Thesis

By

OGUNLEYE, EDWARD OLADIPO

FACULTY OF SOCIAL SCIENCES
OBAFEMI AWOLOWO UNIVERSITY ILE-IFE

Corporate growth determinants in some selected Nigerian manufacturing industries: 1974-85

1991

CORPORATE GROWTH DETERMINANTS IN SOME SELECTED NIGERIAN MANUFACTURING INDUSTRIES 1974-85

BY

OGUNLEYE, EDWARD OLADIPO
B.Sc Hons. Economics (ILORIN);
M.Sc Economics (LAGOS)

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

DOCTOR OF PHILOSOPHY

IN

E C O N O M I C S

OF THE

FACULTY OF SOCIAL SCIENCES
OBAFEMI AWOLOWO UNIVERSITY
ILE-IFE

1991

D E D I C A T I O N

TO

Rachael Folake

and

Oluwadamilola Olutomide

C E R T I F I C A T I O N

I certify that this research was carried out by Edward Oladipo Ogunleye in partial fulfilment of the requirements for the award of the degree of Doctor of Philosophy in Economics in the Faculty of Social Sciences, Obafemi Awolowo University, Ile-Ife.

J. A. Fabayo PhD (Purdue)
SUPERVISOR

FEBRUARY 13, 1991
D A T E

A C K N O W L E D G E M E N T

In the course of undertaking the study, I have inevitably become indebted to many people.

In this respect, I should like to thank my able Supervisor, Dr. J. A. Fabayo of the Department of Economics, Obafemi Awolowo University, Ile-Ife for his keen interest, timely advice and affectionate encouragement, starting with the choice of topic through various stages of the study. His incisive and educative comments are deeply appreciated.

I thankfully acknowledge Dr. (Mrs.) R. O. Soetan's assistance especially in the area of questionnaire construction. I am equally grateful to Drs. J. A. Alade, S. I. Oladeji, and other members of staff of the Department of Ecohomics, Obafemi Awolowo University, Ile-Ife for their advice and encouragement at various stages of the study.

My gratitude goes to the authority of the Ondo State University for their encouragement and particularly for providing the sponsorship throughout the period of the study.

I also acknowledge the timely financial assistance provided by the Council for the Development of Economic and Social Research in Africa (CODESRIA). The financial support was quite helpful at the crucial stages of data collection, data processing and thesis writing.

My appreciation goes to Mr. Sola Adewumi and other numerous field assistants who bore the onerous task of administering my questionnaires. I am indeed grateful to them.

Also, for the timely and cheerful manner with which the staff of the Computer Centre, Obafemi Awolowo University, Ile-Ife handled the Computer analyses of the study, and for an excellent work by Mrs. M. B. Aranuwa in typing both the first and final drafts of the thesis very neatly, I am indeed very grateful.

My immeasurable thanks goes to members of both my extended and nucleus families, especially my sister, Mrs. V. A. Isijola, my brother Mr. Olugbenga Ogunleye and my wife, Folake for their moral support and encouragement which sustained my effort in bringing the study to a successful end.

I also, acknowledge the lively discussions and suggestions by a dear colleague Mr. O. A. Oba at various stages of the study.

Finally, my deep and sincere appreciation goes to all my christian brethren for their prayers and to God, the omniscient, unto whom be all honour, glory and adoration for giving me all the wisdom, strength and energy needed to make the study a reality.

E. O. OGUNLEYE

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

A B S T R A C T

The search for the means of changing the trends of economic development in the less developed countries w where achieved economic results are in most cases far below set targets is a continuous process. Although it is universally believed that the key to overall economic development is industrialization, strategies for achieving industrialization objectives often vary from one country to another. Existing policies are constantly being amended and new ones formulated as those factors militating against and those aiding the realization of the said objectives are identified within peculiar environments.

This study is undertaken with the primary objective of identifying such factors as they related to the growth of selected manufacturing industries in Nigeria during the 1974-1985 period.

Our methods of analyses have been based on both parameter estimations and questionnaire survey approaches.

Using net assets and turnover as our measures of size we examined the effects of such factors as size, profitability and some other financial ratios on growth.

In examining the effect of size on growth, we made use of some statistical and econometric methods which include mean growth rate and variance analysis, regression analysis and bivariate size distribution and variance analysis.

In examining the effects of profitability and other financial ratios on growth we made use of only regression analysis.

Our questionnaire survey has been with a view to identifying those factors which are not easily reflected in the Annual Reports and Statements of Accounts of companies which formed the basis for the data for our parameter estimations.

Our statistical and some aspects of our econometric analyses indicate that the importance of financial strength as measured by both net assets and turnover in explaining higher profit rate and hence higher growth rates have only became relevant and well pronounced with the setting in of the world-wide recession of the early 1980's and the consequential Structural Adjustment Programme which was introduced.

As a corollary to this, other aspects of our econometric analyses confirmed the established relationship between corporate growth and profitability: that profitability is an important argument of the growth function.

The important growth inducing and growth retarding factors identified in our questionnaire survey are non-financial and mostly exogenous to their operations. The growth inducing factors include competitive action to expand market in existing markets and overall expansion of existing markets, both of which are pursued through

more intensive advertising. We also identified product diversification, especially into agriculture as another growth inducing factor especially since the recessionary period when as a result of increasing scarcity of foreign exchange, many companies have had to be sourcing their raw materials locally.

On the other hand the growth retarding factors identified include unstable government policies, shortage of raw materials, foreign competition and general economic conditions.

CHAPTER ONE

I N T R O D U C T I O N

1.1 The Problem

The corporate firm has been identified as the building block of an industrial organization and of the economy as a whole,[1] and hence the growth of an economy has always been closely linked with the growth of industrial firms in the economy. This close association between industrial and economic growth was clearly brought out by Galbraith (1967) when he observed that

> The growth of the firm as a goal of techmostructure is strongly supported by the principle of consistency.[2] No other social goal is more strongly avowed than economic growth... And this is true of all countries, developed or undeveloped, communist, socialist or capitalist... Given the agreement on economic growth as a social goal, the goal of the techmostructure has a strong social purpose. Members can identify themselves with it in the secure knowledge that they are serving a larger purpose than their own. They seek to further the growth of the economy.[3]

---

1. Shepherd W. G., (1979), The Economics of Industrial Organization, Prentice/Hall International, Inc., London, p. 75.

2. The principle of consistency in this context is the idea that the relationship between society at large and an organization must be consistent with the relation of the organization to the individual. There must be consistency in the goals of the society, the organization and the individual. And there must be consistency in the goals or the motives which induce organizations and individuals to pursue these goals.

3. Galbraith J. K. (1967), The New Industrial State Harmondsworth, Penguin pp. 73-74.

In examining the forces that made for growth of the American economy, Baumol (1962)[4] postulated that some of them lie deep in the institutional structure i.e. the nature of business goals and of the competitive process and the charecteristics of the corporate enterprise. In the same vein, Penrose (1959) observed the importance of the business firm as a basic unit for the organization in a private enterprise economy.

> The very nature of the economy is to some extent defined in terms of the kind of firms that compose it, their size, the way in which they are established and grow....[5]

These observations appear to be representative of the perspective of the international community on the role of industrial development in overall national development which is that, the way to develop is to industrialise. Hence, the term "developed economy" is often used synonymously with "industrialised economy".

It is perhaps in line with this international perspective that successive Nigerian Governments have accorded the industrial sector a prominent place in the overall development programmes of the country.

---

4. Baumol W. J. (1962), "On the Theory of Expansion". American Economic Review vol. 52, pp. 1078-1087.

5. Penrose E. (1959), The Theory of the Growth of the Firm Oxford, Blackwell p. 18.

In the First National Development Plan (1962-68), one of the industrial policy objectives was to stimulate the establishment and growth of industries which contribute to economic growth. In reviewing the First Plan in preparation for the Second Plan (1970-74), it was indicated that:

> Over the decade, industrial growth has become a crucial factor in the pace and pattern of Nigeria's general economic development... industry has moved from the periphery of the country's growth mechanism to a potentially dominant position as an important engine of economic transformation.[6]

Thus, some of the industrial policy objectives in the Second Plan were

(i) to promote even development and fair distribution of industries

(ii) to ensure a rapid expansion and diversification of the industrial sector, and

(iii) to increse income realised from the industrial sector[7]

The Third and Fourth Development Plans also contained similar policy objectives. In particular, it was stated in the Fourth Plan that:

> government regards industrialisation as a sine qua non in national efforts to achieve the degree of self-relliance and confidence without which a nation can neither have the stability necessary for social peace at home

---

6. Nigeria Second National Development Plan (1970-74), p. 137.

7. Ibid p. 143

> nor muster the respectability and means required for meaningful involvement in international affairs and interactions. Industrial development therefore becomes one of the highest priority areas for government. Every effort will therefore be made during the plan period to facilitate the process of establishing industries in the country and operating them efficiently.[8]

In order to translate these policy objectives into reality, Government adopted a number of fiscal and monetary measures which were meant to act as incentives to industrialists, and to either eliminate or minimise obstacles to the full accomplishment of the industrial policy. Such measures were in form of concessions to the industrialists, and they include Pioneer status, Approved Users Scheme, Accelerated Depreciation Allowance, Tariff Protection for finished products, as well as Duty Relief on Imports and Raw Materials among many others.

