AN EMPIRICAL ASSESSMENT OF PERFORMANCE OF FIRMS IN THE NIGERIAN CEMENT INDUSTRY

BY

AWEN, BENJAMIN IORSUE
M.SC/ADM/30386/2001-2002

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A THESIS SUBMITTED TO THE POSTGRADUATE SCHOOL, AHMADU BELLO UNIVERSITY ZARIA, IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF SCIENCE IN ACCOUNTING AND FINANCE

DEPARTMENT OF ACCOUNTING
FACULTY OF ADMINISTRATION
AHMADU BELLO UNIVERSITY
ZARIA

JUNE, 2004.

DECLARATION

I, AWEN BENJAMIN IORSUE, hereby declare that this research was carried out by me in fulfilment of the requirement of the Postgraduate School for the award of the degree of Master of Science (Accounting and Finance). To the best of my knowledge and believe, this work has never been previously presented in any submissions.

The performance assessment of the selected cement companies as shown in this study represent my honest findings. I assume full responsibility for any limitations contained in this research work.

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AWEN BENJAMIN IORSUE

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DATE

CERTIFICATION

This thesis entitled "An Empirical Assessment of Performance of Firms in the Nigerian Cement Industry" by AWEN, BENJAMIN IORSUE, meets the regulations governing the award of the degree of Master of Science (Accounting and Finance) of Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

____________________________ ____________

Chairman, Supervisory Committee Date

____________________________ ____________

Member, Supervisory Committee Date

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Head of Department Date

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Dean, Postgraduate School; Date

DEDICATION

This work is dedicated to my senior brother – late Nathaniel Hiinengen Awen, who cherishes the virtues of education. Brother, this is the meaning of your struggles and sacricies.

AWNE, BENJAMIN IORSUE

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ABSTRACT

This study focuses on the performance assessment of cement companies in Nigeria. To achieve this objective four cement companies that are quoted on the Nigerian Stock Exchange are selected for a detailed performance analysis. They are Ashaka Cement Plc, Benue Cement Company Plc, Cement Company of Northern Nigeria Plc and West African Portland Cement Company Plc. The problem of this study stems from the perceived trend of the Nigerian capital market. Despite its indispensable role in the nation's existence the cement industry in Nigeria has not been able to attract much needed investment. It is therefore pertinent to find out whether the cement companies are performing to the extent of meeting the expectations of the various stakeholders in Nigeria. The assessment is carried out through the application of the known financial risk indices with a view to highlighting the efficiency of the various aspects of the operation of the selected cement companies. To this end, Osaze's version of the Discriminant Analysis Models which is more relevant to the situation of the developing countries like Nigeria is used to assess the selected cement companies in this study. The historical method of research is adopted for the study and the main source of data is the cement company's financial statements covering the ten-year period (1993 – 2002). It was found out that the cement industry in Nigeria has not shown a performance attractive enough to induce investors. The industry obviously needs the injection of fresh capital but, much more, the introduction of better management methods. Parts of the recommendations are that; the government should assist the cement companies to be operating at full capacity instead of allowing the importation of foreign products.

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CHAPTER ONE

INTRODUCTION

1.1 GENERAL OVERVIEW

Manufacturing companies are very important vehicles of the economic development of a nation. This manifests in the great impact they make on the economy as shown in their contribution to a broad and diversified production base, as well as their accelerative effect in achieving macro-economic objectives pertaining to full employment, income distribution and the development of local technology. They also make it possible for people with surplus spending to invest their money with an expectation of return. For these and other reasons, the health and continued well-being of manufacturing companies is of great concern especially in a less developed economy like Nigeria.

There are various forms of uncertainties facing interested parties in the manufacturing companies. For example, the investor faces the risk of business collapse, suppliers and creditors may not be able to get their payments when due, management may invest in the research and development of a particular product only to see that customers tastes have changed, employees may face unexpected layoffs or cuts in salaries, etc. this means that timely and relevant information is necessary as to the performance of every enterprise. Such would forestall poor investment by the investor as well as promote better planning, operation and control by management.

Since early man, accounting has been the process by which the profitability and solvency of an organization can be measured. It provides information needed as a basis for decisions that greatly help management to guide the organization on a profitable and solvent course. Baumback in Adejola (2002:4) observed that accounting is a means whereby owners and managers can "figure out where they have been, where they are going and possibly how to get to where they want to go".

This study is about assessing the performance of companies in the cement industry in Nigeria. The cement industry is crucial to the provision of adequate and affordable houses for the various strata of the Nigerian society. It is necessary to evaluate/assess their well-being in the face of current happenings in the economy like increased competition from imported brands, privatization, the perennial 'marginalization' of the manufacturing sector by lenders, inflation, and all sorts.

Financial analysis is the broad term used to define the judgmental process whose main objective is to evaluate the current and past results of operations and financial positions of a business with the primary motive of arriving at the best possible estimates about future performances and conditions (Okwoli, 2003:441). In other words, financial analysis is not all about collecting data and preparing reports, but also includes an empirical analysis of the financial data generated by the accounting system.

Such an analysis would be useful in answering relevant questions such as:

i) How do investors and creditors know whether a company is solvent or insolvent?

ii) How is it that a business that has declared a substantial profit is short of cash?

iii) How can a business have a bank balance that is higher than the previous years' balance despite the fact that the business as against last year's profit incurred a loss in the current year and with a higher drawing?

iv) How do organizational executives know whether a company will be solvent, say a month from today?

Broadly speaking, there are five (5) main methods that can be used to carry out financial analysis (Okwoli, 1999). These are:

1) Cash-flow statement analysis;
2) Value-added statement analysis;
3) Fund-flow statement analysis;
4) Straightforward criticisms of the financial statements; and
5) Ratio analysis.

Ratio analysis is the fundamental method adopted in this study to assess the performance of cement companies in Nigeria. A ratio is an index that relates two (2) pieces of figures to each other. Thus, an accounting ratio is the expression of one financial data in terms of another in order to bring out the relationship between the data. In forming ratios, it is required that some logical relationship must exist between items in the numerator and those of the denominator. This approach was adhered to in this study.

1.2 STATEMENT OF THE PROBLEM

It is a fact that industrialization is quite a fundamental factor in the economic development of any nation. Thus, every developing nation, like Nigeria, has much interest in the establishment of various firms across various industries either by its government or the private sector. However, it is quite pertinent to point out that, it is one thing for various industries to emerge in an economy, and another thing entirely to ensure that the industries are doing well. It is important to know that the existence of poor performing industries would lead to little or no net contribution by the sector to the economic development in particular and development in general in any given economy in the world.

It is obvious that industries are desirable in as much as they perform in such ways and manners that meets the expectations of the various stakeholders, such as the shareholders, creditors, employees, government etc., otherwise the emergence of industries in any given economy can at best be described as counter-productive.

An analysis and interpretation of the various financial ratios should give analysts a better understanding of the financial condition and performance of the firm. Financial statement analysis is one part of a larger information processing system on which informed decisions can be based. Evaluating the performance of a company would entail understanding a critical financial analysis of the company in question. And this, according to Van-Horne (1995:758), would not only enable an internal control of the company but would also be for better understanding of what capital suppliers seek in financial condition and performance from it.

The problem of this study stems from the perceived trends of the Nigerian capital market. A critical look at the weekly result of the dealings on the Nigerian Stock Exchange reveals that for the past two years now or there about, investors have channelled most of their funds into the banking, food and beverages and the oil marketing sectors respectively leaving the other sectors to scramble for the rest. And in the construction sector of which the cement industry is part, the sectoral leaders are revealed to be companies in the paint industry. Yet if the economy of the country is to truly develop, the construction sector must not be left behind. There can be no construction of any solid structure without cement.

Again, Nigeria as a country is striving for a strong economy but that is largely self reliant. This implies that there must be manufacturing companies in the country that can weather the storm of global competition. Now, there is a side of global competition that is not encouraging and that is the aspect of dumping of inferior goods in developing countries by companies from the developed world. Thus, it becomes highly imperative to put manufacturing companies in better shape so as to make them produce goods for high quality needed in the country and this will not be possible unless we know where the companies stand first of all.

Against this background, it is pertinent to ask on a general note the fundamental question: How are Nigerian cement industries performing? In other words, how is the Nigerian cement industry performing in relation to the expectations of the various stakeholders?

1.3 OBJECTIVES OF THE STUDY

The main objectives of this study include:

a) To determine whether the cement industry in Nigeria is actually performing to meet the desired yearnings and aspirations of the various interest groups. The interest groups being consumers, shareholders, government, debtors, creditors, management and employers.

b) To ascertain whether the objectives setting up these cement companies are being achieved.

c) To ascertain to what extent the liquidity position of these companies are being affected by management decisions.

d) To examine the current role of the Nigerian cement industry and what needs to be done to make it a more useful and effective sector in Nigeria's economic process.

e) To proffer solutions to problems discovered.

1.4 SCOPE OF THE STUDY

Currently, there are eight (8) cement manufacturing Companies in Nigeria (Chidinma Agu: 27) as stated below:

1) Ashaka Cement Plc

2) Benue Cement Company Plc

3) Cement Company of Northern Nigeria Plc

4) NigerCem Plc

5) W.A. Portland Company Plc

6) Eagle Cement Company of Nigeria

7) Edo Cement Company Lt

8) Nkalagu Cement

Although there are various stakeholders in cement companies for instance, the government for tax purposes, the shareholders in terms of dividends they receive, the employees in terms of pay and the company in terms of retention for operation, the research work would measure performance by the use of:

- Profitability
- Dividend
- Earnings per share (EPS).

For ease of data collection, the research is restricted to the five (5) cement companies that are quoted on the Nigeria Stock Exchange. This is over 50% of the total cement companies in operation in Nigeria.

The study covers a period of ten (10) years, that is 1991 to 2000. The performance measurement is done on yearly basis. It culminated in using Osaze's Risk Index (a variant of multiple discriminant analysis) to assess the performance of the firms as at the year 2000.

1.5 SIGNIFICANCE OF THE STUDY

Some of the immediate usefulness of this study are enumerated below:

1) The study will enable the stakeholders to be more objective in their assessment of the cement companies operating in Nigeria.
2) It is expected that at the end, the work will contribute to the existing state of knowledge especially as it relates to performance in the cement industry.
3) The study will enable the cement company's shareholders to have a more objective assessment of the various cement companies for the purpose of making informed investment decisions.
4) This study will be important for the corporate development of accounting system in the cement industry.
5) The study will help to improve the public perception of cement industry in the country.
6) The study will serve as a reference point for future researchers in this field.

1.6 RESEARCH QUESTIONS

Upon completion of this research work, the research should be able to answer the following questions:

1) What is the level of profitability of the Nigeria cement industry?
2) Are cement companies in operation in Nigeria paying adequate dividends to warrant huge investment in them?
3) Are the basic aims and objectives of setting up cement companies in Nigeria achieved?
4) What are the problems militating against the development of cement companies in Nigeria.

1.7 DEFINITION OF TERMS

Return On Investment (ROI)

Return on Investment means a measure of profitability in an organization that is computed by multiplying the profit margin by the investment turnover.

Earning Power (Total Asset to Sales)

This is the asset turnover. It is the speed at which the assets are being turned over into sales. It measures the ability of the assets to generate earnings.

If the above ratio gives say 1.5 times. It means that every N1.00 worth of asset generates N1.50 of each sales.

$$\text{Gross Earning Power} = \frac{\text{Gross Profit}}{\text{Total Assets}}$$

$$\text{Net Operating Power} = \frac{\text{Net Earnings}}{\text{Total Assets}}$$

Operating Profit = Profit before interest and tax

Capital Adequacy: That amount of capital which enables a business organization to hold a sufficiently large amount of investment portfolio and yet respond easily to changes in the demand of its creditors.

Dividend: This is the distribution of part of the earning of a company to its shareholder.

Capital: Wealth in form of property or money, sometimes the basic sum in an investment.

Debt: This represents a sum owed by the person or organization to another.

Financial Ratio: This is a device used to shed light on the result of the operations of a firm and its status reported in the financial statement.

Financial Statement: This is income statements, balance sheets, cash flow statements and value added statements.

Interest: Payment from a borrower to a lender for money.

Liquidity: This represents the ease with which holdings can be converted into cash.

Insolvency: This is the ability to pay one's debt when the payment is due.

Liabilities: This represents all financial claims against an individual or organization, including wages that must be paid, taxes and mortgages.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The mission of this chapter is to make a review of literature and previous works of others that have direct connection or bearing with this research. Specifically, the chapter concentrates on methods available for assessing the performance of firms. It also includes a brief about the Nigerian cement industry.

2.2 THE NIGERIAN CEMENT INDUSTRY

The first cement plant, the Nigerian Cement Company, was commissioned at Nkalagu, on December 20, 1957. Before this time, all the cement consumed in the country was imported. The demand for cement continued to rise due to advancement towards independence and the commencement of government development plans. Thus, cement manufacturing became one of the first import-substitution industries to be considered for establishment in the country. Between 1957 and 1980, six other cement plants were commissioned. The structure of the industry is depicted by the table below which shows a list of local producers and their production capabilities.

S/No. Company	Plant Location	Date of Com.	Production capacity
1. Niger Cem.	Nkalagu, Enugu State	1957	600,000 tonnes
2. WAPCO	Ewekoro, Ogun State	1960	690,000 tonnes
	Shagamu, Ogun State	1979	1,000,000 tonnes
3. Bendel Cement	Okpella, Edo State	1964	450,000 tonnes
4. Calabar Cement	Calabar, CR. State	1965	250,000 tonnes
5. CCNN Plc	Sokoto, Sokoto State	1967	500,000 tonnes
6. Ashaka Cem.	Ashaka, Gombe State	1979	700,000 tonnes
7. Benue Cem Plc.	Gboko, Benue State	1980	900,000 tonnes

Source: Cement Manufactures Association of Nigeria (CMAN)

These companies source their raw materials locally and are members of the Cement Manufacturers Association of Nigeria. The Association was established in 1979 with the aim of addressing the industry's problems.

As can be observed, all the plants are over 20 years old with 5 out of the 8 actually at least 37 years old. The effects of the aged plants coupled with shortage of fuel in recent years as manifested in the sharp decline of local production. This has resulted in the importation of bulk cement from abroad as a way to make up for the short fall. The major importers include, Dangote Group of Companies, Eastern Bulk Cement, Bonny Allied Company and the Folawiyo Group of Companies. These companies receive their imports in bulk form through their cement terminals and thereafter bag the cement for the market. Other importer shop around the world for the cheapest sources and import bagged cement directly to the Nigerian market. Importation accounts for 50% of local current use and even if the cement manufacturing companies in Nigeria are to operate at full capacity they cannot meet more than 62% of current local demand.

2.2.1 PROBLEMS OF THE INDUSTRY

(a) **Funding:** One of the major problems facing the industry is how to fund the dollar cost of the various modernization which urgently needs to be carried out.

(b) **The Cost of fuel and Supply:** Depending on the type of process being employed by the various plant fuel oil accounts for between 30 to 35% of manufacturing cost. Thus, a marginal change in the price of fuel oil causes a very significant impact on production cost. For the plant using gas, the price of gas is index to the price of fuel oil and so such plants have had to absorb increasingly higher costs occasioned by the almost annual price increases of petroleum products in Nigeria.

(c) **Ownership Structure:** The government owns majority of the shares in most of the cement companies in Nigeria. This is due to the indigenisation programme of 1972. There is evidence to show that the companies that have the government has majority shareholders have consistently under performed. However, the recent development of privatization of public enterprises is resulting in ownership changes of the major producing companies.

(d) **Poor Power Supply:** Power supply have been erratic and those in the industry are forced to invest an increase amount of resources in self generation of power to keep the plant running. Power outages damage equipment , particularly the Kiln which runs 24 hours a day and is only shut down for repairs or maintenance.

