysis dates back to 300 BC and could be traced to Euclid's rigorous analysis of properties of ratios in Book V of his Elements. However, the adoption of ratios as a tool in financial statement analysis is relatively a recent development.

The first use of financial statement analysis can be traced back to the last stages of America's drive to industrial maturity in the last half of the nineteenth century. As the management of enterprises in various industrial sectors shifted from the enterprising capitalists to the professional manager and as the financial sector became a more predominant force in the economy, the need for financial statement increased accordingly. Both of these changes were the primary cause of financial statement analysis but the shift in power to the financial institution was especially important.

Although there was much overlapping, the development paths

of ratio analysis for creditor purposes and for managerial purposes were different, credit analysis emphasised measures of ability to pay whereas managerial analysis emphasised profitability measures. Both of these paths were followed in the United States and their proponents freely borrowed from each other; but the credit analysis approach dominated the general development of ratio analysis, especially in the early years.

With the introduction of single name paper loans, commercial banks began to request financial statements for lending purposes as early as the 1870s but this did not become a wide spread practice until the 1890s. As the demand increased in 1890s, the volume and flow of financial information increased greatly. This flow of data was initially analyzed in a casual item-by-item basis; next a comparative columnar basis of analysis was developed, at about the same time. The segregation of current from non current items was begun, and finally the relationships between different items began to come under scrutiny. In the last few years of the 1890s there arose the practice of comparing current assets of an enterprise to its current liabilities. Other ratios were developed in the 1890s but the current ratio was to have a more significant and long lasting impact in financial statement analysis than any other ratios. It could be said that the use of ratios in financial statements analysis can be said to have begun with the advent of the current ratios.

The turn of the twentieth century marked some important development in ratio analysis. Three of these developments were ingenious. First, a fairly large variety of ratios were conceived. Second, absolute ratio criteria began to appear, the most famous being 2 to 1 current ratio criterion. Third, some analyst began to recognise the need for inter firm analysis and consequently, the need for relative ratio criteria. Despite these developments, few analyst actually used ratios during this period; and those who were inclined to use ratios tended to use only one, current ratio.

There were also two exogenous developments in the United States between 1900 and 1930 which were very important.

These were the passage of the first federal income tax code in 1913 and the establishment of the federal reserve system in 1914. Both of these developments increased the demand for financial statements and led to improvement in their content.

The next decade marked a remarkable increase in interest in ratios. A virtual explosion of publication on the subject of ratio analysis occurred. At the same time, many publications on industrial ratio data were begun by trade associations, universities, credit agencies, and individual analysts. This process of collecting industry ratio data and

computing averages was called "scientific ratios analysis" but the label "scientific" appears to have been a misnomer because there is no evidence that hypothesis formulation and testing were carried out. The 1930's marked another remarkable strive in the development of ratio analysis. A particularly important exogenous development was the formation in the US of the securities and exchange commission. This external influence, similar to those mentioned previously, also increased the supply of financial statement and influenced their content.

Another significant development in this decade can be viewed as a counter balancing movement. In the early 1930s, studies were made of the efficiency of ratios as predictors of business financial difficulties. Winakor and Smith (1935) began this movement in their analysis of a sample of firms which had experienced financial difficulties during the period 1923-1931.

However, their study suffered the short-coming of lack of a contrasting control group of successful firms; this serious shortcoming is because of the time period covered in the study. Fitz-patrick (1931) used a case-by-case method of analysis and studied a prior three to five years trend of thirteen ratios of twenty firms that had failed during the period 1920-1929. He discovered that all ratios predicted failure to some extent through declining trends, but his best predictors were the net profit to net worth ratio and net worth to total debt ratio. Early users of financial ratios had emphasized the use of single-

ratio approach as stated above. However, to overcome these limitations, a financial analysis extended to more than one ratio was soon evident and it became recognized that a comprehensive evaluation of the firm's economic situation required several key ratios shedding light on a specific aspect of operations. These short-comings could be overcome by the use of a multivariate analysis in which several ratios are combined into a model or an index of credit strength. Since the introduction of the multivariate analysis, the emphasis has been on the development of a formula that has a claim of ability to indicate the corporate future such as that of the pioneering Altman (1968), Taffler (1977-1982) and Robertson (1984). While these models claim success they may not be universally so. It thus becomes pertinent to ask if there really is a ratio, or combination of ratios, that can be used to effectively predict corporate failure or bankruptcy successfully.

1.2 MOTIVATION FOR THE RESEARCH

Company failures could be costly to the different segments of the economy both private and public because of its resultant effects. The rate of company failure has been on the increase and there is need to have checks on what could be the possible causes or what signs to watch or that will constitute early warnings of such danger.

Unfortunately the collapse of companies are hardly detected before their demise. This

has led to loss of reasonable sums of money. Also most of the companies that have entered into problems are companies not quoted in the NSE. Surprisingly only one company was delisted from the NSE before 1993. Also after 1993 most of the companies deemed to have failed are from the banking industry.

This phenomenon has raised a lot of curiosity in the mind of the researcher that has led to this research. The aim is to discover the reasons for the problems and also the best method that can be employed in detecting failure before it actually occurs. This is why a model known as the multivariate analysis was chosen. This model has been tested in some countries as having the ability to predict failure.

1.3 STATEMENT OF RESEARCH PROBLEMS

A company has a responsibility towards its employees, customers, shareholders, creditors and the society. Each group interested in a company sees the role of that company in a slightly different way. But in whichever way the company must make sufficient money to be able to offer the providers of its capital an attractive return. It means if the corporate sector cannot earn a return on shareholders' money which is reasonable after taking risk into account, funds may not continue to flow into the sector. This will put the position of the company and possibly that of the employees in danger. If the company fails, it will usually have serious repercussions for the individuals involved,

such as shareholders, employees, creditors and often the society at large.

Employees will lose their jobs, creditors and shareholders will lose their money and it will affect government earnings in the form of tax and the national interest on the balance of payment. The problems highlighted above have a far reaching effect in the present situation where there is liquidity mop and most business ventures are trying to survive. Most finance businesses are having tough time in trying to come out of this strangulating situation and without any accurate model that will predict distresses before more scarce resources are sunk. From the fore-going problems, we have the following implications:

(a) Attention seems not to have been given to failure predicting models and for this reason more and more companies are disappearing into thin air.

(b) The situation in (a) above could be attributable to lack of knowledge of sound failure prediction models or that less attention has been given to

research in this direction.

(c) As a result of this, many businesses from different sectors are forced into liquidation which results in some investors losing their funds. The problems highlighted above give rise to the following research questions:

(1) Can the financial ratio techniques be used as the only tool for predicting company failure?

(2) Do financial ratios of failed firms differ significantly from those of non failed firms?

(3) Do credit analyst in Nigeria use accounting ratios in forecasting a firm's ability to survive?

(4) Can it be demonstrated that a multivariate model of business failure is better than a univariate approach?

(5) Are all the models considered validly applicable for the prediction of company's failure?

Considering the research questions posed above, it is imperative to look closely at the motive behind them. The discussion centres around whether the analysis carried out by financial managers and accountants, to evaluate companies soundness do affect their decision. Improved classification can result in better decisions and more efficient allocation of resources. This will improve the profitability of the organisation, the increase in the shareholders wealth and the economic growth of the nation in general.

1.4 OBJECTIVE OF STUDY

The ability to predict corporate failure is important from both the private and social point of view, since failure could be directly viewed as an indication of resources mis-allocation. An early warning signal of probable failure will enable both management and investors to take preventive measures; operating policy changes, re-organisation of financial structure, and or even voluntary liquidation which usually shorten the length of time losses occur and improve both private and social resource allocation. One of the main reasons for developing models to predict financial distress revolves around public policy issues. In the United States of America for instance, regulatory bodies have been set up to monitor the financial solvency and stability of companies in certain industries. State insurance commissions are concerned with protecting policy holders of insurance companies

registered in that state. Part of their activities involve detecting companies that appear to be showing signs of financial distress. In Nigeria, the Nigerian Deposit Insurance Corporation (NDIC) performs similar functions in detecting signs of financial distress from banks and finance houses. The Federal Mortgage Bank (FMB) monitors mortgage banks and building societies to save the depositors from the hands of failing banks. Models for predicting financial distress could also be important in legal decision. The use of a model for predicting "failure" provides courts with some evidence as to which firm may fall within the failing company doctrine. Financial distress prediction has relevance to lending institutions, both in deciding the conditions under which new loans are given and in devising policies to monitor existing loans. Models for predicting financial distress may also be of assistance to an auditor when issuing an opinion on the financial statements of corporations. An auditor is generally required to make an assumption as to whether the business will remain as a "going concern". Although the final decisions must rest on the auditor's judgement, his decision can be aided by a model that predicts distress. These problems highlighted above and others have given the researcher much concern that the study is based on possibility of figuring a firm that may likely fail ahead of time and avoid the problem of losses in scarce resources.

1.5 SIGNIFICANCE OF THE STUDY

Of great importance, in any developing or developed country,is the problem of resource allocation,and this has been an area that needs greater attention. This problem demands some serious attention because who receives what, in the process of resource allocation, affects the overall efficiency or otherwise of the economy as a whole. In particular, the problem of companies going into liquidation if not checked will adversely affect economic growth, employment and national income. For instance in Nigeria, the case of National Bank of Nigeria Limited (NBN) is still fresh in our memories. This bank has almost squandered the deposits of poor Nigerian depositors. Even with the intervention of the Central Bank of Nigeria (CBN) the bank is yet to come out of the problem. With a good number of finance houses and banks folding up, a lot need to be done and this has aroused the interest of the Nigerian government and the government has started doing something. In Britain the problem of the British pride Auto Company, Rolls Royce and America's giant company Lockheed Aircraft Corporation (Lockheed) and Penn Central in 1971 are still fresh in the memory. It is a well known fact that if the governments have not intervened then the result would have been allowing resources to sink. Secondly, without a satisfactory model to check companies' distress will result in resource mis-allocation. Also poor or wrong classification will lead to embarrassing such

145705

companies and lead to loss of reputation of such companies. A study in this area will help not only the company, but will save a great deal of chains of problems that would have followed as a result. The study is specifically intended to serve the following purposes.

First, provide a good path for credit officers in their professional career in the contemporary world, by adopting the corporate evaluation models contained in the study. The models have the characteristics of pin pointing the possibility of failure, thus guiding the credit officer in his decision. Second, the study provides a documentary evidence on the corporate performance evaluation and going concern evaluation by auditors and financial managers in Nigeria, and will form the foundation of further researches in the area.

1.6 INTENDED CONTRIBUTION TO KNOWLEDGE AND SOCIETY

The study's contribution to knowledge, includes the following:

First it provides a good path for credit analysts in their professional career in the contemporary credit evaluation function. The successful application of the statistical tools in credit analysis whose assessment ability are better than the conventional approach will reduce risk of faulty analysis. Furthermore, the

employment of these tools will not add any problems to the loan analyst since they already use the indicators (ratios) in the conventional analysis.

Second, the study will ensure a good method of assessing the going concern concepts of Nigerian companies based on test carried out with annual reports of these companies instead of using results of studies carried out some where outside Nigeria. The score provides a warning by indicating that a company exhibiting characteristics as defined in the recommended model have a going concern problems. Clearly auditors concerned about clients' potentials as a going concern can have objective evidence in the form of a score, especially in the context of other scores from similar industrial sectors or markets listing. Since the auditors judgement of the going concern problems must be the determining factor, the model provides a more scientific method of evaluation.

Third, without going into a substantial amount of detailed statistical theory, the model produces a function which ranks possible bankrupt and non-bankrupt candidates.

Fourth the analysis and result show that the best the Altman's model could offer is to show that the companies in question were in the grey area. It has been suggested before by Argenti (1983) that what might be grey area for US

companies might still be satisfactory for companies based in U.K.; the study proved that to be same for Nigerian companies.

Fifth it will appear that success rating of Z-scores could be considered as being somewhat doubtful. It is possible that in a single sector better results might be obtained but this is by no means guaranteed. They can best be regarded as warning signs especially if there has been dramatic change in the previous year.

1.7 SCOPE AND LIMITATIONS

The study has employed a stratified non random sampling approach in selecting companies into the sample. Thus, only the companies from the stratified area were chosen with those whose annual reports were available. The bank branches visited are in Lagos and Kaduna.The annual reports of such companies quoted on the NSE both in first and second tier were used for the research and few other annual reports of failed companies were also used. Thus the sample is considered a fair representative of such companies involved in the research.

Since this study made use of mostly annual reports of companies in question, this in fact is one of the short-comings of this research.

The problem of using past accounting statements in deriving relevant ratios is recognised particularly in relation to the manipulations associated with accounting reporting methods. Also as most of the financial statements sent to the bank are always polished to achieve the desired objectives this tends to increase the problems as they will not give true pictures of what happens to the organisation. Also creative accounting gives rise to giving wrong information as it relates to the real problems of the company under study. This may also increase the result of mis-classification.

Practical problems experienced in the course of this research include the fact that annual reports of limited liability companies which by law should be filed with the Secretary Corporate Affairs at Abuja are not filed by these companies. The problem of getting the required data easily from banks, accounting firms and unquoted companies was another limitation. This led to a delay in the collection of data. Time constraint was another problem, since the research itself has limited time in which to be completed.

However, this does not pose too much a problem to the result of the study since our sample represents bankrupt and non-bankrupt companies. No degree of manipulations would have served any useful purpose. In any case, accounting statement inaccuracies are some of the problems a researcher in finance must

have to accept.

Despite the above mentioned problems and the safeguard designed to control the impact of the above listed limitations on the internal and external validity of the study, the appreciation of the findings and recommendations must take these limitations into account.

1.8 DEFINITION OF TERMS

For the purpose of this study, certain terms are defined as follows:-

Company:- In a broad sense, it incorporates all Organisations made up of people who work together for purposes of business or trade. It represents both public and private companies as defined by the companies Acts of 1990.

Failure:- The inability of business to continue especially due to lack of money could lead to be insolvency, entry into receivership, members voluntary liquidation or creditors compulsory liquidation.

1.9 REMAINDER OF THE THESIS

The remainder of the thesis is organised into four chapters. In chapter 2, literatures on the following major issues concerning analysis were reviewed:

(a) Concepts and Tools of Ratio Analysis where it was concluded that available principles failed to provide the conceptual prediction of corporate failure.

(b) Techniques of Financial Statement Analysis.

(c) Classes of Financial Ratios.

(d) Characteristics of Failure.

(e) The use of Financial Ratios in Corporate Failure Prediction Models.

Chapter 3 has focused on the research methodology. Its major objectives are to highlight the methods of analysis and presentation used in the research. Chapter 4 is concerned with the presentation and analysis of data collected. From the analysis, it was discovered that Altman's failure prediction model which has claimed wide acceptability in classifying companies into failed non-failed has some shortcomings in that it could not accurately classify Nigerian companies. Also the Taffler model proved to be a better prediction model and is recommended in this research. Chapter 5 interprets results discussed in chapter 4, summarises and recommends a system to be adopted by financial analysts and all interested in corporate failure prediction in Nigeria.

Chapter 2

LITERATURE REVIEW

2.1 CONCEPTS AND TOOLS OF RATIO ANALYSIS

People make decisions as part of the process of achieving certain defined objectives. This involves the optimal use of scarce resources. In a perfect world, in which everyone has perfect knowledge, the need for a formal financial analysis would not exist. The future would be known with absolute certainty, and decisions and actions could be taken in the security of such certain future. However, the real world is an uncertain one where knowledge is limited and information is a scarce commodity. Decisions and actions have to be taken in the face of good deal of uncertainty, despite the existence of factual data relating to past activity.

Financial statement is therefore an information processing system designed to provide data for decision makers. The analysis which has concerned itself with study of relationships within a set of financial statements at a point in time and with the trends in these relationships over time, is intended specifically to provide factual data to assist management's forecast of future activity. As such,

its fundamental purpose is to provide its potential users with a knowledge of Company's performance which they did not have previously. This knowledge will be useful to them when assessing and formulating alternative courses of action in their various decision functions. Therefore, financial statement analysis provides a user with data relevant to the predicting and controlling functions which constitute decision process. This view has been stated in a more specific terms by Horngren (1970) in his book, Accounting for Management Control: An Introduction; and Glautier et al concludes "The object of financial analysis is to re-establish the pattern of the key variables which are otherwise concealed in the information aggregated in the income statement and balance sheet."

In this sense, the aim of analysis is to refine and translate the reported data: to convert it from general purpose to a specific purpose form. The user can then make use of the analyzed data to construct a profile of the company (its managerial financial condition, income, dividends, liquidity etc.). The required profile cannot be obtained from a casual observation of physical financial reports, for this could only give a superficial impression of the financial features of the company at one particular point in time.

Analysis on the other hand, particularly when conducted on a regular basis, provides a detailed description of these features over time as well as at particular

point of time. In this sense, financial statement analysis concerned with construction of a financial profile of the company will allow the decision-maker to assess its past, present and possible future strength and weaknesses of a particular concern to him. In this respect are the related problems of what future benefits he can expect from the company, and most importantly, whether or not the company will survive in the future thereby remaining in a position to provide those expected benefits.

2.2 COMPANY FAILURE

Attempts have been made to look closely at the reasons why companies failed apart from the quantitative reasons. Argenti (1977) taking a different view about company failure asserts that while many small companies fail because they lack financial controls, many large companies have failed inspite of a whole array of financial controls. He concludes that the key here is not just the weakness in financial control systems themselves, but weakness of Finance Directors. If there is no finance Director, or if he is not strong enough in character to stand-up to the chief Executive and make his views known then even the most sophisticated systems are effectively switched off. The warning message will be flowing down the wires but the bell will not sound in the Boardroom.

Argenti (1997) classified failure signs into two categories; those that essentially contain a list of signs and symptoms that failing companies are said to exhibit and those that can be detected by using financial data calculations. He points out that failure do not just happen but follow a process which is set below.

DEFECTS	MISTAKES	SYMPTOMS
Management	Leverage	Financial signs
Accounting	Overtrading	Creative Accounting
Response to change	Project	Non Financial sign nose drive

The sequence of failure as outlined above could be explained as follows: In phase one, management defects include executive skills not being well spread and directors who do not participate actively; systems defects include in-effective budgetary control, in-accurate costing systems and poor cash flow planning, while change defects include poor response to change and the company being significantly out of date.

Phase two lists three mistakes which can be very significant, namely overtrading, the important projects and high gearing. Overtrading occurs when a company expands faster than capital base. As turnover increases working capital requirements increase due to poor financial management, the company's cash or

equity does not increase at the same rate, eventually it fails to make the interest payments.

The second fatal error is to allow bank borrowing to the maximum possible level which leaves no room for manoeuver should a stroke of bad luck occur leaving the company unable to obtain any further loans.

In phase three, the signs and the symptoms become obvious that the economy is in grave difficulty. The signs are indicated through ratios, which together with non financial signs may result in creative accounting.

Phase four refers to the terminal signs such as rumours and resignations. This follows from the phase three.

Argenti (1977, 1986) and Alugbuo (1981) assert that there are other factors that make business to succeed or fail. This they say are the kind of people in the employment of that business or the kind of attitudes the employees have towards their work. They listed some reasons for business failure as:-

(a) Lack of funds or insufficient capital.

(b) Inadequate executive capacity.

(c) General economic conditions such as inflation, recession, adverse

government monetary and fiscal policies, completion from abroad; and

(d) Dishonesty on the part of employees.

Alugbuo (1981) stated that the big factor that overrides the factors above is the attitude of people or employees of the business have towards their work. He asserts that "money is not the overriding factor, because there are many cases of businesses started with meagre capital but which has succeeded in a high way and others started with huge sums of money which have failed. Those who have succeeded have done so because they have an organization of loyal people with right attitude. This cannot be called sheer luck or having the right product". Luck may enable a business to have pleasant opportunity but cannot guarantee its success. Good or best products and services must be marketed expertly to produce the profit that makes a business successful.

Despite the efficiency of management and the resources available to it the business can only succeed if the environment is conducive and as noted by Alugbuo (1981) "Management plays an important role for business to succeed, but management must have the right kind of people to manage. We cannot lay the blame for any failure on the general economic conditions because many corporations have succeeded very well in places with worst kind of economic conditions and government instability".

2.3 TECHNIQUES OF FINANCIAL STATEMENT ANALYSIS

Two commonly discussed cross-sectional techniques of financial statement analysis are common - size statement and financial ratio analysis. In both techniques, the results of specific firm are compared to some bench-mark such as the results of another firm, the average result for the industry, or some "Ideal" bench-mark. Generally, an analysis involves the breakdown of the examined financial reports into component parts, which are then evaluated in relation to each other and to exogenous standard.

2.3.1 COMMON SIZE STATEMENT ANALYSIS

The common-size statement analysis does not give in-depth analysis in that it does not disclose the common characteristics in such statement. Also it has absolute values, such as values of earnings, turnover, which may appear satisfactory, but its acceptability can only be measured in relation to other values. For this reason, the most extensively discussed is financial ratio analysis.