A firm that is granted a Pioneer Status under the Income Tax Relief Act of 1958 - as amended by Decree No. 22 of 1971, enjoys a tax holiday of a maximum period of three years in the first instance, depending on the amount invested and subject to the observance of the conditions stipulated in the certificate of registration

---

8. Nigeria, Fourth National Development Plan (1980-85) p. 145.

of the company[9]. At the end of the first three years, the tax relief period may be extended for a maximum of two years.

Under the Approved Users Scheme, manufacturing industries are allowed to import certain raw materials either free of import duty or at very concessionary duty rates. This was meant to enhance the price competitiveness and profitability of the products of such industries.

Accelerated Depreciation Allowance was a measure taken to encourage and assist investors through a rapid write-down on capital assets. The initial and annual rates of capital allowances allowed under the scheme vary with the type of capital expenditures incurred. For instance, while the initial and annual allowances granted on expenditures on plant and machinery including furniture, fittings and motor vehicles were 20% and 10% respectively, the rates for non-industrial or residential buildings were 5% and 10% respectively.

The monetary measures taken by Government were in the form of establishment of financial institutions to ensure free flow of funds at highly subsidized rates to prospective industrialists. Prominent among the earliest established financial institutions were the investment Company of Nigeria (ICON) which later metamorphosed

---

9. For a full discussion, see Nigeria Company Handbook Fourth Edition, 1988 p. 486.

into the Nigerian Industrial Development Bank (NIDB), the Nigerian Bank for Commerce and Industry (NBCI), The Nigerian Stock Exchange (NSE) and in more recent times, the National Economic Reconstruction Fund (NERFUND), the Industrial Training Fund (ITF), the People's Bank and the Community Bank among others.

There were many objectives for setting upon ICON in 1959, the first of which was

> to assist industrial, commercial and agricultural enterprises in Nigeria generally by assisting the creation, expansion and modernization of such enterprises[10]

When it was reorganised in 1964 to form the NIDB, four new objectives were spelt out. One of them was

> to join skills and experience and foreign private capital with Nigerian skills and capital in the development of new industries and the expansion of existing ones.[11]

The NBCI was established in 1973 to provide equity capital and funds by way of loans to indigenous persons, institutions and organizations for medium and long-term investment in industry and commerce at such rates and upon such terms as may be determined by the Board in accordance with the policy directed by the Federal

---

10. Nwankwo G. O. (1980), The Nigerian Financial System Macmillan International College Edition p. 79

11. Federation of Nigeria, National Development Plan 1962-68 p. 63.

Executive Council.[12] Essentially, the bank was established to ensure the success of the indigenization exercise which followed the promulgation of the Nigerian Enterprises Promotion Decree of 1972 which in itself was yet another industrial policy measure that had been embarked upon.

The Nigerian Stock Exchange started as the Lagos Stock Exchange which was established by the Lagos Exchange Act. 1961. Its establishment was in responce to the recommendation of a committee set up by the Federal Government in 1958 to consider ways and means of promoting a stock market in Nigeria. On its establishment, the Lagos Stock Exchange was expected to perform the following functions:

1. Provide appropriate machinery to facilitate further offerings of stocks and shares to the general public.
2. Promote increasing participation by the public in the private sector of the economy.
3. Encourage the investment of savings so soon as it is clear that stocks and shares are readily available.[13], [14]

---

12. Decree No. 22, 2nd April, 1972.
13. Central Bank of Nigeria Annual Report 1960 p. 17
14. In practice stock exchanges throughout the world have certain roles which were also expected of the Lagos Stock Exchange. See Nwankwo G. O. Op. Cit. p. 134 for these.

The NERFUND was set up by decree No. 2 of 1989 to mobilise financial resources that would enable small- and medium-scale eligible industrial and allied enterprises access to better medium - to long-term (five to ten years) loan facilties, to help them acquire their fixed assets such as machinery and equipment.[15]

The background against which the FUND was set up was based in part on the observation that one of the reasons why banks in Nigeria do not provide loans for the medium- to long-term is the short-term nature of their (deposit) funds, in which case, the short-term nature of their various deposits placed by bank customers create future funding uncertainty for the banks which are therefore reluctant to mismatch the term of their deposits and loans.

Thus, in specific terms, the objective of NERFUND are to

(a) Correct any observed inadequacies in the provision of medium- to long-term financing to small and medium-scale industrial enterprises, especially manufacturing and agro-allied enterprises and ancilliary services;

(b) Provide medium- to long-term loans to participating commercial and merchant banks for on-lending to small- and medium-scale enterprises for the promotion and acceleration of productive activities in such enterprises;

---

15. Federal Republic of Nigeria, The National Economic Reconstruction Fund Information Bulletin and Operational Guidelines p. 3.

(c) Facilitate the provision of loans with five to ten years maturity, including a grace period of one to three years depending on the nature of the enterprise or project.

(d) Provide such loans either in naira or in foreign currencies or both according to the sources of funds available to the fund and the requirements of the eligible enterprise or project.[16]

Subject to certain conditions[17], the eligible enterprises include manufacturing and agro-allied projects, mining, quarrying, industrial support services, equipment leasing and such other enterprises ancilliary thereto.

Beyond the establishment of financial institutions, monetary policies have been formulated over the years to suit the prevailing economic conditions. For instance, during the war period (1966-69), there was an urgent need to deal with the recessional and political expediencies which necessitated a policy of credit ease. Theoretically, such a policy was supposed to aid more investment in every sector of the economy. Unfortunately, the experience then was that although there was a favourable response from supposedly prospective investors, the funds so disbursed to them were diverted into unprofitable ventures such as buying luxurious cars, building houses and other luxurious spendings.

Apart from these fiscal and monetary measures, efforts were made in the past to make adequate provisions for infrastructural facilities like electricity,

---

16 Decree No. 2 1989 Section 1

17 See Ibid Section II

efficient network of roads, railways, water and ocean transport and even the development of industrial estates. All these were meant to reduce considerably the overhead costs which would otherwise have been borne by the industrialists.

With the foregoing, it is quite evident that Nigerian Governments have been making efforts at creating conducive business environment for the establishment and growth of industrial organizations in the country. Although governments, perhaps in the spirit of the dictum that example is better than precepts, have in some cases gone into direct participation in the industrial sector, most of the policy measures have beem directed at encouraging the private sector in the process of industrial development. Emphasis has however changed in favour of the private sector as Government, in the face of dwindling and unstable oil revenue, has adopted a policy of privatisation and commercialisation of those business ventures in which it has hitherto owned shares. The whole essence of privatisation has been to raise productivity and efficiency bedause it is believed that business orientation in the private sector is such that allows for initiative, competition and adoption of economic considerations in the decision making process.

Coupled with this is the fact that in the Nigerian case, it is expected that government will be relieved of its financial burden of disbursing annual subventions for the financing of such public enterprises to be privatised.

However, given that many of the enterprises to be privatised in Nigeria have been operating as monopolists over the years, it is very doubtful if the objective of improved efficiency would be realised to the extent anticipated after privatisation. This is because efficiency is in part, a function of competition and in such a situation where similar enterprises such as the National Electric Power Authority (NEPA) or the Nigerian Railway Corporation (NRC) cannot be easily established by private businessmen given the financial outlay, it is clear that the enterprises will continue to operate as monopolists for a long time to come.