(e) **Importation:** In recent years, importation of cheap cement from South-East Asian countries has become an increasingly important features of the industry and looks to remain so in the foreseeable future until Nigerian producers make the required investment to reduce their production cost efficiently and competitively to discourage imports. Local producers wants the government to ban the importation of bagged cement due to the fact that there is danger in using substandard cement for construction and infrastructure. This will also ensure strict compliance with the Standard Organization of Nigeria. They would prefer it to be restricted to bulk importation whose supply in the Nigerian market involves value added activities and is subjected to quality verification and certification. The government however, has not responded as local producers cannot yet meet total current demand.

2.2.2 GOVERNMENT INTERVENTION IN THE CEMENT INDUSTRY

The process of cement manufacturing involves the use of substances and generate by-products which can be harmful to the environment. Thus, in 1988, the government promulgated the Federal Environmental Protection Agency Act under which the Federal Environmental Protection Agency (FEPA) was established. The objectives of FEPA is to protect and develop the environment, they are to set, air and quality standards, noise control standard, effluent limitations and also they monitor the discharge of hazardous substances. The FEPA has the power to enter into and inspect sites and arrest anyone who is believed to be committing offences under the act. The cement industry in Nigeria complies with and applies the Environmental Legislation as all the cement companies are required to meet the required standard of the environment.

2.3 CONCEPT OF PERFORMANCE IN BUSINESS

The term performance in a business environment refers to the extent to which the objectives of the firm have been realized or are being realized. An assessment of business performance entails the evaluation of the firm's past and current activities in order to establish a trend necessary for future projections. According to Osaze (1985) there are two elements considered in performance evaluation., these are the target and actual achievement. Targets may be set by establishing a standard against which the actual is compared or by making preference to the firm's past level of achievement. When the actual result is compared with the set standard, the level of performance may be described as either satisfactory or unsatisfactory. Also, the level of performance may be described as efficient or inefficient depending on the nature of activity. For example, the rate of resource utilization in a production process may be described as efficient or inefficient in cost control or in financial management. On the other hand a marketing or production strategy may be described as effective or ineffective depending on the volume of sale or number of goods produced respectively.

The economists use of the term performance to describe the state of the economy. They measure the level of performance of the economy by making reference to such variables as interest rates, inflation rate, aggregate demand, production capacity of the industries within the economy and so on. In business, performance is usually measured by making reference to some accounting factors such as financial ratios.

The basis of performance assessment is therefore mainly accounting data contained in the firm's financial statements such as the income statement, statement of financial position and statement of source and application of funds.

In financial management, performance evaluation entails the assessment of the firm in terms of its financial returns and asset structure. In this regard, attention is focused on the firm's solvency (liquidity and leverage), profitability and asset quality. The quality of total debt for example may be measured by calculating the ratio of bad debt provision tot total debt. The higher the amount of bad debt provision in relation to total debt, the lower the quality of debt asset. This ratio is usually calculated for a number of years in order to establish a trend and the degree of management efficiency. In this regard, either the growth rate of debt is compared to total asset or the growth rate of bad debt is compared to total debt over the years.

The assessment is usually done in the light of the major economic changes influencing the operations of the firm generally.

According to Pandey (1999:108) financial performance analysis is the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the item of the balance sheet and the profit and loss account. This analysis may be carried out by either the management, the firm's owners, creditors, stock brokers and the regulating authorities. The nature of the analysis therefore differs depending on the intention of the analyst. The information generated from the analysis of a firm's financial statements normally serve as a useful basis for forming an opinion about the firm's financial performance.

Financial analysis is usually carried out by the various interest groups in the forms summarized below.

2.3.1 <u>Performance Evaluation by Management</u>

Here, the evaluation is done within the organization mainly to aid management in making important decisions aimed towards increasing the efficiency and profitability of the organization. Once the goals of the organization have been specified, targets are set in order to achieve the goals. For example, a company's goal may be to dominate a certain product-market within say, two years. Cost/profit analysis are then made and targets set for each unit or department in an attempt to achieve the set organizational goal. In this case performance measurement is internally carried out and the benefit or otherwise internally felt.

Sometimes, performance measurement is used to appraise the degree of achievement of a manager or a division of the organization. Here the decision to be made could be the financial benefit or otherwise of the continued existence of the division or whether to promote or demote a divisional Manager or departmental head.

It is believed that by measure performance and linking each individual's reward to it, each officer in the organization is encouraged to maximize his effort towards the achievement of the organizational goals.

2.3.2 Performance Evaluation by Investors

A company's financial performance may also be evaluated by individuals external to the organization. Individuals who have invested their money in the organization may want to reassure themselves that:

a) The income accruing to their investment is relatively the highest they could hope to obtain in the prevailing circumstances.

b) The investment is secure and the income will continue to flow in the foreseeable future.

Also, potential investors (individuals with the motive and capacity to invest evaluate the performance of various organizations with a view to selecting the best organization in terms of solvency (security of funds) and income generation. This is usually considered to be the first step of any wise investor before he parts with his money.

c) The management of the firm to whom they have entrusted their money is acting in the best interest of the owners of the funds.

2.3.3 Performance Evaluation by Creditors

Creditors such as banks and individual lenders also analyse the financial performance of any company or individual wishing to secure a loan. The evaluation is done to highlight the credit worthiness of the loan seeker. The desire here is to assess the risk associated with the company or borrower-business. The risk can be estimated through a careful analysis of the company's financial performance over a number of years.

2.3.4 Performance Evaluation by other Interest Groups

Belonging to this group are financial analysts, stock brokers and government agencies such as the tax authorities. Financial analysts and stock brokers, as financial advisers to certain organization or individuals, for the purpose of speculation or record, engage in the analysis and evaluation of the financial performance of some organizations periodically.

2.4 APPROACHES TO FINANCIAL STATEMENT ANALYSIS

There are many different ways to organize a financial analysis. The analysis could be intra company or inter company analysis. An intra company analysis involves assessing a company's financial performance against its own past performance or its own stated goals. An inter company analysis involves comparing a company's performance against similar companies or industry averages. Some of the approaches for intra company analysis are horizontal analysis, trend analysis and vertical analysis.

a. Horizontal Analysis

According to Helmkamp et al (1986:778), an analysis of the change from year to year in individual statement items is called horizontal analysis. In horizontal analysis, the individual items or group of items on comparative financial statements are generally first placed side by side and because it is difficult to compare absolute Naira amounts, the differences between the figures of one year and the next are computed in both Naira amounts and percentage change. In computing the increase or decrease in Naira amounts, the earlier change is used as the base year. The percentage change is computed by dividing the increase or decrease from the base year in nairas by the base year amount.

A percentage change can only be computed when the amount reported for the item in the base year is a positive amount. When no amount is reported or when a negative amount is reported in the base year, a percentage increase or decrease cannot be computed.

A review of the percentage increases or decreases reveals those items that showed the most significant change between the periods under study. Important and unusual changes, such as a significant percentage change in sales, should be investigated further by the analyst. The objectives of the investigation could be:

a) To determine the cause of the change.

b) To determine whether the change was favourable or unfavourable.

c) To attempt to assess whether a trend is expected to continue.

b. Trend Analysis

Cerepak et al (1987:696) stated that trend analysis is a variation of horizontal analysis in which changes in selected financial data are shown for several successive years. In this analysis, the earliest period is the base period. Each financial statement item of the base year is set equal to 100. In subsequent year, statement items are stated as a percentage of their value in the base year by dividing the naira amount in the succeeding year by the naira amount in the base year.

A statement showing trend percentage is useful to management because it highlights favourable items indicating that good management has taken place, as well as highlighting unfavourable items where explanation may be expected and further investigation may be required. Persons other than management having an interest in the company use trend percentage to get an overview of the company's past performance and to try to determine whether recent trends can be expected to continue in the future.

c. Vertical Analysis

According to Hermanson et al (1983:722), vertical analysis consist of the study of a single financial statement by expressing each item on the statement as a percentage of a significant total. The significant total is referred to as the base amount. For instance, on the balance sheet, individual components are stated as a percentage of total assets or total liabilities and stockholders equity. On the income statement, net sales or total revenue are equally set equal to a base of 100%, with each income statement expressed as a percentage of the base amount. Such statements are often called common size statement.

Vertical analysis is useful for pointing out the relative importance of a statement item to a selected total in that statement. It is also useful because it reveals significant changes that may have occurred in individual items reported in the statement from one year to the next.

2.5 METHODS OF FINANCIAL ANALYSIS

There are myriads of methods available for carrying out financial analysis depending on who is doing the analysis and for what purpose. The most common however are; cash flow statement analysis, fund flow statement analysis, value added analysis, straight forward criticism of financial statements and ratio analysis.

2.5.1 The Funds Flow Statement

Accounting flows may be classified into three distinct types – profit flows, funds flows and cash flows. Glautier and Underdown (1986:252). Therefore, funds flow and cash flow statements are needed to obtain a complete picture of accounting flows in respect of an accounting period.

The funds flow statement provides a reconciliation between the opening and closing balance sheets for a given accounting period through an explanation on the changes which have occurred. This explanation is in the form of an analysis of the sources of additional funds available to the enterprise during the accounting period, as well as an analysis of the manner in which they have been utilized. Consequently, the funds flow statement covers both the funds internally generated and additional external funds obtained by the enterprise during the accounting period. The funds flow statement deals with the changes which have occurred in the size of the business, assets, liabilities and invested capital. For all enterprises of a stipulated size, SSAP 10 'Statement of Sources and Application of Funds' imposes a disclosure of a periodic funds flow statement, in addition to the traditional profit and loss account and balance sheet.

The Nature of Funds Flows

The purpose of the statement of source and application of funds is to provide the following information:

1. The additional sources of funds which the firm has obtained during the accounting period;

2. How these additional sources of funds have been applied during the accounting period.

The statement of source and application of funds may be compared with the balance sheet, in the sense in which the statement of source and application of funds deals with the changes in the financial structure of a business over one accounting period, while the balance sheet is a cumulative statement showing the totality of such changes over the life of the enterprise to the date of the balance sheet.

A major difference, however, between the items shown on the balance sheet and those appearing on the statement of source and application of funds is associated with the idea of 'funds' expressed as 'liquid funds'. For example, if a firm raises a loan of N1,000, the liquid funds resulting from that loan are N1,000. Similarly, if an asset is sold for N1,000, the liquid funds flowing to the firm amount to N1,000. Conversely, if there is a repayment of a loan then the liquid funds applies to the debt reduction amount to N1,000.

Sources of liquid funds result, typically, from additional capital, new loans, the sale of fixed assets, the reduction of working capital and, of course, operating profits.

Applications of liquid funds are, typically, the purchase of fixed assets, the repayment of loans, the increase in working capital, the payment of dividends and taxes on profits.

Measuring Funds Flow

The information required for the preparation of the statement of source and application of funds is obtainable from first comparing the relevant balance sheets for the accounting period to be covered. This comparison will highlight the changes in the balance sheet which are to be explained by the statement of source and application of funds.

Example

The following balance sheets relate to Omega Ltd.

	Balance sheet at			
	31 December 1994		31 December 1995	
	=N=	=N=	=N=	=N=
Fixed assets:				
Land and buildings	20,000		22,000	
Plant & machinery	15,000		13,000	
Current assets:		35,000		35,000
Stocks				
Debtors	30,000		25,000	
Cash at bank and in hand	27,000		23,000	
	5,000		7,000	
Creditors: amount falling due within one year:	62,000		55,000	
Trade creditors	(32,000)		(25,000)	
Taxation	(15,000)		(10,000)	
Net current assets		15,000		20,000
		50,000		55,000
Capital reserves:				
Called-up share capital		10,000		12,000
Other reserves		30,000)		30,000
Profit and loss account		10,000		13,000
		50,000		55,000

	Sundry of balance sheet changes			
	=N=	N=	=N=	=N=
Fixed assets:				
Land and buildings			+	--
Plant & machinery at cost	20,000	22,000	2,000	2,000
Less: depreciation	15,000	13,000		
Current assets:				
Stocks	30,000	25,000		5,000

Debtors	27,000	23,000		4,000
Cash at bank and in hand	5,000	7,000	2,000	
	62,000	55,000		
Creditors: amount falling due within one year:				
Trade creditors	(32,000)	(25,000)		
Taxation	(15,000)	(10,000)		
Net current assets	15,000	20,000		
Total assets	50,000	55,000		
Capital reserves:				
Called-up share capital	10,000	12,000	2,000	
Other reserves	30,000	30,000		
Profit and loss account	10,000	13,000	3,000	
	50,000	60,000		

Explanation of Balance Sheet Changes

The changes emerging from a straight comparison of the two balance sheets are not sufficient in themselves for the purpose of measuring funds. Further information is required.

Fixed Assets

The changes in these accounts are analysed as follows:

Land and buildings:- Cost of installing partition: N2,000; plant and machinery – the net decrease of N2,000 is explainable in terms of the disposal of old equipment originally costing N2,000 and written down to N1,000 in the books, the acquisition of new equipment for N3,000, and the depreciation for the year of N4,000. The old equipment realised N1,200. There was a gain on asset realization of N2,000 shown in the profit and loss account.

The funds flow relating to fixed assets is

	=N=	=N=
Application of funds:		
Land and buildings	2,000	
Plant and machinery	3,,000	
		5,000
Source of funds:		
Funds realized from disposals		1,200

Note:

The Gain on asset realization of N2,000 shown in the profit and loss account is an accounting gain. The funds flow resulting from the disposal is the sale value realized of N1,200.

Current Assets

In terms of funds flow analysis, the reductions in stocks of N5,000 and of trade debtors of N4,000 are considered as sources of funds. They result from the partial liquidation of funds that had been invested in stocks and trade debtors. Conversely, increase in these items would be treated as applications of funds.

Changes in cash at bank and in hand may be explained as follows:

- Increases are treated as applications of funds
- Decreases are treated as sources of funds.

It may be noted, therefore, the cash balances are treated in the same way as other current assets as regards funds flow analysis. In this example, the increase of N2,000 in the cash balance is an application of funds during the accounting year ended 31 December 1995.

Creditors

Increases in creditor balances are treated as sources of funds during the year in which they occur and decreases in these balances are treated as applications of funds. In the logic of funds flow analysis, creditors represent sources of finance, and the reimbursement of the credits obtained are applications of funds. Accordingly, the decrease in trade creditors of N7,000 is interpreted as an application of funds.

The taxation account is an exception to this practice. The taxation account is credited with the amount provided for taxation in respect of the current financial year and debited with tax payments made. The tax payments themselves may relate to the current financial year and also to preceding financial years. The amount credited to the taxation account, representing an amount due to the Inland Revenue, is not treated as a source of funds as would be the case if the Inland Revenue were treated as a trade creditor. This is because the statement of source and application of funds show net profit before taxation as the originating source of funds from operations. It would be double counting, therefore, to show an increase in the balance on the taxation account on the balance that as a source of funds. Taxes on profits are regarded as application of funds only when they are paid. In the example shown, the change in the taxation account balance is ignored for the purposes of the statement of sources and application of funds.

Capital

Additional injections of capital are sources of funds. In this example, the additional capital subscribed of N2,000 is a source of funds.

Reserves

Changes in reserves result merely from book transactions – they do not give rise to funds flows reserve accounts, as well as similar book transactions such as provision accounts, are used in connection with the transfer of accounting balances.

Profit and Loss Account

The profit and loss account balance of N13,000 represents the retained profit as at 31 December 1995. To ascertain the funds flowing from operations, it is necessary to refer to the profit and loss account itself. The net profit or loss shown in the profit or loss account results from accounting practice in which

a) book gains and losses on asset disposal will be included in the calculation of the net profit or loss, and

b) non-cash expenses in the form of provisions will have been debited.

Some important items, such as provisions for depreciation of fixed assets, for doubtful debts etc., do not create cash outflows. Accordingly, the net profit or loss for the year has to be adjusted and recalculated in term of funds flows from operations.