2.3.2 FINANCIAL RATIO TECHNIQUE

Financial ratios are used to weigh and evaluate the operating performance and capital structure of the firm. Financial ratio analysis brings together balance sheet and income statement data to create a better understanding of the firms past and current health, and this will aid in forecasting the future outlook. If a company earned N100,000.00 on N10 Million of sales (10 percent "profit margin" ratio),that might be quite satisfactory. But earnings of N100,000.00 on N100 Million could be disappointing (a meagre 1 percent return). After the appropriate ratio has been computed, the firm's result must be compared to those achieved by similar firms in the same industry as well as the firms past record of performance. The introduction of ratio analysis marks the beginning of t h e "scientific approach" to the analysis of financial data. The analysis is an important focus to the analyst in that it serves to focus his attention on the separate factors influencing his performance.

Although financial ratio has been used extensively it is not without some limitations. Hirt et al (1983) expressed that, "Ratio analysis will not discover "gold mines" for the analyst. It is more like a physical examination in the doctor's office. You hope you are alright, but if not, you are content to know what is wrong and what to do about it. Just like with medical illness, some diseases are

easier to cure than others, and the same is true of financial illness. The analyst is the doctor. He or she determines the illness and keeps track of the management to see if they can administer the cure".

Imman (1982) in "Appraising Altman's Z-Formula prediction states; "unhappily, most ratios, even liquidity ones, posses the serious drawback that they measure historic performance or at best current status. What is required are ratios that help management to look forward into the future and by correctly anticipating the future, to take appropriate action. However, at best, conventional ratio analysis can only provide trends and from these historic trends, set against the background of managerial experience and often gut feelings, can only provide extrapolation into the future. Furthermore, such analysis has the drawback in the number of ways required in order to establish the trend".

Investment analysts have carried out considerable researches in comparing numerous ratios in an effort to forecast the results of companies. The ratios have enabled comparisons to be made between companies as a test of efficiency, and trends seen in the ratios have highlighted vital aspects. Research works have shown that financial ratios can be used for the following and many other functions:

(a) Prediction of corporate failure

(b) Determination of corporate risk

(c) Corporate bond rating and defaults

(d) Detection of rapid growth firms and

(e) Other functions.

From the foregoing discussion it can be seen that ratios can provide great help to management in planning and control of a business, but they must be used with caution and with full understanding of the limitations of the figures. The need for caution in the use of ratios need be understood as noted by Pitcher (1979) "any businessman or banker who believes that an enterprise can be fully successful solely by maintaining a few key ratios at certain level is, in my opinion, very mistaken. Ratios can never be a substitute for good management. But they can help inform it. This is their strength and more should not be expected of them".

2.4 CLASSES OF FINANCIAL RATIOS

Accounting ratios may be classified into five groups as follows:-

(a) Profitability ratios: which attempt to measure the ability of the firm to earn an adequate return on sales, total assets and invested capital. This is a measure of the efficiency of

the enterprise in the generation of income.

(b) Asset utilisation ratios(Activity ratios): which attempt to measure the speed at which the firm is turning over accounts receivable, inventory and long-term assets. In other words, this is a measure of the relative efficiency with which the firm resources have been employed.

(c) Liquidity ratios(Solvency ratios): the primary emphasis of the liquidity ratios is a determination of the firm's ability to pay off short-term obligations as they come due.

(d) Debt utilisation ratios(Gearing ratios): provide an indication of the way the firm is financed between debt (lenders) and equity (owners) and therefore help the analyst determine the amount of financial risk present in the firm.

(e) Price ratio: relates the internal performance of the firm to external judgement of the market place in terms of value.

(A) PROFITABILITY RATIOS

Profitability Ratios are classified into two categories: ratios which express income as a percentage of sales, and ratios which express income as a yield associated with the employment of resources. The main aim is to measure a stated figure of profit, expressed as a percentage of a stated income and is generally expressed as Earnings Before Interest and Tax (EBIT). The reason for excluding interest paid on borrowing from profitability ratios lies in the intention that they should focus on the result of operating decisions rather than financing decisions. The capital structure of different firms will generally reflect a different mix of equity and debt capital. Hence it would not be possible to compare the profitability of different firms unless their results are calculated on the same basis.

Profitability ratios are generally based on earnings before taxation in order to exclude distortions which would result from the application of taxation rules in the computation of the taxable income of different companies. Indeed, it is often used to encourage companies to follow certain policies, in particular those relating to investments. Companies engaged in the expansion of capital expenditure often may lay claim to accelerated capital allowances which have the effect of reducing their taxable income and tax payable. As a result, such companies would show comparatively higher after tax earnings, than similar

companies not engaged in heavy capital expenditure. For these various reasons, therefore taxation is excluded from earnings figures used in profitability ratios.

(I) Ratios of Income as a percentage of sales:-

Two important profitability ratios of income as percentage of sales are:- gross ratio and the net income ratio.

a. **GROSS RATIO**: It expresses the gross margin as a percentage of sales and is calculated as follows:

$$\frac{\text{Operating Income}}{\text{Sales (Revenue)}} \times 100\%$$

The gross ratio is widely used to check the stability of market conditions for the only two operative factor: sales and cost of sales. Under normal conditions, the gross ratio should show little change from year to year. Owing to the limited disclosure requirements of the company law in Nigeria, for example the details of cost of sales need not be disclosed. Hence, it is not possible for external users to calculate the gross ratio as a test of PROFITABILITY.

b. **Net Income Ratio:** This ratio shows the net income resulting from sales. It is calculated as follows:

$$\frac{\text{EBIT}}{\text{Sales (revenue)}} \times 100$$

This ratio tends to fluctuate between different companies operating in the same market owing to the variations in overhead expenses, such as advertising, depreciation and management costs. Since companies are required to disclose their total sales revenue, the net income ratio may be used as a significant ratio of profitability.

(II) **Ratio of Return on Resources Employed:**

The essential purpose of these ratios is to measure profitability as a return or yield on the resources employed by an enterprise. The resources have alternative interpretations as follows: Return on Assets and Return on Equity.

a) **RETURN ON ASSETS:**

Return on Investments (Assets) R O I. This ratio interprets the resources employed as being the net asset value which is found by adding the value of fixed assets to that of current assets and deducting the total current liabilities. It is calculated as follows:

$$\frac{\text{EBIT}}{\text{Net Asset Value}} \times 100 = \%$$

OR

$$\frac{\text{EBIT}}{\text{Total Assets}} \times 100 = \%$$

The second is used to interpret the value of resources employed as the total assets employed in the business tend to give a view of the efficiency with which assets are employed by management.

Considering the effect of Interest paid as a component of profit in defining profitability ratio it will be useful to analyse some results of the work done by Robertson (1984).

TABLE 1

EFFECTS OF INTEREST PAYMENT ON OPERATING ASSETS

	1979	1980	1981	1982	1983
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
EBIT	652	532	(138)	544	687
EBT	457	251	(498)	237	456
Interest Paid	195	281	360	307	231
Fixed Assets	1619	1461	1481	1847	1622
Current Assets	2941	3626	394	3381	3847
TOTAL ASSETS	560	5087	4875	5228	5469
Net Assets	3022	2992	1940	2158	2950
Profit/Net Asset %	15.1	8.4	-25.67	11.0	1544
Profit/Total Asset %	10	4.9	(10.2)	7.7	8.3
EBIT/Net Assets	21.6	17.8	(7.1)	25.2	23.3
EBIT/Total Assets	14.3	10.5	(2.8)	10.4	12.56
Current Ratio	1.91	1.73	1.16	1.10	1.53

Robertson (1984) used the above result to analyse the effect of interest paid before considering which denominator to use either total assets or net operating assets.

AHMADU BELLO UNIVERSITY
KASHIM IBRAHIM LIBRARY

The interest paid is added back in order to allow comparisons to be made on operating profit before any financing of business. Robertson (1984) discovered that the major problem is that as interest paid increased significantly, as companies have turned to bank overdraft and loans to finance their operations, that in some of the companies the interest paid becomes greater than profit before taxation. And reaching this level, it tends to distort the underlying profit of the company-it hides important movements.

From the table above comparing only the profit before taxation and before interest paid, divided by total assets with profit before taxation divided by total assets, the difference is the amount by which profit is overstated by adding back interest paid.

	1979	1980	1981	1982	1983
EBIT/TOTAL ASSETS	14.3	10.5	(2.8)	10.4	12.6
PROFIT/TOTAL ASSETS	10.0	4.9	(10.2)	4.5	8.3
DIFFERENCE	+4.3	+5.6	-7.4	+5.9	+4.3

Robertson (1984) compared the percentage movements year-on- year from these sets of ratios and isolated the negative figure in the middle (1981) then

compare 1979 - 80 and 1982 - 83 movements. The result will show interesting feature and the rate of fall.

PERCENTAGE MOVEMENTS

	EBIT / TOTAL ASSETS	PROFIT / TOTAL ASSETS
1979-1980	-26%	-51%
1982-1983	+21%	+84%

From the above illustration it can be seen that adding back interest paid reduces both the rate of decline and the rate of improvement in profitability. The difference in the movements between the two measures is sufficiently large to show the distortion that takes place when adding back interest paid. Reacting to this Robertson (1984) concludes he could see no justification for continuing to add back interest paid and would strongly recommend that profit before taxation divided by total assets gives a sounder measure of profitability".

Table 1 above shows the basic data for the period 1979 to 1983, while the lower part of the table shows the values and calculations of the key profitability ratio.

A simple examination of the EBIT/Net Assets ratios leads one to question the drop from 25.2% in 1982 to 23.3% in 1981. This is not a realistic representation of what happened, where profit figure has increased from N143,000 or the profit before taxation figure nearly doubled from N237,000 to N456,000.00. This analysis, which is typical of many companies, clearly shows the inadequacy of profit divided by net assets as a measure of profitability and highlights two important areas of concern which are stated below.

These are:-

(a) that the level of net working capital affects profitability; for example, if the current ratio falls then profitability will increase as a direct result;

(b) that the process of adding back interest paid distorts the profitability of a company and is not necessary especially when comparing the same company year-on-year as stated earlier.

I. EFFECT OF THE CURRENT RATIO

Robertson (1984) and Inman (1991) examine the effects of the fall in current ratio,while profitability increases using the steps stated below:

(a) Calculate the current ratio for the five years;

(b) Calculate an adjusted net asset figure to maintain a constant ratio, where the current ratio is seen to be the highest for the period;

(c) Calculate the key ratio using net assets, then extract the difference from the actual net asset ratio calculated. The current ratio for the period has been calculated and produced.

	1979	1980	1981	1982	1983
Current ratio	1.91	1.73	1.16	1.10	1.53

In order to calculate a figure for adjusted net assets, it is assumed that current assets will remain as stated, then adjust current liabilities- for the period to the 1979 ratio of 1.91. Therefore adjusted net assets will be the result of taking fixed assets and adding the difference between current assets minus adjusted current liabilities.

	1979	1980	1981	1982	1983
Current Assets =	2941	3626	3394	3381	3847
Divided by 1.91					
Current Liabilities	1540	1898	1777	1770	2014
Adjusted Net Assets	3020	3189	3098	3458	3455

The figure below shows the key ratio based on actual net assets taken from Table 1 and further ratio calculated on adjusted net assets with a column giving the difference between the two ratios.

	1979	1980	1981	1982	1983
Profit/Actual					
Net Assets %	21.6	17.8	(7.1)	25.2	23.3
Profit/Adjusted					
Net Assets %	21.6	16.7	(4.5)	15.7	19.9
Difference	-	+1.1	+2.6	+9.5	+3.4

The difference between the two sets of ratios shows the extent to which profitability is over stated when using actual net assets. For example, in 1982 it compares 25.2% which is based on a current ratio of 1.10 to 1, with 15.7% which is based on the 1979 current ratio level of 1.91 to 1.

It means that profit has been over stated by 9.5% simply due to the fall in the current ratio. Furthermore, instead of the profit ratio falling from 1982 to 1983, it now shows a rise from 15.7 to 19.9% which seems to provide a more realistic measure of the actual profit movements.

It can be seen that using the first method, i.e. using the net assets as the denominator gives a misleading result and is discovered to be inadequate.

The studies conducted by Robertson (1983 & 1984) and Inman (1991) show that the key profitability ratio gives misleading result to *failing* companies when net operating assets are used as the denominator. The use of the different methods of calculating the return on investment stems from the different definitions of what components to be used when calculating return on investment. The most popular definition in the United Kingdom (U.K.) is the net operating asset. This was the definition suggested by a study group in 1955 and reported in Accountancy July, 1956.

The American definition is simply total assets and is justified by Horngren (1970) when he states that "The measurement of operating performance (i.e., how profitability assets are employed) should not be influenced by the Management's financial decisions (i.e. how assets are obtained) operating performance is best

measured by the rate of return on total assets".

In concluding his study, Robertson (1984) states:- "Since the key profitability ratios give misleading results to failing companies when net operating assets are used as the denominator: I strongly recommend the use of total assets". Robertson (1983,1984); Inman (1985,1991) evaluating both methods using data constructed from the accounts of failed companies, the result shows that the ratios produced by the first method can be misleading which confirms the views of Dobson (1967) who made the same observation and concludes; "the disadvantage is that the percentage is the lowest which can be calculated, it is not as impressive as the other higher percentage returns". What Dobson was really saying was that here is the best measure of profitability, however, because it produces a much lower ratio there will also need to be in people's attitude.

III. RETURN ON EQUITY

This measure's the profit attributable to the shareholder as a percentage of their equity on the firm. This measure is more specific than the return on assets ratio in measuring performance because it focuses only on equity-holders profit and investments. Return on equity is computed thus:

(a) Profit Available to Equity Shareholders

Equity Shareholder Interest

(b) The next is the return on all long-term capital employed. This is computed thus:

$$\frac{\text{Earning Before Interest and Tax}}{\text{Long Term Capital Employed}} = \frac{\text{EBIT}}{\text{Share capital + Loan Capital}}$$

Long term capital comprises the equity shareholders interest, preference share capital and any long term loans. As profit is earned during a period an appropriate average figure should be employed for the denominator.

B. ASSET UTILISATION RATIOS

Asset Utilisation Ratios (Activity ratios):

These measures how effectively the firm employs the resources available. The objective is to indicate various aspects of operational efficiency. Attention is focused here on specific assets rather than on the overall efficiency of assets utilisation measured by the profitability ratios.

(1) Stock Turnover = Cost of turnover / average stock = Number of times stock is turned over

or

Sales turnover / Average stock = Number of time stock is turned over

TABLE 2

RATIO ANALYSIS RESULTS

	1979	1980	1981	1982
Profit/Net Assets	22.21	9.26	14.69	20.51
Profit/Sales	9.32	4.68	2.75	1.98
Sales/Net Assets	2.38	4.72	5.33	10.34
Profit/Total Assets	11.06	4.55	2.65	2.62
Sales/Total Assets	1.19	0.97	0.96	1.32

The first method shows the key ratio falling and rising but the second profit/total assets shows the ratio falling steadily signalling that there is danger.

In analysing financial statements with detailed financial reports, a systematic analysis of ratios could be illustrated.

However, if only conventional published accounts are available, it will not be possible to calculate some of the ratios because of lack of data.

Ignoring these limitations it is possible to design all manner of ratios depending upon the circumstance.

(ii) **AVERAGE DEBTOR/COLLECTING PERIOD:**

$$\frac{\text{Debtors}}{\text{Credit turnover}} = \text{Average number of days for payment}$$

(iii) **RATIO OF ASSET VALUE** $= \dfrac{\text{Turnover}}{\text{Total asset value}}$

(iv) **CAPITAL EMPLOYED TURNOVER** $= \dfrac{\text{Sales}}{\text{Capital employed}}$

In all these cases, the higher the ratios, the more efficient will utilisation of assets be. It is only when the firm is efficient enough, managerially and otherwise, that it will generate higher sales per unit of capital or stock. Lower ratios on the other hand should lead to an investment of various activity levels. The ratio can be compared with past ones or industry averages to ascertain the efficiency in

utilisation of fixed assets or inventories to generate sales. One of the shortcomings is that it places premium on using old equipment.

(C) LIQUIDITY (SOLVENCY) RATIOS

Even a very profitable company may be forced into liquidation if it is unable to meet its debts obligations. In view of this, most users of accounts are concerned with the liquidity of a company, which may conveniently be divided into short term and long term solvency.

The short term liquid position of a company has traditionally been assessed by looking at the relationship between current assets and current liabilities, or some components of current assets and current liabilities, on a balance sheet.

These are essentially static measures, where debts are paid out of cash flows. A more recent tendency has been to look at ratios of a dynamic nature relating cash funds flow to current liabilities. The current,or working capital ratio:-

(a) Current ratio $= \frac{\text{Current assests}}{\text{Current Liabilities}}$ or $\frac{CA}{CL}$

A result greater than 1 suggests that a company is able to pay its current liabilities out of current assets. However, the composition of the current assets is important; two companies may have the same result of current ratio although, in one case the major part of current assets is debtors and the others stock, the performance of the first will be better. Convertibility into liquid asset is considered most.

The first problem is what to measure the ratio against. A ratio of 2:1 has long been considered as satisfactory but an interesting analysis reported by Kirkman (1973) using data taken from the annual abstract of statistics for 1972 shows the current ratio falling from 2.11 to 1 down to 1.53:1 during the 1960s. An increase in working capital ratio may indicate over-stocking, poor credit control, loss of sales or repayment of overdrafts. A decrease may reflect better stock and credit management, greater use of bank finance or over trading and non payment of creditors. This view has been stated in more general terms by Paton (1928) and Horngren (1970) that "an increase in the current ratio does not necessarily mean that the business is currently doing well, or vice versa. In other words, changes in current ratios are difficult to interpret".

This difficulty can be confirmed by examining the current ratios for failed company for the five years before failure.

	5	4	3	2	1
Current ratio	1.71	1.81	1.47	1.25	0.90

Taking the ratio year after year, how would the decline be interpreted? From the third to the second year, the ratio dropped from 1.47 down to 1.25 this is a fall of only 15%. This does not indicate a serious deterioration in the ratio, yet a closer examination would reveal that the current ratio of 1.47 down to 1.25 is made up of 1 representing the current liabilities and the 0.47 representing a further 47% cover of the current liabilities.

Therefore, where the current ratio drops from 1.47 down to 1.25, and the 1 represent current liabilities in both years, it then shows the cover for current liabilities dropping from 47% down to 25% from the third to the second year.

This is the basis of the net working capital/current liabilities ratio and is suggested as an alternative to the current ratio.

When credit analyst began to question the complete efficacy of the current

ratio as a credit guide, a second simply, supplemental, comparison came into existence; the sum of cash and receivables with current debt.

(b) $$\text{Liquid ratio} = \frac{\text{Debtors} + \text{Cash} + \text{Short term} - \text{Market securities}}{\text{Current Liabilities}}$$

If the current ratio was "two for one" or better and the cash and receivables equalled or exceeded the current liabilities, an account was said to give double assurance of credit stability.

The liquid ratio is a measure a company's ability to pay off its current liabilities without having to liquidate stock. The problem with this ratio is that it is slow to respond when substantial changes are made to the financing of a company. The reason being that debtors form the largest element of liquid assets and most companies tend to exercise good credit control. This produces a "nice" steady ratio.

Using data from the same failed company, the liquid ratio for the five years before failure was:

	5	4	3	2	1
Liquidity ratio	0.65	0.76	0.53	0.51	0.34

It is not until the final year that the ratio responds by a drop of 33%. This has been explained as mainly due to a sharp increase in short-term borrowings.

The above ratios are essentially static in nature and hence only give indications of the short-term liquidity position to the extent that they are typical and that no window dressing has taken place. Window dressing occurs when action is taken to manipulate certain figures which appear in a set of accounts to produce more satisfactory results. The current ratio and liquid ratio are both particularly susceptible to such manipulation.

(D) DEBT UTILISATION (GEARING) RATIOS:

The proportion of a company's fixed interest capital to total capital is of considerable importance to ordinary shareholders. The gearing or leverage of a company is defined as the ratio of preferred share capital and loan capital to ordinary share capital. The formulae used to express gearing or leverage are:

(a) Gearing or leverage = $\frac{D}{D+S}$ where D = Long term debt and S = Ordinary share Capital

or $\frac{D}{S}$

The higher the result for the above ratios,the greater the proportion of the assets which is financed by non equity capital and hence the greater the risk of debt holders suffering a loss on liquidation. In addition the higher the result for these ratios,the greater the potential volatility of the earnings stream attributable to the equity shareholders.

2.5 THE CHARACTERISTICS OF FAILURE

The basic assumption of financial statement is to provide information useful for making economic decision. If the uncertainty of future events undermines usefulness of information, the analyst has a responsibility to call the users attention to the uncertainty. The most fundamental judgement by an analyst or auditor concerning the future in relation to an enterprise is its ability to continue to operate as a going concern. Investment decisions concerning a firm take on a new perspective when that firm is facing possible liquidation, bankruptcy or re

An underlying assumption in the accounting process is that the reporting enterprise will continue as a going concern. If this is not so then, attempts to classify unexpired cost as assets would be meaningless. Evaluation of a company as a going concern can present significant problems for the auditor, analyst and others interested in the company. If indicators of liquidation are present, a judgement must be made as to the company's likelihood of continued operation. The importance of the going concern concept was emphasised by Cassey in Altman, Mcgoug, (1974) "Auditors sometimes find themselves so dubious about a company's viability as a going concern that they find themselves unable to give opinion as to the overall fairness of the financial statements, which rest after all on the implicit assumption that there is a going business here which can reasonably be expected to continue operating for an indefinite period in the future". The essence is that such primary candidate of bankruptcy or reorganisation proceedings be spotted at the earliest possible moment so that investors may guide themselves accordingly.