Penrose (1959) had posited that corporate or industrial growth is a natural process that will occur whenever favourable conditions exist. One would therefore have expected industrial establishments to flourish in the type of environment that has so far been created by government if only a little beyond the time the world-wide recession set in in 1981. But to the contrary, it appears Nigeria is still far from being industrialized to the extent envisaged in the

development plans. The rate of growth of the proportion of the Gross Domestic Product (GDP) accruing from the manufacturing sub-sector has been very low. By the end of the Second Plan period, it was indicated that

> a... study of development suggests that Nigeria would have a manufacturing sector representing 16 per cent of GDP[18].

In actual fact the figure had risen from 4 per cent in 1962-63 to less than 8 per cent in 1973-74. For the United Kingdom, the United States of America and Japan, the proportions were 27, 25 and 28 per cent respectively in 1973-74. By 1984, the proportion was still for below 10 per cent in Nigeria. Specifically the figures were 9.42 and 9.66 in 1986 and 1987[19] respectively. Although, this low proportion of the manufacturing sub-sector in the GDP is characteristic of the less developed countries in general (for instance it was less that 1 per cent in Liberia in 1974 and about 12 per cent in Ghana in the same year), the important point we are drawing attention to is the wide disparity between the expected and the achieved contribution of the sub-sector.

While it cannot be denied that the industrial sector has grown over the years, the short fall in the expected growth rate is also quite evident. Given that the key to overall economic development lies in the

---

18. Federation of Nigeria, Third National Development Plan p. 138.

19. Central Bank of Nigeria Annual Report 1988 p. 15.

industrial sector, and given the industrial policy objectives and measures so far taken by the Government and yet the relatively poor performance of the sector, some relevant questions that readily arise include:

(i) What are the factors responsible for the slow growth of the industrial sector?

(ii) What are the factors considered by the existing firms as conducive to their continued existence and expansion.

(iii) What other measures can be taken to effect some positive changes in the growth rate of the industrial sector if it is to remain a crucial factor in the pace and pattern of the country's general economic development?

By focusing attention on some key manufacturing industries[20] in the country, attempts are made to provide some answers to these and other related questions.

1.2 Objectives of the Study

Primarily, our objective is to identify the major factors that aid corporate growth in Nigeria. In the process of accomplishing this objective, some secondary objectives we also set to accomplish include:

(i) Identifying the major restraints to corporate growth in Nigeria.

(ii) Determining the average growth rate and the disparity in the growth rate of firms of different size classes.

(iii) Examining the extent to which economic and financial factors vis-a-vis socio-political factors affect corporate growth in Nigeria.

---

20. The target industries are stated in chapter three

(iv) Investigating the extent to which the existing corporate growth theories are relevant in a typical less developed country-Nigeria.

1.3 Hypotheses

In pursuance of the foregoing set objectives, the following are the main null hypotheses tested in the study.

(i) There is no systematic relationship between size and growth of Nigerian firms.

(ii) There is no systematic relationship between financial characteristics and growth of Nigerian firms.

(iii) Corporate growth in Nigeria is not determined by economic and financial factors, but by social, political and other non-financial factors such as managements' response to business environment.

Each of these hypotheses is tested under different chapters of the study.

1.4 Definitions and Scope

Growth is simply defined as the change in size[20] over time. It involves addition to the productive assets of the firm and these include the labour force, capital goods, financial assets, raw materials etc.

A corporate body on its own is a legal entity created either for a limited period or in perpetuity and is treated in many respects as a natural person, in which case, it can own property, incur debt, sue and be

---

20. The various measures of size and the ones adopted in this study are enumerated and discussed in chapter three.

sued.[21] While we acknowledge that this definition covers a variety of organizations, many of which are not business oriented, "corporate" in the context of this study refers to those business organizations that are set up primarily for the purpose of making some profits, since they are the ones whose contributions, in terms of both value added and employment generation, are mostly reckoned with in the process of evaluating the overall performance of the economy. Our definition therefore excludes such public enterprises as the Water Corporations or the National Electric Power Authority that are set up primarily to provide social services. It also excludes such social organizations as churches, mosques or clubs. Essentially, our definition covers only those firms that can be classified under "Economic" heading in national income accounting.

We also acknowledge the fact that the industrial sector of any economy can expand either through the establishment of new firms or through the expansion or growth of the existing ones. However, before a firm can grow, it must have been born or established, and just as firms are born, they also die either by liquidation or by being taken over by a more viable firm or through merger with a bigger firm. In this

---

21. Sloan, J. S. , and Zurcher, A. J. (1970), Dictionary of Economics. Fifth Edition, Barnes and Noble Books p. 102.

study, we limit ourselves to the growth of firms not because we do not consider the birth and death of firms as being important, but because we believe they are wide enough to constitute separate bodies of study.

Lastly, we also acknowledge the fact that the growth of firms are phenomena which take various forms, many (such as the ingenuity with which resources are employed and the skill of those who operate machines) of which are not measurable. In general, all inducements to growth are classified into two viz, internal and external. Internal inducements include such efactors that relate to the existence of unutilized or underutilized resources (i.e. capital, productive capacity, talents or personnel, ideas etc.) which can be employed by the firms in the course of expansion. These often lead to such diverse activities as development of new products and processes, internal vertical integration, geographical expansion into new markets depending on the nature of unused capacity that existed.

However, a firm may accomplish any of these goals through merger which is the fusion of two or more firms that differ in size into one, and this is considered the external means of achieving growth.

It has been observed that growth by merger occurs at a fairly advanced stage of an expansion and more

specifically after a firm might have exhausted the opportunities for profitable internal expansion. Fabayo (1981) indicated that Nigerian industries under-utilized their capacities. Some of the reasons identified for this occurrence included utility supply shortages at the existing tariff rates, spare parts problems, inadequate demand at the prevailing prices among others.[23] The prevailing economic crunch with its attendant Structural Adjustment Programme (SAP) appear to have worsened the situation for most small- and medium scale firms. Except for a few large ones, most Nigerian firms, especially in the manufacturing sub-sector have been operating far below capacity, and although it is being suggested that a way out of the economic impasse for the small and medium scale firms is to merge with the bigger and more viable ones, growth by merger has not been significantly important in Nigeria. In fact, that legal provisions for merger in Nigeria is contained in a relatively recent Companies Act of 1986[24] is an attestation to the fact that merger is a recent phenomenon in the country. In view of this it appears reasonable to assume that corporate growth has been mainly internally induced. The study therefore focuses on the determinants of growth other than merger.

---

23. Fabayo J.A((1981),"An Economic Analysis of Productive Capacity underutilization in some Nigerian Manufacturing Companies" The Quarterly Journal of Administration vol. XV pp. 315-34

24. Giwa R. F. (Chairman/Managing Director of Lever Brothers, Nigeria Limited) Business Times, Monday May 29, 1989 p. 12.

In sum, we set out in the study to identify these factors that are responsible for the internally induced growth of corporate business firms in Nigeria.

1.5 Plan of Study

Beyond this introductory chapter, the rest of the study is structured as follows: In chapter two, we set out to review the relevant literature. Under the discussion of method of analysis in chapter three, we undertake a discussion of our variables, present and discuss the corporate growth models used in testing our hypotheses and also discuss the method of data collection. We also highlight the shortcomings and limitations of the data in this chapter. Chapters four, five and six are the analyses chapters where the results of different aspects of the study are presented and discussed. In chapters four and five where we examine the effects of size and financial characteristics respectively on growth, we start with cross-sectional analyses and end with time-series of some individual firms, while in chapter six which is based on questionnaire survey, the entire analysis is cross-sectional. We end the study in chapter seven where the study is summarised and conclusions and recommendations are made.

CHAPTER TWO

LITERATURE REVIEW

In this chapter we trace the evolution of what is generally regarded as the theory of corporate growth, review the basic formal models and also examine the empirical evidence.

2.1 Evolution of the Modern Theories of the Firm

Orthodox economics had been dominated by the theory of value which was a general equilibrium theory founded on perfect competition and provided answers to all questions about prices, output and incomes. It was from this theory that the traditional theory of the firm evolved. Robinson (1933)[1] had observed that rather than analyse the simultaneous equilibrium determination for all products as in the orthodox theory, the analysis of the output and price of a single commodity can be conducted by a technique based upon the study of individual decisions.

The traditional theory deals with the firm at a very high level of abstraction. It is based on the assumption that the entrepreneur who owns the firm has the singular objective of profit maximisation. It is further assumed that in a world of certainty in which there is full knowledge about the past performance, the present condition and future developments, this objective is

---

1. Robinson J. (1933), The Economics of Imperfect Competition London, Macmillan,

attained by the application of the marginalist principle: marginal cost equals marginal revenue. Furthermore, the firm was believed to act atomistically, ignoring its rivals' reactions.