Assume that in the example of Omega Ltd the profit and loss account for the year ended 31 December 1995 is as follows:

		=N=
Turnover		125,000
Cost of sales		75,000
Gross profit		50,000
Other costs and expenses		25,000
		25,000
Gain on asset disposal	200	
Profit on ordinary activity		25.000
Tax on ordinary activity		10,000
Profit for the year		15,000
Balance b/f		10,000

		25,000
Dividend paid	12,000	
Balance c/f		13,200

The provision for depreciation of fixed assets for the year amounted to N4,000. The tax actually paid during the year was N15,000 shown as outstanding at 31 December 1994.

The funds flow from operations is calculated as follows:

Statement of source and application of funds for the year ended 31 December 1995

Source	=N=	Application	=N=
Funds from operations	29,000	Purchase of fixed assets	5,000
Additional capital	2,000	Taxes paid	15,000
Sale of fixed assets	1,200	Dividend paid	12,200
Decrease in stocks	5,000	Decrease in creditors	7,000
Decrease in debtors	4,000	Increase in cash	2,000
	41,200		41,200

The statement of source and application of funds may be presented in different ways. In the United Kingdom, companies are required to SSAP 10 'Statement of Source and Application of Funds' when publishing their financial reports to shareholders.

SSAP 10 Statement of Source and Application of Funds

This was published in January 1976, some two and a half years before the release of the EEC Fourth Directive which contained a requirement for the publication of statements of source and application of funds by companies registered within member countries of the EEC SSAP 10 prescribes rules for the presentation of such statements which conforms with the requirements of the EEC Fourth Directive. The standard does not define funds, but indicates that the statement of source and application of funds should have as a bottom line the notion of liquid funds. According to SSAP 10

> 'a funds statement should show the sources from which funds have flowed into the company and the way in which they have been used. it should show clearly the funds generated or absorbed by the operations of the business and the manner in which any resulting surplus of liquid assets has been applied or any deficit of such assets has been financed, distinguishing the long term from the short term. The statement should distinguish the use of funds for the purchase of new fixed assets from the funds used in increasing the working capital of the company'

SSAP 10 requires the following information to be disclosed;

1. the profit or loss for the period;
2. an adjustment for items charged in the profit and loss account which do not involve the management of funds, for example, depreciation and other provisions;
3. dividends paid;
4. acquisitions and disposals of fixed assets and other non-current assets;
5. funds raised or expended in increasing or redeeming issued share capital, long term or medium term loans;
6. increases or decreases in working capital, sub-divided into components;
7. movements in net liquid funds, defined as cash at hand and in hand, as well as cash equivalents (investments held as current asset – included under this heading are bank overdrafts and other borrowings.

SSAP 10 provides the following model for the statement of source and application of funds

<u>Statement of source and application of funds for the year ended 31 December 19--</u>

Sources of funds:	=N=	=N=	=N=
Profit before tax		xxxxx	
Adjustment for items not involving the movement of funds		<u>xxxxx</u>	
Depreciation			<u>xxxx</u>
Total generated from operations			xxxx
Funds from other sources:			
Issue of shares for cash			xxxx
Application of funds:			
Dividend paid	(xxxx)		

Tax paid		(xxxx)	
Purchase of fixed assets		(xxxx)	
			(xxxx)
Changes in working capital			A
Increase in stocks		xxxxx	
Decrease in debtors		xxxxx	
(Increase) decrease in creditors excluding taxation and proposed dividends		xxxxx	
Movement of net liquid funds:			
Increase (decrease) in:			
Cash balances	xxxx		
Short term investments	xxxx		
		Xxxxx	
			A .

The model layout proposed by SSAP 10 highlights the following:

1. The net funds flow, taking into account funds from operations and other sources of funds and applications of funds.
2. Increase/decrease in working capital
3. Movement in net liquid funds.

It is particularly important to note that the layout explains the net funds flow in terms of changes in working capital, and in that context gives a separate emphasis to movements in liquid funds.

Example

The Statement of Source and Application of Funds for Omega Ltd for the year ended 31 December 1995 shown in example 4 above resulted in the following presentation:

Statement of source and Application of funds for the year ended 31 December 1995

Source	=N=	Application	=N=
Funds from operations	29,000	Purchase of fixed assets	5,000
Additional capital	2,000	Taxes paid	15,000

Sale of fixed assets	1,200	Dividend paid	12,200
Decrease in stocks	5,000	Decrease in creditors	7,000
Decrease in debtors	4,000	Increase in cash	2,000
	41,200		41,200

Redrafting this statement in the form required by SSAP 10 results in the following presentation:

Omega Ltd

Statement of Source and Application of Funds for the year ended 31 Dec. 1995

Sources of funds:		=N=	=N=
Profit before tax		25,200	
Adjustments for items not involving the			
Movements of funds:			
Depreciation		4,000	
Gain on asset disposal	(200)		
Total generated from operations			3,800
			29,000
Funds from other Sources:			
Issue of shares for cash			2,000
Sale of fixed assets			1,200
Application of funds			
Dividends paid		(12,200)	
Tax paid		(15,000)	
Purchase of fixed assets		(5,000)	
			)32.200)
			--
change in working capital:			
Decrease in stocks		(5,000)	
Decrease in debtors		(4,000)	
Decrease in creditors, excluding			
Taxation and proposed dividends		7,000	
Movement in net liquid funds			

Increase in:

Cash balances	2,000	
Short term investments	---	
		--

2.5.2 THE CASH FLOW STATEMENT

The cash flow statement is more closely associated with the analysis of liquidity in the strict form of cash available to the enterprise during the accounting period. It provides a reconciliation of the opening cash balance with the closing cash balance, showing the cash flows from all sources and the analysis of all cash outflows. The cash flow statement has a special importance for financial management purposes, since cash is the most vital financial resource. The cash flow statement is a summary of the cash book. Since firms control cash by using their bank account for depositing receipts in the form of a cash or cheques, and for making payments, the cash flow statement is essentially addressed to cash at bank. The cash-in-hand situation would be shown as an item in the cash flow statement. Monthly board of directors meetings have on their agenda a review of the liquidity situation in the form of a cash flow statement for the month ended and a forecasted cash flow for the coming month. The cash flow statement has not been made the subject of a disclosure requirement, and remains an internal management document.

In recent times, most of the financial statements produced by companies from European countries have abandoned the inclusion of source and application of funds, instead, cashflow statement is now in place. Source and application of funds emphasis is more on the movement of working capital while cash flow explains movement of actual cash which meets the required needs of an ordinary man who cannot understand the more technical source and application of funds statements. ("Student' Accounting Review, December 1993, Association of National Accountants of Nigeria (ANAN), Vol. 5 Oct-Dec. 1995, p. 43).

The cash flow statement summarizes the flow of cash in and out of the firm over a period of time. In this sense, it is really a summary of the cash account (Glautier and Underdown, 1986:265). The cash flow statement is important for a number of reasons. First, by focussing on cash flows, it explains the nature of the financial events, which have affected the cash inventory. Thus, if a firm had a balance of N2 at the beginning of the accounting period and N7 at the end of the accounting period, the cash flow statement will explain the reason for the difference. Second, the cash flow statement is important for financial planning purposes as budgeted cash flow statements are a crucial element in the process of budgetary planning, indicating cash surpluses and shortfalls resulting from budget plans. These surpluses and deficiencies are expressed sequentially over the planning period and enable management to deal with the forecasted cash surplus or deficit, the former involving a short term investment of surplus cash, the latter a short term borrowing arrangement. Third, the cash flow statement brings into sharp contrast the enterprise's earning capacity with its spending activity. Accounting conventions restrict the profit and loss account to matching periodic revenues with the cost of earning those revenues. The cash flow statement is not restricted in this way: hence, it provides an extended view of the financial inflows and outflows by including both capital and revenue flows. Thus, borrowings and capital injections, as well as proceeds from the realization of assets, are incorporated with the cash generated from sales to give a complete picture of financial inflows: repayment of loans, capital expenditure, dividends and taxation are incorporated with revenue expenses to give a more complete picture of financial outflows.

The form and content of a cash flow statement and its purpose may be seen from the following example:

Example

The profit and loss account for the year ended 31 December 1990 showed that Carrina II stores made a profit of N18,000. Nevertheless, the bank balance had fallen from N10,000 at the beginning of the year to N3,000 at 31 December 1990. Worried by this adverse trend in the cash position in the face of a satisfactory profit, the owner of the business asked his accountant for a full explanation of the reduction in cash.

An analysis of the cash receipts and payment for the year produced the summary of cash movements shown here.

Cash receipts :	=N=	=N=	
Receipts from sales and debtors			145,000
Loan raised to extend premises			20,000
			165,000
Cash payments:			
Purchases of goods and payments to creditors		109,000	
Wages and salaries		10,000	
Interest and bank charges		1,000	
Extension of premises	30,000		
New fittings		5,000	
Drawings		10,000	
Miscellaneous expenses		7,000	
			172,000
Excess of cash paid over cash receipts during the year		(7,000)	

Form and Content of the Cash Flow Statement

The objective of a cash flow statement is to reconcile the opening cash with the closing cash at the end of an accounting period. Hence, it begins with the cash at the beginning of the year.

An important distinction between a profit and loss account and a cash flow statement is that the former includes adjustments made in the calculation of periodic profit, whereas the latter excludes such adjustments. The largest item of difference between them is the allocation of fixed asset costs as depreciation, and it is normal to adjust accounting in this respect to arrive at the cash flow statement of the operating revenues. Other differences between the profit and loss account and cash flow statement procedures are reflected in changes in balance sheet items. These would include changes in balances of trade debtors and trade creditors stemming from credit as distinct from cash trading.

From the information, a cash flow statement for the year was prepared to explain the change in the net cash at the beginning and end of the accounting period. However, in order to produce to produce such a cash flow statement, the analysis of cash receipts and cash payments be rearranged and classified to show the causes of the cash receipts and the purposes for which cash was paid. It is advisable, therefore, to segregate cash flows associated with current operations from cash flows connected with capital items as shown below:

Cash flow statement for the year ended 31 December 1990

	=N=	=N=	=N=
Bank balance at 1 January 1990			10,000
Net cash flows from current operations:			
Cash receipts from sales and debtors :		145,000	
Less:			
Purchases of goods and payments			
to creditors	109,000		
Wages and salaries	10,000		
Interest and bank charges	1,000		
Miscellaneous expenses	7,000		
		127,000	
		18,000	
Less:			
Payments from profits to owner		10,000	
Cash from current operations available for			

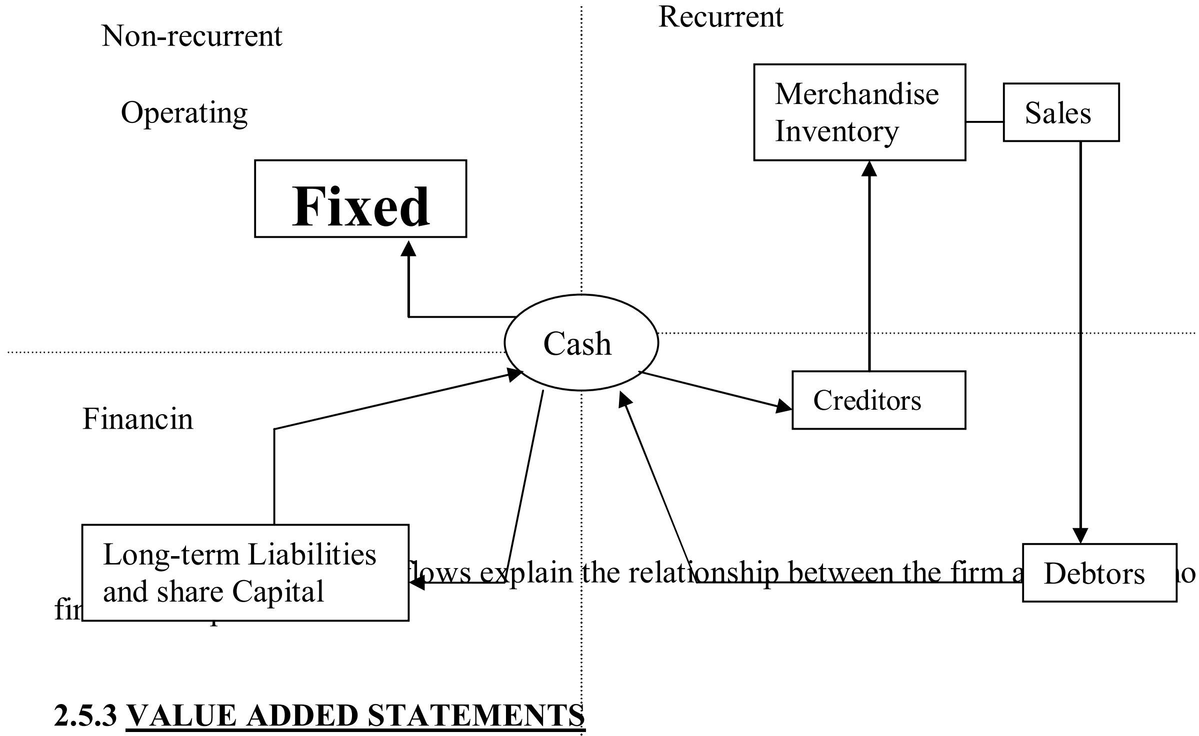
Capital purposes			8,000	
Net cash flows on capital items:				
Loan incurred		20,000		
			28,000	
Less:				
Expenditure on extension to premises	30,000			
Payments in respect of new fittings	5,000			
			35,000	
Excess of cash payment over cash				
Receipts during the year				7,000
Bank balance at 31 December, 1990			3,000	

The explanation of the fall in the bank balance from N10,00 to N3,000 despite a profit result of N18,000, is to be found in the extent of the capital expenditure during the year. Total capital expenditure amounting to N35,000 was financed to the extent of N20,000 by loan, and N8,000 from the cashflow generated by current operations. The difference of N7,000 had to be found from cash in the bank.

Cash Flows and Financial Management

The usefulness of cash flow statements extends beyond a simple analysis of receipts and payments (Glautier and Underdown, 1986:267). First, as Fig. 1 shows, it provides an insight into the critical areas of financial management by identifying two important classes of cash flows, namely operating cash flows and financing cash flows. This distinction draws attention to the net cash flows from operations and the net financing cash flows. The net operating cash flows classify the capability of the firm to support dividend payments to shareholders. It is these net cash flows which are of critical importance to investors and shareholders.

Fig. 1



…lows explain the relationship between the firm a… …o fi…

2.5.3 VALUE ADDED STATEMENTS

The Corporate Report published in 1975 by the then Accounting Standard Committee (ASSC) (subsequently redesignated the Accounting Standards Committee (ASC), advocated the preparation by businesses of statements of their added value, Jennings, (1993:321).

In this context, value added constitutes the difference between the monetary value of outputs and inputs of goods and services attributable to the business.

Many businesses now produce value added statements and publish them either as part of their Annual Report and Accounts or as part of the (internally circulated) Employee Report or as part of both these Reports. It must be stressed; however, that such disclosure is non-mandatory on companies, being required neither by statute nor by accounting standards.

The main reason adduced by companies publishing these statements is that they focus attention away from those aspects of performance which are of particular interest to shareholders and directors (profit and derivatives), on to the broader concept of value added and illustrate the inter-dependence of the respective parties benefiting from it.

Value Added Concept

Wealth in the economic sense can be calculated for an industry by aggregating value added at each production stage. For example, to use an over-simplified situation, the owner of a commercially run woodland supplies timber to a pulping mill where it is turned into sheet/card board and sold to a carton manufacturer for production into document filling cartons which are bought by a stationer for resale to the public.

The output value of the woodland owner, as measured by the factor payments (profit, wages etc) becomes the input value of the pulp mill. After further factor payments this becomes the output value of the pulp mill and the input value of the carton manufacturer, whose output value then constitutes the input value of the stationer. The stationer value comprises his input value plus his factor payments.

