PERFORMANCE ANALYSIS AS A PREDICTOR OF INVESTMENT POTENTIAL: A STUDY OF SELECTED COMPANIES LISTED ON SECOND-TIER SECURITIES MARKET OF THE NIGERIAN STOCK EXCHANGE

A PROJECT SUBMITTED TO THE DEPARTMENT OF BUSINESS ADMINISTRATION, AHMADU BELLO UNIVERSITY, ZARIA, IN PARTIAL FULFILLMENT OF REQUIREMENTS FOR THE AWARD OF MASTER IN BUSINESS ADMINISTRATION (M B A)

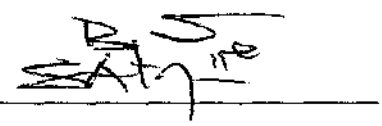
ARIBIDO, SAMSON OLUWATOYIN
B.Sc, M.Sc. (AGRICULTURE)

OCTOBER, 1997

DECLARATION

I, Samson Oluwatoyin Aribido, do solemnly declare that this piece of research work was undertaken by me under the supervision of Dr. Sani Abdullahi of Department of Business Administration. I have made citations of literatures and contributions from other individuals and institutions. I declare to the best of my knowledge that this work is not known to have been reported elsewhere for any academic qualification or award whatsoever except by me.

DIGITIZED



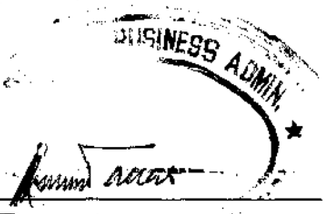
SAMSON OLUWATOYIN ARIBIDO

KASHIM IBRAHIM LIBRARY

CERTIFICATION

This thesis on PERFORMANCE ANALYSIS AS A PREDICTOR OF INVESTMENT POTENTIAL: A STUDY OF SELECTED COMPANIES LISTED ON SECOND-TIER SECURITIES MARKET OF THE NIGERIAN STOCK EXCHANGE written by S.O. ARIBIDO meets the regulations governing the award of Masters of Business Administration of Ahmadu Bello University Zaria and is approved for its contribution to knowledge and literary presentation

Dr. Sani Abdullahi
Supervisor



Head of Department
Business Administration

Dean Postgraduate School

KASHIM IBRAHIM LI

DEDICATION

This piece of Research work is dedicated to Seun, Deji and Tope for whose tomorrow I sacrifice my today.

ACKNOWLEDGEMENT

I acknowledge with thanks the Divine Guidance in undertaking this degree programme. It started as a flash of thought, nurtured to a desire and today is matured to a substance for the Glory of God through His divine provisions.

I am particularly grateful for the instruments God used in accomplishing the programme among whom are Dr. and Mrs. Agunbiade, Mr. And Mrs. Okanlawon, Mallam Sani Abdullahi who supervised this project and staff of Nigerian Stock Exchange, Kaduna.

I can not but recognize the immense contribution and support of members of my family, particularly my wife, Grace, as well as colleagues and friends like T.T Amos. Their goodwill and assistance in various ways were a fortress to my determination to push ahead, notwithstanding the character of the terrain.

I acknowledge efforts of scholars and commentators on Capital market performance whose works I have cited in this write-up. Our joint efforts will at long last bring the desired development in to this important sector of the Nigerian Economy.

Thank you all and God Bless.

S. O. ARIBIDO

KASHIM IBRAHIM LIBRARY

TABLE OF CONTENT

Title Page - - - - - - - i.

Attestation - - - - - - - ii.

Dedication - - - - - - - iii.

Acknowledgement - - - - - - iv.

Table of Contents - - - - - - v.

List of Tables - - - - - - - vi

Abstract - - - - - - - vii

CHAPTER 1: INTRODUCTION

1.1 Statement of Problem - - - - - 1

1.2 Purpose of the study - - - - - 4

1.3 Research Hypothesis - - - - - 4

1.4 Significance of the study - - - - 5

1.5 Scope of the study - - - - - 6

1.6 Definition of Terms - - - - - 7

CHAPTER 2: LITERATURE REVIEW

2.1 Development of the Nigerian Capital Market- - 8

2.2 Motivating Objectives for Corporate Investment and Public listing - - - - - 10

2.3 Criteria for Analyzing Corporate Performance - 13

2.4 Approaches to Performance Analysis- - - 15

2.5 Quantitative Approaches for Predicting Corporate Performance - - - - - - 18

KASHIM IBRAHIM LIBR

CHAPTER 3: METHODOLOGY

3.1 Source and characteristics of Available Data - - - - 21
3.2 Review of Analytical techniques Theoretical Basis, and Analytical Method for the study -- - - - 21

CHAPTER 4: PRESENTATION OF RESULT AND DISCUSSION

4.1 Performance Evaluation Report - - - 25
4.2 Trends in Market Performance of the Equities - - 33
4.3 Comparison of Predictive ability of performance Indicators - - - - - - - 37
4.4 Forecast on viability of Investment in the selected Companies 39

CHAPTER 5: SUMMARY AND CONCLUSION

5.1 Summary of Observations - - - - - 48
5.2 Limitations of the study - - - - - 49
5.3 Conclusion and Recommendations. - - - - 50

REFERENCES

NOTES

APPENDIX I: Information on the Companies sampled.

APPENDIX II: Measures of Financial Ratios.

APPENDIX III: Regression Analysis Equations

APPENDIX IV: Regression Functions for Forecasting Investment Indices.

LIST OF TABLES

Table	Title	
1(a)	Net-Profit Margin - - -	26
1(b)	Return on Equity - - -	26
1(c)	Return on Investment - -	26
2	Growth Rate in Profitability Ratios of the selected companies. - -	27
3(a)	Current Ratio - - -	28
3(b)	Quick Ratio - - - -	28
3	Growth Rate in Liquidity Ratios-	29
5(a)	Debt-Equity Ratio - - -	30
5(b)	Debt-Total Asset Ratio - -	30
6.	Growth Rate in Debt- Equity and Debt-Total Asset Ratio - -	30
7	Growth Rate in Trading Performance Indicators (Earning-Payment Stream)-	34
8.	Growth Rate in Trading Performance Indicators (Share value – volume stream)-	35
9.	Three-year Forecast of Investment Indices for the Selected Equities --	45

KASHIM IBRAHIM L

ABSTRACT

An attempt was made in this study to evaluate investment viability of five Public Liability Companies listed on the Second-tier Securities Market of the Nigerian Stock Exchange. Previous works have shown that the choice of stocks or shares to invest could be made by reference to a number of vital earning and asset statistics (Odife, 1985). Eleven financial (including profitability, liquidity, leverage and activity) ratios derived from published financial statements were subjected to correlation and regression analyses. The result identifies relationships existing between the financial ratios and such investment indices as Earning per share, (EPS); Dividend Per Share, (DPS); Share Price, (SP); Pay-out Ratio (POR); Price-Earning Ratio, (PER); and Volume of Share transacted (VOT). The observed growth and relationship between financial ratios and the investment Criteria in Adswitch, Cutix Aluminium Extrusion, Newpak and Smurfit enterprises over 5 years (1991-1995) formed basis for forecasting investment potential inherent in the equities. Applying Trend-line Projection of Compounded Growth Rate forecasting techniques within certain theoretical assumptions, it was indicated that Adswitch and Aluminium Extrusion industries posit comparatively favourable investment potentials in terms of dividend payment and growth in earnings respectively. Although the study is limited by non-availability of all requisite data it unveils obscurity of investment potential inherent in some Second-tier Securities. The Study further present simple investment valuation method for investors and investment consultants who barely have access to published financial statement or lack capacity for rigorous analytical techniques.

CHAPTER ONE

1.0 INTRODUCTION

Typically two alternative methods of evaluating investment opportunities are available to investors; namely – cash flow forecasting and analysis of past performance. Factual information required for estimating future cash flows of an enterprise is hardly accessible to an 'outsider' investor, rather it is exclusively used as a management tool. The immediate past provides a context in which to consider future possibilities. Published financial statement is a veritable means for assessing future performance based on assumed continuity of events and activities engaged in by the enterprise. This notion forms the basis for the evaluation of future investment potentials of companies listed on the Second-tier Securities Market in this study.

1.1 Statement of Problem

In response to the inevitable need to address distortions in the Nigerian economy in early eighties, the Structural Adjustment Programme (SAP) was introduced as a policy measure. The policy has, among other objectives, the intent to re-order capital expenditure and to reduce public spending through divestment of government equities as packaged in the privatization exercise of 1990. The withdrawal of government interest from direct investment and reconstruction of the entire macroeconomic framework for private sector to assume leading role in the economy apparently warranted the emergence of indigenous manufacturing enterprises which constitute the bulk of securities quoted on the Second-tier Securities Market (SSM) of the Nigerian Stock Exchange.

Antecedents to the economic reforms of 1980s can be traced to the structure of the Nigerian economy in the pre- and post-independent era.

As a Synopsis, the Nigerian economy prior to and throughout the 1960s was characterized by subsistence agricultural production with some annual surpluses for export to the European markets. A handful of manufacturing enterprises engaged in primary products was also in existence. In 1970s earnings from export bolstered a boost in the growth of manufacturing sector. In fact the rising public earnings from oil export shifted government expenditure from agricultural production toward provision of services and establishment of heavy industries that relied on imported technologies, raw materials and semi-finished goods. The widespread government interest in virtually all economic spheres literally relegated private initiatives and participation to the background. Consequently the economy reverted to oil export-dominated or mono-cultural economy. Thus, the oil price collapse coupled with problems of over-valued domestic currency resulted into an unprecedented crisis in the economy.

It must be appreciated that the industrial policies earlier pursued led to structural defects in manufacturing sector. The import substitution policy and the strategy of industrial development resulted in to a situation where only light or low technology and consumer oriented industries dominated the industrial scene which in turn became heavily dependent on imported inputs and technology.

In addition, the credit policy of banks tended to favour commercial buying and selling businesses rather than long gestating projects. Generally there were no coherent industrial policies with measurable impact on small-scale industries. The industrial banks or financing outfits established to administer loans, inculcate financial discipline and provide advisory services to small industries in addition to the regulatory role of the Central Bank in directing credits tacitly facilitated development and growth of small and medium scale enterprises.

Consequent upon the unfavourable economic environment as indicated by high cost of industrial loans, deregulated interest rate, mounting debts, poor capital flow from external sources, aging equipment and pressing need to modernize industrial operations, small scale industrialists are being compelled to seek financing opportunities available in the Nigerian capital market. The market has been criticized to be one of the lowest ranked in the world in terms of performance with regards to the size of the Nigerian economy. The capital market is said to be characterized by low trading activities and lack of depth and breadth since the number of quoted companies in relation to the total number of registered companies is significantly low. The market is also known to be grossly illiquid since both level of transaction and turnover rates of equities are undesirably poor. In addition the capital market is often berated for adopting frivolous share pricing strategy, poor reporting method and for lack of transparency in financial statements. Perhaps, the most serious problem facing the Nigeria stock market today is inadequate supply of securities. Most indigenous companies were until recently reluctant to raise funds via the Stock Exchange probably for fear of losing control cost of going public and burden of disclosing corporate information. It was evident at the end of the first quarters in 1985, that only 5 quoted companies were wholly Nigerian-owned. In fact prior to 1985 no enterprise promoted by indigenous entrepreneur was quoted on the Stock Exchange. This implies that the stock market was not responsive to the financing needs or acted as a veritable source of financing for Small-Scale business until the creation of Second-tier Securities Market in April 1985. It is not known, since the creation of the Second-tier Securities Market, whether the listed companies have had benefit of being analyzed for their performance as a prelude to evaluating their investment potentials.

KASHIM IBRAHIM

1.2 Purpose of the Study

The study is undertaken for purpose of meeting the following main objectives:

a) To evaluate performance of 5 selected manufacturing companies listed on the Second-tier Securities Market for the period 1991 to 1995.

b) To compare the investment potentials of the selected companies using appropriate performance criteria.

c) To test and identify critical performance variables sensitive for assessing investment potential of the selected equities listed on the Second-tier Securities Market.

d) To predict investment potential inherent in the 5 selected manufacturing companies listed on the Second-tier Securities Market.