With cost curves that are U-shaped both in the short- and in the long-run, a single optimum level of output is implied. The theory presents a static model of the firm in which once the single optimum level of output is attained, a state of status quo is maintained, except if there is a technological breakthrough which alters the position of the cost curve, or some positive changes in the market which make some alternative production level more profitable.

Although the traditional theory represented a sharp change of focus from the theory of value, yet, before the end of the decade of its evolution, it had already started being attacked. The publication of the empirical findings of Hall and Hitch in 1939[2] concerning the behaviour of the firm in the real world initiated a gradual mounting dissatisfaction with the traditional theory. It had been discovered in the study that firms knew neither their marginal costs nor their marginal revenue. Hence they neither applied the marginalist principle nor even attempted to maximise their long-run profits. It was also discovered that the firms did not

---

2. Hall, R. L., and Hitch C. J., (1939), "Price Theory and Business Behaviour" Oxford Economic Papers

act atomistically. In sum, the study actually exposed the traditional theory of the firm as lacking in realism.

The study by Hall and Hitch opened a flood-gate of attacks on the traditional theory from different perspectives. Some of these include the works of Machlup (1946),[3] Reder (1945)[4], Oliver (1947)[5], Rothschild (1947)[6], Gondon (1948)[7], Papandreou (1952)[8] and Koplin (1963)[9].

Implied in these attacks were various proposals for a reformulation of the theory of the firm. Prominent among the proposals is that which stems from the

---

3. Machlup, F. (1946), "Marginal Analysis and Empirical Research" American Economic Review Vol. XXXVI.

4. Réder, M. W. (1947), "A Reconsideration of the Marginal Productivity Theory" Journal of Political Economics Vol. LVII.

5. Oliver, H. M. (1947), "Marginal Theory and Business Behaviour" American Economic Review Vol. XXXVII

6. Rothschild, K. (1947), "Price Theory and Oligopoly" Economic Journal Vol. LXVII.

7. Gordon, R. A. (1948), "Short-Period Price Determination in Theory and Practice" American Economic Review Vol. XXXVIII.

8. Papandreou, A. (1952), "Some Basic Problems in the Theory of the Firm", in A Survey of Contemporary Economics ed. B. F. Haley (Irwin),

9. Koplin, H. T. (1963), "The Profit Maximisation Assumption" Oxford Economic Papers.

dissatisfaction with the static equilibrium framework of the traditional theory. The plausibility of the assumption that there is an optimum size in the long-run had been undermined by the much accumulated evidence of constant and increasing returns to scale. In its place, a new framework which reflects the cummulative movements of the size of the firm in a particular direction was called for.

The objection to the atomistic behaviour of the neo-classical firm under certainty and the general agreement that the structure of manufacturing is predominantly oligopolistic further strengthens the proposal for a dynamic equilibrium framework.

The various strands of proposal for a reformulation have led to suggestions of several alternative goals which have been synthesized and classified into broad groups-namely, behaviourism, long-run survival and managerialsm among others.

The seminal work on behaviourism started with Simon (1952)[10] and subsequently made elaborate by Cyert and March (1963)[11]. The essential elements of divergence between the traditional theory and behaviourism lie in

---

10. Simon, H. A. (1952), "A Behavioural Model of Rational Choice" Quarterly Journal of Economics Vol. LXVI.

11. Cyert, R. M. (1963) and J. G. March, A Behavioural Theory of the Firm. Prentice-Hall 332p.

(i) the ownership/management relationship

(ii) the number of goals of the firm and

(iii) their concepts of rationality.

Behaviourism postulates a divorce of management from ownership. It recognises a multiplicity of goals that are accounted for by a coalition of different groups such as the workers, the shareholders, customers etc. which constitute the firm. Furthermore, its concept of rationality is defined in terms of a satisficing behaviour rather than the maximising behaviour of the traditional firm.

In regard of the long-run survival theory, its proponents such as Rothschild (1947)[12] suggest that the primary motive of the entrepreneur is long survival. He therefore takes such steps that aim at the attainment and retention of a constant market share. Though such a behaviour has been proved to be compatible with the marginalistic behaviour,[13] it is not certain whether it leads to profit maximisation in the long-run. It is however quite clear that different target market-shares will yield different maximum levels of profit.

---

12. Rothschild, Op. Cit.

13. See Koutsoyiannis A. (1975), Modern Microeconomics Macmillan p. 258.

Baumol (1962)[14], Marris (1963)[15] (1964)[16] and Williamson (1963)[17] are among the earliest proponents of managerialism which, like behaviourism, postulates a divorce of management from ownership. Although the managerial theorists do not share the same view in regard of the assumptions they make about the managerial objectives as well as in their postulates about the nature of the management/ownership relationship, they all agree that the divorce of management from ownership concedes some discretion to Managers in setting goals which maximise their own utility function for the firm. The divergence in the assumptions about managerial objectives notwithstanding, a common trait is the implied corporate growth objective. While for instance, in the dynamic version of Baumol's model, the basic assumption is that the firm attempts to maximise the rate of growth of sales, the Managers in Marris' model aim at maximising the balanced-growth rate i.e. equating their own utility which is a function of the growth of demand for the firm's products and the utility of the owner/shareholders which

---

14. Baumol, W. J. (1962), Business Behaviour Value and Growth Harcourt and Brace.

15. Marris R. (1963), "A Model of Managerial Enterprise" Quarterly Journal of Economics Vol. LXXVII

16. _____ (1964), The Economics of Managerial Capitalism London, Macmillan.

17. Williamson O. E. (1963), "Managerial Discretion and Business Behaviour" American Economic Review Vol. LIII.

is a function of the rate of growth of capital supply. Williamson also indicated that the status and power of managers is associated with the discretion they have in undertaking investments beyond those required for the normal operation of the firm.

Given all the theories, it is then clear that the modern firm is dynamic; it is

> characterised by a restless urge to do better, to change the condition lest through inactivity they are changed against (it)[18]

2.2 Evolution of the Corporate Growth Theory

Although a wide range of scholars have addressed themselves to the issue of corporate growth, authors that have been closely associated with the pioneering work in the area are Downie (1958)[19], Penrose (1959)[20] and Marris (1963)[21] (1964)[22].

The firm that emerged from the traditional theory which succeeded the theory of value was one whose analysis demonstrates a single market even when more than one product is being produced. In fact the case of a

---

18. Penrose, E. (1959), The Theory of the Growth of firm Oxford, Blackwell p. 29.

19. Downie, J. (1958), The Competitive Process London, Duckworth.

20. Penrose, E., The Theory of the Growth of the firm Op. Cit.

21. Marris R., "A Model of Managerial Enterprise" Op. Cit.

22. _____, Managerial Capitalism, Op. Cit.

mono-product firm supplying a single market is more commonly demonstrated. Central to the traditional theory is the identification of the industry with all the monoproduct firms supplying a particular market.

Downie's starting point is in the introduction of a new concept of the industry which he defined as

> a group of firms whose technique of production are sufficiently alike for it to conceive one as being able to do the business of another.[23]

Downie's principal objective was to analyse how the market structure and the conventions governing business behaviour affect the dispersion of efficiency among firms and the rate of technical progress. He postulates that firms within the same industry do have different degrees of efficiency as measured roughly by their unit costs, with some firms being below and some above the average, and that the cause of this difference in efficiency arises from past innovation which is retained within the firm either by patent or more probably by industrial secrecy.

This, of course, is at variance with the assumption of perfect knowledge under a given technology of the traditional theory. It is also noteworthy that the

---

23. Downie, J., The Competitive Process Op. Cit. p. 31

identification of technical progress among firms is an indication that they are not as static as the traditional theory postulates.