Although it is definitely a step in the right direction, a classification of the characteristic of failed firms does not constitute a theory of corporate failure. It gives a guide to some basic question and a check list of indicators of financial problems such as:-

A. **Financial Problems** :- difficult in meeting obligations:

1. **Liquidity deficiency**:- the company's current liabilities exceed its current assets, which results in difficulty in meeting current obligations.

2. **Equity deficiency**:- the company's solvency is questionable because of retained earnings deficit, or, in more extreme cases, an excess of total liabilities over total assets (Negative net worth).

3. **Debt default**:- the company has been unable to meet debt payment schedules or has violated one or more other covenants of its loan agreements.

4. **Funds shortage**:- the company has either limited or no liability to obtain additional funds from various capital sources.

B. **Operational problems**:- apparent lack of operating success.

1.	Continued operating losses:-	no net profit has been earned for more than one past period.
2.	Prospective revenues doubtful:-	revenue is insufficient for day to day operating needs, or there have been cut backs in operations, such as personnel reductions.
3.	Ability to operate is jeopardised:-	legal proceedings related to operations may severely curtail operations, or suppliers of operating materials, may refuse to transact with the company.
4.	Poor control over operations:-	the company management has been unable to control operations, as evidenced by repetitive uncorrected problems.

In conclusions, this survey shows that in a failing firm the following financial ratios begin to deteriorate and indeed provide the early warning signals of collapse:

a. Cash flow to total debt - Declines at an increased rate reflecting loss of investors confidence in the survival of the company and funds withdrawal.

b. Working capital to total assets - Declines reflecting inadequacy of working capital.

c. Retained profits to total assets - Declines reflecting inadequate cushion to withstand a temporary slum in business.

d. Net profit to total assets - Declines due to inefficient use of resources.

e. Total debt to total assets - Increases risk due to lack of internally generated funds, also profit and retained profit are low thus increasing Company's risk.

f. Current Ratio -Declines leading to technical insolvency and then bankruptcy.

g. DEBT to Total Assets - Declines due to low productivity and low cash flow in relation to debt.

h. Sales to Total Assets -Declines reflecting a lack of market for the Companies products, the company has assets but little sales.

i. Market Value of Equity to book value of debt.- Also declines reflecting excessive use of debt as it drives down the stock price due to the increase financial risk.

2.6 THE USE OF FINANCIAL RATIOS IN COMPANY FAILURE PREDICTION MODELS

In the last sixty year or so, studies have appeared periodically which examined the financial information of firms in order to assess the predictability of business failures. Typically these studies examined individual ratios for bankrupt and non-bankrupt entities for their predictive accuracy. Most of the studies which were on traditional one variable - at - a - time, or univariate approach claimed that certain measures were fairly accurate in forecasting failure as much as five years prior to collapse.

2.6.1 USE OF INDIVIDUAL RATIOS IN PREDICTION

Ramser and Foster (1931) analyzed eleven types of ratios for 173 firms. They found that the less successful and failing firms tended to have ratios that were lower than those of more successful firms. Fitz-Patrick (1932) examined nineteen pairs of failed and non failed firms and found persistent difference in ratio for at least three years prior to failure. The net income to net worth and the net worth to debt ratios were found to be the best indicators of failure.

Saulnier, et al. (1958) found that borrowing firms with poorer current ratios and net worth to debt ratios were more prone to default. Seiden (1962) reported that certain financial ratios (e.g. net working capital to total assets) were inversely correlated with an index of trade credit difficulties. Moore and Atkinson in Lev (1974) found that the ability to obtain credit was correlated with several financial ratios. Thus, despite the statistical shortcomings of these early studies, (e.g. small and biased samples, lack of control groups etc.) systematic differences between ratios of failed and non-failed firms were established. However, these early studies were descriptive and did not face directly the normative problems of prediction.

AHMADU BELLO UNIVERSITY
KASHIM IBRAHIM LIBRARY

Arising out of his particular interest in the predictive ability of ratios, Beaver (1966) carried out a study of failed companies. He compared the ratios of 79 companies between 1954 and 1964 with those of the same number of similar, but non-failed companies using univariate analysis. This was among the first to focus on the ability of ratios to predict corporate failure. His study was restricted to financial ratios and thus excluded the consideration of non-accounting data in failure-prediction. Thus he stated; "The emphasis upon financial ratios does not imply that ratios are the only predictors of failure. The primary concern is not with predictors of failure per se but rather with financial ratios as predictors of important events one of which is failure of the firm....".

On the lines of the earlier studies, he initially compared mean values of ratios and found the means of all six ratios he had selected for detailed study were less satisfactory for the failed companies for five years before failure than for the non-failed companies. His study differed from earlier ones in that he tested cash flow ratios and in the later part, he used more sophisticated statistical techniques. Eventually, he found that the apparently previously untested cash flow/total debt ratio was the best predictors of failure.

In the early literature, "non-liquid assets" ratios (e.g. those involving profits, fixed assets or long term debts) were considered to be relevant only in judging longer

term solvency where as "liquid" ratios (i.e. involving components of working capital) were used in short-term evaluation. This is evidence in Flouke (1968) when he stated: "The classification in a balance sheet, as current assets largely determine the going solvency of a business concern". Also Mervin in Lev (1974) reported that the net working capital to total assets ratio was the best indicators of the firm discontinuance. But Beaver had found three non-liquid ratios namely total liabilities/total assets, cash flow/total debt and net profit/total assets, to be the best predictors, even for the year before failure, he extended his study by adding a further eight liquid ratios to his tests. He still found that his three non-liquid ratios were best predictors of solvency in the short-term.He stated that "Failed firms not only have lower cash flow than non-failed firm, but also have lower cash reservoir of liquid assets. Although the failed firms have less capacity to meet obligations, they tend to incur more debts than do the non-failed...." The evidence over-whelmingly suggests that there is a difference in the ratios of failed and non-failed firms. All the empirical studies considered so far treated ratios individually.

The univariate approach to failure prediction was pursued in other studies. Beaver, aware of the limitations in using only accounting data, extended his investigation to a comparison of the predictive power of financial ratios with that of stock market prices. Since, according to the efficient capital market

hypothesis, stock prices impound all publicly available information (including that contained in the financial statements), it can be expected that these prices will out perform financial ratios in failure prediction. However, a comparison of the predictive power of stock prices and financial ratios may suggest the usefulness of accounting information relative to non- accounting sources in predicting failure. Using his original sample, Beaver (1968) found that stock prices indeed predicted failure sooner than individual financial ratios. However, the difference was rather small-the average length of time from year of failure forecast to the failure date was $2^1/_2$ of time years for the stock prices and $2^1/_3$ of time years for the net income over total assets ratio. These findings seem to suggest that the marginal value of non-accounting information in the market's assessment of failure probability may not be large. However, Beaver himself cautioned against taking theses results at face value because of the limited scope of his investigation.

These studies imply a definite potential of ratios as predictors of failure. As stated earlier in this research, ratios measuring profitability, liquidity, and solvency prevailed as the most significant indicators. The order of their importance is not clear since other studies cited have different ratios as being the most effective indication of impending problems. One limitation of the above approach is that different ratios can imply different predictions for the same firm.

2.6.2 LIMITATION OF INDIVIDUAL RATIOS IN PREDICTION

Although these works established certain important generalisations regarding the performance and trends of particular measurements, the adaptation of their results for assessing failure potentials of firms, both theoretically and practically is questionable. The methodology was essentially univariate in nature and emphasis was placed on individual signals of impending failure. Ratio analysis presented in this manner is susceptible to faulty interpretation and is potentially confusing. For instance, a firm with poor profitability and/or solvency record may be regarded as potentially bankrupt. However, because of its above average liquidity, the situation may not be considered serious. The potential ambiguity as to the relative performance of several firms is clearly evident. Indeed several writers e.g. Francis (1982) have suggested that many of the traditional ratios, and "textbook" figures that they generate, are at best highly suspected and at worse down right misleading.

This inadequacy of univariate analysis has been constructively challenged by the introduction of multivariate analysis.

2.6.3 USE OF MULTIVARIATE APPROACH TO FAILURE PREDICTION

Ratio analysis means the consideration of individual accounting ratios and test of its predictive ability. The MDA is the combination of several ratios to improve the predictive ability.

The MDA which is a combination of several ratios has better predictive ability as tested by Altman (1968). This relationship is further explained below.

The major feature of the multivariate approach to failure prediction is the simultaneous consideration of several indicators in the prediction process. This techniques is primarily used for the classification or prediction of quantitative variables. The step in applying the techniques is to determine prior classifications of the objectives. Data are then collected on various economic characteristics (e.g. liquidity profitability, size, etc.) of the project deemed relevant to failure prediction.

The techniques derive a linear combination of all or some of these characteristics between the classes. The function is of the form:

$$Z = V_1X_1 + V_2X_2 + \ldots + V_nX_n \text{---(1)}$$

Where $V_1, V_2, \ldots, V_n$ = Co-efficient

and $X_1, X_2, \ldots, X_n$ = Independent variables

(e.g. form of characteristic)

The Multiple Discreminant Analysis (MDA) computes the co-efficients V_j, while the independent variables

X_j are the actual values, where j = 1, 2, ..., n.

The discreminant function thus transforms the values into one individual variable, (discreminant score "Z"), which is then used to classify the firm into failed or non-failed. The formula above is derived as follows:

Whenever an investigator seeking to understand a social or physical phenomenon selects a number P = 1 of variables or characters to record, the values of these variables are all recorded for each distinct item, individual or experimental trials. The notation X_{ij} to indicate the particular value of the ith variable that is observed on the jth item, or trial. That is, X_{ij} = measurement of the ith variable on the jth item consequently, n, measurements on P variables can be displayed as follows:

	ITEM 1	ITEM 2	ITEM J	ITEM N
Variable 1:	X_{11}	X_{12}....	X_{ij}...	X_{in}
Variable 2:	X_{21}	X_{22}....	X_{2j}...	X_{2n}
Variable i:	X_{i1}	X_{i2}....	X_{ij}...	X_{in}
Variable p:	X_{p1}	X_{p2}....	X_{pj}...	X_{pn}

This is represented as a rectangular array, called Z, of P rows and n columns, where:

X_{11} X_{12}....X_{ij}...X_{in}

X_{21} X_{22}....X_{2j}...X_{2n}

. . . .

. . . .

. . . .

. . . .

. . . .

. . . .

X_{p1} X_{p2}....X_{pj}...X_{pn}

The array of Z is then, the data consisting of all the observation on all the variables.

2.7 THE APPLICATION OF MULTIVARIATE APPROACH TO FAILURE PREDICTION

The accuracy of failing company model in distinguishing failing from non-failing firms is tested by using discreminant analysis for computing an index and cut off point on the index.

This method has been applied successfully to financial problems such as consumer credit evaluation and investment. The first application of discreminant analysis to the problem of failure prediction in business was performed in 1968 by Altman. The first study was concentrated on manufacturing sector of the economy.

a. THE TRADITIONAL Z-SCORE MODEL OF ALTMAN

Altman (1968) used a paired sample consisting of 33 pairs of manufacturing firms, where industry and size were used as the pairing criteria. Twenty two accounting and non-accounting

variables were considered in various combinations as predictors of failure. The following combination performed best job in discriminating bankruptcy status of the sampled firms.

$$\mathbf{Z = .012X_1 + .014X_2 + .033X_3 + .006X_4 + .010X_5}$$

Where

X_1 = Working capital to total assets

X_2 = Retained earnings to total assets

X_3 = Earnings before interest and taxes to total assets

X_4 = Market value of equity to book value of total debts

X_5 = sales to total assets.

The coefficient are altmans coefficient

Expanding a little on the five ratios, X_1 is an indicator of liquidity and to some extent assets cover. Potential investors consider the assets value of the company as a useful guide to the security of their investment. X_2 is a useful indicator of the age of the firm and its cumulative profitability X_3 is an indicator of profitability. This is clearly an important ratio, since all business should regard profit as prime objective. It is hardly surprising that Altman gives this the maximum weighting. X_4 is unique to Altman apart from being an indicator of market confidence X_5 is the measure of

asset utilisation and Altman established two lines.

Appraising the work of Altman, Inman (1982) made the following observations, "... on the implications of the figures it might be useful to reconsider the X_4 ratio. The original definition required the market value of equity, but we have already suggested that the market value can be depressed by factors independent of the performance of the business and as such likely to distort the Z valuation". He suggested that this could be countered by two possible alternatives:

(a) Using book value

(b) Share valuation models using, say, the earning base.

On the basis of Altman research, he identified two essential benchmarks. Above 3% it was fairly certain that the company under review would not fail. Below 1.8% failure was extremely likely and probably within two years. Between those figures, there was a water shed of about 2.7% but it must be conceded that an element of subjectivity creeps in at this stage.

To illustrate how the Z-score works, Inman (1987) calculated the score for a United Kingdom Security Market(**USM**) listed company in the leisure

industry.

RATIO	FACTOR x CONSTANT	FACTOR x CONSTANT
	1985	1984
X_1	740/3467 x 0.012 = 0.02561	633/3639 x 0.012 = 0.002087
X_2	69/3467 x 0.014 = 0.00028	208/3639 x 0.014 = 0.000800
X_3	72/3467 x 0.033 = 0.00069	207/3639 x 0.033 = 0.001877
X_4	1510/1378 x 0.006 = 0.006575	2970/1499 x 0.006 = 0.011888
X_5	2881/3467 x 0.010 = 0.008310	1729/3639 x 0.010 = 0.004751
	0.001648	0.021403

Multiplying this result by 100

	1.6	2.1

The result of his findings vindicate the criticism made by Francis (1982) that the Z score formula may be good indicator, but just as ratio need to be right for individual type of commercial activity, so should the Z score constants. It was noted that a change in share price results in significant change in the score.

b. TRADITIONAL Z-SCORE OF TAFFLER AND TISSHAW

Recognising the limitations of Altman's Z-core, particularly when applied for companies in U.K in its translation to Companies in the United Kingdom, Taffler and Tisshaw (1977) developed their own Z-score. They recognised that it might be necessary to modify the formula for non-manufacturing companies. For manufacturing companies their formula is:

$$Z = C0 + C1\ R1 + C2\ R2 + C3\ R3 + C4\ R4$$

Where C0 to C4 are constants or weights while R1 to R4 are the ratios defined below:

$$R1 = \frac{\text{Profit before taxation}}{\text{Current liabilities}}$$

$$R2 = \frac{\text{Current Assets}}{\text{Total Liabilities}}$$

$$R3 = \frac{\text{Current Liabilities}}{\text{Total Assets}}$$

R4 = No of credit interval, defined as:

$$\frac{\text{Immediate assets - Current liabilities}}{\text{Operating costs excluding depreciation}}$$

Immediate assets are defined as debtors, and the monetary working capital.

Like Altman the 1977 modification of the original Z, the co-efficients are not readily available because of the propriety interest of the authors. However, the information available from their 1977 work demonstrates how the formula works.

The weights are simply used to adjust the natural value obtained from certain ratios.

The different aspects of the company's financial statement being measured above with the weights are given below:

R_1 = PBT/CL (Contributing 53% of the formula discriminating ability).

R_2 = CA/CL (13%)

R_3 = CL/TA (18%)

R_4 = No of credit interval (16%)

The four ratios, taken together, measure the risk profile of the firm which is summarised in a single number, its Z-score. This can be interpreted as indicating the degree of Similarity of its financial distress (the bankrupt set) or are in a sound state of corporate health.

Compared with Altman's who lays emphasis on assets backing and profitability (maximum weighting) and liquidity ratios clearly, the ability to make profits and meet one's liabilities are essential criteria for a successful commercial future.

As to predictive validity, testing the Taffler index performed same way as the Altman Z, on the stock market suspensions, the indications are that a dramatic fall in the index precedes a suspension or failure. The percentage is similar to that of Altman and similarly increased if companies have either been withdrawn from the market or have been suspended within two years. The model is essentially a proprietorial, but from his work in 1982, it is clear that a score in excess of 0.2 and certainly 0.3 is characteristic of a company with good long-term survival prospects while, below 0.2 and certainly below 0.0, the company exhibits the characteristics of companies that failed in the past.

Various claims as to the reliability of such models have been made, and as such, it is expected that:

i. if the company has failed , then a failure score should be evident and

ii. enough warning should have been given.

c. THE TRADITIONAL Z-SCORE OF ROBERTSON

Robertson (1983) took a some what different approach to predictive multivariate ratios. He criticised "traditional" multivariate methodology on the following grounds:

(a) That they are based on traditional ratios to extract the "set" of ratios that will eventually be incorporated into their models. These traditional ratios have little proven effectiveness.

(b) That they produce a single score which is interpreted as going or likely to fail. This limits the usefulness of the model since it assumes that companies will produce similar ratio value, e.g. Altman's 1.8 and 3.0 can be applied to all companies.

(c) The models have become statistically more complicated.

(d) Many writers have deliberately withheld certain facts about their models for commercial reasons.

In response to this Robertson suggested that:

a. Key elements evident in failed companies should be identified.

b. Revert to single weights to compensate for the natural differences in the individual ratios value in order to arrive at a single score.

c. Interprets on the basis of change.

d. Assess the movement in the individual ratio . He developed a formula as written below:

$$Z = .3R_1 + 3R_2 + .6R_3 = .3R_4 + .3R_5$$

Where $R_1 = \dfrac{\text{Sales - Total Assets}}{\text{Sales.}}$

$$R_2 = \frac{\text{Profit before tax}}{\text{Total Assets.}}$$

$$R_3 = \frac{\text{Current assets - Total debts}}{\text{Current liabilities}}$$

$$R_4 = \frac{\text{Equity - Total borrowings}}{\text{Total debt}}$$

$$R_5 = \frac{\text{Liquidity - Bank overdraft}}{\text{Creditors}}$$

Coefficients are his weights.

Testing the equation with data from a suspended company on the United Kingdom Security Market (USM), Robertson discovered there was a disastrous fall in profits, coupled with a deterioration in liquidity and assets utilisation. His approach to analysis goes a stage further. He further examined the change in the four traditional ratios. Thus, the conclusions of multivariate analysis are re-inforced by individual univariate ratios. In principle, Robertson's approach reiterate, for multivariate analysis, the principle that should be applied to all ratios analysis, that no conclusions should be drawn. He emphasises the advantages of his approach for strategic survival planning and corrective action. As with the Taffler analysis, the figures reinforces a picture where a company is coming out of a serious situation in a difficult

marketing climate.

The model does not have a cut-off or bench-mark criteria for measuring failed or non-failed firms. A careful study of the model suggests that he outlined what trends to watch for before figuring failure. These were trading stability, declining profit, declining working capital and increase in borrowing.

This is seen in Inman (1991) when he asserts that,..."much of the more recent developments in Z-score models incorporate trends,rather than figures in isolation. Robertson was concerned primarily about trends and changes. Since the objective of this research is the prediction of the movement in trends, the Robertson's model is then not very useful for this study.

Chapter 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The purpose of this research is the empirical investigation of corporate distresses in Nigeria using financial ratio analysis. The aim is to test the models developed by Altman in 1968 and Taffler and Tisshaw in 1977. The approach is quantitative in nature using financial statements of companies quoted and unquoted in the Nigeria Stock Exchange (NSE). This study thus made use of annual reports of selected companies. In pursuit of the above objective, this chapter seeks to spell out in details,the research design conceived to answer the research question set out in chapter 1.

The remainder of the chapter is organised into three major sections. Methods and sources of data collection 3.2 and 3.3 methods of data analysis .

The objective of this chapter, is to describe systematically the characteristics of the sample population.

The accumulation of the data base is purely descriptive and the explanation of the

relationship making prediction, or getting at meanings and implications are purely based on the result of the test done. The information gathered are used to answer questions that have been posed which include:

1. Can financial ratios generally be considered useful for predicting financial difficulties of firms?

2. Do the financial ratios of failed firms differ significantly from those of non-failed firms?

3. Do credit analysts in Nigeria use financial ratio analysis in forecasting a firm's survival ability?

4. Are all the models considered validly applicable for predicting companies' failure?

5. Can it be demonstrated that multivariate model of business failure prediction is better than a univariate approach?.

A sample of fifty (50) companies was taken for this study. Analysis was made based on two models. These are the combination of Z-scores of Altman (1968),

Taffler and Tisshaw (1977).

These combinations result from the rejection of the first result which was based on the Altman's Z-scores. This is because the five ratios according to Altman's Z-Score said to be the best discriminators of a failing firm could not discriminate non- failing firms. To test whether the ratios follow the pattern of univariate analysis these scores are analyzed separately. The choice of sample taken is based on random selection of companies both listed and non listed on the Nigeria Stock Exchange (NSE).