1.3 Research Hypotheses

Modern capital market theory supports the basic assumption underlying this investment analysis. The assumption simply states that there is a distinct 'time-profile' of benefits and costs for any investment project under consideration. The research hypotheses for this study are squarely predicated on the assumption as follow:

i) that using data provided by 5 year financial statement, ratios can be calculated to allow for performance evaluation of the selected companies

ii) Comparative trend analysis of profitability, liquidity, and leverage provides measures of performance relative to market value of Securities and distribution of dividends on continued basis.

iii) Specific performance variable(s) showing consistent and desirable relationship with investment criteria can be tested and isolated as critical factor(s)

iv) Five-year trend characteristics of critical performance variable(s) can be projected and used as basis for forecasting investment potential of the selected securities.

1.4 Significance of the study

Subsequent to the creation of the SSM and the privatization exercise, there has been growing awareness among the Nigerian investing public concerning investment opportunities available in the stock market. This has led to increased desire among investors to seek for prompt financial advisory services. Making it mandatory for experts to acquire suitable, quick-response and simple analytical techniques for assessing, comparing and projecting performance of indigenous enterprises. There is also a necessity to derive standards or industry average from progressive and successful firms within an industry for purpose of comparison. These needs constitute the primary aim of this study.

In addition, the study is justified in view of recent development in the stock market, which is capable of inducing improvement in corporate and portfolio management of the small enterprise. It is evidenced that the stock market has in recent time recorded consistent growth in market turnover, market capitalization, foreign investment transaction and expansion in new issues, which may have spilt-over effect on the securities listed on Second-tier market. The possible influence of these developments on sampled manufacturing companies needs to be assessed through a study like this.

Similarly, since the primary aim of economic policies is to encourage active private participation in the economy and alleviate problems of stock market accessibility for indigenous enterprises, an evaluation study of this nature is desirable to show a clean report card on company performance. Moreover it has been asserted that "the Second-tier Securities Market would be attractive to investors only as long as SSM quoted companies are able to offer a higher return on investment than larger less risky fully-listed companies [1]. Thus observations from this study will enlighten investors on the current level of performance of companies operating in the SSM. It will also help to determine suitability or otherwise of our economic policies on one hand and the desirability of public listing for indigenous small-scale enterprises on the other.

1.5 Scope of the study

This work observes data of 5 companies quoted on Second-tier Securities market of the Nigerian Stock Exchange from 1991 to 1995. The companies are drawn from the manufacturing sector of the economy. The analysis examines Financial statements of the companies from the period 1991 – 1995 since the high inflationary period of 1984 – 1989 may not be a reliable and fair basis for measuring their performance. The entire study is descriptive and does not provide explanation for action or inaction of the enterprise management with respects their mode of financial plans and decisions. Clarifications on dividend distributed and market value of shares for each security during the period of study are made from the Nigerian Stock Exchange to authenticate results obtained.

1.6 Definition of Terms

i) Performance evaluation means financial analysis involving ratio and regression analyses of items of balance sheet and profit and loss account of the selected companies from 1991 to 1995.

ii) Investment potential means likelihood of continued existence of firms that show high propensity to pay desirable dividends consistently and steady growth in earnings to stimulate acceptable market value of shares

iii) Second-tier Securities Market (SSM) is a segment of the Nigerian Stock Exchange created to facilitate entrance of small and medium sized companies into the stock market at less stringent admission requirements than fully listed securities.

ABUBAKAR TAFAWA BALEWA UNIVERSITY
ABDULKASIM IBRAHIM LIBRARY

CHAPTER TWO

LITERATURE REVIEW

2.1 Development in Nigerian Capital Market

The Nigerian Capital market has over the years made significant contributions to capital formation process in Nigeria. It has been a vehicle for raising capital and a catalyst for fund mobilization efforts for wider share-ownership.

According to Akamiokhor (1988), the development of capital market in Nigeria dates back to 1946 when the first government securities were floated. Fifteen years thereafter the first stock trades, the Lagos Stock Exchange was established. Trading activities on the stock market from inception up till 1985 indicated higher volume of transactions for industrial securities while government securities recorded higher value of transactions. Government actions through the indigenization and privatization policies constitute a propelling force behind activities of the Nigerian Capital Market. For instance, the indigenization exercise of 1972 (and as amended in 1977) led to a significant increase in the number of listed securities and shareholders in the Nigerian Stock Market. The success is little compared with the transformation of the capital market between pre-privatization period of 1988 and post-privatization era of 1996.

Belo-Osagie (1997) observed that the privatization exercise clearly demonstrates that the divestment of government interest was a booster to the tremendous growth of the capital market. The report further showed

that the level of market capitalization increased from ₦11 billion in 1988 to 285.6 billion in 1996 while the number of securities listed jumped from 188 to 276 within the same period. Similarly the value of the securities rose from ₦205.3m to ₦7, 063m resulting in index movement from 234.4 points to 6,992.1 points. In addition values for new issues recorded ₦15m in 1988 and ₦21.5b in 1996.

On other hand, the second-tier securities Market (SSM) was fashioned, in April 1985, after the unlisted Securities Market of United Kingdom. It aims at alleviating problem of stock market accessibility as well as providing wider and cheaper source of funding for indigenous enterprises. NSE (1985) stipulates rules governing listing on the SSM to include:

i) Company seeking SSM listing must be a public limited company registered under the Companies Acts.
ii) A 3 year trading (business) history after which audited account submitted half-yearly and annually to the Stock Exchange.
iii) Public holding in equity may be as little as 10% or ₦50, 000. However, no shareholder may have more than 75% of the issued Capital of the company.
iv) A minimum of 100 shareholders is required
v) A flat rate of ₦2,000 is chargeable annually for listing
vi) Required newspaper advertisement is pegged at one in two national newspapers stating forthcoming admission to SSM, issue price, where to obtain prospectus, and other relevant information.
vii) Maximum amount that could be raised in SSM is ₦5m.

The Nigerian Stock Exchange Fact Book (1996) reveals that 20 companies thinly spread within the manufacturing, petroleum marketing, pharmaceutical and packaging industries are listed on the SSM. The fact

that most of the companies were listed in early 1990s while the market existed since 1985 suggests that their listing be motivated by the Structural Adjustment and/or privatization policies. Report [1] on the Unlisted Securities Market (USM) of United Kingdom indicates that the outstanding features of the market are low gearing ratio and high profitability. Very few of the companies have significant amount of long term debt capital. Whereas Return on Capital Employed (ROCE) averaged 20%. But the short-term liquidity of USM stocks scarcely cover their current liabilities as such only very few USM companies have gone into receivership or liquidation. Probable explanation for this observation is the relatively low income gearing of USM stocks, which averaged 15%. This perhaps reflects the rapid growth underpinning high earnings multiples among USM stocks. There is therefore, a high expectation that the SSM would became a veritable avenue to attract indigenous entrepreneurial businessmen to the Stock Market and thereby reduce the imbalance in the supply and demand for securities in the Nigerian Capital Market.

2.2 Motivating Objectives for Corporate Investment and Public Listing.

The trends in portfolio investment in Nigeria underscore the impulse of the various motivating objectives of individuals for expending savings on capital goods. The over subscription of shares and the 'land owning' mentality of Nigerians being transferred to equity holding attests to the desire for investment if the right instruments are evolved. (Aliyu 1990). In seven emerging market countries studied, Glen and Pinto (1995) observed that new domestic issues of equity and corporate debt grew by 41 and 68 percent respectively in 1990 – 1992. The question that may be asked then is what are the motivating objectives for increased pattern of investment among individuals and investing organizations.

Encyclopedia Americana enumerated some of the objectives. Individual may seek long-run appreciation either by reinvesting income each year or by acquiring ownership in prospering business venture. Investors seeking long term goals will also be concerned with preserving the purchasing power of their funds. In order to protect against erosion of value, investors often select outlets expected to grow in monetary terms as the value of money diminishes over time.

On the other hand, some investments may aim at high and stable income for which to live on or augment other income. High-grade bonds with fairly long maturities offer stable and relatively high current income plus reasonable assurance of ultimate principal recovery.

The investment objective of institutional investors like insurance companies, according to Akintola-Bello (1986) may be influenced by the safety of capital or expected yield on investment. And this largely determines the structure of investment portfolio. In other words corporate investors generally seek to obtain long term assets that promise fixed returns for investment requiring fixed rate of return or facing significant fluctuations in value of their returns. Where safety of capital is considered of greater importance, there would be a strong preference for dated short-term securities. However if the investment objective is for maximization of the expected income from investments, the expected yield on the assets would be given priority and this will be reflected by inclusion of ordinary shares in their portfolio.

Akintola-Bello (1986) further stressed that the longer the average liability of funds the more important it is for investment policy of insurance companies to give priority to earning high yields on investment. A Company that seeks protection against the effect of inflation may invest

in securities that serve as a hedge against inflation risk. Availability of viable or profitable investment outlets would determine whether companies would have high proportion of total funds available for investment.

On the other hand, Lambo (1987) enumerated objectives commonly adduced for public listing of investment as follow:

i) To enable the authorities to mobilize long-term capital for economic development of the country.

ii) To provide opportunities for borrowing and lending for long-term purposes.

iii) To create facility for foreign businesses to offer their shares and the Nigerian public an opportunity to invest and participate in shares and ownership of foreign businesses

iv) For organizations to benefit from discipline as contained in the code of conduct, and regulations of the Securities and Exchange Commission

v) To provide ready marketability of shares and stocks and opportunities to raise fresh capital in the markets

vi) Through their quotation on the capital market, organizations can promote healthy and mutually favourable environment for participation and co-operation of indigenous and expatriate capital in a joint effort to develop the economy for mutual advantage of all parties.

Pogue and Lall (1974) summarized that the primary objective of the firm is to maximize economic gain accruing to owners of the firm i.e. to maximize the net monetary gain to the firm's stockholder.

2.3 Criteria for Analyzing Corporate Performance

There is an age-long controversy in finance literature as to the validity of past performance criteria in determining future performance trends of business organizations. Notable among the controversies is the argument by Sizer (1975) that profitability ratio and other subsidiary pyramid ratios used to judge past performance do not invalidate those return on capital employed concept since they ignore several considerations which need to be taken in to account in assessing future investment. Conversely Iyiegbuniwe (1987) advocated that the prediction of future earnings of firm is indispensable and a primary source of information regarding future corporate earnings is the past earnings. In practice today, evaluation of past performance afford the easiest means of assessing growth and profitability potentials of firms by investors and investment analysts.

SEC (1996) indicated that performance could be measured by looking at financial and operating performance of the affected companies such as Turnover, Profitability, Dividend per share, Dividend pay-out, Ratio of debt to equity, Investment Turnover, and Earnings per Share. Assessment could also incorporate stock market performance of the enterprises. In this regard price movement and changes in market capitalization over a period of time could among others be useful indicators of how well a company is performing.

Turnover growth according to SEC (1996) is defined as the value of all goods and services sold by a company during a period of time, usually its financial year. Turnover level particularly when measured in volume (output) is often an indication of the level of demand for a company's products. However a drop in turnover level may be attributed to decline

in consumer demand and high cost of inputs while a rise may be associated with inflationary pressure.

Profitability as a measure of efficiency is the ability of company to minimize waste in the use of resources or inputs. It is an input to output relationship and would be evidenced in profit level of a company. Increase in pre-tax profit indicates impressive performance. A further assessment of profitability of enterprise using Return on Investment (ROI) would indicate positive growth. Hood and Young (1975) argued that though profitability studies have shown a clear correlation between growth and profitability, but the limitations inherent in the use of profitability data and the complexity of the interpretation problems associated therewith must be acknowledged. Profit rates for group of firms, for example may reflect different accounting schools rather than different levels of efficiency. Osaze (1996) lent support that ROI as a measure of corporate financial performance stands out as one of the most popular and probably most informative of all profitability measures. Although it presents some conceptual and applicative difficulties, it has been found useful as a management tool for reviewing post performance and in taking future decisions. It is being particularly useful in comparative corporate evaluation, Capital expenditure evaluation, lease and make/buy decisions, inventory management and control, merger and acquisition decisions.

Leverage often measured by debt to equity ratio is expected to drop as company holds more equity capital than long-term debt. Low leverage level points to the fact that with access to capital market and its benefit most listed companies now rely on equity capital as financing method.

Dividend pay-out and stock-market price movement reflect favourable investor's or public perception of the company. Such investor's

perception is largely predicated on corporate performance, which improve, in many privatized companies. Price movement indicates capital appreciation or gain with respect to each security.

Market capitalization of each company is a function of stock price and equity base.

Report from Unlisted Security Market of UK indicates outstanding financial features of the market which include: low gearing ratio, high profitability, few companies have significant amount of long-term debt capital and average ROI is 20% compared with 5.8% for UK companies. These variables could be used also as measures for assessing performance of equities listed on the Nigerian SSM.