Downie proceeds to introduce the concept of "transfer mechanism" which is the process by which the more efficient firms encroach on the market share of the less efficient ones. Since, according to Downie, the primary objective of the firm is to grow, it means the more efficient firms grow faster as a direct result of their encroachment on the market share of the less efficient ones. It then follows that growth in Downie's model is a function of two variables: capacity which is expanded through innovation; and market (or demand) which is expanded by attracting new customers from rivals. Innovation requires finance-either internally or externally generated. Regardless of its source, finance is a function of profit. On the other hand, to attract new customers, there must be a price reduction. Clearly, there is a point beyond which a reduction in price will be at the expense of profit. Capacity expansion and market expansion then become competitive and growth becomes negatively related to profits. This point therefore sets a limit to the sustainable growth rate of the firm because both price and profit rate at that point are such that allow capacity and market to expand at the

same rate. If a firm becomes more efficient through innovation, its capacity will expand, as will be reflected in a reduction in its unit cost. The firm will also be in a position to expand its market through further price reduction and the point at which price and profit can allow for a sustaimable growth rate will recede. It than means that the more efficient a firm is, the higher will be the maximum sustainable rate of growth.

Downie realises the implications of an unchecked process of transfer mechanism - an ever-growing industrial concentration. He however believes this will not occur since any "given historical situation will contain within itself the seeds of its own transformation"[24]. Contained within the transfer mechanism is the "innovation mechanism" which is the process whereby the less efficient firms in their characteristic restless urge to do better and to change their apparent precarious conditions always seek actively to reverse the diminishing trend in their market share. Downie suggests that due to this process, the next technological breakthrough in the industry is more likely to be made by one of the less efficient firms than by the more efficient ones which may now tend to pay little attention to innovation, but concentrate on expanding the existing market for the existing product. If it so happens that one of the less

---

24. Ibid., p. 23

efficient firms does make the next technological breakthrough, relative efficiency and consequently the transfer mechanism will be reversed.

Apparently, Downie's discussion of the growth process cannot be built into a steady-state permanent growth model since any successful distabilization of growth through innovation will simultaneously set in motion the process of reversing the trend. However, there are two major contributions made by Downie in preparing the grounds for an articulate theory of corporate growth: the two-way relationship between growth and profitability, and the competitive process in which he stressed the oligopolistic interdependence among firms which underlies both the transfer and innovation mechanisms. Even though it does not appear that Downie and many scholars after him realised it, the growth-profitability relationship, when examined within the oligopolistic structure of the firms provides a more realistic result than what obtains with those models which pay no attention to the uncertainties that may arise from unpredictable reactions of rivals. In fact, as will be shown in subsequent contributions, not much cognisance has been taken of the competitive process. On the other hand, those subsequent works appear to have been developed around the framework of the growth-profitability relationship in a world of certainty.

In her contribution, Penrose by-passed the industry in order to concentrate on the internal characteristics of the firm. She redefined the firm in such a way that emphasis is shifted away totally from the industry. Her concept of the firm is:

> a collection of productive resources, the disposal of which between different uses and over time is determined by administrative decision[25]

The importance of this definition is further stressed thus:

> In a sense, the final products being produced by a firm at any given time merely represent one of several ways in which the firm could be using its resources, an incident in the development of its basic potentialities. Over the years, the product change ... Within the limit set by the rate at which the administrative structure of the firm can be adapted and adjusted to larger and larger scale of operation there is nothing inherent in the nature of the firm or of its economic function to prevent indefinite expansion of its activities[26]

The managerial objective in Penrose's discussion is

> to increase total long run profits... to expand as fast as they can take advantage of opportunities for expansion that they consider profitable[27]

---

25. Penrose, E., The Theory of the Growth of the Firm Op. Cit. p. 24.

26. Ibid., pp. 24-25.

27. Ibid., p. 29.

Given the pool of resources at the firm's disposal, the set of activities which the firm is both aware of and able to undertake profitably is termed its productive opportunity. Penrose's contribution was centred around the determination of the constraints to this productive opportunity. She stresses that it is not so much the amount of resources available that may be termed the firm's input as the services which the resources could render, since the same set of resources if put into some other use or combined with some other resources will provide different services or set of services.

As the firm pursues its growth objective it expands the productive services potentially available to it by expanding its managerial team and acquiring more resources. To her, the finance to acquire the resources cannot act as a constraint since it is always available, if only at some costs. The demand conditions as seen by the Managers also change as their experience and knowledge widen. Thus, at any point in time the products considered by the firm is determined partly by the available resources and partly by the Managers' experience and knowledge of the market. Since these do change over time, it means that the firm in Penrose's model grows normally through diversification. Diversification is significant in the model in that it

> frees the firm from the restrictions imposed on its expansion by the demand for its existing resources... Existing markets may be profitable and growing, but all that is required to induce diversification is that they do not grow fast enough to use fully the productive services available to the individual firm[28]

In sum, in discarding the financial and demand restraint in Downie's model, Penrose proposes managerial restraint as the limiting factor to the growth rate of firms. It is the managerial experience and knowledge that determine the rate of diversification and therefore the rate of growth of the firm.

Like Downie's hypothesis, it has been difficult putting Penrose's discussion of the growth process together as a formal corporate growth model. Her work has been described by Marris as being organizational as distinct from his own strictly economic theory.

Marris completed the foundation laying for an explicit corporate growth theory by welding together the two basic restraint in Downie's model - financial and demand - with the managerial restraint in Penrose's work.

In Marris model, the Managers aim at the maximisation of their own utility which is a function of the growth of demand for the products of the firms, g_d. The owners/ shareholders also aim at the maximisation of their own

---

28. Ibid., p. 145

utility which Marris assumes to be a function of the rate of growth of the capital supply, g_c which is a measure of the size of the firm. The firm attains equilibrium by striking a balance between the realisation of both the Managers' and the owner's objectives so that

$$g_D = g_c = g_B$$

where g_B is the maximum balanced growth rate. Marris establishes that the factors that determine both g_D and g_c can be expressed in terms of two variables, the rate of diversification and the average profit margin. Diversification are of two types - differentiated and imitative diversifications. While the former involves the introduction of an entirely new product which has no close substitute and therefore creates new demand, the latter involves the introduction of a substitute for a product already in existence. Marris considers differentiated diversification the most important form of seeking to grow since there is no danger of encroaching on the market of competitors. On the other hand, imitative diversification is almost certain to induce competitors' reaction. To guard against uncertainty firms always choose to diversify with new products. However, considering the rate of imitative diversification in reality, one may regard the little

importance attached to it as a simplifying premise which is necessary for the basic steady-state type of growth model Marris eventually developed.

The growth of demand is positively correlated with the diversification rate. However, if the rate of new products is too fast, the rate of growth will fall, due to the over running of the personnel involved in the development and marketing of new products. This is an aspect of the managerial restraint in Marris's model. The other aspect is a straight adoption of Penrose's view that a ceiling to the growth of a firm is set by the capacity of its managerial team which can only be expended at a definite rate that is determined by the rate at which new hands can fully be integrated for team-work. As regards the growth of demand-profit margin relationship, it is assumed to be negative. The argument is that if diversification rate is high, due probably to higher expenses on R & D, given that the prices of products do not change, more selling expenses in form of advertisement will have to be incurred. The combinations of higher R & D and higher selling expenses will reduce the profit margin but expand the growth of demand.

As in Downie's model, there are two sources of financing growth-internal and external. The internal source is through retained profits while the external

source may be through the issue of new shares or borrowing. According to Marris the main source is internal i.e. through retained profits. However, there is a limit to how much profits the firm can retain since there is also the desire to distribute a satisfactory dividend in order to avoid the selling of shares. The argument is that if sales of shares occur on a large enough scale, the market value of the firm's share will fall. This may endanger the position of the Managers as the falling market value of the shares may lead to take over raids. Thus, the Managers have to be very watchful of their retention ratio.

If a firm is resorting to borrowing to finance growth, it will also have to be watchful of its debt-equity ratio (leverage). The higher this ratio, the more exposed is the firm to take-over raids and the less secured is the management.

In regard of new issue of shares, whether a firm can continue to issue new shares or not depends on the effect the new issues will have on the market value of the firm. If it is expected that the returns to the new investment to be undertaken by the new shares will be high enough to either raise or maintain earnings on the existing shares, the market value of the existing shares

will rise or be maintained. If otherwise, the market value will fall. Obviously there is a limit to the number of new shares that can be issued because shares of the same type, whether new or old always have the same price while returns per share do not always rise with the number of shares issued.

It is in this area of growth financing that Marris's major contribution to the theory of corporate growth in form of the introduction of the concept of valuation ratio has been identified. Valuation ratio is the ratio of the stock market valuation (i.e. market assessment of the firm's performance and prospect under the existing management) to its book value. The market assessment of the firm will depend on the ratio of share returns to the share price. With the issue of more new shares, the returns-price ratio falls. The market valuation, and therefore the valuation ratio falls. The position of the management will be insecured if this valuation ratio falls below the subjective valuation ratio put upon the firm by a potential bidder.