Thus any conclusions will have wide-ranging implications. This implies that the combination of the selection gives room for proper evaluation and obtaining of information relating to the companies. Recognising that these companies are not completely homogeneous due to industry, size differences, a careful selection of firms was attempted. It is almost impossible to carry out a detailed study of all the companies quoted and unquoted in the stock exchange. Thus a sample of companies annual report was taken. Sampling has received a wide acceptable definitions as the act of taking economically feasible, but reliable portion of a population or universes representative of that population or universe. To reduce sampling error before making decisions about data stratified non-random sampling technique was applied to the study choosing the companies according to NSE listing and combining with non listed companies, and selecting from such

grouping according to performance. The purpose of this is to ensure that each sub-group or classification of company is adequately represented with the exception of the banking and insurance industry which are excluded intentionally due to the fact that their financial statements differ significantly from those of other business concern not only in pattern but also in contents.

Although it remains true that the larger the sample, the smaller the sample error, efforts were made to take true representatives of the population. This had ensured that the following were present:

(a) The period covered is long enough to give a valid conclusion (that is ten and five years). This is done in order to minimise the separate effect of the different periods of economy of the country.

(b) The stratified sample method was adopted to enable the sample cut across different strata in the population.

3.2 METHOD AND SOURCES OF DATA COLLECTION

Financial data used in the construction of the model was taken from each firm's Annual Financial Report, NSE and Non-NSE, for a consecutive period of at least ten and five years starting from 1981 to 1990 for quoted companies and 1986 to 1990 for unquoted companies.

The ten year period is for companies quoted in NSE while the five years is for unquoted companies. Five years were taken because of unavailability of data from the companies. The period covered is necessary to provide the trend of observations. To have a representative of the total population of the companies it was determined that sampling be stratified. In the original sample there was no discrimination in failure. The annual reports of companies are collected from the Nigeria stock exchange for this research, the market value of their shares are also collected for the companies which show a relationship between the movement/fluctuation in share prices and company performance. No attempt was made to match non-failing companies with failing companies by sector, asset size or other criteria. Industry matching had been used in other studies (e.g. Blum, 1974) but was rejected for this study on the grounds that industry factors could confound results. In fact, the industry mix of failing companies in 1964 was found to be some what different from that in 1970-71, and both of these were different from the mix of failing companies in 1973-1975 (Moyer, 1977, P.15).

A sample of fifty (50) companies was obtained for this study. Thirty (30) companies are quoted by NSE and twenty (20) are unquoted, as stated earlier in the chapter. The research covers a period from 1981 to 1990. At this time there were a total of one hundred and twenty-six companies quoted in the NSE excluding the banks and insurance companies. The sample represents about

twenty-five percent (25%) of the population which seems quite reasonable judging from the time coverage of ten years. The other twenty (20) companies were taken from the unquoted which is used to test the applicability of the models in such companies. For that reason only a period of five years are used for unquoted companies.

More samples would have been taken knowing that we have more unquoted companies than the quoted companies only that the information about them are difficult to come by as explained in chapter 1.

3.3 METHODS OF DATA ANALYSIS

In order to ascertain the accuracy of the model in distinguishing failing from non-failing companies, the discriminant analysis was used in the testing and computing an index and cut-off point on the index. This index is derived from the financial model for computing the values of each of the variables for each company studied. When the variables for one company are standardised and added together, their sum is the company's index score. A company with index score above the benchmark as established by the model is predicted to succeed and a company with score below is predicted to have failed. Thus, in considering the results of the ability to predict failure as indicative of the outcome from these

failure models, the method of classification used in this research is somewhat different; it presents the result of applying the model to all firms on a given data file in specific year, rather than just to companies found to have failed or to have received qualified opinions on failure. The two (Z-SCORES) models used to classify all companies are based on the models classification.

The models used in this research are :

The Altman and Taffler's Z-score models as illustrated in the literature review in pages 64 and 67 respectively.

The prediction model for this research is based on the original Altman's and Taffler's models as stated earlier in the chapter. Therefore, the classification range used in Altman (1968) and Taffler and Tisshaw (1977) were the benchmark.

Chapter 4

DATA ANALYSIS

4.1 INTRODUCTION:

This chapter provides a brief evaluation of the data collected for the purpose of analysis and failure prediction. The work initially sets out to test the model developed by Altman (1968), further it tested the Z-Score developed by Taffler(1977)

Since both models have been accepted to produce corporate failure indices, the analyses presented in this chapter evaluate the usefulness of these models in failure prediction in Nigeria. In order to achieve the set objective, multi-variate values were used in analysing the data drawn from the financial statement of fifty companies in our sample. The financial statements of these companies are contained in appendices 1 & 3 . The first thirty were solely drawn from the companies of the Nigerian Stock Exchange list. Since the companies are still in the Nigerian Stock Exchange Listing, it is expected that application of the model will have followed the pattern; that is, the cut-off points of the model will determine failure, non failure classification. These are presented in tables to

depict the boundary.

The chapter is set in the following four main sections. Section 4.2 is the presentation of data. Section 4.3 covers analysis of the results. Section 4.4 is a discussion and interpresentation of the results while 4.5 deals with the summary of the chapter.

4.2.1 PRESENTATION OF DATA

This section presents analysis of data based on the models of Altman and Taffler as stated in Chapter Three above. Based on the analysis test the Altman's parameter illustrated below shows the performance of the traditional Altman's Z-score in Nigerian companies.

THE ILLUSTRATION OF THE CALCULATION USING ALTMAN'S MODEL

	YR1	YR2	YR3	YR4	YR5
X_1	14447	17185	16800	19895	25737
	----- x 0.012	----- x 0.012	----- x 0.012	----- x 0.012	----- x 0.012
	122665	116907	133673	143141	156531
	= .001415	= .001764	= .001508	= .001668	= .0019731

	YR6	YR7	YR8	YR9	YR10
	31240	45774	44133	39179	46515
	----- x 0.012	----- x 0.012	----- x .012	----- x 0.012	----- x 0.012
	180305	236277	275239	337522	411869
	= .0020791	= .0023248	= .0019241	= .0013929	=.0013552

	YR1	YR2	YR3	YR4	YR5
X_2	49346	50384	64542	68272	70867
	----- x 0.014	----- x 0.014	----- x 0.014	----- x .014	----- x 0.014
	122665	116907	133673	143141	156531
	= .005632	= .0060337	= .0067597	= .0066774	= .0063383

	YR6	YR7	YR8	YR9	YR10
	77670	128090	110313	82534	97162
	----- x 0.014	------ x 0.014	------ x .014	----- x 0.014	----- x 0.014
	186305	236277	275239	337522	411869
	= .0020791	= .0075897	.0019241	= .0034234	= .0033027

	YR1	YR2	YR3	YR4	YR5
X_3	8912	4077	9989	16580	24573
	---- x 0.033	---- x 0.033	---- x 0.033	----- x .033	----- x 0.033
	122665	116907	133673	143141	31508
	= .0023976	= .0011508	= .002466	=.0038224	=.0051805

	YR6	YR7	YR8	YR9	YR10
	31508	42900	59931	121322	160496
	----- x 0.033	----- x 0.033	----- x 0.033	------ x 0.033	------ x 0.033
	156531	180305	236277	275239	411869
	= .0057667	= .0059917	= .0071855	= .00118618	= .0128594

	YR1	YR2	YR3	YR4	YR5
X_4	30000	14500	15000	19000	38000
	----- x .006	----- x .006	----- x .006	----- x .006	----- x .006
	15080	17500	17510	14717	16516
	= .0119363	= .0049714	= .0051399	= .0077461	= .0138048

	YR6	YR7	YR8	YR9	YR10
	52000	84000	17500	217000	384000
	----- x .006	----- x .006	----- x .006	------ x .006	------ x .006
	77635	83187	114926	204988	264707
	= .0040188	= .0060586	= .0091363	= .0063516	= .008704

	YR1	YR2	YR3	YR4	YR5
X_5	75364	68202	71045	79715	89365
	----- x .006	----- x .006	----- x .006	----- x .006	----- x .006
	122665	116907	133673	143141	156531
	= .0061439	= .0058339	= .0053148	= .005569	= .0057091

YR6	YR7	YR8	YR9	YR10
107459	133627	190475	295766	361473
------ x .006	------ x .006	----- x .006	------ x 0.999	------ x 0.999
180305	236277	275239	337522	411869
= .0059598	= .0056555	= .0069203	= .0087629	= .0087764

TOTAL Z =

YR1	YR2	YR3	YR4	YR5	YR6	YR7	YR8	YR9	YR10
2.752	1.975	2.119	2.548	3.301	2.386	2.762	3.078	3.179	3.500

THE ILLUSTRATION OF THE CALCULATION USING TAFFLER'S MODEL

	YR1	YR2	YR3	YR4	YR5
T_1	8362	3538	9304	16020	24118
	---- X 0.53	---- X 0.53	---- X 0.53	----- X 0.53	----- X 0.53
	44319	36123	39931	46860	58851
	= 0.1000	= 0.05190	= 0.1235	= 0.1812	= 0.2172

YR6	YR7	YR8	YR9	YR10
31348	42900	59931	121322	160496
----- X 0.53	----- X 0.53	----- X 0.53	------ X 0.53	------ X 0.53
77638	83225	84387	204988	264707
= 0.2140	= 0.2732	= 0.3764	= 0 .3137	= 0.3213

T_2

YR1	YR2	YR3	YR4	YR5
58766	53308	56731	66764	84601
----- X 0.13	----- X 0.13	----- X 0.13	----- X 0.13	----- X 0.13
48319	41523	44131	49869	60664
= 0.1581	= 0.1669	= 0.1671	= 0.0589	= 0.1740

YR6	YR7	YR8	YR9	YR10
108875	128961	159059	244185	311222
----- X 0.13	------ X 0.13	------ X 0.13	----- X 0.13	----- X 0.13
77635	83187	114926	204988	264707
= 0.1823	= 0.2015	= 0.1799	= 0.1549	= 0.1528

T_3

YR1	YR2	YR3	YR4	YR5
44319	36123	39931	46869	58864
----- X 0.18	----- X 0.18	----- X 0.18	----- X 0.18	----- X 0.18
122665	176907	133673	143141	77635
= 0.0650	= 0.03675	= 0.0538	= 0.0589	= 0.0677

YR6	YR7	YR8	YR9	YR10
77635	83187	114926	204988	264707
----- X 0.18	----- X 0.18	----- X 0.18	----- X 0.18	----- X 0.18
180305	236277	275239	337522	411869
= 0.0775	= 0.0634	= 0.0752	= 0.1093	= 0.1157

T_4

YR1	YR2	YR3	YR4	YR5
7184	5071	6365	7465	9355
---- X 0.16	---- X 0.16	---- X 0.16	---- X 0.16	---- X 0.16
19379	14173	17593	18649	20053
= -0.0593	= -0.0644	= -0.0579	= -0.0640	= -0.0746

	YR6	YR7	YR8	YR9	YR10
	12415	82119	92593	169322	199960
	---- X 0.16	----- X 0.16	----- X 0.16	----- X 0.16	----- X 0.16
	20053	38873	71545	101457	193780
	= -0.0807	= -0.3380	= -0.2070	= -0.2670	= -0.1651

	YR1	YR2	YR3	YR4	YR5
Z =	0.3	0.2	0.3	0.4	0.4

YR6	YR7	YR8	YR9	YR10
0.4	0.2	0.3	0.3	0.8

4.2.2 RESULTS

The result of the ratios computed for the selected companies using Altman's and Taffler's models are presented under two sections below.

A. ALTMAN's MODEL

The results of the ratios computed for selected companies using Altman's model are presented in tables below. Table 4.1 shows the result of the ratios for the quoted companies computed over a period of ten years (1981 to 1990) while table 4.1(a) shows the results of the unquoted companies computed over the period of five years (1986 to 1990).

TABLE 4.1: Z-SCORE PERFORMANCES OF SELECTED QUOTED

COMPANIES USING ALTMAN'S MODEL

S/NO	COM/YR	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
					MANUFACTURING						
1.	Nigercem	0.8	-0.2	-0.4	-0.7	-0.9	1.0	1.5	1.6	1.8	1.2
2.	Nig Wire Man.	1.9	1.2	0.8	1.7	0.7	1.0	1.5	2.0	3.3	3.6
3.	Dunlop	1.7	1.0	2.0	4.6	6.2	9.9	2.4	3.2	2.1	1.7
4.	Vono	2.0	2.3	1.7	2.1	1.8	2.0	2.4	2.5	2.5	1.9
5.	NBC	6.1	3.9	5.3	6.3	3.1	4.2	3.3	3.5	2.7	2.9
6.	Seven-up	1.1	1.5	1.8	2.5	3.2	3.2	3.9	3.4	2.7	3.5
7.	BATA	1.8	2.0	3.2	3.0	3.1	2.6	2.6	2.7	2.4	2.4
8.	BEREC	1.6	1.1	1.7	1.5	1.3	1.6	0.9	0.5	0.8	0.9
9.	Flour Mills	7.7	6.9	6.5	6.2	6.4	4.0	3.6	4.1	9.4	9.8
10.	TATE	3.3	3.6	5.3	4.5	3.7	3.3	2.0	2.0	1.2	0.8
11.	NTC	2.7	2.0	2.1	2.6	3.0	2.4	2.8	3.1	3.2	3.5
12.	F. Diaries	2.6	1.6	2.4	2.6	2.9	0.9	1.6	0.4	1.3	-0.3
13.	Ovaltine	2.3	2.5	2.5	2.0	2.1	2.8	1.2	0.9	0.9	3.9
14.	Pfizer Products	2.6	2.3	2.0	2.3	2.5	1.8	1.7	1.9	2.0	2.2
15.	Livestocks Feeds	3.5	3.3	2.6	2.7	3.0	3.0	2.8	2.5	1.9	-0.1

16.	Nig. Sew. Mac.	5.6	3.9	1.6	0.4	0.2	0.6	0.3	0.9	0.1	-0.2
17.	Stokvis	1.7	1.5	1.2	-0.1	0.7	0.6	1.3	1.3	1.5	0.9
18.	ENPEE	1.5	1.0	1.7	3.5	2.5	2.2	2.0	2.0	2.6	3.0
19.	BEECHAM	3.7	2.9	2.7	2.3	2.2	2.1	2.7	2.6	2.1	2.3
	COMMERCIAL/CONGLOMERATES										
20.	J. Holts	3.4	3.8	5.1	8.0	13.4	4.3	9.7	6.3	3.2	2.9
21.	CFAO	3.2	3.0	2.3	3.2	4.6	4.6	4.3	4.7	3.9	5.0
22.	INCAR	12.7	10.0	8.2	5.7	5.2	1.2	2.0	1.5	1.3	1.0
23.	INTRA	5.2	6.6	2.8	2.3	2.6	2.5	3.0	3.0	3.5	4.0
24.	NCR	3.4	2.1	1.8	2.0	2.2	1.8	2.3	2.3	3.2	2.9
25.	R. T Brisko	3.0	2.6	2.0	0.1	1.3	2.7	2.4	3.4	3.0	2.9
	SERVICE/CONSTRUCTION										
26.	Road Nigeria	1.5	1.4	1.6	1.3	1.0	1.0	1.3	1.7	1.4	1.8
27.	J. Berger	0.8	0.9	0.7	0.6	1.0	0.8	1.1	1.1	1.0	1.3
28.	T. Woodrow	1.9	1.8	1.2	1.0	0.4	0.4	-0.3	-0.4	-2.3	-1.2
29.	Arbico	1.7	1.5	1.2	0.8	0.5	1.0	1.2	3.2	2.8	4.0
30.	B. Hodge	1.8	1.1	0.5	-0.3	1.1	1.1	1.3	2.8	2.8	2.4

TABLE 4.1(a) Z-SCORE OF UNQUOTED COMPANIES FROM 1986 - 1990 USING ALTMAN'S MODEL

COY	YR 1	YR 2	YR 3	YR 4	YR 5
1.	2.62	2.60	3.63	2.01	2.26
2.	-0.21	-0.10	-1.10	0.06	1.23
3.	2.36	3.46	2.07	1.90	1.85
4.	2.50	2.45	2.37	2.42	3.38
5.	-0.16	-0.35	-012	0.10	0.42
6.	2.77	2.20	2.24	2.20	2.25
7.	2.25	2.40	2.34	2.30	2.30
8.	2.27	1.46	2.25	1.32	2.34
9.	2.49	1.87	1.94	2.31	2.33
10.	2.06	1.47	1.41	1.96	1.06
11.	1.61	1.29	0.52	0.51	0.47
12.	0.56	0.44	0.35	0.25	0.25
13.	1.17	0.89	1.33	1.35	1.32
14.	4.96	4.74	3.61	2.41	1.52
15.	4.89	4.17	3.95	3.58	2.91
16.	1.49	1.60	1.28	1.61	1.86
17.	1.80	1.66	1.89	1.83	1.86

18.	1.74	1.21	1.31	1.36	1.42
19.	1.14	1.88	1.98	2.10	2.27
20.	1.19	1.49	1.48	1.21	1.29

It can be observed from table 4.1 that Z-score values are mainly positive. Out of the thirty companies, the Z-scores of seven companies showed negative values. Twenty three companies have values of 1.8 or less at certain times during the study period. Only seven companies have values above 1.8 at one time or the other during the period under review.

Also only two companies out of twenty of the unquoted showed negative values. Twelve companies have values of 1.8 and below. Six companies have scores above 1.8

TAFFLER'S MODEL

The results of the Z-score ratios computed for selected companies using Taffler's model are presented in tables 4.2 and 4.2a. Table 4.2 shows the results of the ratios for companies quoted in the NSE computed over a period of ten years (1981 - 1990) while Table 4.2a are the results of unquoted companies computed over the period of five years (1986 - 1990).

TABLE **4.2: Z-SCORE PERFORMANCES OF SELECTED QUOTED**

COMPANIES TAFFLER'S MODEL

S/NO	COM/YR	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
					MANUFACTURING						
1.	Nigercem	0.2	0.2	0.16	0.18	0.14	.17	0.19	0.2	0.4	0.5
2.	Nig Wire Man.	0.3	0.2	0.2	0.2	0.19	0.18	0.2	0.3	0.3	0.3
3.	Dunlop	0.3	0.3	0.3	0.6	0.3	0.4	1.2	1.0	0.8	0.7
4.	Vono	0.5	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.5	1.0
5.	NBC	1.2	1.0	1.1	1.3	1.0	1.4	1.4	1.6	1.8	1.9
6.	Seven-up	0.3	0.6	0.4	0.3	0.3	1.0	1.0	1.2	1.2	1.2
7.	BATA	0.5	0.2	0.3	0.3	0.6	0.6	1.2	1.1	1.1	1.0
8.	BEREC	0.3	0.3	0.3	0.3	0.6	1.2	1.6	0.3	0.3	0.2
9.	Flour Mills	0.6	0.7	1.1	1.0	1.0	1.0	0.9	0.2	0.4	0.9
10.	TATE	0.4	0.3	0.3	0.6	1.2	1.6	0.3	0.3	0.3	0.5
11.	NTC	0.6	0.3	0.3	0.4	0.8	1.0	1.2	1.3	1.3	1.5
12.	F. Diaries	0.7	0.3	1.0	0.3	0.7	1.0	05	05	02	0.2
13.	Ovaltine	0.5	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.4
14.	Pfizer Products	1.2	1.2	1.2	1.3	1.7	1.8	1.8	1.5	1.3	1.4
15.	Livestocks Feeds	1.3	1.4	1.3	1.4	1.4	1.6	1.8	1.9	1.6	1.4
16.	Nig. Sew. Man.	0.3	0.3	0.2	0.18	0.2	0.15	0.19	0.2	0.18	1.16

17.	Stokvis	0.2	0.2	0.2	0.2	0.15	0.2	0.18	0.2	0.12	0.11
18.	ENPEE	0.8	0.8	0.7	0.8	0.9	1.1	1.0	1.3	1.4	1.5
19.	BEECHAM	1.2	1.5	1.3	1.2	1.5	1.5	1.1	1.3	1.2	1.1
	COMMERCIAL/CONGLOMERATES										
20.	J. Holts	0.7	0.8	0.6	1.0	1.1	1.3	1.5	1.6	1.7	1.8
21.	CFAO	0.5	0.6	0.4	0.4	1.0	1.2	1.0	0.9	1.0	1.0
22.	INCAR	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.3	0.3
23.	INTRA	0.2	0.5	0.4	0.2	0.4	0.5	0.5	0.5	0.3	0.3
24.	NCR	0.5	0.6	0.6	0.7	0.8	0.9	1.2	1.3	1.5	1.7
25.	R. T Brisko	0.6	0.7	0.4	0.3	0.3	0.5	0.5	0.5	0.9	1.0
	SERVICE/CONSTRUCTION										
26.	Road Nigeria	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.3
27.	J. Berger	0.4	0.5	0.3	0.2	0.4	0.2	0.5	0.3	0.4	0.5
28.	T. Woodrow	0.2	0.2	0.19	0.17	0.16	0.13	0.1	0.1	0.1	0.0
29.	Arbico	0.3	0.3	0.4	0.2	0.2	0.3	0.4	0.3	0.3	0.3
30.	B. Hodge	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3

TABLE 4.2(a) Z-SCORE OF UNQUOTED COMPANIES FROM 1986 - 1990 USING TAFFLER'S MODEL

COY	YR 1	YR 2	YR 3	YR 4	YR 5
1.	0.76	0.64	0.26	0.21	0.30
2.	0.2	0.16	0.13	0.02	0.02
3.	0.40	0.14	0.09	0.14	0.16
4.	0.13	0.06	0.03	0.02	0.01
5.	0.37	0.12	0.16	0.15	0.18
6.	0.41	0.30	0.23	0.15	0.09
7.	0.53	0.30	0.20	0.17	0.11
8.	0.87	0.76	0.27	0.25	0.52
9.	0.88	0.74	0.96	0.36	0.20
10.	1.09	0.42	0.24	0.20	0.53
11.	1.05	0.40	0.24	0.28	0.34
12.	0.43	0.32	0.20	0.15	0.05
13.	2.43	1.43	0.90	0.51	0.37
14.	1.34	0.77	0.79	0.14	1.79
15.	1.70	0.43	0.32	0.13	0.12
16.	1.19	0.06	0.01	0.03	0.03
17.	0.72	0.64	0.60	1.78	0.87
18.	0.50	0.56	0.04	0.30	0.99

19.	0.29	0.15	0.10	0.05	0.02
20.	2.20	0.94	0.54	0.11	0.03

It can be observed from tables 4.2 above that the Z-score values are mainly positive. Out of the thirty companies selected there are no Z-scores less than zero therefore, there is no negative "Z" Most of the companies show values of 0.2 and above with only five companies showing values of less than 0.2 and one with zero but, the rest are above zero. Twenty five companies have Z-scores of 0.2 and above.