2.4 Approaches to Performance Analysis.

Conventional financial analysis of post performance provides for 2 basic ways of using financial ratio. One, the cross-sectional approach involves comparison of different firm's financial ratios at the same point in time. This approach permits an estimation of performance of competitors within the industry. It also allows for comparison of a firm's ratios with those of industry leader or computing industry averages. Two, the time-series analysis is done when analyst measures a firm's performance over time. The approach involves a comparison of the firm's current performance to past performance using ratio analysis. This allows the firm to determine whether progress is on course, identify developing tends and use such trends in planning future operations particularly when the analysis involves multi-year comparisons.

There are only few published studies on profitability; liquidity and/or financial risk of quoted companies in Nigeria. Iyiegbuniwe (cited in

KASHIM

Adedeji 1989) observed the profit performance of 40 companies over the period 1972 – 77. Four measures of profitability were used. They are: annual growth rate in net income, pre-tax profit margin on sale, rate of return on capital and rate of return on equity (both measured on pre-tax basis). The study showed that companies observed were generally highly profitable; Earning Average annual growth rate in net profit was about 40.9%, pre-tax profit margin on sales 11%, rate of return on capital 16%, and rate of return on equity 67%. It was also noted that the most sensitive measure of profitability is the rate of return on equity, which was found to be generally high among the sampled industry.

In another study on profitability, Inanga and Soyibo (1982), reported the use of net assets and sales as measures of size while rate of return on capital employed, profit margin on sales and asset turnover were used as measures of profitability. Estimates obtained in the study indicated that the influence of size on profitability of U.A.C. over the period 1971 – 80 has no well defined trend or pattern. Rather the relationship seems to change with measures of profitability and size used in the computation.

Umoh (1988) reported a study aimed to determine whether growth rates of profitability for quoted companies adequately compensate for inflation or not. In other words the study tried to examine the effect of inflation on profitability. Using annual growth rate of consumer price index as a measure of inflation which was found to be 18.08% for the period 1975 – 83, the author reported annual growth rates of profit of 26.9% for manufacturing sector, 21.04% for banking sector, 15.01% for service sector, and 13.19% for commercial sector. Thus the manufacturing sector had the best performance having earned an average annual real rate of return of about 9.2%. To test for any significant positive or negative effect on profitability, the annual growth rate of profits were

regressed against corresponding inflation rate. It was reported that no significant linear relationship between the two was observed.

Inanga (1985) attempted an evaluation of liquidity level of U.A.C. over the period 1973 – 1981. The empirical values of current ratio were measured as current assets divided by current liabilities and quick asset ratio was measured as current. Assets less Inventory Stock divided by Current liabilities. The estimates reported showed that the current ratio value of the company increased from 1.15:1 in 1973 to 1.43:1 in 1981, and highest in 1976 with a value of 1.86:1. The behaviour of the quick ratio over the same period was similar. Its value decreased from 0.58:1 in 1973 to 0.48:1 in 1981 while highest value of 0.74:1 was reported for 1976. It was suggested from the foregoing that the popular standard values of current ratio of 2:1 and quick assets ratio of 1:1 for company considered to be sufficiently liquid does not appear to hold in reality in Nigeria.

Akintola – Bello and Adedipe (1985) reported an attempt to determine trend in capital structures or leverage of Nigerian quoted companies. The study covered all non-financial companies listed on the Nigerian Stock Exchange from 1974 – 81. Four measures of capital structure were used, namely, total debt ratio, debt-equity ratio, ratio of long term debt to net assets and ratio of short-term debt to net assets. In general the main observation reported was that total debt ratio values of the companies increased over the study period, suggesting an upward trend in their capital structures. Also, there appear to be increasing reliance of the companies on external finance over the study period.

The review of various approaches to performance analysis shows little or no difference in terms of the type computerization of ratios used. However the degree of mathematical or quantitative analysis of these

ratios in order to reflect the minutest information for crucial investment decision – making form the pivot of investment analysis today.

2.5 Quantitative Approaches for Predicting Corporate Performance.

The application of quantitative techniques for assessing further business fortune or bankruptcy of enterprise has advanced recently. Detection of company operating and financial well being or difficulties is a subject, which has been susceptible to financial ratio analysis. Although financial ratio analyses have established certain important generalization regarding the performance and trends of particular measurements, in most cases the methodology adopted was essentially univariate. In other words, emphasis was placed on individual discrete values. The inherent limitations of univariate analysis become pronounced if comparison among different firms is inevitably required (Altman 1968). Interestingly there are several adaptations to which financial data can be subjected to obtain thorough and reliable information, often needed for decision-making.

Multiple regression and other multi-variate statistical techniques have provided powerful analytical tools with which to quantify multi-dimensional relationships. Regression model gives relationship between the dependent variable (being forecast) and the independent variables (ratio). Utilizing the method of least square on past data, the coefficient or weights of the independent variables are obtained. It also gives explanatory power of the model as well as the significance of the independent factors. This will indicate the reliance analyst can place on the model and show the most important independent variable. Regression model has rare advantage of expressing mathematical relationship, exclude personal bias of the analyst, can be updated easily

and sensitive analysis can be carried out easily. Analysis of trends in performance ratio and the computation and extrapolation of industrial indices has traditionally been used in linear regression model (Firth 1975).

The application of time series analytical techniques has particularly enabled more accurate short-term forecasts to be made based on historical and business data. The patterns or extrapolative properties of historical data or industrial statistics that often pose [problem of complexity can easily be analyzed with time series techniques.

Inanga and Adedoyin (1982) suggested at least three forms in which the relationship between corporate profitability and size can be expressed, namely; linear, quadratic and semi-logarithmic. The linear form, according to the authors are inconsistent with real world observations, but quadratic relationship presupposes that the company under consideration has attained optimal size in relation to its profitability. The semi-logarithmic which is often used indicates that absolute variation in profitability are linearly related to proportionate variation in size but not absolute size. This is consistent with Whittington's model used for U. K. companies over a 5-year period. Iyiegbuniwe (1987), citing Box and Jerkins, classified basic time series models into 3, namely: the auto-regressive (AR) processes, the moving average (MA) processes and the mixture of auto-regressive and moving average (ARIMA). However, estimation of first order auto-regressive parameters with a small sample size involves biases and sample errors.

Altman (1968) attempted an assessment of analytical quality of ratio analysis for predicting corporate bankruptcy. Ratios were used as variables in discriminate function to separate near-bankrupt and non-bankrupt companies. Observed evidence for 5 years prior to failure

concluded that ratio analysis could be useful in the prediction of failure. In general, ratio measures such as profitability, liquidity and solvency prevailed as the most significant indicators of performance. However, important generalizations regarding performance of bankrupt companies have been found questionable. Hence, multiple discriminant analysis has been successfully applied to ratio analysis as analytical techniques for prediction where dependent variable appears in qualitative form. It is a statistical technique used for classifying in to one of several a priori groupings dependent upon observation's individual characteristics

CHAPTER THREE

METHODOLOGY

3.1 Sources and Characteristic of Data

The study sample comprised of 5 companies listed on the Second-tier market of the Nigerian Stock Exchange. A list of the Companies in the sample and the financial information are contained in Appendix I.

Relevant data of the Companies were obtained from their Annual Report of 1991 to 1995 in the Library of Nigerian Stock Exchange (NSE) in Kaduna. The companies selected belong to manufacturing category of the SSM. They are chosen on the basis of availability of data within the period of study. The choice of companies from manufacturing group was informed by the need to have a homogeneous basis for comparison. Privatization and commercialization of government enterprises in 1989/1990 and their transforming influences on other commercial entities form the criteria for electing to undertake the study of the companies between 1991 and 1995. Correct measures of various ratios used in this analysis are described in Appendix II.

3.2 Review of Analytical Techniques, Theoretical Basis and Analytical Method for the Study.

Inanga and Soyibo (1982) relied on Whittington's method of analysis in obtaining relationship between size of company and its profitability over a period of 5-years. The semi-logarithmic statistical equation was adopted and stated as follow:

$$\pi_t = \alpha + \beta \log_e st + \varepsilon t$$

Where π_t = profitability in period t

st = Size measure in period t

α ,β = Least square coefficients

They reason that semi-logarithmic relationship, which is often used, indicates that absolute variations in profitability are linearly related to proportionate variations in size rather than absolute size. It thus simply follows that profitability variations observed in this study could be assumed to be linearly related to proportionate variations in market value of shares or dividend payment (which ever one our data may provide). It is expected that this analytical (Whittington's) method will draw out relationship between individual ratios and desirable investment output (improved share price or increased dividend payment) for shareholders.

Box and Jekins cited in Iyiegbuniwe (1987) proposed 3 basic time series models, namely: auto-regressive (AR) processes, the moving average (MA) processes and the mixture of auto-regressive and moving average (ARIMA) processes. The general moving average process is defined as:

Y_t = $U + X_t + O_1 \ \alpha_{t-1} + \ldots + Oq \ \alpha_{t-q}$

Where Y_t = Realized earning in period t

T = Independently and identically distributed error term with zero mean and constant variance.

U = the mean value of the process

Oq = the weight on the t-q error term

q = the order of MA process.

Iyiegbuniwe (1987) however warned against the use of first order auto-regressive parameters with small sample size, as it would involve biases

and sampling errors, hence our rejection of this process and adoption of the moving average analysis. Firth (1975) affirmed that the application of time-series forecasting techniques has enabled more accurate short term forecast, based on historical and business data, to be made.

Regression model on the other hand gives relationship between the dependent which is being forecast and the independent variables. When the model incorporates the method of least squares on past data the coefficients or weight of the independent variables are obtained. Thus regression gives the explanatory power of the model (i. e. its usefulness in forecasting) as well as the level of significance of the independent factors. The multiple regression analysis likely to be used in this analysis would determine the predictive ability of all the known factors (independent variables) taken together as well as obtain their relative weights. Multiple regression equation is as given;

$Z = aY + bX + t\,cW + dV + e$

Z = dependent variable (or predicted judgement of performance)

Y, X, W, V = Independent variables (performance ratios)

a, b, c, d = Coefficients of the performance ratio

e = Stochastic value (or error term)

The analytical approach to be adopted in this study is to use time-series analysis to assess various ratios of individual firm, over a period of five years, in determining the firm's performance, patterns of progress and possible future trends of events. The cross-sectional approach involves comparison of firms' financial ratios within the same period to find out the relative performance interms of financial ratio and other desirable expectations of shareholders.

KASHIM

The regression model will identify most significant (critical) variable(s) to shareholders' or investors' objective of maximization of returns. The model will further forecast the investment potential inherent in each company.

CHAPTER FOUR

4.0 PRESENTATION OF RESULT AND DISCUSSION

4.1 Performance Evaluation Report

The performance of the 5 selected Public Liability Companies, namely; Adswitch (ADS), Cutix (CUT), and Aluminum Extrusion Industries (ALE), Newpak (NEW) and Smurfit (SMF) are examined from two perspectives. One, from the viewpoint of their financial ratio analyses and two, from the perspective of their market (investment) performance. In this section, focus will be on financial ratio analysis while section 4.2 will examine trend in the pattern of changes in investment (market) performance.

In evaluating performance relative to ratio analysis, various measures of the financial ratios – profitability, liquidity and leverage are used. The activity ratio is deliberately left out because of its vulnerability to seasonal effect.

Profitability

Net-profit Margin (NPM); return on Equity (ROE) and Return on Investment (ROI) were employed in the evaluation of profitability of the Companies. Table 1 (a), (b) and (c) respectively indicate the calculated ratio values for Net-profit Margin (NPM), Return on Equity (ROE) and Return on Investment (ROI).

KASHIM IBR

Table 1 (a) NET PROFIT MARGIN (%)

Company	1991	1992	1993	1994	1995
Adswitch	10.74	19.26	16.46	19.18	19.72
Cutix	12.63	12.51	10.47	8.68	7.83
ALEX	9.62	10.60	10.68	9.64	7.99
Newpak	74.56	1.43	1.02	1.84	2.70
Smurfit	-12.78	7.91	6.14	5.79	6.47

Table 1 (b) RETURN ON EQUITY (%)

Company	1991	1992	1993	1994	1995
Adswitch	10.29	19.37	21.95	25.39	43.89
Cutix	37.46	33.76	41.45	39.14	29.48
ALEX	24.92	34.94	35.02	38.10	34.66
Newpak	54.21	2.01	1.46	3.53	24.00
Smurfit	-24.08	15.71	8.60	10.36	14.40

Table 1 (c) RETURN ON INVESTMENT (%)

Company	1991	1992	1993	1994	1995
Adswitch	7.84	15.49	15.01	19.67	22.10
Cutix	16.25	13.90	18.37	14.50	11.68
ALEX	8.84	13.61	15.03	15.41	12.13
Newpak	37.38	1.01	0.87	1.45	9.53
Smurfit	-11.11	9.54	5.79	6.05	9.42

From the analysis of growth rate in Table 2 below, Adswitch (ADS) shows moderate annual growth rate in Net Profit Margin (NPM) OF 12.86% BETWEEN 1991 AND 1995. Growth in NPM is almost stagnant in Aluminum Extrusion Industries (ALEX) with 1.98 annual incremental rate. On the other hand Cutix (Cut), Newpak (NEW) and

Smurfit (SMF) depict negative rate of growth in NPM – during the period under review. Net Profit Margin declines at startling rates of 46.74 in Newpak and at moderate rates of 12.37 and 6.39 for Cutix and Smurfit respectively.