Marris suggests that job security is attained by subjectively combining the retention ratio, the debt ratio and the liquidity ratio into a single parameter called the financial security constraint. This security constraint is positively correlated with the first two

ratios and negatively with the third. The higher the overall parameter (i.e. the lower the valuation ratio), the less secured is the job of the Managers, but the higher will be retained profits and borrowed capital. Growth of capital is therefore a positive function of profits, but subject to a financial constraint. Profit on the other hand is shown to be a positive linear function of the profit margin and a negative quadratic function of the diversification rate.

Equilibrium of the firm is determined by choosing either the diversification rate or the profit margin that will equate both g_c and g_D. If one is chosen, the other is simultaneously determined.

The summary of it is: Downie suggests that firms grow through the expansion of both capacity and market, but that there is a limit to the rate of growth. The limit is set at the point where the expansion of capacity becomes competitive with the expansion of market, in which case there develops simultaneously a financial and a demand restraint to growth. Penrose suggests that the financial restraint cannot be strong enough to limit growth since funds can always be obtained at some costs. She also believes that demand restraint can be overcome through diversification. She suggests that managerial restraint which manifests in the rate at which new

products can be effectively introduced into the market is the limiting factor to the rate of growth of the firm. Marris agrees with Penrose that the demand restraint in Downie's work can be overcome through diversification and that managerial restraint limits the rate of expansion. He however differs in his own concept of managerial restraint which to him manifests in the limit set by the financial resources that is available to finance growth. Hence, he sees the financial restraint which comes into play in form of takeover threat immediately the financial security constraint attains a maximum level as being the limiting factor to corporate growth. Obviously, unlike the previous authors, Marris recognises the fact that Managers are not interested only in growth, but also in the security of their job.

In view of the fact that increasing take-over threat which is an indication of falling valuation ratio is associated with falling profitability, the relationship between growth and profitability has formed the foundation on which corporate growth theories and most formal models are based.

2.3 Market Valuation, Taxation and Growth[29]

Before we examine the basic model of corporate growth as developed by Marris, we discuss the stockholder welfare-maximisation of the theory of finance.

It is obvious that the decision to grow involves an implicit decision to raise money capital to finance the

29. The discussions here are based on Koustoyiannis A., (1982), Non-Price Decision. The firm in a Modern Context Macmillan Chapter 8.

growth and the ease with which such finance can be raised will determine the rate at which the firm can grow.

The financing decisions involve the determination of the optimal mix of the various sources of funds required for financing the assets of the firm. Given the three sources of financing assets of the firm (issue) of shares, issue of bonds and retained earnings), the financing decision involves two separate types of decisions namely, the determination of an optimal debt/equity ratio (capital structure decision) and an optimal dividend/payout decision (retention-dividend policy).

2.3.1 The Capital Structure of the Firm

The capital structure of the firm is important because the proportion of debt determines the cost of capital to the firm.

It is rational for a firm to strive to minimise the costs of its funds just as it minimises operating costs. The cost of funds and operations will reduce the potential amount which the common stockholders of a company will receive as dividends. The higher this potential yield to stockholders of common stock, the higher the stock is priced. If companies are assumed to be value maximisers, then they will strive to minimise costs of funds.

Besides and more importantly for our purpose, if companies can minimise the costs of the funds they use and thus maximise the value of their securities, the chances of their survival and growth over time will be high.

Again, the problems of finding the optimal financing mix and estimating its costs are central to the evaluation of investment proposals facing a firm.

The question is, can the firm, by varying its financing mix, affect its overall cost of funds and total valuation, either favourably or unfavourably?

Various attempts at providing an answer to this question have resulted in two major views. The first, the traditionalist view claims that an optimal capital structure exists, at least, for firms in the same risk class while the other, the Modigliani-Miller view denies the existence of such an optimal structure except under some restrictive conditions[30].

The notations and definitions used are as follows:

D = Market value of debt

S = market value of common stock

V = total value of the firm

$\bar{X}$ = expected value of total earnings (before taxes and interests)

iD = interest payments to bondholders

i = market rate of interest

E = earnings available to shareholders, after interest payments (but before taxes) so that $E = \bar{X} - iD$

---

30. Ibid p.

It is clear from these definitions that

$$V = S + D \quad . \quad . \quad . \quad (2.1)$$

and that $\bar{X} = E + iD \quad . \quad . \quad . \quad (2.2)$

It is assumed that D is the present value of the streams of earnings of bondholders.

$$D = \frac{iD}{K_d} \quad . \quad . \quad . \quad (2.3)$$

where K_d is the discount rate at which bondholders apply in order to find the present value of the stream of their earnings.

Similarly

$$S = \frac{\bar{X} - iD}{K_e} = \frac{E}{K_e} \quad . \quad . \quad (2.4)$$

where K_e is the discount rate that the shareholders apply in order to estimate the present value of their stream of earnings.

Finally,

$$V = \frac{\bar{X}}{K_o} \quad . \quad . \quad . \quad (2.5)$$

$$\text{or } V = \frac{\bar{X} - iD}{K_e} + \frac{iD}{K_d}$$

where K_o is the over-all discount rate which investors in the market apply in order to find the present value of the firm, irrespective of who receives them.

Equations (2.3), (2.4) and (2.5) imply respectively that

$$K_d = \frac{iD}{D} = i \quad . \quad . \quad . \quad (2.6)$$

$$K_e = \frac{X - iD}{S} = \frac{E}{S} \quad . \quad . \quad . \quad (2.7)$$

$$K_o = \frac{X}{V} \quad . \quad . \quad . \quad . \quad (2.8)$$

If we substitute (2.2) in (2.8) we obtain

$$K_o = \frac{E}{V} + \frac{iD}{V} \quad . \quad . \quad . \quad (2.9)$$

From equations 2.6 and 2.7

we obtain

$iD = K_d D$ and $E = K_e S$ which when substituted into equation (2.9) gives

$$K_o = K_e \frac{S}{V} + K_d \frac{D}{V} \quad . \quad . \quad (2.10)$$

Solving for K_e, we find

$$K_e = K_o + (K_o - K_d) D/S \quad . \quad . \quad (2.11)$$

Equation (2.11) states that K_e is higher than K_o by the product $(K_o - K_d)$ D/S. For this last term to be positive K_o must be greater than K_d. It then follows that

$$K_e > K_o > K_d.$$

The core of the theory of capital structure is that what happens to these discount rates as the degree of leverage changes?

To begin with, it is assumed that the firm under consideration is financed entirely with equity. Then allow some bond financing to be continuously substituted for

the firm's equity and observe the effect of this on the composite cost of capital, initially ignoring income taxes.

2.3.2 The traditional view

As debt is first substituted for equity in the capital structure, the cost of debt will tend to be very low, the reason being that the financial risk to the common stock holders will be low and can safely be ignored. But as more debt is added to the capital structure the costs of debt will begin to rise, for the firm's bonds will be considered riskier investments which should command a higher rate of return. That is to say, the investors will demand a higher rate of interest on the riskier bonds. There is no gain saying that the bondholder has more protection the less debt there is.

Since the firm has to pay a higher cost on additional debt, this tends to diminish the potentially beneficial effects of trading on equity. As the amount of bonds issued becomes substantial, the stockholders will bid down the price of the stock i.e. they will demand a higher equity capitalization rate.

The above argument is shown in Figure I.

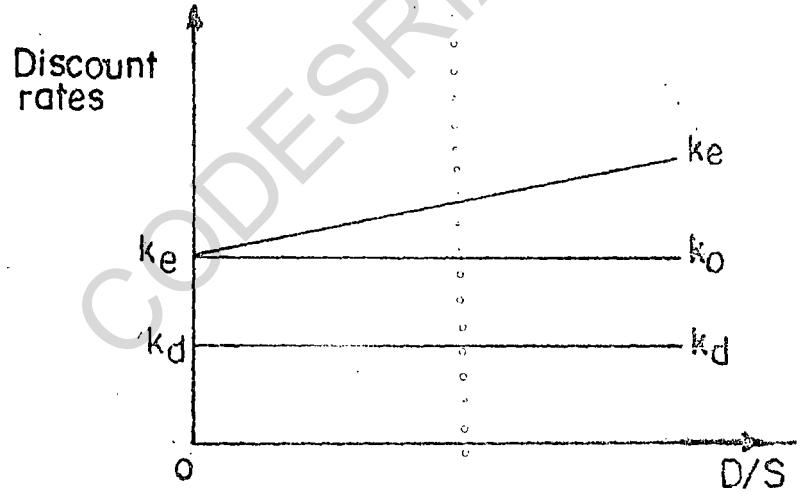

Fig. 1:
Durand's Net Operating Approach to Optimum Capital Structure

K_o falls initially with increasing leverage, but starts rising from point B where debt is considered substantially large enough.