Because, as has already been stated, value added is the difference between input value and output value, it can be seen to equal the factor payments. For an industry, it is equal to the aggregate of the factor payments made by all the producers in that industry. It is equal also to the output value of the final producer. Reverting to the example above, value added (in total) equals to the aggregate factor payments of the woodland owner, the pulp mill, the carton manufacturer and the stationer. The resultant total coincides in amount with the output value of the stationer.

Content and Format

Profit and loss accounts shows the profits (loss) for a period and how it is arrived at and appropriated. In similar fashion, value added statements show the value added for a business for a particular period and how it is arrived at and appropriated to the previously mentioned stockholders:

The workforce – for wages, salaries and related expenses;

The financiers – for interest on loans and for dividends on share capital;

The government – for corporation tax;

The business – for retained profits.

Technically, it is possible to measure output value on either a production, or a sales basis. Most, if not all companies calculate value added on the basis of sales value, for the same reasons that they arrive at profit or loss using a sales revenue figure than a value of production figure.

Input value comprises the cost of goods and services bought in from external sources. As it is not usual to adjust the input value figure to a cost of sales basis, the resultant figure of value added is merely a balancing figure agreeing with total distributions to stakeholders.

Depreciation

Another point of difficulty is the treatment of depreciation. One body of opinion (including the Corporate Report) advocates that depreciation should be regarded as a distribution to the company of value added for the purposes of reinvestment. The opposite view point is that depreciation should be regarded as part of input value thereby reducing total value added, which is then described as net value added.

In fact, only a small number of companies report a figure on the net basis; the great majority prefer to adopt the gross basis for reporting value added. In the former case, depreciation is regarded as a reduction in value added, whilst in the latter it is an appropriation of it.

Format-Simple Circumstances

After allowing for modifications due to use of the net basis, value added statements are prepared to a recognisable pattern, of which the following is a typical example for a small company. Amounts have been assumed but the percentages have been calculated on them. Corresponding figures for the previous year, which would ordinarily have been shown, have been omitted.

EXAMPLE:

OMEGA PLC

Value Added Statement for Year Ended 30 June, 1998

	=N='000	=N='000	%	%
Sales (excluding VAT)		15,000		
Less cost of goods and services bought in (excluding VAT)		9,000		
		6,000		100.00
Valued Added				
Applied as follows:				
To pay employees:				
Salaries, wages, pensions and				
Related costs		3,960		66.0
To pay providers of capital:				
Interest on loans	240		4.0	
Dividends to shareholders	300		5.0	
Payable to government:				
Corporation tax		540		9.0
Retained in the business				
for maintenance of assets and				
for depreciation:		600		10.0
Depreciation	540		9.0	
Retained profit	360		6.0	
		900		15;0
		6,000		100.0

On the gross basis, value added can be seen to be N6,000,000. If the net basis had been employed, the statement would have appeared, thus:

OMEGA PLC

Value Added Statement for Year Ended 30 June, 1998

	=N='000	=N='000	%	%
Sales (excluding VAT)		15,000		
Less cost of goods and services bought in (excluding VAT)	9,000			
Depreciation	540	9,540		
		5,460		100.0
Valued Added				
Applied as follows:				
To pay employees:				
Salaries, wages, pensions and				
Related costs		3,960		72.5
To pay providers of capital:				
Interest on loans	240		4.4	
Dividends to shareholders	300		5.5	
		540		9.9
Payable to government:				
Corporation tax				
Retained in the business				
for expansion		600		11.0
Retained profit		360		6.6 .
		5,460		100.0

In the net basis version (above) it can be seen that, due to the reduction in value added following the alternative treatment accorded to depreciation, the relative shares of the claimants, as indicated by the percentages, have altered by comparison with the gross basis.

Many companies publish value added statements also publish the same information but in a pictorial presentation which may take the form of a bar diagram or a pie chart or some equally graphic device.

Contentious Items

Certain difficulties which arise in compiling value added statements have already been mentioned, namely, the sales value/production value problem and the alternative treatment for depreciation giving rise to gross or net value added. Other points of contention are considered as follows:

2.5.4 STRAIGHT FORWARD CRITICISM

Accounting's purposes are to serve as a language for communicating the financial facts about an enterprise to those who have an interest in interpreting and using these facts, and to provide a useful tool for analyzing, controlling, and planning enterprise operations. Black and Champion (1961:v) one method of appraising an enterprise's performance is to take its financial statements as drawn-up and comment on it's components. Such comments however are not to be arbitrary but represent a first-glance opinion about the performance when compared with certain standards that come to mind. Such first hand comparison are several and include;

- Comparison with other items in the financial statements of the company at the same time. For example, an analyst may readily comment on the sales figure compared with cost of goods sold especially when their appears to be not much favourable difference between them,
- Comparisons with the corresponding results of the company at earlier periods,
- Comparisons with the corresponding results of other similar companies
- Comparisons of actual results with planned results,
- Comparison of actual result with a desired standard of performance.

However, the results from this method of performance evaluation must be taken with extreme caution. In order to correctly interpret the figures about a business. The individual must be familiar with the operating conditions which lie behind them and with the plans of management and the changed conditions which are likely to exist in the future.

2.5.5 FINANCIAL RATIO ANALYSIS

Financial statement, including the final accounts of businesses, are produced not merely for their own sakes, but for the use to which they can be put by the various parties interested in different aspect of these statements. Jennings (1993:401).

Within a company, the directorate, as the apex of the management pyramid, is interested in overall figures which indicates whether the company is profitable and whether it is on a sound financial footing.

At workshop level in a manufacturing business are the foremen and charge-hands who are concerned only with those matters which relate to the particular section for which they are responsible, for example, time taken to complete a job or task, material usage etc.

Between these two levels of management are the intermediate stages ranging from departmental managers to the General Manager, each concerned about measurements relating to the matters which fall within their individual responsibilities.

From the point of view of the ownership of a company, shareholders, actual and prospective, are interested in its earnings (current and future) out of which dividends can be paid, the security of their dividends (dividend owner), return on their investment (yield) and so on.

External interested parties include loan creditors, for example, debenture holders who are concerned that the company is solvent and that there is adequate cover for their interest, and trade creditors (actual and prospective) who want to be assured that the company is both solvent and liquid, that is, that it has adequate cash or cash convertible resources to meet all current liabilities as they fall due.

The Nature of Ratio Analysis

Ratio analysis is a powerful tool of financial analysis. A ratio is defined as "the indicated quotient of two mathematical expressions" and as "the relationship between two or more things". Pandey (1999:115). In financial analysis, a ratio is used as a benchmark for evaluating the financial position and performance of a firm.

Ratio analysis involves comparison for a useful interpretation of the financial statement. A single ratio by itself cannot indicate a favourable or unfavourable condition. It needs be compared with some standard. Standard of comparison may consist of:

a) Past ratios, that is, calculated from the past financial statements of the same firm.

a) Competitors Ratios, that is of some selected firms, especially the most progressive and successful competitor, at the same point in time.

b) Industry Ratios, that is ratios of the industry to which the firm belongs.

c) Projected Ratios, that is ratios developed using the projected, or pro-forma financial statement of the same firm.

d) Cross-Sectional Analysis. One other way of comparison is to compare ratios of one firm with some selected firms in the same industry at the same point in time. This kind of comparison is known as cross-sectional analysis.

e) Time Series Analysis: This is a comparison of figures of an event between different period of time as to know what trend the particular event is taken in the organization.

Ratios are a means of presenting numerical relationship between items or group of items. Okoli (2003:441). A ratio is determined by dividing one item in a relationship with the other. Generally, financial ratios are computed from financial statements and so ratios developed for an analysis of a firm's performance and financial position are subject to the same limitation which are present in the accounting statement themselves. Ratio analysis refers to the determination of the significant relationships which exist between figures as shown in a firm's books of account – especially the profit and loss account and the balance sheet.

Ratios are used in the analysis of financial statements of a business in order to reveal underlying economic trends in its activities and to discover tits strength and weaknesses as compared with the trends of sister companies. In the process of analysing financial reports, important ratios are calculated subject only to comparison with the firm's past, its forecasts and budgets or with the reports of identical companies. To be useful, they must be compared with earlier periods to indicate trends or compared with similar companies in the same industry to determine strengths and weaknesses or ideally compared with the industrial average, if such can be obtained to show position in the industry.

A number of ratios can be computed from financial reports. There are therefore a number of ways into which financial ratios may be classified. While certain authors classify financial ratios into investment ratios, performance ratios, ratios indicating liquidity, solvency ratios, profitability ratios and stock exchange market ratios. In this thesis, the researcher want to categorize ratios into liquidity ratios, leverage ratios, activity ratios and profitability ratios.

Liquidity ratios are generally used to measure a firm's ability to meet its current maturing liabilities. A firm that has the ability to meet its current liabilities is said to be solvent and vice versa. Okoli (2003:441).

2.6 MORE ABOUT FINANCIAL RATIOS ANALYSIS

2.6.1 Types of Financial Ratios

Financial ratios have traditionally been classified into five groups, namely:

a) Liquidity Ratio

b) Asset Management Ratios

c) Leverage Ratios

d) Profitability Ratios, and

e) Market Value Ratios.

a. Liquidity Ratio

Financial ratios have different classification from different authors. Western et al (1987:240) for instance classified liquidity ratios into two:

a) Current ratios, and

b) Quick or Acid test ratios

It is extremely essential for a firm to be able to meet its obligations as they become due. Liquidity ratios measure the ability of the firm to meet its current obligations. In fact, analysis of liquidity needs the preparation of cash budgets and cash and fundflow statements; but liquidity ratios, by establishing a relationship between cash and other current asset to current obligations, Pandey (1999:114) provide a quick measure of liquidity. A firm should ensure that it does not suffer from lack of liquidity, and also that it does not have excess liquidity. The failure of a company to meet its obligations due to lack of sufficient liquidity, will result in a poor credit worthiness, loss of creditors confidence, or even in legal tangles resulting in the closure of the company. A very high degree of liquidity is also bad; idle asset earn nothing. The firm's funds will be unnecessarily tied up in current assets. Therefore, it is necessary to strike a proper balance between high liquidity and lack of liquidity.

i. Current Ratios

Okwoli (2003:442) defined "current ratio as the ratio of current assets to current liabilities. Experts believes that the ratio is best at 2:1 relationship, so it is also called a 2.1 ratio, it is the ratio of current assets to current liabilities. The 2.1 relationship means that for every one Naira current liability, there are two Naira current assets waiting to meet it.

The acid test ratio is a stricter indicator of a company's solvency than the current ratio as it gives a sharper focus on the asset which are more readily convertible into cash. It is the ratio of liquidity assets (that is current assets less stocks) to current liabilities. It is also called quick ratio.

According to Pandey (1999:114), current ratio is calculated by dividing current assets by current liabilities:

$$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

Current asset include cash and those assets which can be converted into cash within a year, such as marketable securities. Prepaid expenses are also included in current assets as they represent the payment that will not be made by the firm in future. Current liabilities include creditors, bills payable, accrued expenses, short term bank loan, income tax liability and long term debt maturity in the current year.

The current ratio is a measure of the firm's short term solvency. It indicates the availability of current assets in Naira for every one Naira of current liability. A ratio of greater than one means that the firm has more current assets than current claims against them.

The current ratio is the relationship between the current assets and current liabilities. It is an important part of the structure of a balance sheet. Brockington (1987:230). It is calculated as

$$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

and is quoted as a single figure (not as percentage). Although no hard and fast rule can be laid down, as different types of business operates under different conditions, a current ratio of around 2 is generally considered to be about right. This means that short term obligations can be met approximately twice over by existing short term sources of funds. This allows for the fact that, although all current liabilities will have to be settled in cash, not all current assets can be converted into cash immediately, such things as stock, for example, will be a permanent component of current assets.

Current ratio indicates, in a general sort of way, the ability of a business to meet its short term liabilities, as they fall due, out of its short term assets.

ii. Quick (ACID TEST) Ratio

This measures the ability of the firm to meet its short term obligations using only the most liquid assets. By deducting stocks which are often not considered to be highly liquid from total current assets gives the quick or acid test ratio. It is computer as follows:

$$\text{Quick Ratio} = \frac{\text{Current Asset - Stock}}{\text{Current Liabilities}}$$

It implies that the acid test ratio is a measure of the near-term ability of the organization to meet its current liabilities as they fall due without relying on its stocks that cannot be easily converted into cash when the need arises. A ratio of less than 1 (one) is not bad. However, very high quick ratio suggest excess cash and which requires urgent attention for a change in the composition of current assets to long-term assets. Generally, a Quick ratio of 1 to 1 is considered to represent a satisfactory current financial condition.

b. Asset Management Ratios

i. Cash Ratio: Since cash is the most liquid asset, a financial analyst may examine cash ratio and its equivalent to current liabilities. Trade investment or marketable securities are equivalent of cash ratio.

$$\text{Cash Ratio} = \frac{\text{Cash + Marketable Securities}}{\text{Current Liabilities}}$$

ii. Internal Measure

Yet another ratio which assess a firm's ability to meet its regular cash expenses in the internal measure. Internal measure relates liquid assets to average daily operating cash outflows. The daily operating expenses will be equal to cost of goods sold, plus selling, administrative and general expenses less depreciation (and other non-cash expenditures) divided by number of days in the year (say 360).

$$\text{Internal Measure} = \frac{\text{Current Asset – Inventory}}{\text{Average Daily Operating Expenses}}$$

ii. Activity Ratios

Funds of creditors and owners are invested in various assets to generate sales and profits. The better the management of assets, the larger the amount of sales. Activity ratios are employed to evaluate the efficiency with which the firms manages and utilizes its assets - Pandey (2000:). These ratios are also called turnover ratios because they indicate the speed with which assets are being converted or turned over into sales. Activity ratios, thus, involves a relationship between sales and assets. A proper balance between sales and assets generally reflects that assets are managed well. Several activity ratios can be calculated to judge the effectiveness of asset utilization.

Inventory Turnover Ratios indicates the efficiency of the firm in producing and selling its products. It is calculated by dividing the cost of goods sold by the average inventory as follow:

$$\text{Inventory Turnover} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}}$$

The average inventory is the averages of operating and closing balances of inventory. In a manufacturing company inventory of finished goods is used to calculate inventory turnover.

Take a situation where B. Baba is turning his inventory of finished goods into sales (at cost) 8.6 times in a year. In other words, he holds average inventory of 12 months/8.6 = 1.4 months or 360 days/8.6 = 42 days. The reciprocal of inventory turnover gives average inventory holdings in percentage term. When the number of days in a year (say 360) are divided by inventory turnover, we obtain days of inventory holdings (DIH).

$$\text{DIH} = \frac{\text{Average Inventory}}{} \times 360$$

Cost of goods sold

= 60

Inventory Turnover

= $\frac{360}{8.6}$

= 42 days

The inventory turnover shows how rapidly the inventory is turning into receivable through sales. Generally, a high inventory turnover is indicative of good inventory management a low inventory turnover implies excessive inventory levels than warranted by production and sales activities or a slow-moving or obsolete inventory.

Debtors (Account Receivable) Turnover Ratio

Debtors turnover is found by dividing credit sales by average debtors.

$$\text{Debtors Turnover} = \frac{\text{Credit Sales}}{\text{Average Debtors}}$$

Debtor's turnover indicates the number of times debtors turnover each year. Generally, the higher the value of debtors turnover, the more efficient is the management of credit.

c. Leverage Ratios

The short term creditors like bankers and suppliers are more concerned with the firm's current debt-paying ability. On the other hand, long term creditors like debenture holders, financial institutions etc are more concerned with the firm's long term financial strength. In fact, a firm should have a strong short as well as long term financial position of the firm, financial leverage or capital structure ratios are calculated. These ratios indicates mix of funds provided by owners and lenders. As a general rule, there should be an appropriate mix of debt and owner's equity in financing the firm's assets. Use of debt financing has two advantages to share holders:

1) They can retain control of the firm with limited stake, and

2) Their earning will be magnified.