Table 2. GROWTH RATE* IN PROFITABILITY RATIO OF THE SELECTED COMPANIES

Financial Ratio	ADS	CUT	ALE	NEW	SMF
Net Profit Margin	12.86	-12.37	1.98	-46.74	-6.39
Return on Equity	41.91	-3.25	2.12	-9.52	-0.75
Return on Investment	25.99	5.92	3.15	-20.55	-0.05

*Growth Rate = $100\ (e^b - 1)$ for this and other subsequent growth tables.

Both ROE and ROI show similar pattern of changes as NPM. However, the former appear to overestimate positive rate of growth and underestimate rate of decline compared with data for NPM. This observation may have implication for relative sensitivity of NPM, ROE and ROI as true representative measure of profitability.

Fig. 1. Summaries pattern of growth in profitability ratio of the Companies as indicated by annual changes in NPM, ROE and ROI between 1991 and 1995.

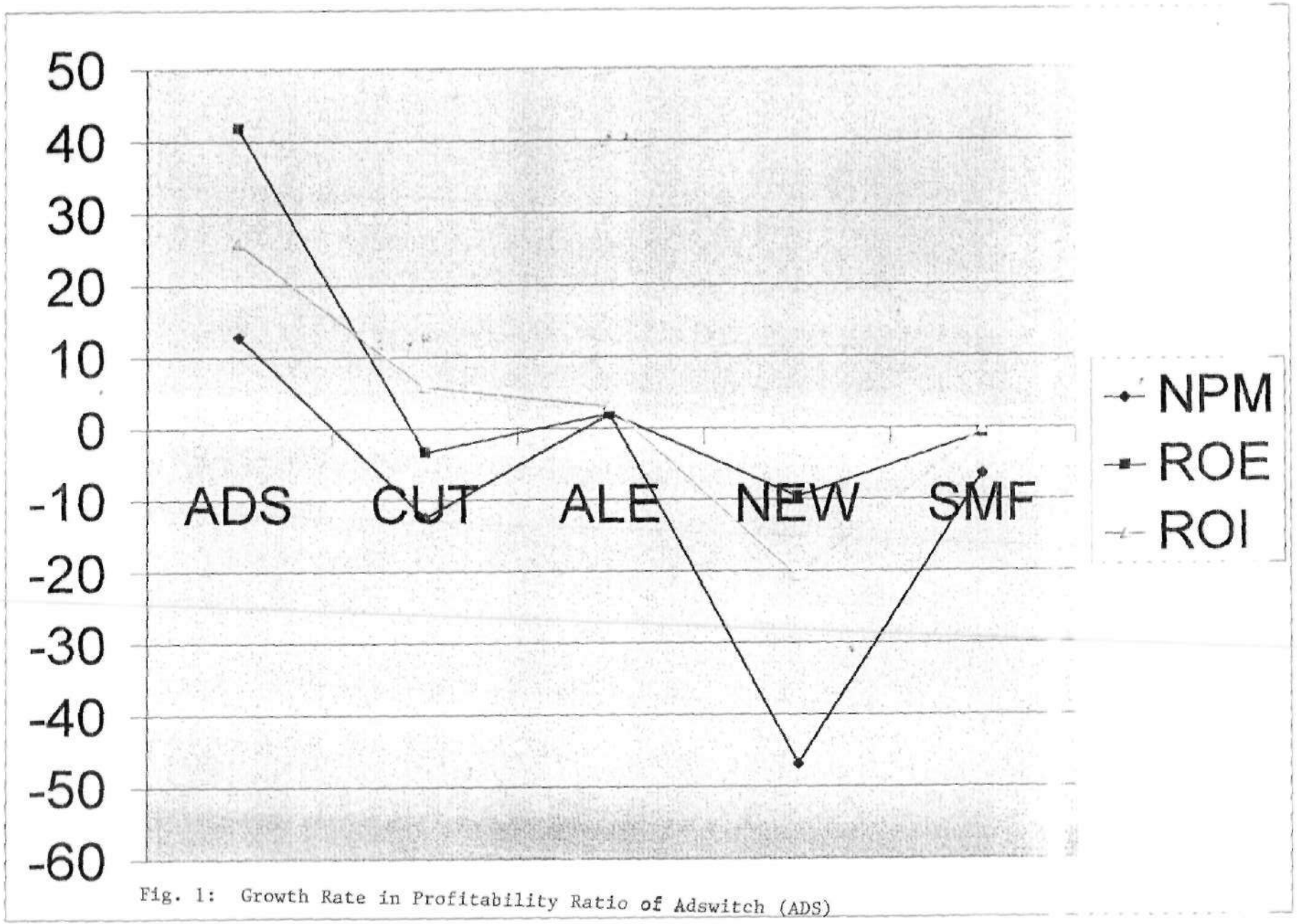


Fig. 1: Growth Rate in Profitability Ratio of Adswitch (ADS) Cutix (CUT), Aluminium Extrusion (ALE), Newpak (NEW) and Smurfit (SMF).

Liquidity

Two measures of liquidity – Current and Quick ratios – are employed in describing capabilities of the enterprises to meet short-term financial obligations at their maturity dates. Tables 3(a) and (b) report 1991 to 1995 annual values of Current and Quick ratio for the companies respectively. Both Cutix and Aluminum Extrusion companies recorded consistent growth in their current ratio between 1991 and 1995.

Table 3(a) CURRENT RATIO

Company	1991	1992	1993	1994	1995
Adswitch	3.63	3.20	2.16	1.78	1.45
Cutix	0.93	0.94	1.14	1.13	1.28
ALEX	1.25	1.35	1.54	1.48	1.37
Newpak	1.13	1.13	1.18	1.11	1.18
Smurfit	0.99	1.39	1.16	1.09	1.33

Table 3(b) QUICK RATIO

Company	1991	1992	1993	1994	1991
Adswitch	2.64	1.30	0.99	1.16	1.07
Cutix	0.44	0.62	0.38	0.63	0.49
ALEX	0.84	0.32	0.56	0.30	0.27
Newpak	0.72	0.53	0.42	0.33	0.42
Smurfit	0.71	0.94	0.98	0.72	1.07

The marginal increases are indexed by 8.55 and 9.97 rate of growth for CUT and ALE respectively as shown in Table 4. Similarly SMF indicates slight increases in current ratio over the period which is represented by 3.53 growth rate index. Both ADS and NEW show decline in their annual current ratio values albeit at very wide marginal

KASUIM

difference. In other words while rate of fall in NEW can be described as marginal at –0.59 it is appreciably high in ADS at –21.49.

Table 4: GROWTH RATE IN LIQUIDITY RATIOS

CUT	ADS	CUT	ALE	NEW	SMF
Ratio	ADS	CUT	ALE	NEW	SMF
Current	-21.49	8.55	9.97	-0.59	3.53
Quick	-17.47	2.34	-20.55	-14.36	5.69

It is interesting to note that ALE, which has the highest rate of growth in Current ratio disappointingly, shows highest negative rate of growth (-20.55) in Quick ratio. Similar trend of decline in growth rate is noticeable in CUT. This implies that the moderately high incremental rates in current ratios of the companies are merely sustained on stockpiles of unsold inventories. Conversely, the small rate of increase in current ratio value of 3.53 for SMF is further enhanced to a higher value of 5.69 in respect of Quick ratio.

Leverage

Out of 3 parameters used in the determination of Capital structures of the firms, Debt – Equity (DER) and Debt – Total Asset (DTAR) ratios appear to show reasonable results. The failure of Debt – Total capitalization (DTC) ratio to offer meaningful results stem from lack of commitment of some of the Companies to long-term debt. This may be probably due to access to public funds afforded by their listing status on the Exchange or use of short-term financing alternative.

Tables 5 (a) and (b) display values of Debt-Equity (DER) and Debt – Total Asset (DTAR) ratio respectively as calculated from the firms 1991 to 1995 annual statements of Accounts. A critical look at the trend of change in DER (Table 5(a)) indicates conscious attempt by the

Companies to avoid risking further increases in long-term debt burden. The Debt Equity ratio is generally low for the 5-year period.

Table 5(a) DEBT – EQUITY RATIO

Company	1991	1992	1993	1994	1995
Adswitch	0.31	0.25	0.46	0.80	1.02
Cutix	1.31	1.43	1.25	1.70	1.52
ALEX	1.70	1.47	1.18	1.36	1.72
Newpak	0.44	0.98	0.74	1.55	1.51
Smurfit	1.17	0.65	0.53	0.74	0.53

Table 5(b) DEBT – TOTAL ASSET RATIO

Company	1991	1992	1993	1994	1995
Adswitch	0.24	0.20	0.32	0.44	0.51
Cutix	0.57	0.58	0.56	0.63	1.52
Alex	0.60	0.57	0.50	0.55	0.60
Newpak	0.31	0.49	0.45	0.64	0.60
Smurfit	0.54	0.39	0.36	0.43	0.35

Except ADS company which shows fairly high positive gradient of 42.62 in the growth of its DER all the other firms either responded with slight increase or better still have negative growth as shown in Table 6.

Table 6: GROWTH RATE IN DEBT – EQUITY AND DEBT-TOTAL ASSET RATIO

Ratio	ADS	CUT	ALE	NEW	SMF
Debt-Equity Ratio	42.62	4.81	-0.49	2.94	-13.49
Debt-total Asset Ratio	25.86	22.63	-0.29	17.23	-7.41

The Debt-total Asset ratio values (DTAR) as displayed in Table 5(b) seem to be lower-value replica of Debt-Equity (DER) values. The pattern of change over the years also appears the same. Both ALE and SMF Companies maintain their negative growth rate with coefficients of –0.29 and –7.41 respectively in terms of DTAR. On the other hand ADS, CUT and NEW companies display positive growth rate in debt-total asset ratio.

Discussion on Financial Performance.

The observed level of financial performance of the companies as presented in the foregoing agrees in certain aspects with findings in previous studies on performance evaluation. For instance the 22% Return on Investment obtained for Adswitch in 1995 supercedes aggregate average of 20% Return on Capital Employed recorded for the Unlisted Securities Market of U.K. This attests to efficient rate of profitability of the company. Iyiegbuniwe (1979) reported 40.9% rate of growth in Return on Equity compared with other Companies this study in whatever measure. However, the author's assertion that Return on Equity is the ultimate measure of profitability can not be confirmed or denied in this study at present. The higher ate of profitability performance of Adswitch Company is apparently outstanding. Other studies (Umoh, 1988 and Adedeji 1989) have reported annual growth rate in profitability for manufacturing sector to be 26.9%. This value is higher than rates of growth, in all measure of profitability, as recorded in Table 2 except one. This means that rate of growth among manufacturing companies in the study far lagged behind those in First-tier Securities Market. The reason for this disparity may be hinged on

sizes since firms in the Second-tier Securities Market are by design smaller in size than those fully listed. This explanation is in conformity with Inanga and Soyibo's (1982) observation that profitability apparently changes with the size of the Company.