It should be noted that the cost of borrowed funds K_d and the cost of equity K_e are not affected by capital structure management. These costs refer to the average costs of the sources of funds i.e. cost per unit of debt which ever way it is expressed or measured, so that what is required for the weighted cost of capital to fall in the leverage range OX is for K_d to be less than K_e and K_e should be relatively elastic. But as K_e becomes relatively inelastic the composite cost curve makes an upturn and rises more rapidly with the rising K_e (and K_d).

There is therefore a debt-equity mix or range at or along which the composite cost of capital is minimised. This is point B (the trough) on the K_o curve and the debt-equity mix, X. Corresponding to this minimum cost is the optimal capital structure. In terms of equation 2.5, it is the point at which the total market value of the firm is maximised and the chances of survival and growth are at the maximum.

2.3.2 The Modigliani-Miller (M. M.) position[31]

First, in the absence of corporate and personal taxes as in the traditionalist view above, M. M. proposed that

---

31. Modigliani, F. and Miller M. (1958), "The Cost of Capital, Corporate Finance and the Theory of Finance.

in perfect capital markets where investors act rationally, the overall K_o is constant at all degrees of leverage for firms with the same size and the same business risk. Such firms generate identical streams of earnings, with the same degree of business risk and these streams must have the same total value, irrespective of differences in leverage. Thus, according to M. M., there is no optimal capital structure for firms with the same business risk. This proposition is obviously diametrically opposite to the traditionalist view which postulated the existence of such an optimal capital structure.

Figure 2 illustrates the M. M. Hypothesis without corporate taxes.

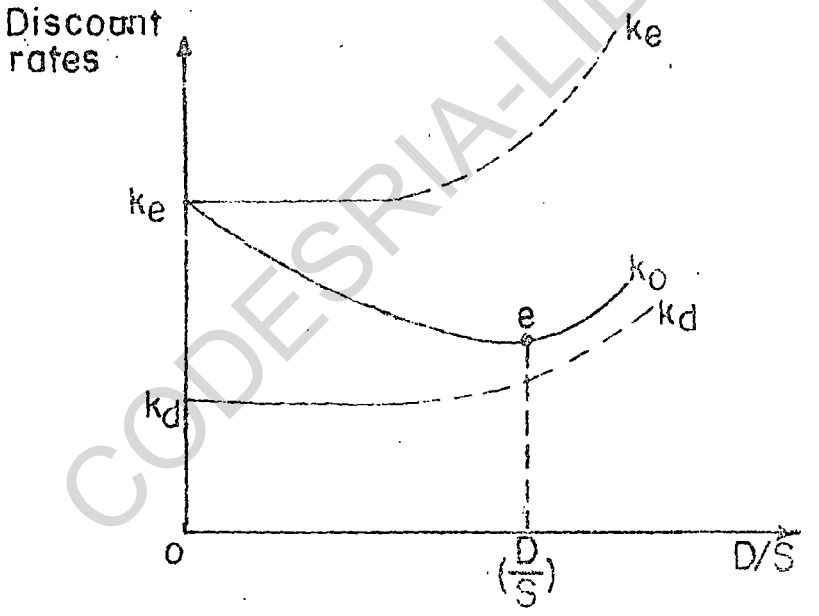

Fig. 2:

M·M's View of the Traditionalist Approach to Optimum Capital Structure

K_d remains constant with increases in leverage. However, the equity discount rate, K_e rises linearly with increases in debt, because investors become aware of the financial risk of debt and require a higher premium for buying the shares of the firm. The substitution of cheap debt for expensive equity has no effect on the over all capitalization rate K_o, because the favourable effect of the increase in D/V is offset by the increase in K_e.

Modigliani and Miller raised the issue of taxation as a means of avoiding the 100% leverage ratio and to reconcile the theory with empirical observation.

For simplicity it is assumed that the corporate tax is constant and that there is no difference between corporate tax and personal tax.

Let $\bar{X}$ denote the before - tax expected earnings of two firms identical in all respect except for their capital structure, and t_c the corporate tax rate. The after tax earnings of the shareholders of the unlevered firm are

$$\bar{X}_u = \bar{X}(1 - t_c) \quad . \quad . \quad . \quad (2.12)$$

This is discounted by K_o to arrive at the present value of the firm.

$$V_u = \frac{\bar{X}(1 - t_c)}{K_o} \quad . \quad . \quad . \quad (2.13)$$

For a levered firm, the after tax income is paid partly to bondholders in form of interest payments iD and partly to its shareholders in the form of dividends.

$$\bar{X}_L = (\bar{X} - iD)(1 - t_c) + iD \quad . \quad . \quad (2.14)$$

$$\bar{X}_L = \bar{X}(1 - t_c) + t_c iD \quad . \quad . \quad . \quad (2.15)$$

Thus the after-tax income of the firm X_L, has two components: (i) the interest payment components $(t_c)iD$ which is a sure stream of earnings and is discounted at the market interest rate i and (ii) the dividends component which is an uncertain stream of equity earnings, and is discounted at the discount rate, K_o, appropriate for the particular risk class. Thus

$$V_L = \frac{\bar{X}(1 - t_c)}{K_o} + t_c D \quad . \quad . \quad . \quad (2.16)$$

$$= V_u + t_c D \quad . \quad . \quad . \quad . \quad (2.17)$$

It is therefore clear that the present value of the levered firm, when corporate taxation is taken into account, is higher than that of the unlevered firm by the amount t_c which is the increase in the market value arising from the debt and it is the tax savings due to the deductibility of interest payments.

Modigliani and Miller therefore concluded that in a world of taxable corporate incomes in which interest payments are tax-deductible, the over-all discount rate

will decline continuously as debt increases. The growth implication of this conclusion is that taxation puts levered firms in a better position to make use of debts (which increase the market value of the firms) to achieve higher growth rates. Attempts at providing empirical evidence in support of this theory has been very difficult. This is because it has not been possible to obtain accurate measures of the cost of capital from an econometric function.

2.4 The Basic Model and Some Developments

In a later work, Marris (1971)[32] refined his earlier works on corporate growth theory and developed a formal steady-state type of model which is constructed as follows:

$$P = P(g) \quad . \quad . \quad . \quad . \quad (2.18)$$

$$V = Nd_o\ Y(g) = pK_o(1-r) \times Y(g) \quad . \quad (2.19)$$

$$g = rP \quad . \quad . \quad . \quad . \quad (2.20)$$

$$w = V/K = (p-rp) \times Y(g) = [P(g)-g]Y(g) \quad (2.21)$$

Equation 2.18 is the growth - profitability function. It assumes a two-way relationship between growth, g and profitability, p as postulated by Downie. As the rate of growth of demand increases, the rate of profit first rises and then falls.

---

32. Marris, R., "An Introduction to Theories of Corporate Growth" in The Corporate Economy eds. R. Marris and A. Wood London Macmillan 1971.

In equation (2.19), d_o is dividend per share, N is the number of shares, and Y(g) is a present-value function where Y is the reciprocal of the Demand Yield (current dividend/market price) and Y increases with g . V, the total stock-market value is therefore the product of the value per share, $d_o Y(g)$ and the number of shares, N It then follows that $d_o N$, the total dividends, has to be the total profits pK (where K is the book-value of tangible assets times the pay-out ratio (1-r).

If internal finance is the only source of financing growth, with a retention ratio r and reported profit p, then growth g, can be expresses as rp as in equation (2.20) which is recognised as the finance supply function. Equation (2.21) combines equations (2.18) to (2.20) to define the valuation ratio. It can be seen from equations (2.20) and (2.21) that if p(g) and g converge, the retention ratio approaches 100 percent and the valuation ratio approaches zero. Since the valuation ratio cannot be negative, the value of g at which the convergence occurs represent an upper limit on the growth rate of the firm. It is therefore evident in the model that the reported profit rate sets a limit to the growth rate of the firm.