The process of magnifying the shareholders return through the use of debt is called "financial leverage" or "financial gearing" or "trading on equity". Thus, the use of debt magnifies the shareholders earnings as well as increases their risks. Thus, leverage ratios are calculated to measure the financial risk and the firm's ability of using debt to shareholders advantage.

Leverage ratios may be calculated from the balance sheet items to determine the position of debt in total financing. Many variation of these ratios exist, but all these ratios indicate the same thing, that is the extent to which the firm has relied on debt in financing assets. Leverage ratios are also computed from the profit and loss items by determining the extent to which the operating profits are sufficient to cover the fixed charges.

An important identity of the capital structure or leverage is the relationship between equity (ordinary share capital) and fixed interest/dividend bearing capital (preference shares and loan capital). This relationship can also be described as capital gearing of an organization.

Houlton (1973:185) emphasized enthusiastically that a company with a small equity capital is said to be "highly geared" and vice versa. However, it is worth knowing that the higher the gearing, the lower the weighted cost of capital and the higher the financial risk. Meanwhile, a very good advantage of low capital gearing is to reduce the fluctuations in ordinary dividend distributed while the advantage of high capital gearing is taxation advantage for interest on debenture and bank loans are already deducted in arriving at the taxable profit. A rational company should therefore employ as much debt as it can without impairing the safety of the company's future. The aim of the leverage ratio is to measure the risk to an organization's medium and long term lenders resulting from the use of leverage. Since the use of loans has the leverage effect of enhancing the earning per share (EPS) (especially if the return on assets managed exceed the cost of servicing the loans), the lenders must ensure that if the company is wound-up, the realized assets would be sufficient to repay their loans in full.

The principal leverage ratios to be considered here include:

a) Capital Gearing Ratio

b) Debt Ratio

c) Times Interest Covered

d) Net worth to Fixed Assets

e) Long Term Funds to fixed Assets.

i. Capital Gearing Ratio

This is also known as debt-equity ratio and it measures financial gearing. It is calculated by dividing the total debt over the total amount of shareholders equity.

$$\text{Capital Gearing Ratio} = \frac{\text{Debt Capital}}{\text{Equity}}$$

Wilson (1987:183) said the debt should include short term debt because they are more risky than the long term debt in the sense that their interest and principal may all be payable in only a year. He also advanced that the short term debt contribute the major sources of finance for both small and medium size companies. Meanwhile, the total equity should be calculated by deducting the fictitious assets. For as total reserves belong to them, the fictitious assets should be attributed to them as well.

The capital gearing ratio is an important indicator of an organization's financial risk. As the ratio rises, financial risk increases and vice versa. The increase in risk arises from the fact that the interest payment on debt have to be repaid irrespective of the level of profit. Interest is therefore fixed, so if trading profitability is decreasing, the existence of fixed assets may result in a greater than proportionate decrease in the profit available to shareholder. By implication, it means that as the ratio rises, the greater will be the chance that if the organization encounters financial difficulty, the shareholders will lose their investment.

ii. Debt Ratio

This also shows the percentage of an organization's assets that is financed by suppliers of funds outside the organization. It is calculated as follows:

$$\text{Debt Ratio} = \frac{\text{Total Debts}}{\text{Total Assets}}$$

This ratio is also a measure of financial risk as it is closely related to debt-equity ratio. However, it is much preferred by companies in capital gearing because it is more wider ins cope.

The ratio is interpreted in the same way as the debt-equity ratio, that is as the ratio increases, it implies that debt is financing an increasing proportion of an asset and hence the business risk also increases.

Pandey (1999:117) avers that several debt ratios may be used to analyse the long term solvency of a firm. The firm may be interested in knowing the proportion of interest-bearing debt (also called funded debt) in the capital structure. It may therefore compute debt ratio by dividing total debt (TD) by capital employed (CE) or net asset (NA). Total debt will include short and long term borrowings from financial institutions, debenture bonds, deferred payment arrangement for buying capital equipments, bank borrowings, public deposit and any other interest bearing loan. Capital employed (CE) will include total debt and net worth (NW).

$$\text{Debt Ratio} = \frac{\text{Total Debt (TD)}}{\text{Total Debt (TD)} + \text{Networth (NW)}}$$

$$= \frac{\text{Total Debt (TD)}}{\text{Capital Employed (CE)}}$$

It is important to note that capital employed (CE) equals Net Assets (NA) which consist of Net Fixed Assets (NFA) and Net Current Asset (CA). Net current assets are current assets minus current liabilities (CL) excluding interest bearing short term debt for working capital. These relationships are:

$$NFA + CA = NW + TD + CL$$

NFA + CA + CL = NW + TC

NFA + NCA = NW + TD

NA = CE

$$\text{Debt Ratio} = \frac{\text{Total Debt (TD)}}{\text{Net Asset (NA)}}$$

iii. Times Interest Covered

This ratio provides an indication of the organization's ability and capability to honour or meet its interest obligations. It is calculated as follows:

$$\text{Times Interest Covered} = \frac{\text{Earnings Before Interest and Taxes}}{\text{Interest Charges}}$$

In essence, the ratio measures the organization's ability to meet its interest payments obligation on (both short and long term debts). In other words, it shows how far earnings before interest and taxes (EBIT) can decline before the organization probably will have trouble servicing its interest obligation.

As Wilson (1987:184) puts it, the ratio indicate that margin of safety with which interest costs are being earned. The ratio is very important for both existing and potential suppliers of debt capital. A high ratio is an indication of a safe position but possibly not enough financial leverage is being used. A low ratio may call for immediate investigation and action.

Other authors call this coverage Ratios. Pandey (1999:112) for instance states that the interest coverage ratio or the times-interest earned is used to test the firm's debt-servicing capacity. The interest coverage ratio is computed by dividing earnings before interest and taxes (EBIT) by interest charges:

$$\text{Interest Coverage} = \frac{\text{EBIT}}{\text{Interest}}$$

The interest coverage ratio shows the number of times the interest charges are covered by funds that are ordinarily available for their payment. Since taxes are computed after interest, interest coverage is calculated in relation to before tax earnings. Depreciation is a non-cash item. Therefore, funds equal to depreciation are also available to pay interest charges. We can therefore calculate the interest coverage ratio as earnings before depreciation, interest and taxes (EBDIT) divided by interest.

$$\text{Interest Coverage} = \frac{\text{EBDIT}}{\text{Interest}}$$

The ratio indicates the extent to which earnings may fall without causing any embarrassment to the firm regarding the payment of the interest charges. A higher ratio is desirable; but too high a ratio indicates that the firm is very conservative in using debt, and that it is not using credit to the best advantage of shareholders. A low ratio indicates excessive use of debt, or insufficient operation.

The limitation of the interest coverage ratio is that it does not consider the repayment of loan. Therefore, a more inclusive ratio – the fixed charges coverage ratio is calculated. This ratio is calculated by dividing Earning before Interest and Taxes by Interest plus Principal repayment as follows:

Fixed Charges Coverage Ratio = <u>EBDIT .</u>

Interest (Loan repayment/ 1- Tax rate

iv. <u>Net Worth to Fixed Assets</u>

This ratio measures the extent to which shareholders covered the capital employed in fixed assets of an organization. It is by implication a measure of liquidity and safety. It seeks to determine the sensitivity of the organization's asset structure to changes in the capital structure.

Equity funds is the focus in this case because it relates more to fixed assets (at least in the short-term) which cannot be easily realised to meet the current obligation of the firm. Moreover, the realisation of the firm's fixed assets in the short term would greatly under-estimate its corporate existence. The ratio is calculated as follows:

Net worth

Net Worth to Fixed Assets = ----------------

Fixed Asset

The Net Worth here is ordinary share capital including all the reserves. Meanwhile, this ratio does not automatically depict the position of an organisation hence the knowledge of the next ratio is not only necessary but also inevitable.

v. <u>Long-Term Funds to Fixed Assets</u>

This ratio takes a less conservative view of what funds are available to an organization. To the Net Worth is therefore added all the long term funds that are either perpetual debt or repaid only in a long period of time like redeemable debentures.

This ratio can therefore be substituted for Net-Worth to Fixed Assets ratio as a realistic measure of the organisation's susceptibility to financial risk. It is calculated as follows:

<u>Net-Worth and Long-Term Funds</u>

Fixed Assets

Preference share capital should be included in the long-term funds:

d. <u>Profitability Ratios</u>

These measures the overall performance and effectiveness of an organisation. They are calculated to measure the efficiency of the company. Beside the management of the company, creditors including the ordinary shareholders who are the owners of the company are all interested in the profitability of the organisation. For instance, creditors want to get interest and repayment of their principal amount regularly and as quickly as possible.

Owners also want a reasonable return on their investments. This is only possible where the company earns enough profits. Wood (1983:434) identified five (5) profitability ratios as follows:

1) Gross Profit Margin

2) Net Profit Margin

3) Return on Assets Managed

4) Return on Capital Employed

5) Return on Equity/

1. Gross Profit Margin (GPM)

This measures the gross profit mode in relation to sales. It is computed by dividing gross profit over sales as follows:

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

Wood (1983:434) said there is no rule of thumb for this ratio, notwithstanding a high gross profit margin relative to the industry average implies that the organisation is able to produce and sell at lower costs. And it is a sign of good and industrious management. The ratio may increase due to higher sales price with cost of sales remaining constant, lower cost of good sold with selling prices remaining constant.

2. Net Profit Margin (NPM)

This ratio measures the rate at which income accrued from sales. It is computed as follows:

$$\frac{\text{Net Profit Before Tax}}{\text{Sales}}$$

An organisation with high net profit margin would be in an advantageous position to survive in the period of falling prices, rising costs and declining demand. It implies that the organisation with high net profit margin can make better use of favourable conditions such as rising prices, increasing demand and would therefore accelerate its profit at a faster rate more than an organisation with a low net profit margin.

3. Return on Assets Managed

Return on total assets provides an indication of the ability and capacity of the organisation to earn a satisfactory return on all the assets employed in the organisation. It is computed as follows:

$$\text{Return on Assets Managed} = \frac{\text{Net Profits Before Tax and Interest}}{\text{Total Assets}}$$

The ratio is also known as return on investment. It shows how effective an organisation is with respect to generating income with its assets base. It is therefore an important measure of management efficiency. Therefore the higher the ratio the better, since it provides some indication of future growth prospect.

4. Return on Capital Employed (ROCE)

Return on capital employed as seen identified by Wilson (1987:63) as the key financial ratio because it shows how much profit has been made in relation to the amount of resources invested. That profits alone do not show whether the return is sufficient, in view of the quantum of assets committed. This ratio therefore measures the efficiency in the use of long term funds. It is computed as follows:

$$\text{Return on Capital Employed} = \frac{\text{Profit Before Interest and Tax}}{\text{Capital Employed}}$$

A higher ratio is an indication of the company's efficient use of its capital employed.

5. Return on Equity

This ratio shows the relationship between earnings and net equity, that is, the total funds due to the ordinary shareholders which normally comprise of nominal capital including all reserves. The earnings is essentially net profit after interest and taxes. The ratio provides an indication of how effective management is from the point of view of ordinary shareholders.

It is therefore directly affected by return on total assets and the amount of financial leverage employed. Pinches (1990:48) pointed out that the ratio is helpful, but does not focus on the returns that actually flow to the investors in terms of cash dividends and/or market appreciation. And a reliable measure of returns from the point of view of investors. It is computed from the formula below:

$$\text{Return on Equity} = \frac{\text{Net Profit After Tax}}{\text{Equity}}$$

The higher the ratio, the better and vice versa.

e. Market Value Ratios

Market value ratios, relates to the firm's stock price to its earnings and book value per share. These ratios give management an indicator of what investors think of the company's past performance and future prospect. If the firm's liquidity, asset management debt, management and profitability ratios are all good, then its market value ratios will be high, and its stock price will probably be as high as can be expected.

According to Cerepak et al (1987:709), the market value ratios widely used by investors, advisers to investors (security analysis and others) are the

1) Price earning ratio,

2) Dividend yield ratio, and

3) Dividend payment ratio.

1) Price Earning Ratio

This ratio measures the relationship between the market price of a share of common stock and its earnings per share. The ratio is computed by dividing the market price of a share of common stock by the earnings per common share. For example, a stock selling for N40 per share and earning N4 per share would have a price earnings ratio of N10 (40/4). This simply means that the company's stock is currently selling for ten times its earnings.

The following formula is used in calculating the price-earning ratio:

$$\text{Price earning Ratio} = \frac{\text{Market price per share of commons stock}}{\text{Earnings per share of common stock}}$$

The price earnings ratio indicates investors' expectation regarding the future performance of the company. A company with a high price earnings ratio shows that investors have been willing to pay several times its current earnings per share to purchase the stock. They believe the company's future performance will be good and will thereby give them a more than adequate return on their investment.

The earnings per share (EPS) of common stock is widely used in evaluating the performance of a firm. Earnings per share amount is usually equal to earnings available to common stockholders dividend by weighted average number of shares of common stock outstanding. The ratio is commonly used to compile earnings data for the press and statistical issues.

Calculation of EPS may be a fairly simple or a highly complex problem, depending on the company's capital structure. A firm has a simple capital structure if it has no outstanding securities that can be exchanged for common stock such as convertible bonds, convertible preferred stocks, warrant or options. If a firm has such securities outstanding, it is said to have a complex capital structure. A firm with a simple capital structure reports a single EPS amount calculated as follows:

$$\text{EPS of common stock} = \frac{\text{Net Income} - \text{Preferred Dividend requirement}}{\text{Weighted Average Number of common stock outstanding}}$$

While EPS for complex capital structure can be computed as follows:

EPS = Net Income Applicable to Common Stock .

Weighted Average Number of Common Stocks Outstanding Plus

The potentially Dilutive Security (Preferred Stock)

Herman et al (1983:737).

2. Dividend Yield Ratio

Some investors buy common stock to receive a steady flow of cash in the form of dividends. Many of them are more interested in dividends as their form of return on investment than they are in the potential for appreciation in the market price of their shares. To this category of individuals the dividend yield ratio, which measures the rate of return on their stock investment, is very important.

The dividend yield ratio is determined or calculated using the following formula:

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per share of common stock}}{\text{Market price per share of common stock}}$$

As the formular shows, the ratio is affected by two factors such as the company's dividend policy and the market price of its shares. Because the market price of a company's stock change frequently, the dividend yield ratio, like the price earnings ratio, is a volatile market text measurement.

3. Dividend Payment Ratio

The ratio shows the percentage of net income distributed by the company to its shareholders. It can be used to indicate what portion of a company's net income is distributed to its common shareholders and what portion is retained in the business. It is determined only for common shareholders and computed by dividing dividends paid to common stockholders by the net income available to common stockholders. It is calculated as follows:

$$\text{Dividend Payment Ratio} = \frac{\text{Dividend to common stockholders}}{\text{Net income available to common stockholders}}$$

There is no rule of thumb to determine an appropriate payment ratio. The ratio varies from company to company even within a given industry. The adequacy of the dividend payment depends on the investor's objectives. Some investors prefer high dividends while others prefer to have the company reinvest its earnings in anticipation that they will benefit from the company's growth by an increase in the market price of the shares.

2.6.2 CAUTION IN USING RATIO ANALYSIS

Financial ratios are considered to be useful for predicting financial difficulties of firms. Previous research on the ability of business failure can be divided into two categories. The first category concentrates upon the predictive power of individual ratios, based on either the ratios trend or its magnitude, and the second category of predictive ability studies utilised a multivariate approach. Relying primarily on the statistical technique, discriminate analysis researches have been able to use set of ratios to predict the continuation ordermise of a firm.