A close look at table 4.2a shows that twelve out of the twenty companies have at one year or the other values of "Z" of less than 0.2 but above zero. All the companies showed positive values all through the period under review.

4.3 ANALYSIS OF THE RESULTS

4.3.1 USING ALTMAN'MODEL

The results obtained from the model shows NBC, Intra, CFAO, FLOUR MILLS, NTC, BEECHAM, were very viable during the study period. This is reflected by the high Z-score results of these companies. It could also be said that most of the campanies are from commercial/conglomerates groups. All the companies in the

service/construction groups have Z-scores of 1.8 and less at one time or the other during the period of the study. Some of the companies have Z-score of negative values. From the manufacturing sector, sixteen companies have Z- score of 1.8 and below out of the nineteen companies sampled. Some of these companies showed signs that they should have collapsed by the early eighties.

Looking at the Z-scores of the manufacturing companies, there is clear indication that the scores reflect the position of the companies and the economic situation. Taking companies like Nigeria Sewing Machine Manufacturing Plc a company that faced two major re-organisation to save it from collapse, it could be seen that the Z-scores reflect a depression reading & negative score in 1990. Also Taylor Woodrow which was delisted from NSE in 1990 showed signs of depression from 1982 but was still in the NSE listing. The major reason being that the contracts executed by the company which ran into millions of Naira which were owed by the Federal and some state governments were not paid and the company continued counting that as assets; counting the unearned profits as income. This reached a level where it became evident that not all the debts will be recovered and that cruched the company's shares in the stock market and trading was unfavourable, the share price went below the nominal value so it has to give way from NSE listing. This clearly shows that financial ratios can be used to predict financial difficulties of firms.

From the twenty unquoted companies thirteen companies have Z-score of 1.8 and below at one or the other during period of the study, only two companies have failed already. The Z-scores show that the viable companies have stronger "Z" than the less viable or failing companies.

The performance of the Altman's model in both quoted and unquoted companies have similar effects. They both have negative criteria and diminishing values of "Z"s. The values of the Z-score are the clear indication of the companies' performance. Linked to the performance of the companies' share prices, a close look at the trends in the share prices seem to suggest that the price movement follow a fluctuating pattern.

4.3.2 USING TAFFLER'S MODEL

The results of the Z-score obtained from the model show that the scores have a very low range i.e from 0.0 to 1.9. The results show that the companies that have Z-scores of less than 0.2 were really in danger as could be seen from chairman's statement of one of the companies. "... there was a slow down in economic activities in the country. There was retardation in real growth while inflation rate shot up considerably...In addition to the general economic situation in the country, your company has a peculiar problem of having no working capital to operate with. The situation was so acute that the first three-quarters of the year was

operated on stop-go basis...As a result of the situation your company was unable to operate better as it did in the previous year. The debenture will mature by January 1, 1993. The Board and Management,having reasoned on the problems of getting fund to repay the debenture and accumulated interests have commenced another restructuring exercise to postponed the repayment date." Nigercem was really in danger until the intervention of the Federal Government, former Imo and Anambra States governments. The company was restructured in 1986 which also led to the sale of its shares to the public and that brought survival to the company. A closer look at the Z-scores of Taylor Woodrow shows that the problems started many years before it was finally delisted from NSE. Therefore there was enough warning for the company's management to have taken action.

The results of the twenty unquoted companies show that the companies have Z-scores of less than 0.2. There is no negative score. The scores show easily the performance of these companies. The number two company in the list has been liquidated and the "Z" shows there was enough warning. The score in 1986 was 0.2 1987 0.16 and it continued to decline and was finally liquidated in 1990. From the discussion so far it can be clearly demonstrated that the Taffler's approach performs better in failure prediction than univariate (single) ratio approach.

4.4 DISCUSSION AND INTERPRETATION

In his research, Altman identified the ratios which indicate future success or potential failure but also, by a number of statistical tests, computed weightings to give a straight forward formula which according to him any user can readily identify potential winner or more to the point in current climate, the potential fatalities. Since Altman in his work claimed a high level of prediction success within one year of demise, two years at the absolute most, the success range between 72 percent and 95 percent. This is a very high probability which follows the fact that when applied to the data of selected companies the result will be a clear classification of failed or non failed companies. The result from the sampled fifty companies brings to question whether any one model is better than the other. If the Altman's model classified the companies' success as indicated in the original study then the model is valid for Nigerian companies. The benchmark for success is between 1.8 and 2.99 as explained in chapters two and three.

There is no room for negative values because any company with a Z-score of 1.8 is deemed to have failed. Then the question is what happens to the companies with negative Z-scores and are still very viable. This implies the original Altman's model parameters are not sensitive to Nigerian companies. It is important to note that the high rate of success reported of the model is not applicable to companies here in Nigeria.

Recognising the limitations of the Altman's Z-score particularly in its translation this research tried the model developed by Taffler. From the analysis above the model interprets a score in excess of 0.2 and certainly 0.3 as characteristics of a company with good long survival prospect while below 0.2 and certainly below 0.0 the company exhibits the characteristics of companies which have failed. The analysis above shows companies which have not experienced failure and are viable. Since there is a minimal misclassification it can be said that the Z-score of Taffler is more reliable for classifying results of Nigerian companies.

The Taffler model, from the results of the above analysis, shows a better predicting ability than the Z-score of Altman. From this rate of misclassification, one can justly reject the Altman's model predictor of failure using Nigerian companies. From the performance of Taffler's model, it could be seen that there is a better performance.

Chapter 5

SUMMARY RECOMMENDATIONS AND CONCLUSIONS

5.1 GENERAL REVIEW

The chapter interprets results discussed in chapter four, summarises and recommends a system to be adopted by financial analyst and all interested in corporate failure prediction in Nigeria. This chapter is organised into five sections. Section 5.2 is a summary of the study and interpretation of the results obtained in chapter four. Section 5.3 discusses the limitation of the study. Section 5.4 is concerned with suggestions for further research, and section 5.5 contains the conclusion and recommendations.

5.2 SUMMARY AND INTERPRETATIONS

This research is centred on the prediction of company failure in Nigeria using financial ratio analysis of selected companies both those that have failed and those that have not failed. The literature on the subject matter discusses ratio analysis and its implications on the financial statement of Nigerian companies. The sources of materials for the analysis are annual reports of selected companies from the Nigeria Stock Exchange listing both on the first and the second tier, annual reports

of companies collected from commercial banks submitted for credit facilities and also annual reports of companies collected from firms of Chartered Accountants. The approach unlike the univariate approach considers number of indicators at a time to arrive at a composite score that highlights the probability of failure. Of the XK statistical models, the most popular one is the Multiple Discriminant Analysis (MDA).

The study design consisted of a survey of the different failure prediction techniques using the analysis on the annual reports of selected companies. The study mainly concentrated on the models developed by Altman (1968) and Taffler (1977). The overall empirical evidence generated in this study appears to suggest that the profitability ratios tend to point to the performance of companies. The decline in the company's profit also tends to affect the share prices on the Stock Exchange. These ratios fluctuate as companies profitability drops. The analysis considered the use of the much rated Altman's model for distress prediction and it reveals how the model shows trends in performance but could not correctly classify companies into group of distress or not. From the application of the second model developed by Taffler, the study reveals that, the model correctly classifies companies into distress non-distress ratings. That is, the application of the model would correctly classify companies in their right perspectives with minimal errors of classification. It should be noted that although not all the companies were used,

companies not used are not different from the rest in the population not to permit reasonable generalisation.

5.3 RECOMMENDATIONS

Available data shows that the approach to failure prediction in Nigeria is guided by the model developed in America and Europe with little research work on a way of developing models for the Nigerian purpose. This tends to make the analysis to be more complex.This, no doubt is not sound enough to eliminate or at least reduce the risk of faulty classification to the minimum. However, certain interesting discoveries have emerged. First, traditional ratios are still being used as basis for going concern evaluation despite their shortcoming. These ratios are profitability, liquidity, productivity and leverage. This does not give actual prediction but trends of performance. Second, the much acclaimed successful multivarirate discreminant analysis model developed by the Altman failed to pass the test with Nigerian companies. Third, the less known failure prediction model developed by Taffler proves to be more valid when applied to Nigerian companies. It classifies companies within the acceptable range of its cut-off marks.

Based on the above observation, it is recommended that application of MDA model of failure prediction developed by Taffler within the set range be used. This model

has the following advantages:

First as regards the risk indicators, ambiquity as to the relative performance of several firms is removed. The range of classification being certain, a firm is either classified as failed or non-failed. Second model indicates superiority over others tested. Third, it considers the entire profile of characteristics common to the event firms.

However, certain shortcomings are inherent in the model:

First, there may be data limitations in the classification of firms into failed and non-failed firms as required data may not be forthcoming. The classification is arrived at values to be assigned against the variables of the firms under investigation. These data are supplied by the firms. Second, the model makes use of historical cost data. However, studies undertaken on the subject indicate that alternative accounting structures do not convey any additional message over the traditional accounting method.

5.4 SUGGESTION FOR FURTHER RESEARCH

The difficulty in the interpretation of ratios stems back to the fact that they have been developed on a piece meal basis. The introduction of research work on ratio

has the following advantages:

First as regards the risk indicators, ambiguity as to the relative performance of several firms is removed. The range of classification being certain, a firm is either classified as failed or non-failed. Second model indicates superiority over others tested. Third, it considers the entire profile of characteristics common to the event firms.

However, certain shortcomings are inherent in the model:

First, there may be data limitations in the classification of firms into failed and non-failed firms as required data may not be forthcoming. The classification is arrived by values assigned against the variables of the firms under investigation. These data are supplied by the firms. Second, the model makes use of historical cost data. However, studies undertaken on the subject indicate that alternative accounting structures do not convey any additional message over the traditional accounting method.

5.4 SUGGESTION FOR FURTHER RESEARCH

The difficulty in the interpretation of ratios stems back to the fact that they have been developed on a piece meal basis. The introduction of research work on ratio

analysis is obviously to overcome these problems. From the result of this study it is clear that more work should be done as to determine what will form the benchmark classification of using MDA. Further research could be directed on the classification of companies according to industries for better application. The model points to the grey, sinking, and recovery period. This range makes the model to be speculative rather than predictive. From the foregoing, it is suggested that research should be concentrated on far reaching results which will eliminate this. Efforts must be made to develop a sound theory of failure prediction model with accurate benchmark that would correctly predict, to a good percentage, failing and non failing firms.

5.5 CONCLUSI0NS

From the foregoing limitations the results obtained suggest further research to be carried out in the following areas:

Replication of the study using financial statements of Banks and other financial institutions that were isolated for obvious reasons as stated earlier. There should be adjustment on the cut-off marks to enable the researcher construct a model that will have very short range of cut-off or benchmark which will easily be interpret-ed. The Taffler model serves as a useful tool for predicting failure in a resources

strapped developing economy. Not only is it robust enough to accommodate different sized and sector firms it is also simple to apply.

Finally, what is needed is to identify characteristics that clearly discriminate failure and success, and develop if further. Whether the answer lies in the multi-discreminant analysis such as the Z-score or a pattern of one or more different ratios based on agreed definition remains to been seen.

BIBLOGRAPHY

1. ALTMAN, E.I., (1968) Financial Ratio, Discreminant Analysis and Prediction of Co-operate Bankruptcy: Journal of Finance, pp 589 - 609.

2. ALTMAN E.I & McGOUGH T.P, (1974) "Evaluation of Company as a Going Concern" The Journal of Accountancy, December, pp 50- 57

3. ALTMAN E.I. & LORIS, B,A (1976) Financial Early Warning System For Over-time-counter Broker Dealer The Journal Of Finance, September, pp 1201 - 1217.

4. ALTMAN E.I, (1977) "Zeeta analysis, a new model" Journal of Banking and Finance.

5. ALTMAN E.I. & SAMETZ, A.W, (1977) Financial crises institutions and markets in a fragile environment. A Willey Interscience publication John Willey & Sons.

6. ALUGBUO, C.C. (1981) " The attitude of people to work: a major factor in business failure or success" Management in Nigeria, May.

7. ARGENTI, J.(1976) Corporate Collapse. London.

8. ARGENTI, J.(1986) "Company failure-long range prediction not enough". Accountancy, July.

9. ARGENTI, J.(1986) "Spot danger signs before it's too late". Accountancy, July.

10. BAR-NIV, R. & RAVEH A, (1986) "Identifying Financial distress: a new non-pragmatic approach"; Journal of business finance and accountancy.

11. BEAVER, W.H. (1967) "Financial ratios as predictors of failure"; Journal of accounting Research.

12. BEAVER, W.H. (1967) "Financial ratios of predictor of failure". Supplement to the Journal of accounting Research.

13. BEAVER, W.H. KENNELLY, W.J & VOSS, W.M. (1968) "Predictive ability as a criterion for the evaluation of accounting data" The accounting review, October.

14. BEAVER, W.H (1968) "Market prices and financial ratio as the predictors of

failure" Journal of accounting research, Autumn.

15. BEAVER, W.H. (1968) "Alternative accounting measure as predictor of failure". The accounting review, January, pp 113-122.

16. BLUM, M.P.(1960) "**The failing company doctrine.** Columbia University.

17. BLUM, M.P.(1974) "Failing company discreminant analysis" Journal of Accounting research, Spring, pp 1-25.

18. CAMPBELL, W. G and BALLON, S.V. Form and style these report term papers, fifth edition.

19. CHEN, K.H. and SHIMERDA, T.A (1981) "An Empirical Analysis of useful Financial Ratio", Financial Management, Spring, pp 51-60.

20. DEV. S, (1974) Ratio Analysis and Prediction of Company failure in EDEY, H. and YAMEY, Debits, Credits Finance and profit, London.

21. DIXON R.A.,(1986) Practical approach to financial management, 3rd edition, Financial Training pp. 14-23.

22. EDWARD B. DEAKIN, (1972) "A Discreminant Analysis of Prediction of Financial failure" Journal of Accounting Research, Spring, pp,167-179.

23. HORNE V.C.J, (1974) Financial Management and Polity, 3rd edition, Englewood cliffs, N. J. Prentice-Hall, Chapter 26.

24. HORNGREN C.T, (1970) Accounting For Management Control-An Introduction, 2nd edition, Printice-Hall.

25. HORRIGAN, O.J. (1968) A Short History of Financial Ratio Analysis. Accounting Review, April, pp 18-34

26. HOURGHTON, K.A. & WOODLIFE, D.R, (1987) "Financial Ratio the Prediction of co-operate success and failure". Journal of Business Finance and Accounting.

27. INMAN, M.L, (1982) "Approaching Altman's Z-Analysis"; Management Accounting, November, pp 32-38.

28. INMAN, M.L, (1987) "Multivariate Analysis", Student News Letter, March, pp16-17.

29. INMAN, M.L. (1990) "The contribution of USM Company Financial Data to the Study of Traditional MDA PREDICTIVE", MIDDLESER.

30. INMAN, M.L, (1991) "Towards Identifying a meaningful discriminatory ratio": Management Accounting, pp 44-57.

31. LAU AIMEE, H.L, (1987) "A Five stage Financial Distress Model"; Journal of accounting Research.

32. LEV, B.(1974) Financial statement Analysis: A new Approach. Englewood Clif, NJ, pp 145-151.

33. LEWIS, R. P, SIMON, D.S & MAURICE, S. (1981) Advanced Financial Accounting, London, pp 544-548.

34. MAURICE, O.J & JOHN, O.T, (1975) "On the Financial Application of Descreminant Analysis" Journal of Financial and Quantitative Analysis, December, pp 723-739.

35. MEARNS, A,(1991) "A Test for Argenti's failure model" Management

Accounting, June, pp 40-42.

36. MOYER R.C, (1977) "Forecasting Financial failure: A Re-Examination", Spring, pp 11-17.

37. OLIVER S, (1985) "Financial safety through system thinking". Management Accounting, November.

38. OSAZE, E. B, (1989) " Financial composite Index for predicting corporate failure in Nigeria. An update" Nigeria Management Review, Vol. 4 No. 2-4.

39. ROBERTSON J.: (1984) "Laker Airways. Could the collapse have been forseen?" Management Accounting pp 28-31.

40. ROBERTSON J:. (1984) "Company failure - measuring changes in Financial Health Through Ratio Analysis" Management Accounting pp 24-28.

41. ROBERTSON J.: (1984) "Profitable Ratios" Management Accounting, pp 40-43.

42. ROBERTSON J. (1984) "Research Directions in Financial Ratio Analysis", Management accounting.

43. ROBERTSON J. (1985) "A Ratio Model to measure changes in Financial Health". Management Accounting, April, pp 55-57.

44. ROBERTSON J. & MILLS R, (1991) "A test for Argent's failure - A reply" Management Accounting, Septembrr, pp 40-42.

45. TAFFLER, R. & TISSHAW H:. (1971) "Going, going, gone", Accountancy, March, pp 50-55.

46. TAFFLER, R.J. & TISSHAW H, (1977) "Going, going gone, Four factors which predicts?", Accountancy, March, pp 50-53.

47. TAFFLER R. J.(1982) "Forecasting Company failure in the U.K. using discreminant analysis and Financial ratio data" Journal of the Royal Statistical Society.

48. FAFFLER R,J. (1985) "Insolvency Measure", Certified Accountant, February, pp20-24

49. TAMARI M.: (1978) Financial Ratio Analysis as Predictors, London.

50. WILCOX J.W, (1971) "A Simple Theory of Financial Ratio as predictor of failure" Journal of Accounting Research", Autumn, pp 389-395.

51. WILCOX J.W, (1973) "A Prediction of Business failure Using Accounting data", "Empirical Research in Accounting, pp 163-179.

52. WILLIAM R.K..: (1973) "A Discussion of a prediction of Business Failure Using Accounting Data". "Empirical Research in Accounting, pp 183-187.

53. WINAKOR C.H & SMITH R.F (1935) "Changes in Financial structure of unsuccessful companies", Bulletin No. 51 (Urbana: University of Illinois press, Bureau of Economic Research).