Aloba and Ovuorie (1996) calculated the Current and Quick ratio values of 2.15 and 1.13 for the International Breweries respectively. These values are generally higher than those reported in Table 3(a) and (b) which are comparable to 1.86 and 0.74 for Current and Quick ratios of U.A.C is 1976 (Inanga and Soyibo 1985). It is evident in this study that firms are in fair or good cash positions. However, the general 'rule' that a Company must have Current ration of 2:1 and Quick ratio of 1:1 before it can be considered to be sufficiently liquid appears not to hold for the selected Companies being studied in the Second-tier Securities Market.
The choice of proportion of debt to equity finance is of considerable importance to managers, investors and stock market participants. Although financial theory shows that, under complete and perfect capital market conditions, overall cost of capital and indeed the value of Company would be unaffected by its financing decision (Modigliani and Miller, 1958), this study on the contrary shows changes in performance of Company as result of capital structure in place. Abdullahi (1996) associated this observation with market imperfections, which may affect capital structure decision namely: taxes, transaction cost and cost of bankruptcy. These factors possibly explain major deviation of Debt-Equity ratio of the Companies under study from the rule of thumb that an ideal capital structure should compose of debt and equity in the ratio of 1:2. it must also be appreciated that the pattern of Capital structure evidently differ from one industry to another. In our case, the 5-year period studied shows that debt-equity ratios increased towards 1995 for all the Companies except for Smurfit. In other words the debt securities increases in proportion to equity securities. Oyejide (1987) has

attempted to explain variations in the typical firm's growth in terms of corresponding variation new equity capital, retained earnings and debt as well as risk index from earlier works. The first observation shows that the rate of return on equity capital is higher by a substantial margin than other forms of new capital. Other findings later indicate there is little reason for concluding that investment financed with common equity is much higher than others that are financed by retained earnings.

Although this study is limited in finding the relative rate of return on the various financing method employed by the firms it suffices to say that there is a steady increase in the proportion of debt relative to equity from 1991 to 1995, except for Smurfit which maintained relative stability in debt-equity ratio over the years (Table 5(a)).

4.2 Trends in Market Performance of the Equities

Six parameters are examined in assessing trading performance of the equities selected for this study; namely Earning per Share (EPS) Dividend per share (DPS), Pay-out ratio (POR), Share Price (SP). Price – Earning ratio (PER) and volume of shares traded. The data for the parameters which also indicate trading performance of the firms' equities were adapted from the Nigerian Stock Exchange Official List. For purpose of this presentation the market indicators are categorized into 2 classes – Earning/payment and share value/volume streams. The Earning/payment stream includes parameters like Earning per share, Dividend per Share and pay-out ratio. While share value/volume stream consists of share price, Price-Earning ratio and volume of share transacted.

Pattern of Change in Earning-Payment Stream

The analysis of growth pattern in the Earning –Payment stream in Table 7 shows positive rate of growth Earning per Share (EPS) for all equities except Cutix which recorded a declining rate of 4.40. The growth in EPS for Newpak is exceptionally fascinating compared to other equities; towering as high as 233.34 annual incremental rate. Interestingly however the outstanding growth performance in corporate income generating ability of Newpak does not translates to growth in dividend value per share or payment rate as both DPS and POR apparently record no increment. Moderate growth rates in EPS obtained for Adswitch and Aluminum Extrusion industries result in 47.69 and 23.24 marginal increases in Dividend per share (DPS). But pay-out Ratio (POR) for both equities suffered of a declining rate of about 8%. Conversely, Cutix that indicates negative growth pattern in EPS over the 5-years strove to attain 4.6-growth rate in POR.

Table: 7 GROWTH RATE IN TRADING PERFORMANCE INDICATORS (EARNING-PAYMENT STREAM)

	ADS	CUT	ALE	NEW	SMF
Earning per Share (EPS)	59.99	-4.40	35.26	233.34	6.71
Dividend per Share (DPS)	47.69	0.00	23.24	0.00	-4.78
Pay-out Ratio (POR)	-7.87	4.60	8.97	0.00	N.A

Pattern of Change in Share Value – Volume Stream

Table 8 depicts the pattern of growth in share value and volume of share transacted for the selected firms between 1991 and 1995 period

Aluminum Extrusion (ALE) and Cutix (CUT) show evidence of good positive changes in Share Price value (SP) which index at about 60 and 19% respectively. The share price values of other firms available show sign of dormancy over the 5-year period.

Price-Earning Ratio (PER) in all firms indicated marginal increases except for Newpak, which shows a staggering declining rate of 64.23%. Similar to its leading growth rate in Share Price, ALE surpasses other equities in term of growth in PER estimated at 45% annually. This is followed by 22% obtained for ADS whose changes in share price apparently remained stagnant during the period under review. The PER barely shows sign of active changes for SMF and CUT with marginal rate of 5 and 10% respectively.

The rate of increase in volume of shares traded is clearly higher in CUT than others, like ADS and ALE, which also show positive rate of growth in the parameter. It may suffice to note that rate of growth in volume of share transacted is relatively high in CUT estimated at 56% and moderate in ADS and ALE at 17 and 11% respectively. However, NEW and SMF show poor rates of growth in volume of transaction.

Table 8: GROWTH RATE IN TRADING PERFORMANCE INDICATORS (SHARE VALUE-VOLUME STREAM)

	ADS	CUT	ALE	NEW	SMF
Share Price (SP)	0.03	19.36	59.99	0.00	N.A
Price-Earning Ratio (PER)	22.14	9.64	45.21	-64.23	5.03
Volume of Transaction (VOT)	17.35	56.21	11.07	-0.41	-1.81

Discussion on market performance of equities

It is on note that Dividend Pay-out to investors of Companies quoted on the Second-tier Securities Market has generally shrunk despite the profitability levels of the companies. The high growth rates in earnings presented by Adswitch, Aluminum Extrusion Newpak and Smurfit scarcely transformed to equitable dividend declaration or Dividend Pay-out. Though the companies record gradual increase in their latest profits, the amount transferred to general reserves and retained profit have continued to rise. Inclementing operating environment and re-investment programmes have always been reasons presented by company Executives. The need to meet up with other contingencies such as replacement of aging equipment or modernization of operations could be plausible underlying factors. Couple with these is the high foreign exchange rate, which places greater demand for high liquidity and the generally unhealthy economy. Yet observation shows that dividend payment always reduce the liquidity of company. The reduction in the dividend companies pay to shareholders is a reflection of the economic environment, which is causing companies to experience a reduction in their real earnings and profitability. Poor performance on the part of companies could also be responsible. Furthermore companies may have restrictive dividend polices which could prevent the profitability level from reflecting on the dividend payment. In addition, Share price, which is a stronger factor in dividend payment than level of earning, is generally low in the selected companies. There is evidence that the poor share price could be more responsible for low dividend paid (Agbana 1998).

Onwumechili (1995) observed that manipulation of earning figures is a common practice in corporate organizations in Nigeria. Although it is not totally a bad intention depending on the purpose it is applied, but

such practice could contain unacceptable accounting presentations. Manipulation of earning figure has the potency to mislead shareholders and the general public at large. It denies users of financial statements the necessary disclosure expected from such accounting presentation. It could also result to paying the shareholders dividends out of capital and running down the working capital. Recently, it has been observed that manipulation of share prices is vogue in Nigeria. It is aimed at maintaining confidence of shareholders and creditors and of ensuring continuity of satisfactory industrial relations. Sometimes if may be intended to remove cyclical fluctuations, improve solvency and profit indicators. We can not rule-out possible manipulation of accounting figures in the selected companies. But this is entirely a speculation.

4.3 Comparison of predictive ability of Financial Ratios.

In attempt to compare the predictive strength of all the calculated financial ratios, the Pearson's Product Moment technique of correlation analysis was employed. The analysis deliberately eliminates relationships existing among financial ratios or investment criteria. Rather, it focuses on relationship between financial ratios (the independent variables) and Investment criteria (the dependent variables).

Three financial ratios namely – Return on Investment (ROI), Fixed Asset Turnover (FAT), and Stock Turnover show significant of relationship with four out of the six Investment Criteria tested. In the same vein Return on Equity (ROE), Current Ratio (CR) and Total Asset Turnover (TAT) indicate significant association with 3 investment indicators while Debt-Equity Ratio (DER) and Debt-total Asset Ratio (DTAR) strongly correlate with 2 indicators each. Other financial ratios such as Net-profit Margin and Quick Ratio indicate significant association with Share Price. It is interesting to note that the relationship between Net-profit Margin

and Share Price cuts across Cutix, Aluminum Extrusion and Smurfit companies.

It may be observed that 8 financial ratios show significant relationship with Dividend per Share and Share Price. Earning per Share and Pay-out Ratio correlate with 5 and 4 financial ratios respectively, while both Price-Earning Ratio and volume of transaction relate to one financial ratio each.

The correlation coefficients of the relationship between financial ratios and investment indicators further shed light on the predictive ability to the financial ratios and type of association existing between them. Out of 6 financial ratios capable of predicting trends in Dividend per Share paid, only Return on Equity and Total-assets Turnover show highly significant ($P< 0.01$) positive correlation coefficients of 0.98 and 0.99 respectively for Adswitch company. Although Current Ratio is also highly correlated ($P < 0.01|$) with DPS but the relationship is inverse. Other quantities such as ROI, DTAR and DER may, to certain extent ($P< 0.05$), predict Dividend per share for Adswitch equities.

Share Price in Cutix significantly correlates with Net Profit Margin, Current Ratio and Fixed Asset Turnover, however, its association with NPM is negative. Both Earning per Share and Pay-out Ratio relate with Return on Investment in the determination of their values. But the relationship between POR and ROI is inverse.

In Aluminum Extrusion and Newpak equities, EPS and DPS are two indicators that can be reliably predicted by Fixed Asset Turnover and Total Asset Turnover. Further influence of Fixed-Asset and Total-Asset Turnover in predicting trends is Pay-out Ratio is noticeable in Newpak equities. Unlike Cutix, whose share price depended on NPM, CR, and

FAT, Share Price of Newpak common stock relies on NPM, ROI, ROE and QR. The relationship between NPM and share price in the case of Newpak is perfect and positive, similar to those existing between share price and the other financial ratios (ROI, ROE and QR).

It is on notice that Newpak data exhibit most widespread relationship between financial ratios and investment criteria compared to other firms being studied. Thus, rare relationship that is non-existent in other equities is found in Newpak. For instance, stock turnover, which is on activity ratio, influences both Earning per share and Dividend per share. Likewise, Return on Equity positively determines the volume of shares traded.

Smurfit share some similarities with Newpak in terms of relationship between the correlating quantities. The influence of profitability ratios (NPM, ROI, ROE) and leverage ratios (DER and DTAR) on share price is observable in Smurfit. While the profitability ratios positively correlate with Share Price the leverage ratio have negative impact on the Share Price trend during the 5 years period for Smurfit print. The data further show that the Earning Per Share of the Company apparently depends on its financial liquidity as indicated by the Current Ratio. One unique relationship shown in the correlation analysis is the association between Stock Turnover and Price-Earning Ratio (PER). The PER that appears not to have meaningful relationship with all financial ratios employed except stock turnover in Smurfit equities.

4.4 Forecast on Viability of Investment in Equities of the Selected Companies

The foregoing comparison of the predictive ability of financial ratios offers same clues as to what investment criteria should constitute the

kernel of investors' objectives in their choice of equities, and the type of financial ratio to rely upon for accurate determination of the investment indices. It may be observed that Dividend per share, Share Price and Earning Per Share are investment indices that show outstanding dependence on a number of financial ratios. In other words, Dividend per Share and Share Price separately had eight significant associations with financial ratios which could be employed, using regression analysis, for forecasting their future trends. Similarly, Earning per share has five significant relationships with financial ratios, as such form part of considerations for choice of investment. On the other hand pay-out Ratio records 4 significant associations while Price-Earning Ratio and volume of transaction has one relationship each with the performance indicators. Since the pay-out ratio is similar to Dividend per Share in terms of its interpretation for investment consideration, it may be used as proxy for dividend per share. While Price-Earning Ratio and Volume of share traded can be rejected as investors' objectives in this study. More so, material information that is required for arriving at these rejected criteria is rarely available for investors to make a quick choice.

In forecasting the performance of the selected companies on the basis of future results of Dividend per share, Share Price or Earning per share, Trend line projection of compounded rate of growth is employed (Odife, 1985). It involves drawing the trend of past results over the past 5 years and projecting the same growth rate over the next few years to obtain the likely performance of the company for year(s) ahead. The compounded annual rate of growth from 1991 to 1995 for the five companies with respect to their Dividend per share, Share Price and Earning per share is given in Tables 7 and 8.

Regression analysis as shown in Appendix III indicates that 30 equations based on various performance ratios can be used in predicting the three

investment indices – Earning, Dividend and Price of per Share of the 5 selected equities. Application of a simple sensitivity test further reveals the most sensitive equation(s) or performance ratio(s) that exhibit highly significant predictive ability. The sensitivity test involves attempts at using each regression equation to predict the value of a specific investment index equally shows highest values in 1995 base year and to determine which of the equations that nearly predict the exact value. The F R^2 values of the predicting equations are further compared to select one equation that has the highest values of F and R^2. Interestingly, the performance ratio (equation) that nearly forecast the value of an investment index of F and R^2. It is that particular performance ratio or equation that is chosen as the most sensitive predicting entity for the investment index to be determined.