The works of the following people in the first category are taken into consideration. Fitz Patric (1931 and 1932), Smith and Winakor (1935), Charles L. Mervin (1`942). Fitz Patric analysed the prior three to five year trends of thirteen ratios of twenty firms that had failed during the period 1920 – 1929. He studied the data on a case-by-case method of analysis and followed it up by comparative analysis of a matched sample of nineteen successful firms. He concluded that his ratios predicted failure to some extent through declining trends, but his best predictors were the net profit to net worth ratio and the net work to total debt ratio.

Both of these studies were culminated in 1942 in Mervin's study of a sample of 939 firms in the period 1926-1936. Mervin divided his sample into two groups, "continuing" (successful) and "discontinuing" (Unsuccessful) firms, and analyzed the prior six-year trends of a large, unspecified number of ratios of each group. He accomplished this by comparing industry mean ratios of the discontinuing firms with "estimated normal" ratios, which were estimates of what the discontinuing firms ratios would have been had they maintained the same average ratios as the continuing firms.

The second category relied primarily on the statistical techniques of discriminant analysis. Researches like Beaver (1966) and (1968), Altman (1968), Daniel (1968), Deakin (1972), Edminister (1972), Wilcox (1973) and Altman and others (1977).

Beaver (1966:71) considered a sample of seventy-nine large firms that failed and compared with corresponding non-failed companies of the same size and industry. The data collected were for the same years. These samples were used to test the predictive ability of thirty financial ratios. The mean values of the ratios for the two samples were compared over the five years period prior to failure. He discovered that the mean ratio for the failed firms differs sign ificantly from that for the non-failed firms. In addition to comparison of mean values, Beaver tested the samples using discriminant analysis and went on to analyze the evidence using likelihood ratios. Although not all of the financial ratios examined predicted failure equally well, many showed excellent predictive power.

In another study, Beaver (1968) investigated the ability to predict failure from changes in market prices of stocks comprising four ratios: cash flow to total liabilities, net income to total assets, total debt to total assets with the market behaviour. Prices on a sample of seventy-nine failed and a corresponding number of non-failed firms of approximately same size and industry. He found that the median market price of the failed companies declined at an increasing rate of failure approached, relative to that for the non failed companies. Beaver concluded that investors adjust stock prices to the deteriorating condition of failing companies.

Altman et al (1977:29) reviewed Alman's study and adopted it to the period 1969-1975. They used a sample of fifty-three failed and fifty-eight non failed firms including retailing firms. They employed factor analysis and seventy variables which were reduced to seven: current ratio, the size of total assets, interest ratio, retained earnings, return on assets (net income to total asset) and equity to total asset. This was incorporated in a discriminant function and the model predicted failure with 96 and 70 percent in the last year and the fourth year prior to failure respectively.

Daniel (1968) in his study, employed simple correlation factor analysis and step wise regression to select financial statement data and ratios with best correlated with failure and non failure as the dependent variable. The discriminant function was found to have considerable power in identifying failing firms.

Deakin (1972:90) using fourteen ratios, studied a pair of thirty two failed and non failed firms for the period between 1964-1970 in a discriminant function and he discovered that he could predict bankruptcy three years before the failure.

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

However, when making use of ratios, the following limitations should be noted:

a) Ratios on their own do not provide information to enable management gauge performance or make central decisions. It is therefore necessary to provide target ratios, previous accounting ratios or ratios of other organisation as a yardstick for adequate comparison.

b) Some of the accounting principles used allow for diversity which renders comparison of figures using ratios unrealistic.

c) If the proper base to a ratio is not used, it becomes meaningless.

d) Ratios compared over a period of time at a historical cost will not be properly comparable especially where inflation in price has occurred during the period, unless an adjustment would be made for price level differences.

e) The ratios of different companies cannot be properly compared where each company uses a different method of stock valuation (that is FIFO, LIFO etc), apportioning overheads and valuation of assets, accounting for goodwill.

It is in light of the above limitations of ratio analysis as a tool of assessing the performance of organisations, that Van Horne (1995:759) warned about using rules of thumb indiscriminately for all organisations. But that the performance should be carried out in relation to the type of business in which the organisation is engaged and to the organisation itself. In other words, adopting the criteria that all organisations, must have at least 2:1 current ratio is appropriate. Rather, the true test of liquidity is whether an organisation has the ability to pay its bills on time as they fall due.

Pandey (2000:153) stated that though ratio analysis is a widely used technique to evaluate the financial position and performance of a business, there are certain problems in using ratios. The analyst should be aware of these problems. These problems ranges from differences in the definition of items in the balance sheet and the profit and loss account statement which makes the interpretation of ratios difficult: that ratios are generally calculated from past financial statements, and thus are no indicators of future. He also argued that the price level changes makes the interpretation of ratios invalid.

2.7 MULTIPLE DISCRIMINANT ANALYSIS

Efforts have been made by a number of researchers to devise a means by which the stated limitations are reduced to a minimum level. This has resulted in the use of a combination of ratios which are analysed jointly to assess a firm's performance. These ratios, together, enhance the degree of comparison of performance because they can discriminate between successful and distressed firms. This type of ratio analysis is called Multiple Discriminant Analysis (MDA)

The MDA model combines a number of ratios with discriminating characteristics. The individual ratios which are traditionally used in financial analysis are not very effective because of a number of limitations. For example, two ratios may produce conflicting judgment of a company's performance. Also, it is usually difficult0.. to choose a correct basis for inter-Firm comparison when the individual ratios are calculated.

Efforts have therefore been made by researchers to refine ratio analysis in order to make it more effective. These efforts which took the form of combining a number of ratios which can be used to classify companies as financially healthy or unhealthy, were made by Wall et al (1998:), Horigan (1968:285), Beaver (1966:71) and Altman (1968:59). However, the models developed by the above mentioned researchers have been found to be inapplicable to the situation of the developing countries. This is mainly because they are studies which are based on data collected from large conglomerates in Europe and America whereas most of the businesses in developing countries are relatively small. The peculiar nature of companies in the developed economies, for example, the use of the most modern computers and other automated systems in the production of goods and services make the Euro-based data greatly inapplicable to the situation of the developing economies of the Third World where the system of production is greatly labour-intensive. Due to the above difference, the efficiency of assets, capital and the profit proportion of each unit of sale are likely to be a lot higher in the advanced economies of Europe and America. In fact, the Euro-based analytical models such as Altman's Multiple Discriminant Model, have been found to grossly misclassify the firms in the developing countries. For example, if Altman's model was used to assess the firm's including cement companies in Nigeria, the indication would most likely be that all of them are failure prone.

In order to overcome this problem of non-existent applicable model for the developing countries, Osaze (1985:) developed an analytical model designed specifically to suit the situation of the developing countries". According to him the purpose of this study is "… to develop a more meaningful, useful and less complicated model for a less developed country like Nigeria". His model contains eight ratios each of which has a specific range of scores as shown below:

2.7.1 <u>Osaze's Analytical Model</u>

i) Factor	
Cash/TA	Point
31-40%	16
21-30%	12
11-20%	8
5-19%	4
Less than 5%	0
ii) Pat/NW	
31-40%	12
21-30%	10
16-20%	8
11-15%	6
5-10%	4
Less than 5%	0
iii) EBIT/TA	
Over 30%	12

21-30% 16-20% 5-10% Less than 5%	10 8 4 0
iv) GE/ACCT REC. More than 2.0 times 1.51 – 2.0 times 1.1 – 1.5 times 1.2 0.91 – 1.1 times 1.3 0.5 – 0.9 times 1.4 Less than 0.5	Point 12 10 8 6 4 0
v) PAT/SA Over 30% 21-30% 16-20% 11-15% 5-10% Less than 5%	12 10 8 6 4 0
vi) RE?PAT Abve 30% 21-30% 16-20% 11-15% 5-10%	12 10 8 6 0
vii) Profit trend over 5 year period (PAT) Factor Firms with rising net profit every year Firms with stable and level profit each year Firms with profit each year but uniform trend Firms with profit each year but declining trend Firms with loss in any one of the first three years only Firms with loss in first three years only Firms with loss in all five years	Point 16 12 10 8 6 2 0

viii) Deposit trend over 5 year period Factor	Point
Banks with rising total deposit every year	12
Banks with stable and level total deposit each year	10
Banks with non-uniform total deposit trend	4
Banks with declining total deposit trend	0

2.7.2 Osaze's Performance Verdict

i) 60 points and above – high performance, not likely to fail.

ii) 40-59 points – need to be scrutinized or studied carefully before a conclusion is made as to whether they are failing or not.

iii) 0-39 points – poor performance, most likely to fail.

Key:

TA - Total Asset

PAT - Profit After Tax

NW - Net Worth

EBIT - Earning Before Interest and Tax

GE - Gross Earnings

ACCT. REC. – Account Receivable

RE - Retained Earnings.

2.7.3 Osaze's Ratio Classification

The objective of Osaze's study is to … "Reduce the risk to which creditors, shareholders, and potential investors are exposed". That is, to highlight the "probability of a firm going bankrupt or defaulting on its debt obligations". According to him, the ratio selected "… constitute what have been determine as the best discrimination between bankrupt and successful firms". These ratios "though pilot studies of special Nigerian cases, are found to be the best indicators of risk in a firm in Nigeria".

The ratios are classified broadly as

i) Capital Structure ratios;

ii) Profitability ratios;

iii) Liquidity ratios.

The ratios chosen under these broad classification are:

i) Capital Structure Ratio:

a) Retained Earnings to Net Profit

b) Deposit Trend

The ratio shows the firm's growth potential. It also shows the extent to which the shareholders make sacrifice for the firm's long term growth and survival. The deposit trend shows the growth or otherwise of the investors (depositors) confidence in the firm (bank).

ii) Profitability Ratio:

a) Earnings Before Interest and Tax to Total Assets

b) Net Profit to Net Worth

c) Net Profit to Loans and Advances

d) Profit Trend

iii) Liquidity/Solvency Ratio

f) Cash to total Assets

g) Gross Earnings to Account Receivable.

2.7.4 <u>The Accuracy of Osaze's Risk Index</u>

Osaze tested his model on the financial result of 30 successful firms in Nigeria and found that only two (2) firms (6.7%) were misclassified. That is, 2 firms out of 30 were classified as unsuccessful although they are actually successful. The error margin is therefore 6.7% or about seven in a hundred.

On the other hand, when 30 bankrupt companies were assessed with the model, 26 of them were indicated as unsuccessful, 3 misclassified as successful while one firm was classified as requiring closer scrutiny (a score of between 40-49). In this case the error margin is 3/30 or 10%. The model is therefore about 90% accurate.

This research is not the first in the area of performance evaluation in a developing country context. Instead, there is a vast array of works some of which were consulted. For example, Mahmoud, carried out a study in 2002 on financial performance evaluation using financial ratios in relation to profitability, leverage, liquidity and activity. He however, used the method to assess the performance of a public enterprise. Also Sabari in

2002 did an evaluation of ratio analysis in determining distress but he concentrated on the Nigerian Banking sector. Much earlier Onwuagba (1995) had also done the performance evaluation but he concentrated on a decentralized organization i.e. the CFAO Nigeria Plc.

More concretely, Moru (1998) used the Multiple Discriminant Analysis (MDA) and specifically the model developed by Osaze as a tool of assessing performance but he concentrated on the Nigerian Banking sector. Similarly, Bello's study of 2002 on the assessment of multiple discriminant analysis (MDA) in predicting corporate performance in Nigeria concentrated on selected banks.

By and large, the conclusion of these cited works agreed that the MDA of which ratio analysis is a part remains a veritable tool of assessing the performance of corporate organisations. What matters is the model of MDA that one is using. As at the time of this research, no other study has produced a more accurate model for the developing countries than that by Osaze. The model is therefore the one used to assess the selected cement companies in this study.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 INTRODUCTION

Osuala (1982:1) defines research as " the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of data." It is well recognized the world over that progress and the advancement of knowledge as it is known in the modern world would be impossible without research.

This chapter is intended to explain how this research was carried out in terms of how the data were gathered and analyzed.

3.2 RESEARCH METHOD EMPLOYED

A method or technique of research is a reasonable plan for solving a problem under investigation by making use of scientific principles based upon objectivity and commonsense. The choice of the appropriate method, depends upon the nature of the problem and upon the kind of data the problem entails but basically these are four major method of research they are historical research, experimental research, descriptive research, and the case study.

The historical research method is the means by which the study was carried out. According to Ndagi (1999:93), Historical research deals with the determination, evaluation, and explanation of events essentially for the purpose of gaining a better and clearer understanding of the present and making a more reliable prediction of the future.

Basically, the word ‘historical’ means ‘searching to find out’. The word is to interpret past trends of attitude, event and fact. Furthermore, it attempts to ascertain a clearer perspective of the present and to ensure the simple scholarly desire of the researcher to arrive at an accurate account of the past.

This research method is beneficial for recalling or relating the past events to the present situation while the main limitation is that articles and manuscripts are frequently subjected to distortions and so many editorial changes that, sometimes, they no longer resemble their original form.

3.3 SOURCES OF DATA

Sources of data for historical research are classified into two categories, namely, document and relics. Some of these sources are journals, textbooks, magazines, newspapers, films etc. These sources (except the films) provided the bulk of the literature review in chapter two. But importantly, the data used to assess the performance of the cement companies in Nigeria was sourced from the annual reports of the selected companies.

It is hereby stated that this study overcome the major limitation of a historical research which is that sources efflux ion of time has an eroding effect on the articles and manuscripts as to distort them.

This study covers a period of 10 years (1991-2000) and the efflux ion of time has had little or no effect on the accuracy of the historical data colleted. For example, the fact that a cement company performed poorly or efficiently during the period has not been erased. For the period 1991-2000 therefore the financial statements which provided the historical data for this study continues to be relevant irrespective of subsequent developments.

3.4 METHOD OF SAMPLING

It is essential to have an adequate sample size of the population from which generalization or inferences can be made. This is because of the difficulties encountered by researcher in attempting to study whole populations. Sample can be defined as a limited number of elements selected from a population or universe which is representative of that population or universe.

Sample designs can be conveniently grouped as random sampling and non-random sampling. Random sampling procedures can be any of

(i) Unrestricted or simple random sampling,

(ii) Restricted random sampling methods are:

  (a) Stratified sampling

  (b) Cluster sampling

  (c) Systematic sampling

(iii) Double, multiple, and sequential sampling

Non-random sample on the other hand is a sample selected without, is selected on basis other than probability consideration. Ya-Lun (1969:360). The most important aspect of non-random sampling is that it is subject to sampling variability, but there is no way of knowing the pattern of variability in the process. The methods include

(i) Judgment sampling

(ii) Quota sampling

(iii) Convenience sampling

Sample was selected for this study using convenience sampling. The method of convenience sampling is also called the chunk, a chunk being a fraction of the population taken for investigation because of its convenient availability.

Of the eight cement companies operating in Nigeria, the 5 listed on the Stock Exchange were initially selected. One of the 5, NigerCem Plc was however dropped when it was found that the company did not operate for much of the period which the study covers.

The use of conveniently selecting the 4 companies used in this study is nevertheless justified by the fact that

(i) They are listed on the Nigerian Stock Exchange and this makes their annual reports to be readily available.

(ii) The 4 companies operated throughout the period under review ie (1991-2000)

(iii) The production capacities of the 4 companies chosen total 3,790,000 tonnes out of the industry's 5,090,000 tones. This represents more than 70%.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

An accounting figure conveys meaning when it is related to some other relevant information. As such the absolute accounting figures alone as reported in the financial statements of Nigerian cement companies (see the appendices) do not produce a meaningful understanding of the performance and financial position of the firms. It is the object of this section to relate these accounting figures together, and as such, establish benchmarks for evaluating the financial position and performance of the firms. The main aim is to form qualitative judgments from the quantitative relationship.

The data analyzed here were obtained from the companies' financial statements for the ten-year period (1991 – 2000). See appendices.