APPENDIX 1

INCOME STATEMENT AND BALANCE SHEET ITEMS OF SELECTED QUOTED COMPANIES

1. NTC

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	75	68	71	80	89	10	134	190	296	361
EBIT	9	4	10	17	25	31	43	60	121	160
EBT	8	3	9	16	24	31	43	60	121	160
DEPRECIATION	15	17	15	17	20	24	22	25	28	34
INT CHARGES	0.6	0.5	0.7	0.6	0.5	-	-	-	-	-
OPERATING COSTS	34	31	32	36	40	49	60	96	130	149

BALANCE SHEET

SHARE CAPITAL	25	25	25	25	25	25	25	50	50	50
RETAINED EARNINGS	49	50	65	68	71	78	128	110	83	97
TOTAL DEBTS	48	42	44	50	61	78	83	115	205	265
CUR LIABILITIES	44	36	40	47	59	78	83	114	204	265
FIXED ASSETS	75	77	88	91	92	95	128	140	121	134
CUR ASSETS	58	53	57	67	85	108	129	159	244	311
CASH/BANK	3	3	4	4	5	7	8	8	19	43
BANK OVERDRAFT	4	5	4	3	18	-	-	-	-	-
STOCK	50	46	49	57	73	93	128	137	208	246

2. PFIZER

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	16	18	20	19	23	26	38	43	59	80
EBIT	3	3	2	4	8	7	5	3	14	20
EBT	3	3	2	3	7	7	5	2	11	12

DEPRECIATION	0.3	0.3	0.3	0.3	0.3	0.3	0.7	1.2	3	8
INT CHARGES	0.0	0.1	0.5	0.6	0.5	0.2	0.7	1.2	3	8
OPERATING COST	9	10	11	11	13	15	17	24	33	50

BALANCE SHEET

SHARE CAPITAL	6	6	7	7	8	8	8	10	11	11
RETAINED EARNINGS	1	2	0.9	1	2	4	4	2	6	9
TOTAL DEBTS	8	9	13	11	17	30	38	32	53	64
CUR LIABILITIES	8	10	12	11	17	30	37	32	53	64
FIXED ASSETS	4	4	5	4	4	5	7	8	8	9
CUR ASSETS	11	14	17	17	25	38	44	38	61	7
CASH/BANK	1.0	0.5	0.4	0.8	0.9	1.5	1.2	1.6	2.5	2.3
BANK OVERDRAFT	2.9	3.2	3.5	2.0	1.2	1.4	1.4	1.3	1.9	1.1
STOCK	2.4	2.6	2.1	4.3	2.5	6.0	2.9	3.4	5.8	8.7

3. LIVESTOCK FEEDS

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	19	28	31	36	35	45	48	42	42	28
EBIT	3	5	4	7	9	11	9	3	(1)	(7)
EBT	2.5	4.5	3.5	6.0	9	11	8.1	1.9	(4)	(11)
DEPRECIATION	0.6	0.8	0.8	1.1	1.3	1	1.2	1.3	1.2	1.1
INT CHARGES	0.5	0.1	0.9	1.0	0.3	1.2	0.9	1.1	2.8	3.5
OPERATIONAL COST	1.1	2.0	1.5	2.8	3.9	3.9	4.2	3.1	1.9	2.4

BALANCE SHEET

SHARE CAPITAL	4.4	5.5	6.9	6.9	8.6	9	10	10	10	10
RETAINED EARNINGS	2.0	1.9	1.3	2.6	2.5	5	4.3	5.4	1.5	(8.1)
TOTAL DEBTS	6	10	13	18	17	23	26	22	23	19
CUR LIABILITIES	6	10	13	18	17	23	27	22	23	18

FIXED ASSETS	3	6	7	7	7	8	10	10	9.2	9.1
CUR ASSETS	10	12	15	22	22	31	33	29	27	12
CASH/BANK	0.5	0.9	0.7	1.1	1.5	0.8	1.5	1.2	1.9	3
BANK OVERDRAFT	0.8	1.4	1.1	1.8	2.6	1.4	2.5	2.0	3.2	4
STOCK	6.6	5.0	4	10	10	1.3	1.3	1.9	2.0	2

4. BATA

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	33	32	38	41	47	51	48	71	106	122
EBIT	(2)	1.3	4.3	6.5	9	10.3	5.9	8.5	7	13.6
EBT	(2)	0.5	3.7	5.8	7.7	9.3	4.9	6.4	3.1	4.7
DEPRECIATION	0.4	0.4	0.4	0.4	0.5	1.2	1.5	1.0	1.9	1.6
INT CHARGES	0.6	0.8	0.6	0.7	0.8	1.0	1.0	2.1	4.0	8.9
OPERATING COST	26	26	31	34	38	34	36	53	10	11

BALANCE SHEET

SHARE CAPITAL	6	6	6	6	6	6	9	9	9	10.8
RETAINED EARNINGS	1.7	2.2	4.4	5.8	8	27	25	26	28	27
TOTAL DEBTS	12	13	10	14	18	23	23	29	44	59
CUR LIABILITIES	12	13	10	14	18	23	23	29	44	59
FIXED ASSETS	9	8	8	8	9	27	26	28	30	35
CUR ASSETS	14	15	14	19	25	32	32	38	57	65
CASH/BANK	1.7	1.7	3.1	7	10.2	5.2	2.9	5.8	6.5	6.9
BANK OVERDRAFT	5.0	5.4	1.5	-	-	3.0	4.1	7.7	9	10.3
STOCK	10	10	8	9	12	18	25	25	37	42

5. OVALTINE

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	9	14	14	8	8	15	14	11	13	10
EBIT	(0.1)	0.7	1.2	0.5	1.5	1.8	0.6	(1)	(0.2)	1.2

EBT	0.1	0.6	1.1	0.3	1.4	1.5	0.2	(1)	(0.7)	0.7
DEPRECIATION	0.2	0.3	0.5	0.3	0.3	0.2	0.6	0.7	0.8	1.0
INT CHARGES	0.0	0.1	0.1	0.2	0.1	0.3	0.4	0.7	0.1	0.5
OPERATING COST	8.4	1.5	1.5	0.8	0.9	1.6	1.6	1.4	1.3	1.1

BALANCE SHEET

SHARE CAPITAL	3	3	3	3	3	3	3	3	3	3
RETAINED EARNINGS	0.3	0.6	1.3	1.5	1.7	2.1	2.2	4.6	3.9	4.2
TOTAL DEBTS	3.3	5.5	5.8	4.1	6.5	7	16	18	19	2.3
CUR LIABILITIES	3	6	6	4	6	6	16	18	19	2.0
FIXED ASSETS	1.4	1.6	1.6	1.5	1.3	1.1	1.6	5.3	5.2	5.4
CUR ASSETS	5.2	7.5	8.5	7	10	11	20	20	21	4.1
CASH/BANK	0.0	1.4	0.3	0.3	0.2	1.6	1.6	1.4	1.4	0.8
BANK OVERDRAFT	1.1	1.4	1.8	0.8	0.8	0.1	1.1	1.9	1.3	0.8
STOCK	4.1	5.4	5.1	4.2	6.8	5.8	9.9	1.1	1.3	3.3

6. VONO

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	16	15	10	9	7	9	8	10	17	22
EBIT	1.3	0.8	(0.7)	0.4	0.1	0.6	0.7	1.2	3.4	4.9
EBT	1.2	0.7	(0.7)	0.3	0.01	.5	0.7	0.2	3.3	4.6
DEPRECIATION	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	1.1
INT CHARGES	0.1	0.1	0.0	0.1	0.1	0.1	0.0	1.8	0.1	0.3
OPERATING COST	5.8	5.6	3.8	3.2	2.7	3.4	3.0	3.7	6.2	8.0

BALANCE SHEET

SHARE CAPITAL	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
RETAINED EARNINGS	4.8	4.9	4.2	4.4	4.3	4.5	4.7	4.9	4.9	7.4
TOTAL DEBTS	6.7	5.7	4.2	3.3	3.9	5.6	6.0	6.3	7.6	5.3
CUR LIABILITIES	6.1	5.2	3.7	2.9	3.2	4.2	3.8	4.4	9	18.6

FIXED ASSETS	5.4	5.2	5.0	4.7	4.4	4.1	4.1	4.0	3.3	8.8
CUR ASSETS	10.6	9.9	7.9	7.5	8	10	10	10	17	24
CASH/BANK	0.5	0.6	0.8	0.6	0.5	0.6	0.8	1.2	1.1	3.3
BANK OVERDRAFT	2.2	1.5	0.9	0.9	0.8	1.5	1.0	1.4	2.8	1.2
STOCK	8.7	7.9	6.9	6.9	7.2	8.3	8.9	8	12	19.0

7. BEREC

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	21	22	28	22	35	41	31	24	30	33
EBIT	3.1	(4.2)	5.3	3.7	5.4	7.7	2.6	(1.4)	(3.2)	1.8
EBT	2.1	(3.1)	4.1	2.6	3.5	.0	(0.1)	(5.2)	(7.7)	(4.5)
DEPRECIATION	2.1	2.5	2.5	2.4	2.6	2.5	2.4	2.2	2.1	1.9
INT CHARGES	1.0	1.1	1.2	1.1	1.6	2.7	2.6	3.8	4.5	2.7
OPERATING COST	6.7	6.9	8	7	11	12.	7	9.9	7.6	9.5 10.2
BALANCE SHEET										
SHARE CAPITAL	1.8	4.7	4.7	4.7	4.7	5.9	7.3	7.3	7.3	7.3
RETAINED EARNINGS	9.8	3.4	6.8	7.9	8.7	8.8	6.4	1.3	9.9	4.9
TOTAL DEBTS	18	20	19	20	34	34	43	37	38	39
CUR LIABILITIES	14	12	14	16	33	34	43	30	33	36
FIXED ASSETS	17	21	20	20	21	21	19	18	17	15
CUR ASSETS	14	10	13	15	30	30	39	29	41	38
CASH/BANK	0.2	0.3	0.9	0.4	0.9	0.4	0.3	0.2	0.4	0.2
BANK OVERDRAFT	1.3	0.4	0.4	1.2	2.0	2.5	0.4	0.2	0.2	0.1
STOCK	8.1	5.5	8	13	13	3	2.8	2.7	2.8	2.9

8. ENPEE

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	22	22	27	39	32	28	42	68	122	186
EBIT	1	(0.2)	3	9	9	8	11	13	17	18
EBT	0.2	(1.8)	0.4	7	8.4	5.5	8.3	9	10	8.4
DEPRECIATION	1.5	1.6	1.3	1.1	1.0	0.9	0.8	1	0.5	0.6

INT CHARGES	0.8	1.7	2.5	2.2	0.9	2.1	2.7	3	7.3	10.4
OPERATING COST	4.2	4.1	5.0	7.4	6.1	5.2	8	13	23	34.8
BALANCE SHEET										
SHARE CAPITAL	7.2	7.9	7.9	7.9	7.9	7.9	7.9	9.9	9.9	9.9
RETAINED EARNINGS	1.6	(1)	(0.4)	2.6	4.4	7	11	12	15	21
TOTAL DEBTS	18	23	18	14	22	22	36	51	67	77
CUR LIABILITIES	12	15	14	11	21	21	35	51	52	61
FIXED ASSETS	8	9	8	6.9	5.7	5	4.7	4	3.7	3.2
CUR ASSETS	18	20	17	17	29	25	36	49	68	84
CASH/BANK	0.9	1.1	0.3	0.4	0.3	0.3	0.3	0.8	0.7	1.7
BANK OVERDRAFT	4.6	1.2	6.5	1.7	5.9	7.1	2.5	8.8	9.7	8.8
STOCK	6	11	10	10	17	17	18	29	49	53

9. DUNLOP

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	46	32	46	58	86	75	116	157	253	281
EBIT	(3)	(3)	4	14	25	18	31	34	65	63
EBT	(6)	(6)	1	13	24	18	31	32	45	21
DEPRECIATION	1.0	1.0	0.9	0.9	0.8	3.2	4.7	6.3	4.6	7.2
INT CHARGES	3.2	3.3	3.1	1.5	0.6	0.4	0.2	1	20	43
OPERATING COST	7.2	6.6	9	12	15	12	16	23	31	33
BALANCE SHEET										
SHARE CAPITAL	11	11	11	11	11	11	16	21	21	21
RETAINED EARNINGS	19	10	11	23	33	41	49	73	110	117
TOTAL DEBTS	20	24	10	6.9	4.2	2	13	23	14	182
CUR LIABILITIES	28	38	33	28	46	52	56	87	128	201
FIXED ASSETS	40	40	38	35	31	31	33	42	205	268
CUR ASSETS	33	21	18	27	58	73	88	163	195	247
CASH/BANK	0.1	0.1	0.1	9	34	18	28	32	4	25
BANK OVERDRAFT	20	12	8	8	15	1.9	0.4	0.2	4	10
STOCK	14	20	7	7	4	15	35	46	15	13

10. N B C

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	124	167	210	266	205	309	354	526	759	1182
EBIT	28	42	56	55	47	60	65	70	101	141
EBT	20	31	41	52	42	56	59	63	77	102
DEPRECIATION	32	54	47	63	88	108	128	144	162	186
INT CHARGES	8	9	11	7	5	4	6	7	4	39
OPERATING COST	12	15	28	28	28	25	22	23	22	105
BALANCE SHEET										
SHARE CAPITAL	25	25	33	33	44	43	58	69	69	84
RETAINED EARNINGS	19	28	32	47	49	62	70	115	139	106
TOTAL DEBTS	10	19	14	15	35	236	282	392	474	671
CUR LIABILITIES	47	66	91	145	152	210	244	329	367	561
FIXED ASSETS	53	78	100	105	135	156	173	268	269	317
CUR ASSETS	85	120	172	135	140	180	215	265	357	492
CASH/BANK	5	5	22	79	71	105	64	61	61	41
BANK OVERDRAFT	3	6	4	8	16	11	30	133	127	169
STOCK	23	33	32	34	46	35	46	60	10	184

11. SEVEN-UP

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	19	32	43	58	68	81	130	128	214	415
EBIT	19	7	3	7	9	10	11	14	17	29
EBT	0.1	3	1.8	4	7	7	7	10	12	22
DEPRECIATION	3.8	6.2	9	12	1	1	2	4	4	8.1
INT CHARGES	18.9	4.0	1.2	3	2	2.6	4.1	4.1	5.3	6.3
OPERATING COST	9	14	19	25	35	72	120	118	202	394

BALANCE SHEET										
SHARE CAPITAL	3	3	5	6.7	6.7	6.7	7	12	14	27
RETAINED EARNINGS	4.6	7	7.7	9	12	9	14	21	26	59
TOTAL DEBTS	23	20	18	15	13	34	40	50	110	133
CUR LIABILITIES	8	10	18	18	21	15	25	5	58	78.8
FIXED ASSETS	18	21	21	22	22	29	30	39	71	110
CUR ASSETS	9	12	20	21	20	20	34	43	79	110
CASH/BANK	0.5	0.6	4	4	3.2	1.6	0.8	0.4	3.2	8.4
BANK OVERDRAFT	3	5	6	4	6.4	3.7	3.2	0.2	6	22
STOCK	5	6	7	12	13	20	30	42	79	110

12) TAYLOR WOODROW

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	30	71	73	42	14	19	18	25	10	0.7
EBIT	4.1	6.8	6.1	5.2	1.5	(3.3)	1.6	4	(12.9)	1.5
EBT	1.3	4.0	3.5	2.0	(5)	(7)	(2.8)	1.5	(1.5)	(2.3)
DEPRECIATION	0.8	2.1	2.4	2.0	1.5	0.8	0.7	0.9	1.8	1.9
INT CHARGES	2.7	2.8	2.5	3.1	6.7	3.4	4.4	2.5	2.5	3.9
OPERATING COSTS	2.8	6.7	6.8	3.9	1.3	1.8	0.5	2.6	3.9	3.8

BALANCE SHEET										
SHARE CAPITAL	5.4	5.4	7.2	7.2	7.2	7.2	7.2	7.2	7.2	7.2
RETAINED EARNINGS	3.6	4.6	6.4	6.7	4.6	(6.9)	1.3	(6.9)	(5.1)	(7.6)
TOTAL DEBTS	17	22	22	23	29	46	47	46	45	44
CUR LIABILITIES	5	39	56	51	47	45	46	45	31	30.0
FIXED ASSETS	12	32	36	29	23	15	17	15	28	25
CUR ASSETS	4	34	17	36	36	31	36	31	4.8	2.8
CASH/BANK	2	0.1	0.0	0.1	0.2	0.1	0.2	0.1	0.1	0.04
BANK OVERDRAFT	14	14	12	27	27	30	27	30	14	14
STOCK	27	25	4.1	2.1	0.3	1.8	2.2	1.8	0.1	2.1

13. CFAO

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	363	454	226	302	326	323	229	653	898	963
EBIT	20	17	10	35	40	32	22	77	101	63
EBT	15	14	66	27	33	27	10	30	48	21
DEPRECIATION	5	9	10	10	10	11	10	10	13	10
INT CHARGES	5	3	4	8	6	5	13	47	52	42
OPERATING COSTS	28	35	18	23	25	22	34	49	68	77
BALANCE SHEET										
SHARE CAPITAL	16	20	20	20	26	26	26	26	39	78
RETAINED EARNINGS	27	26	23	29	35	54	47	51	57	79
TOTAL DEBTS	115	156	109	115	30	27	25	26	76	76
CUR LIABILITIES	115	144	78	83	111	105	130	21	284	195
FIXED ASSETS	16	29	34	35	35	35	36	36	39	37
CUR ASSETS	139	110	118	126	136	164	187	279	408	388
CASH/BANK	3	3	16	38	46	20	12	43	32	63
BANK OVERDRAFT	5	3	4	7	6	5	12	46	52	41
STOCK	87	109	53	54	53	81	97	109	252	193

14. STOKVIS

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	9	11	10	52	3	4	5	6	4	3
EBIT	0.6	0.7	(0.3)	0.4	0.3	0.2	1.1	(1.2)	(1.0)	(1.2)
EBT	0.4	0.1	(0.9)	0.2	0.2	(2.3)	0.4	(2.0)	(1.9)	(1.9)
DEPRECIATION	0.6	0.5	0.5	0.7	0.8	0.7	0.7	0.5	0.8	1.1
INT CHARGES	0.2	0.7	0.6	0.2	0.1	2.1	0.7	0.8	0.9	0.7
OPERATING COST	1.0	1.8	1.6	1.7	1.4	1.0	1.7	2.1	2.2	2.3

BALANCE SHEET

SHARE CAPITAL	1.4	1.5	1.5	1.5	1.5	1.4	1.5	1.5	1.5	1.5
RETAINED EARNINGS	1.5	0.5	(1.1)	0.2	1.4	(2)	(1)	(2)	(1)	(2.5)
TOTAL DEBTS	2.9	5.9	5.0	4.9	4.9	4.8	4.9	4.0	5.0	4.3
CUR LIABILITIES	7.5	10.0	8.2	7.9	6.2	4.9	4.9	4.4	5.4	4.7
FIXED ASSETS	1.3	1.3	1.2	0.9	2.3	2.2	2.1	3.9	4.2	4.1
CUR ASSETS	0.9	1.2	0.9	7.2	5.5	4.2	4.7	4.1	5.1	3.1
CASH/BANK	0.02	0.01	.7	1.2	0.8	0.4	4.1	4.7	4.0	5.1
BANK OVERDRAFT	2.6	5.8	4.9	4.9	4.4	0.4	0.5	0.3	1.1	1.1
STOCK	4.9	6.9	4.2	3.1	2.2	1.7	2.3	2.1	2.2	1.0

155 FLOUR MILLS

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	185	227	265	251	231	165	160	176	317	452
EBIT	21	18	22	24	36	21	25	22	15	27
EBT	20	17	19	15	27	11	12	13	5	11
DEPRECIATION	5.1	6.6	8.2	9.6	1	10	10.7	7.3	6.6	7.6
INT CHARGES	0.9	1.3	1.6	9.2	1	10	10.6	7.3	7.2	7.6
OPERATING COSTS	135	165	193	183	169	120	116	128	231	330

BALANCE SHEET

SHARE CAPITAL	25	25	25	25	33	33	33	33	33	33
RETAINED EARNINGS	23	26	31	34	35	38	44	49	51	56
TOTAL DEBTS	11	24	37	36	36	23	22	17	63	0.8
CUR LIABILITIES	145	146	140	146	145	168	140	141	167	118
FIXED ASSETS	89	89	86	89	89	102	103	93	86	88
CUR ASSETS	143	144	138	144	144	165	166	132	102	130
CASH/BANK	4	4	4	4	4	5	5	14	18	47
BANK OVERDRAFT	2	5	8	7	5	5	27	69	35	67
STOCK	83	84	80	84	83	96	72	83	93	99

16. NIGERIA SEWING MACHINES MANUFACTURING COMPANY LTD

INCOME STATEMENT	'81 N (M)	'82 N (M)	'83 N (M)	'84 N (M)	'85 N (M)	'86 N (M)	'87 N (M)	'88 N (M)	'89 N (M)	'90 N (M)
TURNOVER	22	21	14	68	3	6	5	8	5	9
EBIT	3	2	0.1	(2.3	(0.8)	0.3	(1)	(1.4)	(0.1)	(1.1)
EBT	2	1	(0.3	(0.3)	(2)	(0.6)	(2)	(0.5)	(1.9)	3.3
EPRECIATION	0.1	0.5	0.8	1.4	1.4	0.6	0.4	0.4	0.3	0.3
INT CHARGES	1.0	1.0	0.2	2.0	1.0	0.3	0.9	0.9	1.0	2.2
OPERATING COSTS	1.3	0.6	1.8	2.4	3.6	2.1	2.8	2.9	3.1	4.5
BALANCE SHEET										
SHARE CAPITAL	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
RETAINED EARNINGS	3.9	4.2	3.7	0.4	1.4	1.6	0.8	0.2	1.7	5.0
TOTAL DEBTS	0.6	0.7	9	11.4	9.3	9	12	11	13.6	14.5
CUR LIABILITIES	8	13.4	4.6	3.8	3	13	19	17	18.3	17.1
FIXED ASSETS	7.4	7.7	7.9	5.4	1.6	7	11	11.1	10.9	10.6
CUR ASSETS	15	16.9	8	11.7	5.3	6	19	16.7	18.3	17.1
CASH/BANK	0.2	0.2	4.1	3.2	0.7	0.1	0.5	0.5	0.08	0.6
BANK OVERDRAFT	3.7	4.5	1.1	0.7	3.3	1.3	3.9	3.3	5.5	6.4
STOCK	7.6	6.6	4.2	2.0	2.4	1.9	3.4	2.4	3.2	4.2