Thus, out of 6 regression equations (Return on investment, Debt-to-total Asset ratio, Return on Equity, Total Asset turnover, and Debt-to-Equity ratio) found to be significant in predicting Dividend per Share (DPS) in Adswitch equity, Total Asset Turnover (TAT) is found to be most sensitive in forecasting DPS, given as:

$$Y_{(DPS)} \quad - \quad 6.03 + 9.83 \text{ x } _{(TAT)} \ldots\ldots (1)$$

$$T = 21.3 \qquad F = 456.7 \qquad R^2 = 0.99$$

It must be noted that except for DPS no other investment index of Adswitch has significant relationship with any of the financial ratios.

In Cutix, two separate equations with ROI as independent variable are observed to predict Earning per Share (EPS) and Pay-out ratio (POR). Although pay-out ratio is strictly not one of the investment indices chosen in this study, it is being used as a proxy for Dividend payment

since growth rate for DPS can not be calculated due to missing data (Table 7). The equations are:

$$Y_{(EPS)} = -6.29 + 2.18x_{(ROI)} \ldots\ldots (2)$$

$t = 4.5 \qquad F = 20.8 \qquad 2.18x_{(ROI)} \ldots (2)$

$$Y_{(POR)} = 100.8 - 3.5x_{(ROI)} \ldots\ldots (3)$$

$t = 4.01 \quad F = 16.11 \quad R^2 = 0.84$

On the other hand, Share Price of Cutix common stock can be predicted using three equations with Net profit (NPM), Current ratio (CR) and Fixed Asset turnover (FAT) as independent variables. However, FAT appears to show the greatest sensitivity to forecast future Share Price of the equity stock as given below

$$Y_{(SP)} = 63.55 + 26.16x_{(FAT)} \ldots\ldots (4)$$

$t = 9.1 \qquad F = 84.4 \qquad R^2 = 0.96$

Similarly, two Fixed Asset Turnover equations separately predict values for Earning and Dividend per Share in Aluminum Extrusion equity stock as follows:

$$Y_{(EPS)} = 1.67 + 2.88x_{(FAT)} \ldots\ldots (5)$$

$t = 16.07 \qquad F = 258.28 \qquad R^2 = 0.98$

$$Y_{(DPS)} = 2.42 + 0.92x_{(FAT)} \ldots\ldots (6)$$

$t = 5.4 \qquad F = 29.17 \qquad R^2 = 0.90$

Although Total Asset Turnover shows significant predictive ability for EPS but it is less sensitive compared to Fixed Asset Turnover.

Earning per share in Newpak equity stock significantly depends on three activity ratios namely – Stock Turnover, Fixed Assets Turnover, and

Total Asset Turnover. Simple sensitivity test however proved Fixed Asset Turnover equation as the strongest predicting entity.

$$Y_{(EPS)} = 2.93 + 2.64x_{(FAT)} \ldots\ldots (7)$$
$$T = 25.26 \quad F = 638 \quad R^2 = 0.99$$

Dividend per share in Newpak likewise relies on the three activity ratios. Total Asset Turnover however shows relatively greater strength in charting the future trend in amount of dividend declared per share. The predicting equation is given as:

$$Y_{(DPS)} = 2.98 + 4.21x_{(TAT)} \ldots (8)$$
$$t = 16.1 \quad F = 260 \quad R^2 = 0.98$$

Shares Price of Newpak common stock on the other depends mainly on profitability ratios – NPM, ROI and ROE and by extension on Quick Ratio as well. Although all the independent variables are significant but Net Profit Margin indicates perfect coefficient of reliability in predicting Share Price of Newpak equity as per the following equation: -

$$Y_{(SP)} = 49.95 + 0.027x_{(NPM)} \ldots\ldots (9)$$
$$t = 90.72 \quad F = 230.92 \quad R^2 = 1.0$$

Smurfit share similarly relies on both profitability and gearing ratios including NPM, ROI, DER and DTAR. Debt Equity Ratio apparently shows the greatest capability to forecast future trend in stock price of Smurfit prints. The relationship is as shown below:

$$Y_{(SP)} = 280.06 - 517.53x_{(DER)} \ldots (10)$$
$$T = 6.8 F = 46.3 \quad R^2 = 0.93$$

However, the predictor of Earning per Share in Smurfit Print is given as current Ratio through the following relationship.

$$Y_{(EPS)} = -47.96 + 49.04x_{(CR)} \ldots (11)$$
$$T = 4.165 \quad F = 17.34 \quad R^2 = 0.85$$

Prior to any attempt to use the foregoing equations in forecasting values of investment indices chosen, it is important to restate some theoretical bases for the predictions.

(1) It is assumed that there is no dividend ceiling on all issued and fully paid shares of each of the selected companies.

(2) Bonus issues do not rank for dividend.

(3) It is assumed that movement of interest rate remains constant between 1995 base year and 1998.

(4) Import restriction particularly for foreign products similar in use to those being manufactured by selected companies.

(5) There is no anticipation of legal or political changes capable of changing the risk profile of the companies and their investments.

(6) The trend of performance over the past five years 1991 – 1995 will continue for the next three years (1995 – 1998).

Applying the Trend Line Projection of compounded rate of growth techniques within the boarders of aforementioned assumption and availability of requisite data a three-year forecast of important investment indices of the equities is generated in Table 9. Detail of mathematical procedure used in obtaining the forecast is given in Appendix IV.

Table 9: THREE-YEAR FORECAST OF INVESTMENT INDICES FOR THE SELECTED EQUITIES.

Company	Investment Index	Forecast		
		1996	1997	1998
Adswitch	Dividend per Shares (k)	7.32	10.76	15.82
Cutix	Earning per Share (k)	18.40	17.66	16.96
	Pay-out Ratio (%)	62.68	65.56	68.58
	Share Price (k)	281.48	335.80	400.61
Aluminium Extrusion	Earning per Share (k)	32.47	43.91	59.36
	Dividend per Share (k)	11.76	14.46	17.79
Newpak*	Earning per Share	95.90	319.36	1063.47
Smurfit Print*	Earning per Share (k)	18.42	19.65	20.97

*Forecast for Dividend per Share and Share Price can not be calculated because data for determining compounded growth rates are unavailable.

Granted that insignificant level of relationship between performance ratios and investment indices coupled with non-availability of growth rate grossly limit a comprehensive analysis of investment potentials in the selected firms, the forecast in table 9 points at some salient rudiments for objective investment decision. There is undeniable fact that investment decision is influenced by several and diverse considerations. However it is not presumptuous to assume that the predetermined objective for most investment is cash returns on savings expended on capital goods.

Odife (1985) is of opinion that the choice of stocks or shares to invest could be made by reference to a number of vital earnings and asset statistics. Judging from result in table 9, consideration of growth in

earnings alone tends to impress on potential investor a higher score for Newpak compared to other equities. But high growth rate in leverage ratios in Newpak apparently diminishes its seemingly attractive earnings to an investor who is desirous of consistent returns or earnings yield.

Cutix is absolutely unattractive due to its declining rate of earning. Although the dividend payout rate is good it is unlikely that the tempo could long be sustained due to the falling rate of generating earnings. If however it maintains an increasing payout rate as given in the table it may have to do so at the expense of its assets base. In other words, it may have to expend its paid-in capital to settle dividend claims.

Similarly the slow growth rate in income earning for Smurfit appears to drag its ability to generate future earnings at rather unattractive slow rate. Its low leverage ratio may compensate for slow earning rate.

Adswitch that posits comparatively better result in terms of its dividend payment has a growth rate of 48% annually compared to others. The leverage ratios rank lowest among the selected companies. Ironically however it presents the highest rate of growth gearing ratios. But the latter is without prejudice to excellent investment potentials inherent in the Adswitch PLC.

Several indications point at outstanding performance of Aluminium Extrusion Industries. The earning stream is very realistic and its future growth may be relied upon for viable investment decision. The growth in earning per Share is moderate at 35%, while gearing ratio declines at 0.5 and 0.3% relative to equity and total assets respectively. The future earning per share is unlikely to be jeopardized by debt burden if the present (1991 – 1995) capital structure remains.

The forecast dividend (for Aluminium Company) range from 11 to 18K per share within 3 years which may be considered moderate for a Second-tier Security in a recovering economy like Nigeria. Dividend payment positively impacts on retention of shareholding and demand for new Shares, which stimulate appropriate stock pricing in the stock market.

Share Price is an important investment index upon which viable investment in equity depends. Regrettably however, computation of Share price forecasts eludes most Companies selected on account of non-availability of data for compounded growth rate. Forecast of share price for Cutix as indicated in table 9 offers basis for investor to build confidence in viability of investment in the equity.

CHAPTER FIVE

5.0 SUMMARY AND CONCLUSION

5.1 Summary of Observations and their Implications.

The study apparently unveils a general obscurity in stock market activities of Securities listed on the Second-tier Securities Market of the Nigerian Stock Exchange (NSE). It is the opinion of this write-up that the observed investors' aversion for Second-tier Securities is unwarranted considering the current performance and potentials inherent in these Small or Medium-scale indigenous enterprises.

Obviously, there is relationship between financial ratios and investment indices, which could be carefully explored to chart future investment characteristics of the firms. The present result has reaffirmed earlier position that investors and investment consultants who have limitations relating to vigorous analytical procedure and in-depth accounting information required for investment valuation, can rely on simple analysis of past published financial statements to arrive at sound decision. In this effort, 5-years financial statement of Adswitch, Cutix, Aluminium Extrusion, Newpak and Smurfit were collated and analyzed interms of profitability, liquidity, activity and leverage ratios. The market performance of their equity securities adapted from NSE Daily Official list was examined with respect to earning; dividend and price per share, price-earning and payout ratios as well as volume of share transaction.

Correlation analyses between financial ratios and market (investment) performance indices show existence of various forms of association. Those significant among these relationships were subjected to regression

analysis which produces functions for forecasting future trends in 3 investment indices namely earnings, dividend and price per share.

Activity ratios particularly Fixed Assets Turnover and Total Asset Turnover are the most influencing factors that dictate future trends in the investment criteria. Closely following the activity ratio are profitability and leverage ratios specifically Return on Investment, Net-profit margin and Debt-equity ratios in terms of predicting potentials in the equities. Current ratio shows its ability to chart future of earning in one of the companies.

Prior to use of financial ratios as predicting variables, growth pattern of the ratios was evaluated. The growth rate determined was used in conjunction with regression function to make forecasts.

The available result indicates that Aluminium Extrusion and Adswitch Companies show greater potentials for viable investment. Cutix faces a declining future earning per share but it has potential for instant recovery. Newpak appears unrealistic in its performance due to some indications of increasing debt burden. Smurfit's slow growth rate makes its future earnings unattractive but its low leverage ratio may account for viability of any investment in its equity securities in the near future.

5.2 Limitation of the Study

The study is limited in both depth and spread within the Second-tier Securities Market (SSM) of the Nigerian Stock Exchange. There are about 20 Companies listed on the SSM. But the analysis takes cognizance of only 5 Companies. Our initial efforts to address manufacturing sector of the Market failed as a result of inaccessibility to annual reports of other manufacturing companies within the specified

period (1991 – 1995). The study had to make do with packaging and printing outfits like Newpak and Smurfit companies respectively. In addition, comparison of performance among the Companies could not be thorough because of the dearth or absence industrial average for various sectors of the market.

In terms of depth, only 3 investment criteria were considered whereas investor takes several diverse factors into consideration for investment. Even the 3 criteria were not examined for all the selected Companies due to statistically insignificant relationship or absence of data for computing the required growth rates.

5.3 Conclusion and Recommendation.

The study has evaluated the performance of Adswitch, Aluminium Extrusion Industries, Cutix, Newpak and Smurfit listed on the Second-tier Securities Market of NSE. It has shown that relationship between financial ratios and investment indices can be explored to forecast trends in investment potentials of the equities interms of earning, dividend and price per share of the common stock. The study also examined performance trend between 1991 and 1995, and indicates general slow growth rate in profitability, liquidity and debt ratios.

Activity ratios including Fixed Asset Turnover and Total Asset Turnover have the greatest influence on future investment trends of the equities. Profitability and leverage ratios also constitute important and added considerations in predicting viability of investment in equity securities of the companies. The result concludes that Aluminium Extrusion Industries ranks best and followed by Adswitch and Smurfit in terms of their future investment potentials.