4.2 A BRIEF ABOUT THE SELECTED COMPANIES

(1) **ASHAKA CEM PLC:** The Ashaka Cem. Plc was incorporated on August 7, 1974. It started operation in September 1979 and became listed on the Nigerian Stock Exchange on November 30, 1990. The company's factory is located at Ashaka, Gombe State, and is able to produce 700,000 tonnes of cement a year the company has 500 registered distributors and 12 distribution depots. Major ownership of the company recently passed from the Federal Government of Nigeria to a firm of Core investors under the current privatization scheme.

(2) **BENUE CEMENT COMPANY PLC:** The Benue Cement Company Plc is located at Gboko the headquarters of Gboko Local Government of Benue State. Its history dates back to the early 1960's when lime stone deposit was discovered in the area by the Nigerian Geological Survey Department. Later on a more detailed geological survey was organized and a preliminary feasibility study for a cement plant in the present location was initiated. The company was incorporated in 1975 with initial share capital of N47.64 million. BCC Plc's bulk ownership

was also recently transferred to a Core Investor that is, the Dangote Group of Companies early this year 2004.

(3) **CEMENT COMPANY OF NORTHERN NIGERIA:** The CCNN Plc was incorporated in August, 1962 with an authorized share capital of N3.2 million divided into 6.4 million ordinary shares of 50k each. It became listed on the Nigerian Stock Exchange on October 4, 1993. The factory of the company is located at Sokoto. Also the CCNN's bulk ownership recently passed from the Federal Government of Nigeria to a Core Investor.

(4) **THE WEST AFRICAN PORTLAND CEMENT PLC:** WAPCO was incorporated on 26th February, 1959 and became listed on the Nigerian Stock Exchange on February 16, 1979. Its primary business is the manufacture of cement. The first factory of the company was commissioned at Ewekoro in 1960 with a production capacity of 200,000 tonnes per annum. The plant was extended in stages to a capacity of 690,000 tonnes per annum through the mid 1970s. A second factory at Shagamu also in Ogun State was commissioned in 1979 with a production capacity of 720,000 tonnes per annum. Total production at WAPCO peaked at 1.5 million tones in the 1980s. The company is said to have gone back to that range since the year 2000.

4.3 OPERATING EFFICIENCY OF THE COMPANIES

Operating efficiency is measured here by computing the operating expense ratio for the firms.

$$\text{Operating expense ratio} = \frac{\text{Operating expense}}{\text{Gross earnings}}$$

= <u>All expenses (excluding interest and tax</u>

Gross earnings

i) The Companies' Operating Expenses

	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000	1996 '000	1997 '000	1998 '000	1999 '000	2000 '000
Ashaka Cement	NA	NA	139,005	220,595	425,048	492,016	991,538	1,222,720	1,177,330	1,617,238
BCC	104,522	156,367	255,274	423,065	571,443	835,017	665,301	807,952	754,406	634,068
CCNN	43,980	44,138	NA	NA	139,664	169,075	155,633	159,577	160,099	279,594
WAPCO	82,922	154,760	354,431	606,462	1,171,544	1,244,664	1,341,620	1,499,562	1,740,313	2,271,169
ii. The Companies Gross Profit										
Ashaka Cement	NA	NA	542,067	656,265	1,342,421	1,275,830	1,881,348	1,692,116	2M049,310	2,607,935
BCC	180,212	300,769	453,574	651,194	822,768	1,096,806	834,017	603,856	408,500	279,700
CCNN	95,797	85,942	347,320	496,473	258,558	194,544	190,391	184,820	184,742	(206,189)
WAPCO	240,907	369,425	787,272	2,381,484	4,659,422	3,455,294	3,321,202	3,491,204	2,724,551	4,386,495
iii) Operating Expenses Ratio = $\frac{\text{Operating Expense}}{\text{Gross profit}}$										
Ahsaka Cement	NA	NA	0.256	0.336	0.317	0.386	0.527	0.722	0.575	0.620
BCC	0.580	0.520	0.572	0.650	0.695	0.762	0.798	1.338	1.920	2.267
CCNN	0.459	0.514	NA	na	0.869	0.869	0.817	0.863	0.867	1.356
WAPCO	0.344	0.419	0.450	0.255	0.360	0.251	0.404	0.430	0.639	0.620

iv) 10 Year (1991 – 2000) Average =

Ashaka Cement	BCC	CCNN	WAPCO
0.467	1.010	0.827	0.417

The operating expense ratio of the four (4) quoted cement companies provide at a glance high cost of manufacturing cement in Nigeria, and to a large extent the trend of the cost of doing business in Nigeria, which has steadily been rising in the past ten (10) years.

With an average operating ratio of 1.01 and 0.786 respectively, BCC and CCNN's operating expenses ratio at 2.267 and 1.356 respectively represent a high deviation from their averages. It can be observed from the table that both firms have actually shown that keeping operating expenses down has been a serious problem for them over the years. In fact, BCC's operating expense ratio actually tripled between 1996 and 2000, while CCNN's moved up by as much as 50% between 1999 to 2000.

Ashaka and WAPCO fared a lot better with their ten-year averages of 0.468 and 0.417 respectively. However, both had 0.620 as their operating ratios in 2000 which is well beyond their respective averages.

Of the whole lot, WAPCO has proved to be the strongest cement company in terms of keeping operating expenses low, while BCC has found it hardest to survive the economic terrain. This might be one of the reasons why the company has failed to operate since 2000. With operating expenses surpassing gross profit substantially over three-year period (1998 – 2000), it is apparent that the company needs a new strategy if it is to exist at all in the nearest future.

4.4 ASSESSMENT OF ABILITY TO PAY INTEREST

Interest payment ability is indicative of a firm's strength to meet its short-term financial obligation as they fall due. This ability is tested here by computing the interest coverage. Interest coverage shows the number of times the interest liability can be recovered from the operating profit.

$$\text{Interest Coverage} = \frac{\text{Operating Profit}}{\text{Interest}} = \frac{\text{EBIT}}{\text{Interest}}$$

i) The Companies EBIT

ii) <u>The Companies' Operating Expenses</u>

	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000	1996 '000	1997 '000	1998 '000	1999 '000	2000 '000
Ashaka Cement	189,354	269,936	473,644	478,376	961,323	800,459	934,815	555,708	871,980	990,697
BCC	72,042	149,440	228,567	234,487	255,920	275,926	177,697	(191,615)	(371,537)	(348,777)
CCNN	76,640	69,463	93,412	98,770	132,785	30,713	43,915	41,145	37,383	(477,785)
WAPCO	164,786	218,737	494,056	1,881,150	3,731,910	2,469,575	2,248,259	2,620,760	1,236,995	2,570,206
ii) Interest Expenses										
Ashaka Cement	19,692	17,225	40,797	25,767	19,608	16,645	17,832	7,020	64	NA
BCC	6,731	15,066	72,504	30,201	76,562	90,580	70,298	176,063	298,507	150,383
CCNN	22,366	NA	7,771	7,771	7,772	17,980	29,709	29,709	24,974	10,993
WAPCO	6,662	28,555	36,000	24,750	35,309	17,608	69,785	69,785	249,353	1,764,646
iii) Times Interest Covered (i) = (ii) = $\frac{\text{EBIT}}{\text{Interest Expenses}}$										
Ashaka Cement	9.62	15.67	11.610	18.565	49.027	48.090	52.523	79.161	13,624.688	Na

BCC	10.70	9.92	3.152	7.764	3.343	3.046	2.528	1.088	1.245	2.319
CCNN	3.43	NA	12.020	12.067	17.085	1.708	1.478	1.396	1.497	43.463
WAPCO	24.74	7.66	13.724	76.006	105.693	140.253	32.217	33.704	4.960	1.456

It is apparent from the table of Times Interest Covered that the four (4) companies have no threat whatsoever with regards to meeting their interest payments. In other words, they are continually solvent. In fact, BCC which exhibits the worst data in this category could meet its interest payment obligation two times over as at 2000.

But further analysis would reveal that Ashaka has been reducing its debt consistently over the ten (10) year period (and consequently the interest payment) to the point of having interest covered by as much as 13,000 times in 1999 and no interest to pay in 2000. Doubtlessly, the ratio of earnings to each naira of interest obligation is stupendously high. The company could therefore improve its performance by employing more debt to finance its operations.

On the other hand, the interest coverage of WAPCO has been deteriorating fast. For example, from 140 in 1996, it went down to 33 in 1998 and dipped down to a threatening 1.456 in the year 2000. Thus, WAPCO may soon begin to experience difficulty in meeting its debt servicing obligation, a situation that can lead to technical insolvency, and as such a winding up by creditors.

4.5 THE EARNING POWER OF THE COMPANIES

This is measured by computing the Assets Turnover for the companies as follows:

a) Gross earnings Power = $\dfrac{\text{Gross Earnings}}{\text{Total Assets}}$

b) Net Earning Power = $\dfrac{\text{EBIT}}{\text{Total Assets}}$

a. <u>Gross Earnings of the Companies As in 4.3 (ii)</u>

	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000	1996 '000	1997 '000	1998 '000	1999 '000	2000 '000
Ashaka Cement	NA	NA	542,067	656,265	1,342,421	1,275,830	1,881,348	1,692,116	2,049,310	2,607,935
BCC	180,212	300,769	453,574	651,194	822,768	1,096,086	834,017	603,856	408,500	279,700
CCNN	95,797	85,942	347,320	496,473	258,558	194,544	190,391	184,820	184,742	(206,189)
WAPCO	240,907	369,425	787,272	2,381,484	4,659,422	3,455,294	3,321,202	3,491,204	2,724,551	4,386,495
ii) EBIT of the companies as in 4.2 (I)										
Ashaka Cement	189,354	269,936	473,644	478,376	961,323	800,459	934,815	555,708	871,980	990,697
BCC	72,042	149,440	228,567	234,487	255,920	275,926	177,697	(191,615)	(371,537)	(348,777)
CCNN	76,640	69,463	93,412	98,770	132,785	30,713	43,915	41,145	37,383	(477,785)
WAPCO	164,786	218,737	494,056	1,881,150	3,731,910	2,469,575	2,248,259	2,620,760	1,236,995	2,570,206

iii) Total Assets of the Companies

	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000	1996 '000	1997 '000	1998 '000	1999 '000	2000 '000
Ashaka Cement	641,661	885,385	1,330,231	2,082,569	2,613,029	2,934,711	3,845,261	4,041,795	4,573,619	6,977,126
BCC	478,266	762,804	973,339	1,633,350	2,390,832	2,939,490	2,887,462	2,709,894	5,131,245	4,874,887

CCNN	571,705	684,947	732,885	862,954	973,897	1,144,266	1,123,616	1,186,044	1,199,778	877,241
WAPCO	1,130,201	1,701,104	2,632,964	5,662,500	9,728,676	9,870,303	12,044,119	14,747,546	23,216,325	27,117,189
iv) The Companies Gross Earning Power: that is $\frac{\text{Gross Earnings}}{\text{Total Assets}}$										
Ashaka Cement	NA	NA	0.407	0.315	0.514	0.435	0.489	0.042	0.448	0.374
BCC	0.377	0.394	0.466	0.399	0.344	0.373	0.289	0.223	0.080	0.057
CCNN	0.168	0.126	0.474	0.575	0.265	0.170	0.169	0.156	0.154	0.235
WAPCO	0.213	0.217	0.299	0.421	0.479	0.350	0.276	0.237	0.117	0.162

From the above, the earnings power or the efficiency of the assets of the companies showed an uneven trend during the ten (10) year period. Averagely, it rose in all the companies between 1991 – 1994, but from 1995 – 2000, it declined steadily. However, the net earning power must also be analyzed before a clear trend can be established.

b. **<u>The Companies Net-Earning Power</u>** = $\frac{\textbf{EBIT}}{\textbf{Total Assets}}$

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Ashaka Cement	0.295	0.305	0.356	0.230	0.368	0.273	0.243	0.137	0.191	0.142
BCC	0.125	0.196	0.235	0.144	0.107	0.094	0.062	0.071	0.072	0.072
CCNN	0.134	0.101	0.127	0.109	0.136	0.027	0.039	0.035	0.031	0.545
WAPCO	0.146	0.127	0.187	0.332	0.384	0.250	0.187	0.178	0.053	0.095

c. **<u>Average Net Earning Power 1991 - 2000</u>**

Ashaka Cement	BCC	CCNN	WAPCO
0.254	0.075	0.019	0.194

The administrative efficiency of each company in terms of their ability to keep operating expenditure as low as possible, relative to assets, is shown by the difference between the gross earning power and the net earning power.

From the data above, BCC exhibited its remarkable losses of 1998-2000 by the negative net earning power ratio of –0.071, -0.072, and –0.072 respectively. This served to whittle down the little profitability of the company in the early part of the decade resulting in a decade average of 0.075.

The increasing interest-service profile of WAPCO showed in its net-earning power declining seriously as from 1996 to the all-time low of 0.053 in 1999 and finally 0.095 in the year 2000. The variation between the highest and the lowest is as high as 0.331 which is significantly more than its ten (10) year average of 0.194.

CCNN on its part maintained a low but consistent profit level until the year 2000 when its heavy loss all but wiped out the previous years' profits and resulted in the firm becoming the least profitable of the four cement companies as evidenced by its ten (10) year average net earning power of 0.019.

In terms of net earning power, Ashaka is the clear leader in the cement industry in Nigeria as evidenced by its average of 0.254. however, its performance in each of 1997 – 2000 was below the average.

Generally, then, the companies in the cement industry in Nigeria have not been able to generate much earning from their high asset profile over the last ten (10) years. Average for the four (4) companies is 0.254 + 0.075 + 0.019 + 0.194 = 0.136. This implies that the four (4) quoted cement companies were able to earn only 13.6% of their total assets over the ten (10) year period 1991 – 2000.

4.6 PROFITABILITY OF THE OWNERS' INVESTMENT

a) Owner's equity (or net worth) represents total asset less total liabilities or the sum of common shares, reserves and surpluses less accumulated losses (if any).

Profitability of owner's investment (ROE) is measured by profit after interest and taxes divided by the net worth, that is

$$\frac{\text{Profit After Tax}}{\text{Net Worth}}$$

i) The Companies Profit After Tax

	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000	1996 '000	1997 '000	1998 '000	1999 '000	2000 '000
Ashaka Cement	116,179	158,188	284,978	302,152	556,166	631,172	393,682	393,682	378,923	861,862
BCC	51,407	99,165	114,881	151,997	170,439	72,428	(373,678)	(373,678)	(943,381)	*528,154)
CCNN	28,618	38,607	59,714	53,237	95,673	3,469	3,469	6,936	6,416	(508,9610
WAPCO	112,220	168,860	322,599	1,219,804	3,169,258	1,627,726	1,627,276	1,756,344	23,797	660,081
ii) The Companies Net Worth										
Ashaka Cement	251,183	361,547	576,325	789,027	1,383,619	1,832,785	2.325.956	2,600,938	2,784,799	2,287,435
BCC	216,120	284,594	364,828	667,505	753.544	861,169	380,139	506,461	2,098,077	1,569,923
CCNN	202,074	564,127	571,000	602,037	670,711	670,659	671,128	675,064	678,478	265,890
WAPCO	374,759	855,507	1,117,806	2,177,395	5,103,198	6,619,723	7,901,214	9,200,171	8,935,101	9,598,182

iii) Return on Owner's Equity (ROE) $= \frac{\text{Profit After Interest and Tax}}{\text{Net Worth}}$

Ashaka Cement	0.463	0.438	0.494	0.383	0.521	0.303	0.271	0.151	0.136	0377
BCC	0238	0.348	0.315	0.228	0.193	0.199	0.082	0.738	0.450	0.336

CCNN	0.142	0.068	0.105	0.088	0.143	0.004	0.005	0.010	0.009	1.914
WAPCO	0.299	0.198	0.289	0.560	0.621	0.281	0.206	0.191	0.003	0.069

iv) The Companies ROE Position in 2000 and the ten (10) Year Average 1991 – 2000 are as follows

	Ashaka Cement	BCC	CCNN	WAPCO
ROE 2000	0.377	-0.336	-1.914	0.069
Ten (10) Year Average (1991 – 2000)	0.354	0.008	-0.134	0.272

The computation of the Return on Equity (ROE) reveals the following:

i) All the companies had positive returns on equity except for CCNN which had negative return i.e. –0.134.

ii) In the financial year 2000, all the companies performed below their ten (10) year average except Ashaka Cement.

iii) The ROE of all the companies were relatively stable in the first half of the ten (10) year period. Serious down-turn began to manifest in 1996 and was sustained for each of the companies until 2000 except for Ashaka and WAPCO which that year experienced some sort of revival.

iv) Ashaka Cement Company is clearly the leader in terms of returns on owner's equity.

v) The ten (10) year average ROE for the four (4) companies is 0.125. this implies that the average investor in the Nigerian cement industry realized only 12.5% on every Naira invested for the whole ten (10) years between 1991 – 2000, a very low return.

b) <u>Earnings Per Share (EPS) of the Companies</u>

$$EPS = \frac{\text{Profit (After Interest and Tax}}{\text{Number of Fully Paid Common Share}}$$

c) The earnings per share (EPS) of the companies is provided in each company's financial statements.