17. INCAR

INCOME STATEMENT	'81 N (M)	'82 N (M)	'83 N (M)	'84 N (M)	'85 N (M)	'86 N (M)	'87 N (M)	'88 N (M)	'89 N (M)	'90 N (M)
TURNOVER	84	65	53	43	47	37	45	51	53	60
EBIT	8	6	5	3	5	4	6	6	9	9
EBT	7	5	5	4	4	3	5	4	9	9
DEPRECIATION	0.0.7	0.8	0.9	1.0	1.2	1.3	1.3	1.2	1.1	
INT CHARGES	1	1	0	1	1	1	1	2	0	0
OPERATING COSTS	44	39	38	26	28	18	20	28	39	47

BALANCE SHEET

SHARE CAPITAL	4	4	4	4	6	6	5	6	9	21
RETAINED EARNINGS	5	6	5	5	7	9	12	11	12	26
TOTAL DEBTS	50	42	34	33	30	46	36	41	67	60
CUR LIABILITIES	50	42	34	30	28	44	37	40	67	60
FIXED ASSETS	7	7	7	9	13	14	18	17	17	17
CUR ASSETS	53	45	36	33	28	46	39	43	68	62
CASH/BANK	0.9	0.1	0.4	0.2	0.7	0.6	0.9	1.1	1.5	1
BANK OVERDRAFT	3.0	2.7	4.8	1.3	4.1	3.0	6.9	6.6	5.8	3
STOCK	2.6	4.6	4.3	5.3	5.3	7.5	5.6	8	11	11

18. ROADS NIGERIA

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	51	74	75	37	29	27	32	37	42	70
EBIT	15.8	7.5	6.5	2.3	0.3	1.8	2.3	2.9	3.9	7.6
EBT	4.1	5.8	4.1	0.3	2.3	1.7	0.3	0.3	0.8	3.7
DEPRECIATION	0.6	0.6	0.5	0.5	0.4	0.4	0.4	0.5	0.7	0.7
INT CHARGES	11.7	1.7	2.1	2.0	2.0	0.1	2.0	2.6	2.1	4.2
OPERATING COSTS	22	37	38	26	16	8	14	16	21	35.1

BALANCE SHEET

SHARE CAPITAL	2.4	3.6	7.5	8	10	10	10	10	10	10
RETAINED EARNINGS	7.8	8.0	9	10.4	5.0	3.7	3.7	4.8	5.4	6.8
TOTAL DEBTS	19	17	19	20	24	24	22	20	15	14
CUR LIABILITIES	61	17	60	50	46	43	34	30	45	55
FIXED ASSETS	20	26	19	16	12	13	11	12	19	12
CUR ASSETS	85	95	76	67	66	60	50	43	50	63
CASH/BANK	6.0	4.2	8.2	5.8	0.7	0.6	1.5	1.9	0.2	0.5
BANK OVERDRAFT	6	13	5.3	3.1	8.1	8.3	5.1	7	11.8	4.8
STOCK	9.8	6	13	12	11	10	6.7	7	11	11.3

(19) NIGERCEM

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	25	10	67	10	18	44	57	46	57	83
EBIT	2	(2	(1)	(1)	4	10	16	10	16	19
EBT	(2)	(6)	(5)	(5)	0.6	5.8	8.9	5.8	9	12
DEPRECIATION	28	2	1	1	2	0.6	1.3	7.7	7.2	7
INT CHARGES	0	4	4	4	3.4	4.2	7.1	4.2	7.1	7
OPERATING COSTS	9.5	4.4	3.7	2.6	2.8	3	13	10.7	8	10
BALANCE SHEET										
SHARE CAPITAL	13	13	13	13	13	13	13	13	13	13
RETAINED EARNINGS	(3)	(14)	(13)	(13)	(8)	(6)	13	9	13	14
TOTAL DEBTS	18	32	27	28	24	21	28	68	52	65
CUR LIABILITIES	31	57	53	47	42	37	48	57	48	61
FIXED ASSETS	28	27	25	23	22	14	14	15	14	14
CUR ASSETS	22	41	26	20	18	19	54	41	54	77
CASH/BANK	0.4	9.4	4.1	1.9	0.4	0.3	0.9	0.9	1	12.7
BANK OVERDRAFT	18	16	16	16	17	19	28	19	32	40
STOCK	18	30	24	28	27	26	32	32	28	27

(20) BRISCOE

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	208	278	145	45	42	26	11	23	46	61
EBIT	15	3	6	8	4	1	2	9	5	6
EBT	14	1	10	10	1	0.9	1	8	4	6
DEPRECIATION	2	3	3	2	2	2	3	4	4	4
INT CHARGES	1	2.5	4	2	3	0.1	1	1	1	0
OPERATING COST	110	154	91	22	11	12	6	10	19	28

BALANCE SHEET

SHARE CAPITAL	20	25	25	25	25	25	25	25	25	25
RETAINED EARNINGS	14	10	15	11	7	4	18	27	28	29
TOTAL DEBTS	72	99	46	36	24	9	11	10	18	27
CUR LIABILITIES	85	108	46	28	23	15	11	10	17	23
FIXED ASSETS	21	25	25	22	18	14	35	33	39	33
CUR ASSETS	72	94	43	34	24	9	19	28	33	48
CASH/BANK	9	12	5	4	3	1	2	3	4	6
BANK OVERDRAFT	-	5	4	2	-	-	-	-	1	4
STOCK	33	44	20	16	11	4	87	13	14	24

21. JULIUS BERGER

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	200	220	122	87	88	141	256	508	819	131
EBIT	13	15	14	7	8	14	25	32	45	75
EBT	11	10	5	4	4	5	10	18	31	46
DEPRECIATION	0.9	1.0	1.2	1.5	1.6	1.4	2.6	4.9	5.0	6.7
INT CHARGES	2	5	9	3	4	9	15	14	6	29
OPERATING COST	6	6	4	3	3	2	2	3	5	6

BALANCE SHEET

SHARE CAPITAL	12	12	12	12	12	12	12	12	12	12
RETAINED EARNINGS	8	10	11	12	13	14	16	18	23	20
TOTAL DEBTS	239	265	213	180	100	413	578	708	106	1402
CUR LIABILITIES	239	265	213	180	100	213	374	689	860	1203
FIXED ASSETS	34	38	46	54	58	43	100	170	338	500
CUR ASSETS	91	167	191	233	201	196	302	648	756	947
CASH/BANK	6	10	12	15	13	13	15	19	26	25
BANK OVERDRAFT	20	22	18	15	8	18	24	74	215	161
STOCK	28	52	59	72	63	69	170	175	327	550

22. N C R (NIGERIA LTD)

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	17	15	14	17	18	19	39	38	75	99
EBIT	4	2	2	5	8	2	11	7	15	15
EBT	4	2	2	5	7	3	10	7	15	15
DEPRECIATION	0.8	0.9	1.2	1.0	1.2	1.5	2.7	3.2	2.9	3.4
INT CHARGES	0	0	0	0	1	1	1	0	0	0
OPERATING COST	3	4	5	5	5	5	15	16	27	43
BALANCE SHEET										
SHARE CAPITAL	5	5	5	5	5	5	5	5	5	5
RETAINED EARNINGS	6	7	8	10	10	13	13	13	13	9
TOTAL DEBTS	10	10	13	15	19	29	29	39	48	55
CUR LIABILITIES	10	10	13	15	19	2	29	39	48	55
FIXED ASSETS	2	4	6	7	7	9	16	19	17	20
CUR ASSETS	18	17	18	20	26	23	32	33	34	42
CASH/BANK	2	2	2	2	2	3	2	2	-	-
BANK OVERDRAFT	-	-	-	-	-	1	1	-	2	2
STOCK	8	6	3	2	2	2	6	-	2	2

23. JOHN HOLT

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	291	301	246	238	245	268	289	406	765	850
EBIT	18	23	22	28	34	39	42	46	130	116
EBT	13	16	17	22	33	38	29	25	77	32
DEPRECIATION	4	8	5	5	8	9	9	14	20	29
INT CHARGES	5	7	5	6	1	1	13	21	67	84
OPERATING COST	235	242	213	192	198	216	233	327	608	645

BALANCE SHEET

SHARE CAPITAL	21	21	29	29	35	35	54	54	65	65
RETAINED EARNINGS	23	36	39	47	58	68	140	172	153	195
TOTAL DEBTS	32	23	10	7	4	30	20	19	50	108
CUR LIABILITIES	79	77	83	81	82	134	158	226	369	264
FIXED ASSETS	41	52	49	49	73	83	161	196	182	264
CUR ASSETS	83	89	100	96	100	152	208	265	441	454
CASH/BANK	3	3	31	32	32	9	0.8	8	5	8
BANK OVERDRAFT	-	-	-	-	95	117	138	129	96	112
STOCK	53	57	40	38	49	87	19	22	26	27

24. TATE

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	91	77	46	56	46	44	38	60	49	46
EBIT	3	5	4	7	16	7	5	2	4	3
EBT	3	4	3	5	10	7	(5)	2	3	1
DEPRECIATION	4	4	0.7	0.6	5	6	7	8	1	1
INT CHARGES	0	1	1	2	6	0	0	0	1	2
OPERATING COST	4	5	4	7	4	4	4	6	5	4

BALANCE SHEET

SHARE CAPITAL	3	3	3	3	3	4	4	4	4	6
RETAINED EARNINGS	5	7	8	9	14	16	10	10	11	14
TOTAL DEBTS	27	21	12	14	15	23	23	26	41	41
CUR LIABILITIES	27	20	12	14	19	23	23	26	41	73
FIXED ASSETS	3	2	4	5	4	9	15	29	29	28
CUR ASSETS	33	28	21	25	35	37	25	23	41	67
CASH/BANK	0.3	4	2	14	20	15	0.3	0.2	1.7	15
BANK OVERDRAFT	14	7	1	2	0.1	5	14	21	33	67
STOCK	25	10	11	7	11	15	11	13	36	39

25. FOREMOST DIARIES NIGERIA LTD

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	6	7	8	10	10	9	10	10	10	6
EBIT	0.8	0.3	0.5	1.5	2.3	0.7	1.0	0.9	0.9	2.8
EBT	0.9	0.2	0.5	1.4	2.3	1.0	0.4	1.9	0.9	3.9
DEPRECIATION	0.3	0.3	0.3	0.2	0.4	0.5	0.5	0.5	0.4	1.4
INT CHARGES	0.1	0.1	0.0	0.1	0.0	0.3	0.6	1.0	0.0	0.9
OPERATING COST	1.5	1.7	1.8	2.3	2.4	2.1	2.3	2.4	2.4	1.4
BALANCE SHEET										
SHARE CAPITAL	1.8	1.8	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
RETAINED EARNINGS	0.7	0.8	0.9	1.2	1.8	0.1	0.3	1.6	1.5	3.2
TOTAL DEBTS	2.3	3.0	3.3	4.0	3.3	4.4	3.9	4.6	2.7	2.8
CUR LIABILITIES	2.6	1.6	3.3	4.0	1.8	2.0	6.9	8.1	6.9	8.9
FIXED ASSETS	2.3	2.3	2.2	2.0	3.4	4.6	4.6	4.1	3.5	12.3
CUR ASSETS	3.2	2.3	4.2	5.2	5.4	6.8	4.8	4.6	4.1	2.8
CASH/BANK	0.4	0.4	1.4	0.8	0.4	0.2	0.8	0.8	0.3	1.0
BANK OVERDRAFT	0.7	0.2	0.7	0.6	0.5	0.7	3.0	4.0	2.2	3.2
STOCK	1.8	1.2	2.4	3.0	4.3	5.1	3.0	2.5	2.0	1.0

26. BLACKWOOD HODGE

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	35	19	10	8	17	13	12	16	22	41
EBIT	3	2	(3)	(6)	8	2	3	6	6	6
EBT	2	(5)	1	(.01)	0.5	(9)	(6)	3	3	3
DEPRECIATION	0.4	0.6	0.4	0.6	0.9	1.0	1	1.0	0.7	1
INT CHARGES	1	3	2	5.9	7.5	7	3	3	3	3
OPERATING COST	0.2	0.2	0.6	0.8	0.9	10	1.6	1.3	1.3	3

BALANCE SHEET

SHARE CAPITAL	8	8	8	8	8	8	8	8	8	8
RETAINED EARNINGS	8	3	(3)	(8)	(8)	(5)	(4)	10	12	14
TOTAL DEBTS	18	11	9	14	20	23	23	4	12	13
CUR LIABILITIES	29	30	29	30	28	29	16	18	19	29
FIXED ASSETS	8	8	16	13	12	9	8	14	14	15
CUR ASSETS	43	39	43	39	30	26	21	11	25	37
CASH/BANK	0.9	0.5	0.5	0.6	0.3	2	5	1	0.6	1
BANK OVERDRAFT	6	7	7	6	10	12	18.4	7	6	12
STOCK	9	6	6	9	(15)	22	21	13	14	16

28. BEECHAM

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	52	68	70	71	39	75	97	136	130	238
EBIT	10	14	17	17	16	19	21	31	28.9	58
EBT	9	12	15	16	15	19	20	26	19	40
DEPRECIATION	0.5	1.2	1.4	1.3	1.2	1.2	1.7	1.5	2.1	2.6
INT CHARGES	0.8	2.3	2	0.7	0.5	0.3	1.4	3.5	1.6	19.1
OPERATING COST	3.7	4.9	5.1	5.1	2.8	5.4	7	9.8	9.4	17.2

BALANCE SHEET

SHARE CAPITAL	8	8	8	16	16	16	16	28	28	42
RETAINED EARNINGS	4.7	8	12	8	12	21	26	19	22	19
TOTAL DEBTS	16	39	38	47	41	70	54	94	121	186
CUR LIABILITIES	16	24	38	47	41	70	54	94	121	146
FIXED ASSETS	6	17	19	18	16	17	23	23	29	36
CUR ASSETS	22	37	40	55	55	93	80	125	150	219
CASH/BANK	8	7	6	5	3	1.7	1.5	2.2	1.7	1.6
BANK OVERDRAFT	3.8	5.5	4.6	4.7	5	2.5	3.2	2.4	7	9
STOCK	7	5	9	11	13	15	12	16	7	8

28. INTRA

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	81	151	124	14	12	9	14	21	27	30
EBIT	5.8	7.5	4	2.3	1.9	1.2	0.2	0.3	1.1	1.6
EBT	5.7	7.4	4.3	2.2	1.8	1.1	2.1	0.2	1.1	1.4
DEPRECIATION	0.8	0.6	0.2	0.3	0.4	0.6	1.3	0.9	1.5	1.8
INT CHARGES	0.1	0.1	0.3	0.1	0.1	0.1	0.9	0.1	0.0	0.2
OPERATING COST	3.4	2.0	2.2	1.9	1.7	1.8	1.5	0.9	1.7	0.8
BALANCE SHEET										
SHARE CAPITAL	**7.5**	7.5	7.5	7.5	7.5	7.5	10	10	10	10
RETAINED EARNINGS	5.2	7.3	8.2	8.7	9.2	9.4	7.7	7.9	8	8.2
TOTAL DEBTS	2.6	3.4	3.3	3.9	3.1	3.7	3.5	3.8	4.2	4.2
CUR LIABILITIES	18	19	67	24	28	27	15	11	21	18
FIXED ASSETS	4.2	4.2	4.1	3.9	3.7	3.3	3.7	3.3	3.1	3.3
CUR ASSETS	24.6	28	77	34	28	27	28	24	31	28.9
CASH/BANK	1.3	1.2	1.7	1.4	1.6	1.1	1.9	1.8	1.5	2
BANK OVERDRAFT	2.1	1.4	1.3	0.3	0.8	0.7	0.2	0.6	0.4	0.3
STOCK	0.2	0.1	0.3	0.3	0.8	0.3	0.6	0.9	0.8	0.8

29. ARBICO

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	17	19	16	9	7	14	17	16	32	46
EBIT	1.5	1.5	1.6	0.3	0.2	1.7	2	2.2	2.5	3.9
EBT	1.1	1	0.8	(.8)	(1.6)	0.3	0.3	0.3	0.6	1
DEPRECIATION	0.5	0.6	0.3	0.2	0.2	0.4	0.4	0.5	0.6	0.5
INT CHARGES	0.4	0.5	0.8	1.1	1.8	1.4	1.7	1.9	1.9	2.9
OPERATING COST	0.8	0.9	1.0	1.1	1.4	2.2	1.8	1.3	1.9	1.1

BALANCE SHEET

SHARE CAPITAL	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.8
RETAINED EARNINGS	3.6	5.7	5.9	4.8	3.4	4.3	4.5	4.7	5	6
TOTAL DEBTS	4.6	5.9	5.8	7.3	9.5	9.7	9.6	9.9	10	7.6
CUR LIABILITIES	14	17	13	9	24	24	24	24	24	25.3
FIXED ASSETS	4.4	6.9	6.4	5.6	4.9	5	4.6	4.1	3.7	2.1
CUR ASSETS	16	11	18	15	25	26	26	26	29	29
CASH/BANK	0.2	0.12	0.1	0.6	0.2	0.1	0.2	0.2	0.2	0.3
BANK OVERDRAFT	4.6	3.3	4.7	5.9	7.6	7.8	7.7	7.9	7.8	8
STOCK	4.6	2.8	4.7	3.5	6.9	5.4	6.6	5.7	5.5	7

30. NIWIL

INCOME STATEMENT	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)	N (M)
TURNOVER	11	12	12	12	7	8	11	13	21	35
EBIT	0.03	0.3	(2.7)	3.2	(1.3)	0.5	1	1.6	2.5	1.7
EBT	(0.7)	(0.3)	(3)	2.5	(2)	(0.1)	0.4	1	2	1
DEPRECIATION	0.7	0.9	0.8	0.3	0.2	0.1	0.3	0.7	0.5	0.4
INT CHARGES	0.7	0.6	6	0.7	3.2	0.6	1.4	2.6	4.3	2.9
OPERATING COST	0.2	1.9	2.3	2.9	1.3	1.1	1.9	2.5	2.7	1.8

BALANCE SHEET

SHARE CAPITAL	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
RETAINED EARNINGS	(0.3)	7.1	3.7	4.6	2.7	2.5	2.9	3.7	5	5.4
TOTAL DEBTS	4.6	4.3	4.4	4.5	4	4.6	4	3.4	2.2	2.1
CUR LIABILITIES	11	10	10	7.7	7.4	7.6	8.3	6.5	8.8	6.9
FIXED ASSETS	4	14	14	11	11	11	11	11	11	11
CUR ASSETS	10	7	7	5	8	6	11	8	8	8.1
CASH/BANK	0.4	0.2	0.3	0.1	0.2	0.1	0.4	0.2	0.3	0.5
BANK OVERDRAFT	3.3	2.7	1.8	1.2	2	1.4	2.5	3.5	2.2	3.8
STOCK	3.4	5.2	3.4	2.4	3.9	2.8	2.5	3.8	4.4	8.5

SOURCE: Annual Reports and Accounts of the Individual Companies from NSE

APPENDIX 2

INCOME STATEMENT AND BALANCE SHEET ITEMS
OF SELECTED UNQUOTED COMPANIES

INCOME STATEMENT 1	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	7.28	13.45	65.30	63.53	61.82
EBIT	1.46	1.28	5.50	6.16	6.26
DEPRECIATION	1.21	0.97	1.13	0.96	1.23
INT CHARGES	0.31	0.23	0.32	0.64	0.50
OPERATING COST	4.14	11.01	5.19	4.45	4.44
NET (PROFIT/LOSS)	1.4	1.0	5.1	5.5	5.5
BALANCE SHEET					
SHARE CAPITAL	1.10	1.10	1.10	1.10	1.10
RETAINED EARNINGS	0.90	0.75	0.68	12.40	0.96
TOTAL DEBTS	1.69	1.75	1.88	2.24	2.87
CUR LIABILITIES	0.90	0.75	0.68	0.65	0.60
FIXED ASSETS	0.40	0.35	0.37	0.39	0.36
CUR ASSETS	0.75	0.61	0.06	0.06	0.05
CASH/BANK	0.47	0.35	0.37	0.39	0.36

INCOME STATEMENT 2	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	13.1	22.4	12.7	23.3	28.8
EBIT	(5.6)	3.5	(1.9)	(0.3)	(2.3)
DEPRECIATION	0.5	0.5	0.7	0.8	10.0
INT CHARGES	0.7	0.5	0.9	10.1	15.7
OPERATING COST	0.9	5.1	0.7	7.7	10.0
NET (PROFIT/LOSS)	(63.8)	29.6	11.2	12.9	38.2

BALANCE SHEET

SHARE CAPITAL	7.4	7.4	7.4	7.4	7.4
RETAINED EARNINGS	19.3	48.9	20.7	(22.1)	(68.9)
TOTAL DEBTS	29.9	28.3	33.9	36.2	65.7
CUR LIABILITIES	17.1	13.9	22.7	28.0	45.7
FIXED ASSETS	28.5	28.0	27.1	26.6	19.0
CUR ASSETS	46.4	41.9	15.8	17.8	79.6
CASH/BANK	11.8	12.9	20.5	16.1	0.9