More elaborate study on all sectors of the market is suggested to provide basis for policy measures required for sustaining and supporting small and medium-scale indigenous enterprises, which hold the ace for Nigerian Industrial and Investment Development

REFERENCES

Abdullahi, A. N. (1996).

Making Small Business Grow bigger: The capital structure perspective. The National Accountant vol. 6 (2): 27-32 February 1996.

Adedeji, Abimbola (1989).

Changes in the Financial Performance of Quoted Companies in Nigeria over the period 1980 – 1987. Nigerian Financial Review vol. 2 (3): 65-77 September 1989.

Adetunji, Wole (1998).

How Nigerian Capital Market Lag behind. The Guardian Newspaper Wednesday 8th July 1998.

Agbana, G. (1998).

Dividends take a Dive on the Exchange. The Guardian Newspaper, July 15th 1998, P. 21.

Akamiokhor, G. A. (1988).

The Securities and Exchange Commission and the Nigerian Capital Market. Nigerian Financial Review (Preview Edition) vol. 1 March 1988.

Akintola – Bello, O. (1986).

Investment Behaviour of Insurance Companies in Nigeria. Nigerian Journal of Economics & Social Studies vol. 28 (2): 229-256, 1986.

Aliyu, Ibrahim .(1990).

Financing Industrialization in Nigeria. Management in Nigeria vol. 26 (3): 20-22 May/June 1990.

Akintola–Bello O. and A. Adedipe (1985).

Trends in capital structures of Quoted Nigerian Companies. Securities Market Journal vol. 2: 61-68, 1985.

Aloba, S. B. and J. M. Ovuorie (1996).

Corporate Analysis: International Breweries PLC. The National Accountant. June/July. P.45-46. 1996.

Altman, E. I. (1968).

Financial Ratios, Discriminant Analysis and the prediction of Corporate Bankruptcy. Journal of Finance, September 1968. Pp. 589 – 609.

Bello–Osagie, H. 1997.

The Benefits and Implications of the Internationalization of Stock Market to Quoted Companies and the Nigerian Economy. Paper presented at Seminar organized by the Nigerian Stock Exchange, Kaduna Branch at Hamdala Hotel Kaduna on 8th – 9th October 1997. Encyclopedia Americana vol. 15. P. 342.

Firth, M. (1975)

Quantitative Approaches to Forecasting Corporate Profits. Management Decision. Vol. 13 (5): 318 – 329.

Glen, J. and Printo Brinto Brian. (1995)

Capital Markets and Developing Country Firms. Finance and Development. Vol. 32(1): 40 – 43.

Hood, N. and S. Young (1975).

Growth, Performance and Strategy in 400 U.K. Holding Companies. Management Decision. Vol. 13 (5): 304 – 317.

Inanga Eno L. (1985)

Working Capital management in a Nigerian Quoted conglomerate. Nigerian Management Review. June 1985.

Inanga Eno L. and A. Soyibo (1982).

The profitability and Size of a Nigerian Quoted conglomerate 1971 – 1980. A preliminary Study. Nig. J. Econs. And Soc. Studies. Vol. 24 (3): 364 – 378. November 1982.

Iyiegbuniew, W. C. (1987).

The Time Series Behaviour of Annual Earnings in Developing Economies: The Nigerian Experience. Nig. J. Econs. & Soc. Studies. Vol. 29(2). July 1987.

Iyiegbuniwe, Willie (1979).

Corporate Profitability in Nigeria. Vol. 15 No. 7 1979 29-35.

Lambo, Tayo (1987).

Nigerian Economy: A Textbook of Applied Economics. Evans Brother (Nigeria Publishers) Ltd. P. 196.

Modigliani, F. and M. H. Miller (1958).

The Cost of Capital Corporation Finance and the Theory of Investment. American Economic Review 48. P. 261 – 297, 1958.

Nigerian Security Exchange (1985).

Rules Governing. Listing on the Second-tier Securities Market. The NSE 1985 publication. Nigeria Stock Exchange Factbook 1996. NSE 1996 Publication. P. 148 – 161.

Odife, D. O. (1985).

Understanding the Nigerian Stock Market. Vantage Press Inc. (Publishers) 1985 Edition.

Osaze, Bob E. (1996).

The Fallacy of the RIO as a Performance Measure. Bi-Annual Review, First Bank of Nigeria PLC. Vol. 4 No. 9. December 1996. P. 40- 44.

Onwumechili, P. N. (1995).

Manipulation of Earning figures in some Nigerian Banks. The National Accountant. January – March 1995. P. 22-26.

Oyejide, T. A. (1987).

The impact of Equity Capital, Retained Earnings and Debt on Corporate profit in Nigeria. Nig. J. Econ. & Soc. Studies. Vol. 29, No 1, March, 1987. P. 35 – 35.

Pogue, G. A. and K. Lall (1974).

Corporate Finance: An overview. Sloan Management Review. Spring 1974. Vol. 15(3): 19 – 38.

SEC (1996).

Privatized Enterprises: An Assessment of Performance (Post Privatization). Security & Exchange Commission Quarterly. Vol. 13 (3). September 1996.

Sizer, J. (1975).

An Insight into Management Accounting. Penguin Books Ltd. (Publishers). P. 161.

Umoh, P. N. (1988).

Inflation and Profitability in Nigeria's Corporate Sectors: An Empirical Analysis. Nigerian Journal of Management Sciences Vol. 1, No. 1, March 1988 13-23.

NOTE;

Anonymous: Stock Market Access for Small Business P. 5-11.

APPENDIX I: INFORMATION ON THE COMPANIES SAMPLED.

1. Name of Company: Adswitch PLC.

   Nature of Business: Manufacturing

   Date of Incorporation: 1982

   Date listed on the Exchange: 1991

   NSE classification: SSM

   Capital Structure as at 1995

   i) Authorized: ₦10,000,000

   ii) Paid-up: ₦5,000,210

ADSWITCH PLC

FIVE YEAR FINANCIAL HIGHLIGHTS

	1991	1992	1993	1994	1995
1. Net Profit Tax (Net Loss)	340,597	709,215	878,924	1,802,237	3,200,433
2. Total Assets	4,343,479	4,579,706	5,853,753	9,163,168	14,482,537
3. Sales	3,169,892	3,682,512	5,338,848	9,398,671	16,226,607
4. Equity	3,309,027	3,661,084	4,004,271	5,092,192	7,292,583
5. Current Assets	3,765,028	2,943,429	3,998,511	7,234,472	10,822,013
6. Current Liabilities	1,034,452	918,622	1,849,482	4,070,976	7,439,965
7. Inventories	1,038,977	1,750,469	2,174,724	2,498,076	2,824,188
8. Total debt	1,034,452	918,622	1,849,482	4,070,976	7,439,965
9. Long term debt	-	-	-	-	-
10. Total Capitalization	4,868,583	4,579,706	5,853,753	9,163,168	14,482,537
11. (Net) Fixed Asset	578,451	1,636,277	1,855,242	1,928,606	3,660,524
12. Dividends	178,580	357,158	535,737	714,316	1,250,053
13. Dividends per share (k)	1.00	2.00	3.00	4.00	5.00
14. Earnings per share (k)	1.90	3.92	14.92	10.09	12.80

2.	Name of Company:	Cutix PLC.
	Nature of Business:	Manufacturing of Electrical & Telecommunications Wires and Cables.
	Date of Incorporation:	November 4, 1982
	Date Listed on the Exchange:	August 12, 1987
	NSE classification:	SSM
	Capital structure as at 1995	
	i) Authorized:	₦20,000,000
	ii) Paid-up:	₦8,256,000

CUTIX PLC.

FIVE YEAR FINANCIAL HIGHLIGHTS

	1991	1992	1993	1994	1995
1. Net Profit after Tax (Net Loss)	1,957,454	2,056,756	3,470,573	4,111,335	3,562,717
2. Total Assets	12,044,372	14,796,743	18,875,550	28,355,835	30,502,997
3. Sales	15,491,989	16,440,751	33,142,342	47,389,479	45,518,767
4. Equity	5,224,250	6,092,117	8,373,799	10,503,637	12,084,867
5. Current Assets	5,743,262	7,885,329	12,018,333	20,129,082	23,591,876
6. Current Liabilities	6,190,079	8,429,482	10,501,751	17,852,198	18,418,130
7. Inventories	3,002,010	2,627,964	8,000,891	8,806,452	14,559,712
8. Total debt	6,820,122	8,704,631	10,501,751	17,852,198	18,418,130
9. Long term debt	629,143	275,149	-	-	-
10. Total Capitalization	12,044,372	14,796,748	18,875,550	28,355,835	30,502,997
11. (Net) Fixed Asset	6,301,110	6,911,419	6,857,217	8,226,753	6,911,121
12. Dividends	792,595	1,188,892	1,188,892	1,981,487	1,981,487
13. Dividends per share (k)	12.00	12.00	12.00	12.00	12.00
14. Earnings per share (k)	29.63	20.75.	35.02	24.90	21.57

3.	Name of Company:	Aluminium Extrusion Industries PLC.
	Nature of Business:	Manufacturing of Aluminium Profiles
	Date of Incorporation:	October 26, 1982
	Date Listed on the Exchange:	April 10, 1986
	NSE Classification:	SSM
	Capital Structure as at 1995	
	i) Authorized:	₦15,000,000
	ii) Paid-up:	₦15,000,000

ALUMINIUM EXTRUSION INDUSTRIES PLC

FIVE YEAR FINANCIAL HIGHLIGHTS

	1991	1992	1993	1994	1995
1. Net Profit after Tax (Net Loss)	4,873,484	8,085,660	10,047,700	14,428,295	16,370,671
2. Total Assets	55,100,346	59,390,103	66,868,651	93,617,030	134,993,517
3. Sales	50,646,324	76,302,174	94,122,859	149,659,187	204,914,694
4. Equity	19,556,039	23,141,699	28,689,399	37,867,694	47,238,365
5. Current Assets	30,634,018	36,931,110	43,927,917	70,195,162	108,600,696
6. Current Liabilities	24,546,473	27,281,404	28,516,472	47,579,889	79,057,652
7. Inventories	9,921,979	28,134,600	28,003,592	56,075,600	87,139,153
8. Total debt	33,297,307	34,001,404	33,743,139	51,313,223	81,297,652
9. Long term debt	8,750,834	6,720,000	5,226,667	3,733,334	2,240,000
10. Total Capitalization	52,853,346	57,143,103	62,432,538	89,180,917	128,536,017
11. (Net) Fixed Asset	24,466,328	22,458,993	22,940,734	23,421,868	26,392,821
12. Dividends	2,700,000	4,500,000	4,500,000	5,250,000	7,000,000
13. Dividends per share (k)	3.8	6.4	6.4	7.5	10.0
14. Earnings per share (k)	6.9	11.6	14.4	20.6	23.4

4.	Name of Company:	Newpak PLC.
	Nature of Business:	Manufacturing of Boxes, Labels, Printing and Book production.
	Date Listed on the Exchange:	August 15, 1989
	NSE Classification:	SSM
	Capital Structure as at 1995	
	i) Authorized:	₦10,000,000
	ii) Paid-up:	₦9,450,000

NEWPAK PLC

FIVE YEAR FINANCIAL HIGHLIGHTS

	1991	1992	1993	1994	1995
1. Net Profit after Tax (Net Loss)	3,473,089	131,733	96,692	243,047	1,814,396
2. Total Assets	9,291,940	13,029,950	11,055,903	16,776,315	19,036,693
3. Sales	4,657,830	9,199,738	9,477,662	13,220,926	67,198,252
4. Equity	6,406,386	6,538,119	6,634,811	6,877,858	7,558,454
5. Current Assets	3,138,193	7,122,092	5,744,230	11,790,197	13,447,031
6. Current Liabilities	2,762,780	6,326,943	4,848,031	10,607,502	11,441,183
7. Inventories	1,136,935	3,740,061	3,713,159	8,256,619	8,671,265
8. Total debt	2,848,143	6,412,306	4,933,394	10,692,865	11,441,183
9. Long term debt	85,363	85,363	85,363	85,363	0
10. Total Capitalization	9,254,529	12,950,425	11,568,205	17,570,723	18,999,637
11. (Net) Fixed Asset	6,153,747	5,907,858	5,311,673	4,986,118	5,589,662
12. Dividends	0	0	0	0	1,134,000
13. Dividends per share (k)	0.0	0.0	0.0	0.0	12.0
14. Earnings per share (k)	0.37	0.14	1.57	3.89	28.93