	1991 k	1992 k	1993 k	1994 k	1995 k	1996 k	1997 k	1998 k	1999 k	2000 k
Ashaka Cement (Per 50k share)	73.8	66.9	48.4	51.4	122.8	94.8	107.6	67	64.5	60
BCC (Per 50k share)	25.96	40.06	46.42	38.88	36.72	43.18	18.29	(94)	(191)	(107)
CCNN (Per 50k share)	52	17.4	36.0	36	52	4.2	1.2	2.3	1.7	(133.4)
WAPCO (Per 50k share)	46.53	70.0	75	284	739	434	379	307	112.	139

ii) Ten (10) Year Average (1991 – 2000)

Ashaka Kobo	BCC Kobo	CCNN Kobo	WAPCO Kobo
75.72	-14.30	6.94	258.55

WAPCO has the highest average EPS for the ten (10) year period by returning a total of 258.55k for every 50k share. BCC exhibited the poorest performance in terms of earnings per share. The company recorded a loss of 14.30k on every 50k share for the period. The effect of this on the capital of the company is not far fetched. It erodes the capital base any time the company has to meet compulsory obligations. This also may be one of the reasons why the company has been grounded for the past four (4) years.

4.7 THE COMPANIES' PERFORMANCE ASSESSMENT BASED ON MULTI-VARIATE DISCRIMINANT RATIOS (OSAZE'S MODEL)

i) Variables for Discriminant Ratio Construction

	Ashaka Cem. N'000	BCC N'000	CCNN N'000	WAPCO N'000
Account receivable	505,780	204,105	54,554	1,410,873
Cash	2,890,984	6,620	33,983	5,998,095
Equity	302,500	247,500	193,645	285,867
Gross Earnings	2,607,935	279,700	(206,189)	4,386,495
Net Worth	3,287,435	1,569,923	264,890	9,598,182
Profit After Tax	861,862	(528,154)	(508,961)	793,553
Retained Earnings	510,295	(528,154)	(508,961)	792,704
Sales	7,220,297	791,464	537,635	11,994,065
Total Assets	6,977,126	4,874,887	877,241	27,117,189
EBIT	990,697	(348,777)	(477,785)	2,570,206

The above data was extracted from the 2000 Financial Statements of the companies.

ii) The Companies' Multivariate Discriminant Ratios

	Ashaka Cem. %	BCC %	CCNN %	WAPCO %
Cash/TA	41.44	0.14	0.04	0.22
PAT/NEW	26.22	33.64*	191*	8.27
EBIT/TA	14.20	7.15*	54.46*	9.48
GE/ACCT REC.	5.16	1.37	3.78*	3.11
PAT/SA				
PAT/SA	11.94	66.74*	94.67*	6.62
RE/PAT	59.21	100*	100*	99.98

Key to Ratios Used:

TA = Total Assets

PAT = Profit After Tax

NW = Net Worth

EBIT = Earnings Before Interest and Tax

GE = Gross Earnings

ACC. REC. = Accounts Receivables i.e. Debtors

SA = Sales

RE = Retained Earning

The basis used by Osaze in scoring performance in companies (Osaze's model) is discussed under the literature review of this study in chapter two. It is repeated here in order to relate it to the performance score-board of the selected cement companies as shown below:

iii) Factor Osaze's Criteria for Scoring Performance:

a) Cash/TA:	Points
31 – 40%	16
21 – 30%	12
11 – 20%	8
5 – 10%	4
Less than 5%	0
b) PAT/NEW:	
31 – 40%	12
21 – 30%	10
16 – 20%	8
11 – 15%	6
5 – 10%	4
Less than 5%	0
c) EBIT/TA	
Over 30%	12
21 – 30%	10
16 – 20	8
5 – 10%	4
Less than 5%	0
d) GE/Acct. Rec.:	
More than 2.0 times	12
1.51 – 2.0	10
1.10 – 1.15	8
0.91 – 1.1	6
	4

0.5 – 09. Less than 0.5	0
e) PAT/TA: Over 30% 21 – 30% 16 – 20% 11 – 15% 5 – 10% Less than 5%	 12 10 8 6 4 0
f) RE/PAT: Above 30% 21 – 30% 16 – 20% 11 – 15% 5 – 10%	 12 10 8 6 0

g) <u>Profit Trend Over Five Year Period</u>

Firms with rising net profit every year	16
Firms with stable and level profit every year	12
Firms with profit each year but no uniform trend	10
Firms with profit each year but a declining trend	8
Firms with loss in first three years only	2
Firms with loss in all five years	0

h) Net Worth trend of the companies — Points

Company with rising net worth every year	12
Company with stable level total net worth every year	10
Company with non-uniform net worth growth	4
Company with declining net worth trend	0

Osaze's Performance Verdict:

1. 60 points and above: This implies high performance and not likely to fail.

2. 40 – 59 points: The company needs to be scrutinized or studied carefully before a conclusion is made as to whether they are failing or not.

3. 0 – 39 points: this implies poor performance, most likely to fail.

iv) <u>The Company's Performance Scores (Points)</u>

	Ashaka	BCC	CCNN	WAPCO
a) Cash/TA	16	0	0	12
b) PAT/NEW	10	0	0	4
c) EBIT/TA	8	0	0	4
d) GE/ACCT.REC.	12	10	0	12
e) PAT/SA	6	0	0	4
f) RE/PAT	12	12	12	12
g) Profit trend over five year period (1996 – 2000)	10	6	6	16
h) Net worth growth of the companies.	12	4	12	12
	86	32	30	76

v) <u>The Companies Performance Verdict</u>

<u>Ashaka Cement</u>:

Its total score is 86 points. This performance is highly satisfactory. The company is in fact the leader in the cement industry.

BCC

This company with its total score of 32 points has performed poorly in the ten (10) year period – 1991 – 2000. For its high asset base, there has been unacceptably low returns. The company has been out of operation since 2000 to this time (early 2004) due to myriad of reasons, partly financial. The divestiture of the federal government from the company is meant to give it a new lease of life.

CCNN

With the total score of 30 points, this company has performed poorest of the quartet. The company is expected to undergo rapid structural changes following the sale of federal government shares to a core investor.

WAPCO

This company has shown satisfactory performance. With its total score of 76 points, it is 16 points above the minimum level of 60 points.

Industrial Average: =

$$\frac{86 + 32 + 30 + 76}{4} = 56.$$

The verdict is that the Nigerian cement industry has shown only average performance. From the figures in the previous subsections, it is apparent that the industry has found it very difficult to perform fully, its role in the Nigerian economy in the period 1991 – 2000.

The industry therefore, needs the injection of fresh capital and rather much more, the introduction of more effective management methods to cut down the operational costs.

4.8 CAPITAL ADEQUACY

A good capital base is a major determinant of company strength. The tables below presents the capital bases of the four (4) companies.

THE TOTAL SHAREHOLDERS FUNDS: The total shareholders funds for the four companies can be seen to have only been marginally increasing for the period under review as shown below.

YEAR/COMPANY	ASHAKA N’000	BCC N’000	CCNN N’000	WAPCO N’000
1991	241,183	216,120	202,024	374,759
1992	351,547	284,597	564,127	855,507
1993	576,325	364,828	571,000	1,117,806
1994	789,027	667,505	602,037	2,177,395
1995	1,383,619	753,544	670,711	5,103,198
1996	1,832,785	861,169	670,659	6,619,723

1997	2,325,956	880,139	671,128	7,901,214
1998	2,600,938	506,461	675,064	9,200,171
1999	2,784,799	2,098,077	678,479	8,938,101
2000	3,287,435	1,569,923	265,890	9,598,182

a) Called-Up Capital as at the year 2000

Ashaka Cem. N'000	BCC N'000	CCNN N'000	WAPCO N'000
302,500	247,500	193,645	285,867

b) Potentiality for Further Capitalization

i) Internal Option (Internal Source of Funds)

This potential is based on the size of the book value of some outstanding reserves of the company. Certain reserves such as Exchange difference Reserve and Debt Redemption Reserve are not normally available for capitalization. Reserves that may be capitalized as at year 2000 are presented below:

	Ashaka Cement	BCC	CCNN	WAPCO
Share Premium	--	153,400	157,473	291,386
Revaluation Reserve	--	2,534,897	190,485	3,176
General Reserve	--	--	(396,646)	--
Capital Redemption Reserve	10,000	--	120,933	1,846
Other Reserves	2,974,935	(1,365,874)	--	9,050,533
	2,984,935	1,322,423	72,245	9,346,941

The reserves of Ashaka Cement PLc and Benue Cement Plc that could be capitalized stood at N2.98 billion and N1.322 billion respectively. West African Portland Company with N9.3 billion ranks highest while Cement Company of Northern Nigeria is at most risk with only N72 million to capitalize. CCNN thus may not find it easy as far as the internal source of capital fund is concerned.

ii) External Option

These are the investment funds that may be supplied by both potential and existing investors through purchases of new shares; the ease with which cement companies are able to exercise this option though depends largely on their past performances. An unsatisfied shareholder (existing investor) is not likely to increase his stake through ownership of additional shares. Rather than accept a relatively cheap additional investment in his company (rights issue of shares) the investor may choose to invest his money in a much more costly shares of a more promising company. Also, potential investors may not be attracted by the low performing companies no matter how attractive their investment packages are.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 SUMMARY

Manufacturing companies are very important vehicles of the economic development of a nation. This manifests in the great impact they make on the economy as shown in their contribution to a broad and diversified production base, as well as their accelerative effect in achieving macro-economic objectives pertaining to full employment, income distribution and the development of local technology, among many other things. As such, the health and continued well-being of manufacturing companies is of great concern especially in a less developed economy like Nigeria.

This study is about assessing the performance of companies in the cement industry in Nigeria. It is necessary to evaluate/assess their well-being in the face of current happenings in the Nigerian economy like increased competition from imported brands, privatisation, the perennial marginalization of the manufacturing sector by lenders, inflation and all sorts. It is against this background that it becomes pertinent to find out whether the Nigerian cement industry is performing well relative to the expectations of the various stakeholders that is shareholders, debtors, consumers etc.

Broadly speaking, there are five main methods that can be used to carry out financial analysis. They are cash flow statement analysis, Value-Added, Ratio analysis and Straight Forward criticisms of the financial statements. With

the scope of ten (10) years that is 1991 – 2000 the ratio analysis was adopted to carry out this study.

The mission in chapter two was to make a review of previous work of others that have a direct bearing on this study. A look at literature revealed that sources and application of funds and ratio analysis are the two most common ways by external parties of reviewing the performance of a business entity. A source and application of fund statement discloses, in an original manner, the financing and investing activities engaged in by an organization during a period of time, including funds generated from (or used) in operations. Ratio analysis on the other hand has to do with matching the figures of the specific items in the profit and loss accounts and the balance sheet against the figures of other specified items. This enables the analyst to have a clear picture of the direction of change in the phenomenon being studied.

In chapter three, the research method adopted and the mode of collecting data or information vital for the study was stated. The research population and sample size, including the means of analysing the gathered data were also precisely stated. The method of the research adopted was the historical research method; the method of research which is based mainly on historical data obtained from secondary sources. Data for the study were gathered from journals, books, newspapers, past theses and chiefly the past financial statements of the selected companies. Investigation revealed that the number of cement manufacturing companies existing in one way or the other in Nigeria as at the year 2000 was eight (8). The four operating ones that are quoted on the

Nigerian Stock Exchange were selected for this study by the process of convenient sampling.

In chapter four, the accounting figures of the four firms – Ashaka Cement, BCC, CCNN and WAPCO for the years 1991 – 2000 were related together to establish benchmarks for evaluating the financial position and performance of the firms. Osaze's analytical model which was designed specifically to suite the situation of the developing countries was found to be very applicable to this study. Accordingly, its eight (8) ratios, each of which has a specific range of scores were used to classify the four (4) cement companies under study. Analysis revealed that two of the companies, Ashaka Cement and WAPCO, with 86 and 76 points respectively above the minimum level of 60 generally posted satisfactory performances in the decade 1991 – 2000. On the other hand, BCC and CCNN performed very poorly considering individual characteristics and their total scores of 32 and 30 points respectively.

5.2 CONCLUSION

Available records show that not much study has been conducted in the area of cement companies' performance in Nigeria, in the recent past. Therefore, it is expected that this particular study will increase the frontier of knowledge in not only cement industry performance, but also general industrial statistics of the Nigerian economy.

The conclusion of this research is that the Nigerian cement industry showed only average performance in the years 1991 – 2000. In fact, 'manage'

seem to be the appropriate word when the statistics concerning some areas of operation are considered. It is the belief of this research that the cement industry in Nigeria need massive injection of fresh capital and the introduction of more effective management methods.

5.3 LIMITATIONS OF THE STUDY

A number of problems tended to hinder the easy conduct of this research. These are

(i) Secondary data

The data we used for this research comes mainly from secondary source. So the validity of the inference depend on the reliability of the data.

(ii) Dearth of Data

The dearth of research in this area of study in Nigeria greatly limits the source of information for research purposes.

The initial intention of this research was to use all the eight cement companies in operation in Nigeria. But due to our inability to gather the financial statements of the eight cement companies we reduced the population to cement companies that are quoted on the Nigeria Stock Exchange for ease of data. Even one among the five that are quoted Nigercem has not been on proper operational existence; so we have to use only four, representing 50% of the total population.

Most of the cement companies are very reluctant to volunteer information outside their financial statements probably because of the high level of competition amongst them. In fact, non of the cement companies visited could even provide their financial statements for the ten-year period covered on this research. However, the financial statement of the selected companies were obtained from Stock Exchange Commission.

5.4 RECOMMENDATIONS

1. The cement companies with inadequate internal source of funds which could be capitalized should put together a strong machinery for attracting potential investors.
2. It is the opinion of this research that the current privatisation of government enterprises would do the cement industry in Nigeria a lot of good. The divestment of federal government interests in these firms would give way to professionals in business to be appointed to manage the companies. Thus, the privatisation of the industry should be followed through.
3. For the cement industry in Nigeria to grow, some sort of protection should be established for the industry by the government to protect them from foreign firms who dump their products in Nigeria. such could include reduction of the tax rate for Nigerian cement companies profits, imposition of higher tariffs on imported brands of cement, duty free importation of spare parts for the firms in the Nigerian cement industry, etc.
4. For operational efficiency, some of the companies in the cement industry in Nigeria could be merged.
5. The companies in the industry need to improve on the quality of their product and also embark on aggressive promotion of the made-in-Nigeria cement brands.
6. There should be closer cooperation among the management of the firms on how to lift up the teething cement industry in Nigeria.

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