INCOME STATEMENT 3	1986 N (000)	1987 N (000)	1918 N (000)	1989 N (000)	1990 N (000)
TURNOVER	0.06	0.09	0.8	1.6	1.7
EBIT	0.17	0.19	0.13	0.5	0.2
DEPRECIATION	0.12	0.13	0.13	0.13	0.15
INT CHARGES	0.04	(0.37)	(0.01)	3.8	0.03
OPERATING COST	0.12	0.21	0.18	0.19	0.21
NET (PROFIT/LOSS)	0.04	(0.3)	(0.07)	0.4	0.03

BALANCE SHEET

SHARE CAPITAL	0.5	0.5	0.5	0.5	0.5
RETAINED EARNINGS	0.5	0.2	0.19	0.13	0.59
TOTAL DEBTS	1.5	1.6	1.7	1.6	7.3
CUR LIABILITIES	0.7	0.9	0.7	0.6	0.7
FIXED ASSETS	1.6	1.6	1.5	2.1	7.6
CUR ASSETS	0.8	0.7	0.8	0.6	0.8
CASH/BANK	0.001	0.06	0.007	0.004	0.003

INCOME STATEMENT 4	1986 N (000)	1987 N (000)	1988 N (000)	1989 N (000)	1990 N (000)
TURNOVER	2.6	5.4	3.9	0.7	0.6
EBIT	0.1	0.5	0.9	(1.6)	(1.8)

DEPRECIATION	0.02	0.03	0.05	0.3	0.6
INT CHARGES	0.04	0.3	0.6	1.1	1.4
OPERATING COST	0.6	2.3	3.6	1.6	1.9
NET (PROFIT/LOSS)	0.1	0.2	0.3	(0.5)	(0.4)
BALANCE SHEET					
SHARE CAPITAL	1.4	1.4	1.4	3.7	3.7
RETAINED EARNINGS	0.1	(0.001)	(0.2)	(0.5)	(0.9)
TOTAL DEBTS	2.5	1.2	0.09	5.4	6.3
CUR LIABILITIES	1.0	3.5	2.7	3.9	5.7
FIXED ASSETS	3.8	5.4	6.9	6.3	6.6
CUR ASSETS	0.7	3.1	3.3	3.8	7.5
CASH/BANK	0.2	0.05	0.03	0.006	0.004

INCOME STATEMENT 5	1986	1987	1988	1989	1990
	N (000)	N (000)	N (000)	N (000)	N (000)
TURNOVER	29.9	65.2	125.1	137.4	268.3
EBIT	4.8	11.4	23.4	23.1	44.0
DEPRECIATION	1.3	1.9	3.1	4.2	5.6
INT CHARGES	1.8	3.2	8.5	13.3	23.3
OPERATING COST	1.4	2.4	1.7	9.9	17.9
NET (PROFIT/LOSS)	2.7	7.4	13.7	10.2	20.9
BALANCE SHEET					
SHARE CAPITAL	0.2	0.5	0.12	0.19	0.25
RETAINED EARNINGS	2.0	5.0	12.0	19.2	25.0
TOTAL DEBTS	3.3	6.9	10.4	14.9	21.8
CUR LIABILITIES	8.7	34.1	54.0	81.6	139.3
FIXED ASSETS	6.5	9.8	18.8	19.9	25.9
CUR ASSETS	11.3	39.0	57.6	105.8	160.1
CASH/BANK	0.3	7.1	2.8	6.8	4.0

INCOME STATEMENT 6	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	10.4	55.5	43.5	2.6	1.7
EBIT	2.5	1.8	1.3	0.4	0.2
DEPRECIATION	1.1	0.7	0.4	0.2	0.1
INT CHARGES	0.8	0.76	0.49	0.35	0.21
OPERATING COST	1.4	0.8	0.5	0.36	0.36
NET (PROFIT/LOSS)	1.7	1.0	0.8	0.07	0.03

BALANCE SHEET

SHARE CAPITAL	0.5	0.5	0.5	0.5	0.5
RETAINED EARNINGS	0.5	0.7	0.3	(2.2)	(2.3)
TOTAL DEBTS	2.7	3.8	4.2	6.8	10.3
CUR LIABILITIES	1.7	2.3	2.6	5.3	9.7
FIXED ASSETS	11.5	9.4	8.7	4.2	3.4
CUR ASSETS	11.1	4.98	2.67	2.3	0.8
CASH/BANK	13.1	0.3	0.1	0.09	0.09

INCOME STATEMENT 7	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	32.4	30.8	6.7	6.5	4.9
EBIT	5.5	4.3	0.4	0.4	0.2
DEPRECIATION	0.18	0.18	0.34	0.31	0.88
INT CHARGES	0.25	0.26	0.28	0.83	1.07
OPERATING COST	1.9	1.9	4.1	5.2	5.5
NET (PROFIT/LOSS)	4.5	3.5	0.3	0.3	0.1

BALANCE SHEET

SHARE CAPITAL	1.0	1.0	5.0	10.0	10.0
RETAINED EARNINGS	2.4	1.8	0.8	0.4	0.1
TOTAL DEBTS	0.1	0.4	0.98	1.5	15.0

CUR LIABILITIES	2.2	3.1	3.7	5.5	6.6
FIXED ASSETS	3.99	3.7	15.0	13.5	14.3
CUR ASSETS	3.4	3.6	1.8	1.9	1.0
CASH/BANK	0.6	0.7	0.5	0.4	0.2

INCOME STATEMENT 8	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	8684.2	8006.6	5353.7	3184.7	3617.6
EBIT	2365.3	2003.6	1635.3	1236.6	1020.5
DEPRECIATION	242.0	249.2	123.1	115.6	-
INT CHARGES	118.9	75.2	107.9	109.7	613.7
OPERATING COST	463.6	217.3	495.9	812.6	1145.7
NET (PROFIT/LOSS)	880.5	(757.7)	(596.9)	(55.3)	(855.6)

BALANCE SHEET

SHARE CAPITAL	300	300	300	300	300
RETAINED EARNINGS	134	(196)	(215)	(426)	(1190)
TOTAL DEBTS	1026	1110	2312	3717	6303
CUR LIABILITIES	2450	3695	3077	3153	5853
FIXED ASSETS	516	439	683	1527	3005
CUR ASSETS	3684	3189	2758	3869	4818
CASH/BANK	1080	1134	962	1025	1516

INCOME STATEMENT 9	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	2.1	3.6	9.6	20.9	13.3
EBIT	1.3	1.8	2.5	4.0	6.6
DEPRECIATION	0.4	0.8	0.1	0.2	0.3
INT CHARGES	1.3	1.7	2.3	2.9	4.5
OPERATING COST	1.6	1.9	1.6	2.2	2.5
NET (PROFIT/LOSS)	0.02	0.09	0.2	1.2	2.1

BALANCE SHEET

SHARE CAPITAL	4.8	4.8	4.8	4.8	4.8
RETAINED EARNINGS	0.05	0.01	0.16	0.9	(1.1)
TOTAL DEBTS	4.1	7.4	14.5	23.9	23.7
CUR LIABILITIES	12.0	2.7	9.8	8.9	10.7
FIXED ASSETS	0.2	2.5	2.3	2.3	1.9
CUR ASSETS	4.1	7.3	17.0	25.4	27.8
CASH/BANK	0.5	0.2	2.1	2.8	6.4

INCOME STATEMENT 10	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	15.0	14.1	10.9	13.2	10.0
EBIT	1.8	0.7	(0.5)	(0.1)	1.2
DEPRECIATION	0.2	0.6	0.7	0.8	1.0
INT CHARGES	0.09	0.37	0.49	0.73	0.55
OPERATING COST	1.6	1.6	1.5	1.3	1.2
NET (PROFIT/LOSS)	1.5	0.16	(1.2)	(0.7)	0.7

BALANCE SHEET

SHARE CAPITAL	3	3	3	3	3
RETAINED EARNINGS	2.1	2.1	4.6	3.9	4.2
TOTAL DEBTS	6.6	16.0	17.9	18.8	2.3
CUR LIABILITIES	5.9	16.0	17.9	18.8	2.3
FIXED ASSETS	1.2	1.6	5.3	5.2	5.4
CUR ASSETS	10.6	19.6	20.1	20.6	4.1
CASH/BANK	1.6	1.6	1.5	1.4	0.75

INCOME STATEMENT 11	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	5.3	8.95	5.1	9.3	11.5
EBIT	(1.9)	(0.5)	(3.8)	(6.6)	(5.6)
DEPRECIATION	0.6	0.4	0.4	0.3	0.4

INT CHARGES	0.9	1.0	1.0	1.9	3.2
OPERATING COST	0.96	0.96	0.96	0.96	0.96
NET (PROFIT/LOSS)	(1.0)	(1.4)	(1.9)	(3.4)	(3.3)

BALANCE SHEET

SHARE CAPITAL	2.9	2.9	2.9	2.9	2.9
RETAINED EARNINGS	(1.5)	0.23	(1.7)	3.4	3.3
TOTAL DEBTS	13.6	14.8	17.1	19.2	21.0
CUR LIABILITIES	6.8	5.6	9.1	11.2	18.2
FIXED ASSETS	11.4	11.1	10.9	10.6	17.6
CUR ASSETS	6.9	5.3	7.3	6.3	10.1
CASH/BANK	0.5	0.5	0.08	0.6	0.9

INCOME STATEMENT 12	1986	1987	1988	1989	1990
	N (000)	N (000)	N (000)	N (000)	N (000)
TURNOVER	9.1	9.9	10.2	10.5	5.9
EBIT	(0.7)	1.0	(0.9)	0.9	(2.8)
DEPRECIATION	0.4	0.4	0.8	0.6	0.7
INT CHARGES	0.3	0.7	1.0	8.6	1.1
OPERATING COST	1.5	2.8	2.5	3.9	3.6
NET (PROFIT/LOSS)	(1.0)	0.4	(1.9)	0.07	(3.9)

BALANCE SHEET

SHARE CAPITAL	2.2	2.2	2.2	2.2	2.2
RETAINED EARNINGS	(0.06)	0.4	(1.6)	(1.6)	3.2
TOTAL DEBTS	8.4	6.9	8.1	6.9	8.9
CUR LIABILITIES	8.4	6.9	8.1	6.9	8.9
FIXED ASSETS	4.6	4.6	4.1	3.5	12.2
CUR ASSETS	5.0	4.8	4.6	4.1	2.8
CASH/BANK	1.3	0.8	0.8	0.3	0.2

INCOME STATEMENT 13	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	12.2	13.0	16.5	7.9	10.2
EBIT	3.1	1.9	2.8	(5.8)	(2.8)
DEPRECIATION	0.4	0.6	0.7	0.7	9.9
INT CHARGES	0.9	2.7	2.9	2.8	2.3
OPERATING COST	0.6	0.8	0.8	0.9	1.6
NET (PROFIT/LOSS)	1.0	0.008	0.5	(8.6)	(5.7)
BALANCE SHEET					
SHARE CAPITAL	8.1	8.1	8.1	8.1	8.1
RETAINED EARNINGS	(2.6)	(8.1)	(7.7)	(4.7)	(3.6)
TOTAL DEBTS	8.9	14.8	20.4	23.6	23.3
CUR LIABILITIES	29.3	30.5	27.6	28.9	16.1
FIXED ASSETS	15.9	12.8	12.3	8.9	8.5
CUR ASSETS	43.5	38.8	29.9	25.7	21.2
CASH/BANK	0.5	0.6	0.3	1.9	4.6

INCOME STATEMENT 14	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	12.0	12.0	10.6	7.7	7.1
EBIT	3.3	1.6	1.0	0.5	(1.3)
DEPRECIATION	0.7	0.5	0.9	1.2	1.3
INT CHARGES	0.7	0.7	0.6	0.7	0.7
OPERATING COST	0.8	0.8	1.6	2.5	2.2
NET (PROFIT/LOSS)	2.5	1.1	0.4	(0.1)	(1.9)
BALANCE SHEET					
SHARE CAPITAL	3.8	3.8	3.8	3.8	3.8
RETAINED EARNINGS	(3.1)	(4.0)	(4.8)	(5.2)	(5.0)
TOTAL DEBTS	6.5	7.8	7.8	10.1	10.1

CUR LIABILITIES	6.9	6.6	8.8	8.5	9.7
FIXED ASSETS	10.9	10.4	10.1	10.2	11.4
CUR ASSETS	5.8	4.9	7.7	7.1	6.1
CASH/BANK	0.4	0.2	0.2	0.2	0.04

INCOME STATEMENT15	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	60.3	52.8	50.8	45.1	37.3
EBIT	9.1	3.8	5.8	6.1	(0.8)
DEPRECIATION	1.1	1.3	1.7	1.2	1.9
INT CHARGES	7.5	3.3	5.6	6.2	(0.8)
OPERATING COST	2.1	2.5	2.7	4.7	6.7
NET (PROFIT/LOSS)	1.5	0.5	0.2	(0.5)	8.7
BALANCE SHEET					
SHARE CAPITAL	13.5	13.5	13.5	13.5	13.5
RETAINED EARNINGS	1.8	2.9	1.4	1.3	(7.7)
TOTAL DEBTS	38.3	45.6	41.9	60.3	66.7
CUR LIABILITIES	43.9	36.7	40.2	66.7	60.3
FIXED ASSETS	17.0	17.1	17.2	17.7	13.9
CUR ASSETS	46.2	38.8	43.1	68.4	62.6
CASH/BANK	1.2	1.2	0.9	0.9	0.05

INCOME STATEMENT 16	1986	1987	1988	1989	1990
	N	**N**	**N**	**N**	**N**
	(000)	(000)	(000)	(000)	(000)
TURNOVER	7.3	13.4	6.5	6.3	6.2
EBIT	1.5	1.5	(5.2)	(5.5)	(5.5)
DEPRECIATION	1.2	0.97	1.1	9.6	1.23
INT CHARGES	0.03	0.23	0.32	0.64	0.75
OPERATING COST	4.14	11.01	5.19	4.45	4.44
NET (PROFIT/LOSS)	0.13	0.13	(0.55)	(0.62)	(0.63)

BALANCE SHEET					
SHARE CAPITAL	1.10	0.10	0.0	0.10	0.10
RETAINED EARNINGS	(0.84)	(0.83)	(0.13)	(0.19)	(0.21)
TOTAL DEBTS	1.69	1.75	1.88	2.24	2.87
CUR LIABILITIES	0.90	0.75	0.68	1.24	0.96
FIXED ASSETS	0.40	0.35	0.37	0.39	0.36
CUR ASSETS	0.75	0.61	0.06	0.06	0.05
CASH/BANK	0.47	0.60	0.01	0.02	0.01

INCOME STATEMENT 17	1986 N (000)	1987 N (000)	1988 N (000)	1989 N (000)	1990 N (000)
TURNOVER	13.15	22.38	12.69	23.30	28.76
EBIT	(5.64)	(3.47)	(0.19)	(0.28)	(2.26)
DEPRECIATION	0.47	0.52	0.71	0.82	0.95
INT CHARGES	0.74	0.50	0.94	1.01	1.57
OPERATING COST	8.58	5.15	6.86	7.72	10.03
NET (PROFIT/LOSS)	(6.38)	(2.96)	(1.12)	(1.29)	(8.82)

BALANCE SHEET					
SHARE CAPITAL	7.35	7.35	7.35	7.35	7.35
RETAINED EARNINGS	1.93	4.89	2.08	(2.21)	(6.89)
TOTAL DEBTS	29.93	28.34	33.93	36.20	65.65
CUR LIABILITIES	17.09	13.91	22.72	28.05	45.66
FIXED ASSETS	28.50	27.98	27.14	26.59	18.97
CUR ASSETS	46.37	41.86	15.84	17.77	79.58
CASH/BANK	1.18	1.29	2.05	1.61	0.91

INCOME STATEMENT 18	1986 N (000)	1987 N (000)	1988 N (000)	1989 N (000)	1990 N (000)
TURNOVER	0.05	0.09	0.08	0.15	0.17
EBIT	0.02	0.01	0.01	0.05	0.02
DEPRECIATION	0.01	0.01	0.01	0.01	0.01

INT CHARGES	0.01	0.01	0.01	0.01	0.02
OPERATING COST	0.02	0.02	0.02	0.02	0.02
NET (PROFIT/LOSS)	0.004	(0.03)	(0.0009)	0.03	0.003
BALANCE SHEET					
SHARE CAPITAL	0.05	0.05	0.05	0.05	0.05
RETAINED EARNINGS	0.05	0.02	0.02	0.06	0.04
TOTAL DEBTS	0.15	0.16	0.17	0.16	0.73
CUR LIABILITIES	0.07	0.09	0.07	0.06	0.07
FIXED ASSETS	0.17	0.16	0.15	0.21	0.76
CUR ASSETS	0.08	0.07	0.08	0.06	0.08
CASH/BANK	0.00001	0.0006	0.00007	0.00004	0.00003

INCOME STATEMENT 19	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	0.03	0.05	0.03	0.007	0.006
EBIT	0.0001	0.0005	0.0009	(0.002)	(0.002)
DEPRECIATION	0.00002	0.00002	0.00005	0.00003	0.00006
INT CHARGES	0.00003	0.0003	0.0006	0.001	0.001
OPERATING COST	0.006	0.02	0.04	0.02	0.02
NET (PROFIT/LOSS)	0.001	0.002	0.003	(0.005)	(0.004)
BALANCE SHEET					
SHARE CAPITAL	0.01	0.01	0.01	0.01	0.01
RETAINED EARNINGS	0.001	(0.001)	0.002	(0.005)	(0.009)
TOTAL DEBTS	0.03	0.01	0.0009	0.005	0.006
CUR LIABILITIES	0.01	0.03	0.03	0.04	0.06
FIXED ASSETS	0.04	0.05	0.07	0.06	0.07
CUR ASSETS	0.007	0.03	0.03	0.04	0.08
CASH/BANK	0.002	0.0005	0.0003	0.00006	0.00004

INCOME STATEMENT 20	1986	1987	1988	1989	1990
	N	N	N	N	N
	(000)	(000)	(000)	(000)	(000)
TURNOVER	0.30	0.65	0.13	0.14	0.27
EBIT	0.05	0.11	0.23	0.23	0.44
DEPRECIATION	0.01	0.02	0.01	0.04	0.06
INT CHARGES	0.02	0.03	0.09	0.13	0.23
OPERATING COST	0.01	0.02	0.05	0.09	0.17
NET (PROFIT/LOSS)	0.03	0.07	0.13	0.10	0.21
BALANCE SHEET					
SHARE CAPITAL	0.02	0.02	0.02	0.02	0.02
RETAINED EARNINGS	0.03	0.07	0.10	0.15	0.22
TOTAL DEBTS	0.13	0.37	0.54	0.92	0.14
CUR LIABILITIES	0.09	0.34	0.54	0.82	1.14
FIXED ASSETS	0.07	0.09	0.19	0.20	0.26
CUR ASSETS	0.11	0.39	0.58	1.06	1.60
CASH/BANK	0.003	0.07	0.03	0.07	0.04

SOURCE: Annual Reports and Accounts of the Individual Companies

APPENDIX 3

STOCK PRICES OF SELECTED QUOTED COMPANIES FOR THE YEARS 1981 - 1990 AT THIER RESPECTIVE BALANCE SHEET DATE

NAME OF COM.	N/V	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
N T C	50	60	29	30	38	76	104	168	175	217	348
Vono	50	48	31	20	15	15	21	50	50	50	100
Livestock Feeds	50	60	62	62	63	75	101	136	148	131	70
Pfizer	50	52	55	64	53	60	100	124	120	106	114
Ovaltine	50	58	34	21	50	58	48	48	48	50	50
BEREC	50	65	28	26	70	72	69	75	50	34	20
BEECHAM	50	63	106	92	77	43	53	54	50	45	53
BATA	50	82	32	61	50	85	96	122	116	122	110
ENPEE	50	34	24	20	34	51	70	66	92	100	124
INCAR	50	40	44	50	50	40	50	42	44	63	63
CFAO	50	56	61	52	52	117	162	123	115	116	111
Stokvis	50	27	28	25	25	27	25	18	26	50	50
Taylor Woodrow	50	42	31	51	48	40	27	22	26	17	17

Nig. Sew. Mac.	50	45	42	25	50	45	42	28	15	14	15
Foremost Dairies	50	80	38	91	45	82	90	56	62	20	20
Nigercem	200/50	128	128	30	128	128	128	130	200	76	70
ARBICO	50	50	50	40	50	50	25	50	51	50	50
TATE	50	63	28	53	76	139	198	50	51	54	75
Bloakwood Hodge	50	21	49	30	27	21	32	25	50	70	71
Seven-up	50	-	-	-	-	-	92	100	194	223	250
N B C	50	63	28	53	76	139	198	50	51	54	75
Dunlop	50	130	134	129	55	135	142	105	90	223	25
INTRA	50	37	35	32	50	45	45	40	40	50	50
N C R	50	50	54	58	65	71	136	165	183	215	180
John Holt	50	73	73	68	102	125	153	225	130	178	198
R. T. Briscoe	50	59	67	27	16	20	54	50	54	75	78
Flour Mills	50	83	111	100	102	82	97	33	53	80	80
Nig Wire Man	50	68	29	50	24	70	44	50	50	70	70
Roads Nig	50	74	58	53	59	35	25	35	50	50	50
Julius Berger	50	53	52	60	65	54	52	55	65	105	120

SOURCE: NSE Daily Stock Price List.