5.	Name of Company:	Smurfit Print Nig. PLC.
	Nature of Business:	Publishing and Printing of Light Packages and Labels.
	Date of Incorporation:	January 11, 1966
	Date Listed on the Exchange:	July26, 1992
	NSE Classification:	SSM
	Capital Structure as at 1995:	
	i) Authorized:	₦7,500,000
	ii) Paid-up:	₦7,500,000

SMURFIT PRINT NIGERIA PLC

FIVE YEAR FINANCIAL HIGHLIGHTS

	1991	1992	1993	1994	1995
1. Net Profit after Tax (Net Loss)	(1,179,251)	1,061,363	1,042,838	1,292,762	1,942,110
2. Total Assets	10,613,789	11,127,565	17,990,264	21,350,784	20,606,461
3. Sales	9,226,135	13,424,164	16,982,644	22,333,062	30,001,544
4. Equity	4,896,972	6,755,737	12,127,156	12,482,418	13,487,028
5. Current Assets	5,637,035	5,869,819	6,774,361	9,668,593	9,457,838
6. Current Liabilities	5,692,209	4,225,760	5,863,108	8,868,366	7,119,433
7. Inventories	1,616,165	1,908,167	1,002,197	3,280,199	1,836,795
8. Total debt	5,716,817	4,371,828	6,388,966	9,204,764	1,119,433
9. Long term debt	24,608	146,068	525,858	336,398	-
10. Total Capitalization	10,613,789	11,127,565	18,516,122	21,687,182	20,606,461
11. (Net) Fixed Asset	4,976,754	5,257,746	11,215,903	11,682,191	11,148,623
12. Dividends	0	0	750,000	937,500	937,500
13. Dividends per share (k)	0.0	0.0	5.00	6.25	6.25
14. Earnings per share (k)	-	23.9	7.00	8.6	12.95

APPENDIX II

MEASURES OF FINANCIAL RATIOS

1. Net Profit Margin (NPM)

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

2. Return on Investment (ROI)

$$= \frac{\text{Net-profit after Tax}}{\text{Total Assets}}$$

3. Return on Equity (ROE)

$$= \frac{\text{Net-profit after Tax}}{\text{Shareholders' Equity}}$$

4. Current Ratio (CR)

$$= \frac{\text{Current Asset}}{\text{Current Liability}}$$

5. Quick Ratio (QR)

$$= \frac{\text{Current Assets – Inventories}}{\text{Current Liability}}$$

6. Debt-to-Equity Ratio (DER)

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

7. Debt-to-Total Assets Ratio (DTAR)

$$= \frac{\text{Total Debt}}{\text{Total Asset}}$$

8. Debt-to-Total Capitalization

$$= \frac{\text{Long-term Debt}}{\text{Total Capitalization}}$$

9. Stock Turnover (STO)

$$= \frac{\text{Sales}}{}$$

Stock or Inventories

10. Fixed Asset Turnover (FAT)

$$= \frac{\text{Sales}}{\text{Net Fixed Assets}}$$

11. Total Asset Turnover (TAT)

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

12. Earnings Per Share (EPS)

$$= \frac{\text{Earnings available for Common stock}}{\text{No. of Shares of Common stock}}$$

13. Pay-out Ratio (POR)

$$= \frac{\text{Total amount of Dividend}}{\text{Net (Profit) Income}} \times \frac{100}{1}$$

APPENDIX III

REGRESSION ANALYSIS EQUATIONS

ADSWITCH

1. $Y_{(DPS)} = -0.87 + 11.32x_{(DTAR)}$
   $T = 4.7 F = 22.7 \quad R^2 = 0.88$
2. $Y_{(DPS)} = -1.42 + 0.26x_{(ROI)}$
   $T = 5.2 F = 27.7 \quad R^2 = 0.92$
3. $Y_{(DPS)} = -0.04 + 0.11x_{(ROE)}$
   $T = 9.57 \quad F = 91.6 \quad R^2 = 0.96$
4. $Y_{(DPS)} = 7.05 - 1.65_{(CR)}$
   $T = 8.2 \quad F = 68.2 \quad R^2 = 0.95$
5. $Y_{(DPS)} = -6.03 + 9.83_{(TAT)}$
   $T = 21.3 \quad F = 456.7 \quad R^2 = 0.99$
6. $Y_{(DPS)} = 0.44 + 4.5x_{(DER)}$
   $T = 4.8 F = 23.5 \quad R^2 = 0.88$

CUTIX

7. $Y_{(EPS)} = -6.29 + 2.18x_{(ROI)}$
   $T = 4.5 F = 20.8 \quad R^2 = 0.87$
8. $Y_{(POR)} = 100.8 - 3.5x_{(ROI)}$
   $T = -4.01 \quad F = 16.11 \quad R^2 = 0.84$
9. $Y_{(SP)} = 150.6 + 2.02x_{(NPM)}$
   $T = 0.18 \quad F = 0.03 \quad R^2 = 0.01$
10. $Y_{(SP)} = -161.9 + 314.38_{(CR)}$
    $T = 3.9 F = 15.39 \quad R^2 = 0.83$
11. $Y_{(SP)} = 63.55 + 26.16x_{(FAT)}$
    $T = 9.1 F = 84.4 \quad R^2 = 0.96$

ALUMINIUM EXTRUSTION

12. $Y_{(EPS)} = 1.67 + 2.88x_{(FAT)}$

$T = 16.07 \quad F = 258.28 \quad R^2 = 0.98$

13. $Y_{(EPS)} = 15.44 + 22.90x_{(TAT)}$

$T = 3.9 F = -15.24 \quad R^2 = 0.83$

14. $Y_{(DPS)} = 2.42 + 0.92x_{(FAT)}$

$T = 5.4 F = 29.17 \quad R^2 = 0.90$

NEWPAK

15. $Y_{(EPS)} = -1.66 + 4.5x_{(STO)}$

$T = 3.38 \quad F = 11.4 \quad R^2 = 0.79$

16. $Y_{(EPS)} = -2.93 + 2.6_{(FAT)}$

$T = 25.26 \quad F = 638.11 \quad R^2 = 0.99$

17. $Y_{(EPS)} = -5.42 + 9.70x_{(TAT)}$

$T = 15.8 \quad F = 251.7 \quad R^2 = 0.98$

18. $Y_{(DPS)} = -5.14 + 2.04x_{(STO)}$

$T = 4.36 \quad F = 19 \quad R^2 = 0.86$

19. $Y_{(DPS)} = 1.86 + 1.13x_{(FAT)}$

$T = 11.8 \quad F = 141.44 \quad R^2 = 0.97$

20. $Y_{(DPS)} = -2.98 + 4.21x_{(TAT)}$

$T = 16.1 \quad F = 260.88 \quad R^2 = 0.98$

21. $Y_{(SP)} = 49.95 + 0.027x_{(NPM)}$

$T = 90.72 \quad F = 8238.92 \quad R^2 = 1.0$

22. $Y_{(SP)} = 49.84 + 0.055x_{(ROI)}$

$T = 7.24 \quad F = 52.5 \quad R^2 = 0.94$

23. $Y_{(SP)} = 49.79 + 0.035x_{(ROE)}$

$T = 3.82 \quad F = 14.61 \quad R^2 = 0.83$

24. $Y_{(SP)} = 47.85 + 5.26x_{(QR)}$

$T = 3.22 \quad F = 10.39 \quad R^2 = 0.77$

SMURFIT

25. $Y_{(EPS)} = -47.96 + 49.04x_{(CR)}$

$T = 4.165 \quad F = 17.34 \quad R^2 = 0.85$

26. $Y_{(SP)} = 54.15 + 4.30x_{(NMP)}$

$T = 3.79 \quad F = 14.42 \quad R^2 = 0.82$

27. $Y_{(SP)} = 47.95 + 45.3x_{(ROI)}$

$T = 5.20 \quad F = 27.10 \quad R^2 = 0.90$

28. $Y_{(SP)} = 54.20 + 2.30x_{(ROE)}$

$T = 4.4 F = 19.67 \quad R^2 = 0.86$

29. $Y_{(SP)} = 173.15 - 14.827x_{(DER)}$

$T = 5.5. \quad F = 30.24 \quad R^2 = 0.91$

30. $Y_{(SP)} = 280.06 - 517.53x_{(DTAR)}$

$T = 6.8 \quad F = 46.3 \quad R^2 = 0.93.$

APPENDIX IV.

REGRESSION FUCNTIONS FOR FORECASTING INVESTMENT INDICES.

Using the general formula

$$Y \text{ (at n year)} = Y \text{ (at 1995 base year)} \times (1 + g.r)^n$$

Where n = 1 for 1996, n = 2 for 1997 n = 3 for 1998

g.r = growth rate (see tables 7 & 8)

FOR ADSWITCH PLC.

Dividend per share:

	(At 1995)	=	$-6.03 + 9.83x_{(TAT)}$
		=	4.98
	g.r	=	0.47
Forecast	$Y_{(at\ 1996)}$	=	$4.98 \times (1 + 0.47)^1 = 7.32$
	$Y_{(at\ 1997)}$	=	$4.98 \times (1 + 0.47)^2 = 10.7$
	$Y_{(at\ 1998)}$	=	$4.98 \times (1 + 0.47)^3 = 15.82$

FOR CUTIX PLC.

1. Earning per Share:

	$Y_{(at\ 1995)}$	=	$-6.29 + 2.18x_{(ROI)}$
		=	19.17
	g.r	=	-0.044
Forecast	$Y_{(1996)}$	=	$19.17 \times (1 + 0.044)^1 = 18.40$
	$Y_{(1997)}$	=	$19.77 \times (1 + 0.044)^2 = 17.66$
	$Y_{(1998)}$	=	$19.17 \times (1 + 0.044)^3 = 16.96$

2. Pay-out Ratio:

$Y_{(at\ 1995)} = 100.8 - 3.5x_{(ROI)}$

$= 59.92$

$g.r = 0.046$

Forecast

$Y_{(1996)} = 59.92 \times (1 + 0.046)^{1} = 62.58$

$Y_{(1997)} = 59.92 \times (1 + 0.046)^{2} = 65.56$

$Y_{(1998)} = 59.92 \times (1 + 0.046)^{3} = 68.58$

3. Share Price:

$Y_{(1995)} = 63.55 + 26.16x_{(FAT)}$

$= 235.94$

$g.r = 0.19$

Forecast

$Y_{(1996)} = 235.94 \times (1 + 0.19)^{1} = 281.48$

$Y_{(1997)} = 235.94 \times (1 + 0.19)^{2} = 335.80$

$Y_{(1998)} = 235.94 \times (1 + 0.19)^{3} = 400.61$

FOR ALUMINIUM EXTRUSION PLC.

1. Earning Per Share:

$Y_{(1995)} = 1.67 + 2.88x_{(FAT)}$

$= 24.02$

$g.r = 0.35$

Forecast

$Y_{(1996)} = 24.02 \times (1 + 0.35)^{1} = 32.47$

$Y_{(1997)} = 24.02 \times (1 + 0.35)^{2} = 43.91$

$Y_{(1998)} = 24.02 \times (1 + 0.35)^{3} = 59.36$

2. Dividend Per Share:

$Y_{(1995)} = 2.42 + 0.92x_{(FAT)}$

$= 9.56$

$g.r = 0.23$

Forecast

$Y_{(1996)} = 9.56 \times (1 + 0.23)^{1} = 11.76$

$Y_{(1997)} = 9.56 \times (1 + 0.23)^{2} = 14.46$

$Y_{(1998)} = 9.56 \times (1 + 0.23)^{3} = 17.79$

KASHIM IBRAHIM LIBR

FOR NEWPAK PLC

Earning Per Share:

$$Y_{(1995)} = -2.93 + 2.64x_{(FAT)}$$

$$= 28.80$$

$$g.r = 2.33$$

Forecast

$$Y_{(1996)} = 28.80 \times (1 + 2.33)^{1} = 95.90$$

$$Y_{(1997)} = 28.50 \times (1 + 2.33)^{2} = 319.36$$

$$Y_{(1998)} = 28.50 \times (1 + 2.33)^{3} = 1063.47$$

FOR SMURFIT PRINTS PLC

Earning per Share:

$$Y_{(1995)} = -47.96 + 49.04x_{(CR)}$$

$$= 17.26$$

$$g.r = 0.067$$

Forecast

$$Y_{(1996)} = 17.26 \times (1 + 0.067)^{1} = 18.42$$

$$Y_{(1997)} = 17.26 \times (1 + 0.067)^{2} = 19.62$$

$$Y_{(1998)} = 17.26 \times (1 + 0.067)^{3} = 20.97$$