P(g) - g. a decliming function of g may be expressed as D(g) such that $D'(g) = P'(g) - 1$ for all g. Using the new notation, equation 2.21 becomes

$$v = D(g)\ Y(g) = V(g) \quad . \quad . \quad . \quad (2.22)$$

Equation (2.22) is the growth-valuation function. With the managerial utility specified as

$$U_m = U_m\ (g, v) \quad . \quad . \quad . \quad (2.23)$$

the objective is to maximise equation (2.23) subject to equation 2.22. This, according to Marris is "the most general statement of the basic model"[33]. The solution to this model would give the pair of steady growth rate and valuation ratio that will maximise the utility of the Managers. The steady nature of the model is however, essentially a method of convenience since firms are not likely to grow at steady rates for long periods. Nevertheless, firms' behaviour have been observed to be steadier in the long run than in the short run.

Radice (1971)[34] has developed a diagramatic exposition which exhibits the essential structural relationships of the steady-state Marries type model.

The two-way relationship between growth and profitability of equation (2.18) is represented by the demand-growth curve in figure 3. Since the model is a steady state one, r in the finance supply function in equation (2.20) is a constant and the function is therefore represented by a straight line.

---

33. Ibid., p. 19

34. Radice, H. (1971), "Control Type, Profitability and Growth in large firms; An Empirical Study" Economic Journal LXXXI.

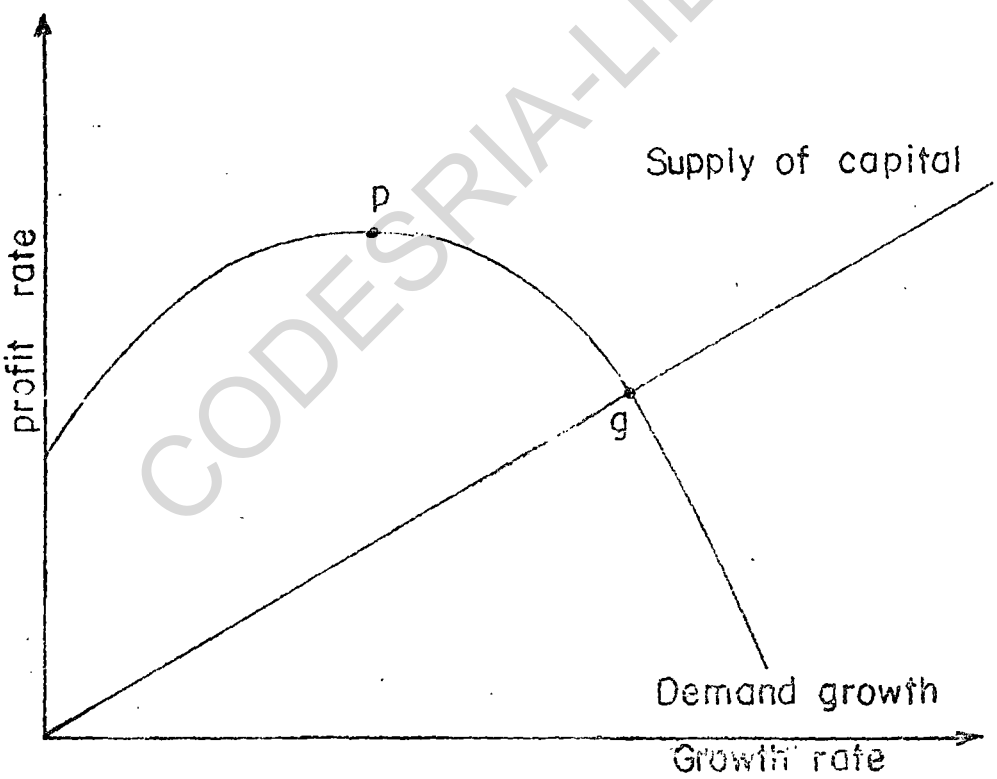

Fig. 3 Demand - Growth Curve

The shaded area is the feasible set of combinations of growth and profitability that is open to the firm. P is the point of maximum profit while G is the point of maximum growth. An owner-controlled firm whose behaviour will tend to conform with that of the traditional firm will settle at P, if it does not expect any capital gains, or any point to its right if expectations of some growth induced capital gains enter into its utility function. The owner's utility, defined by a set of indifference curves and specified as $U_o = U_o$ (P.g) is at a maximum at the point of tangency of the highest attainable indifference curve I_2 in Figure 4(a) with the demand-growth curve.

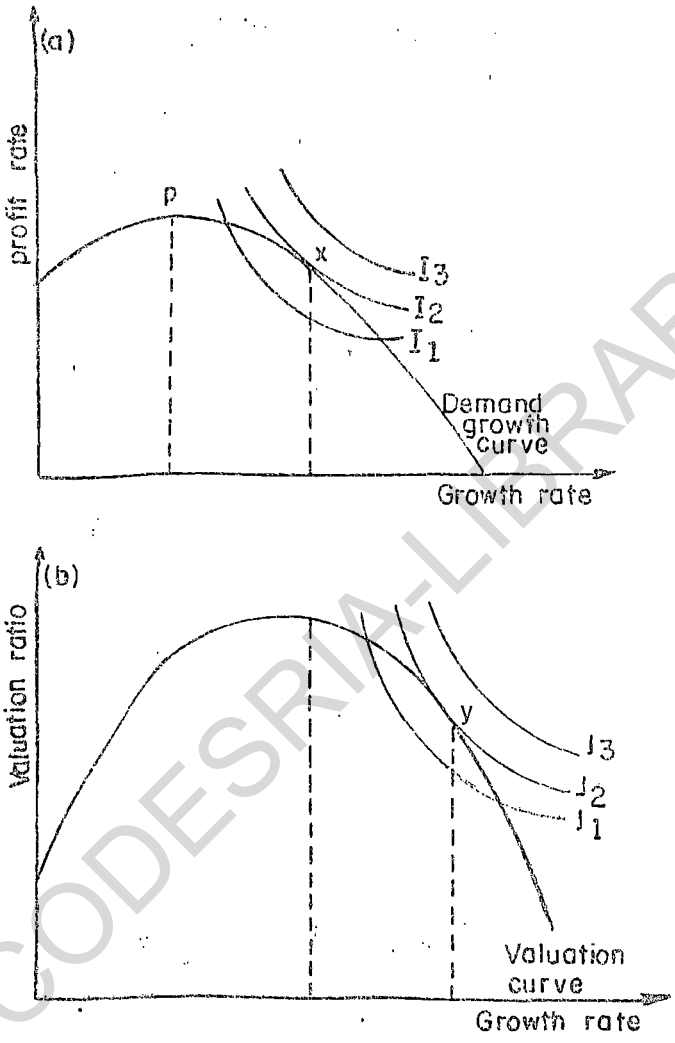

Fig. 4 · Equilibrium Positions of owner-controlled and Manager-controlled Firms.

On the other hand, the Manager-controlled firm will settle at point G of Figure 3 if it wants to maintain the minimum valuation ratio (i.e. takes the maximum risk of take-over raid), and attain the maximum possible growth rate. However, as indicated in section 2.2. above, the more plausible assumption is that, for the Manager, there is a trade-off between growth-rate and security as measured by the valuation ratio, and following the discussion on the constancy of share price in the same section, the maximum utility of the shareholder will coincide with the maximum stock market value. Since the book-value of the firm is fixed, point X in Figure 4a corresponds with the maximum valuation ratio in Figure 4b. The valuation curve indicates the trade offs between valuation ratio and growth rate. Given the managerial utility function, $U_m = U_m (g, w)$, equilibrium is attained at Y in figure 4b, the point of tangency between the valuation curve and the highest attainable Manager's indifference curve.

Since the valuation ratio incorporates the combined effects of both profitability and growth rates on the shareholder's utility, the latter can be reduced to

$$U_o = U_o (V) \quad . \quad . \quad . \quad (2.24)$$

This is the shareholder's utility function that is relevant to figure 4b. The "indifference curves" appropriate to equation (2.24) will be horizontal and the highest attainable one will be tangential with the valuation curve at its maximum point. This, of course, is consistent with the argument that point X in figure 4a corresponds with the maximum valuation ratio in Figure 4b.

Radice's diagramatic exposition of Marris general statement of the basic model involves incorporation of the graph of equation 2.24 into Figure 4b as shown in Figure 5.

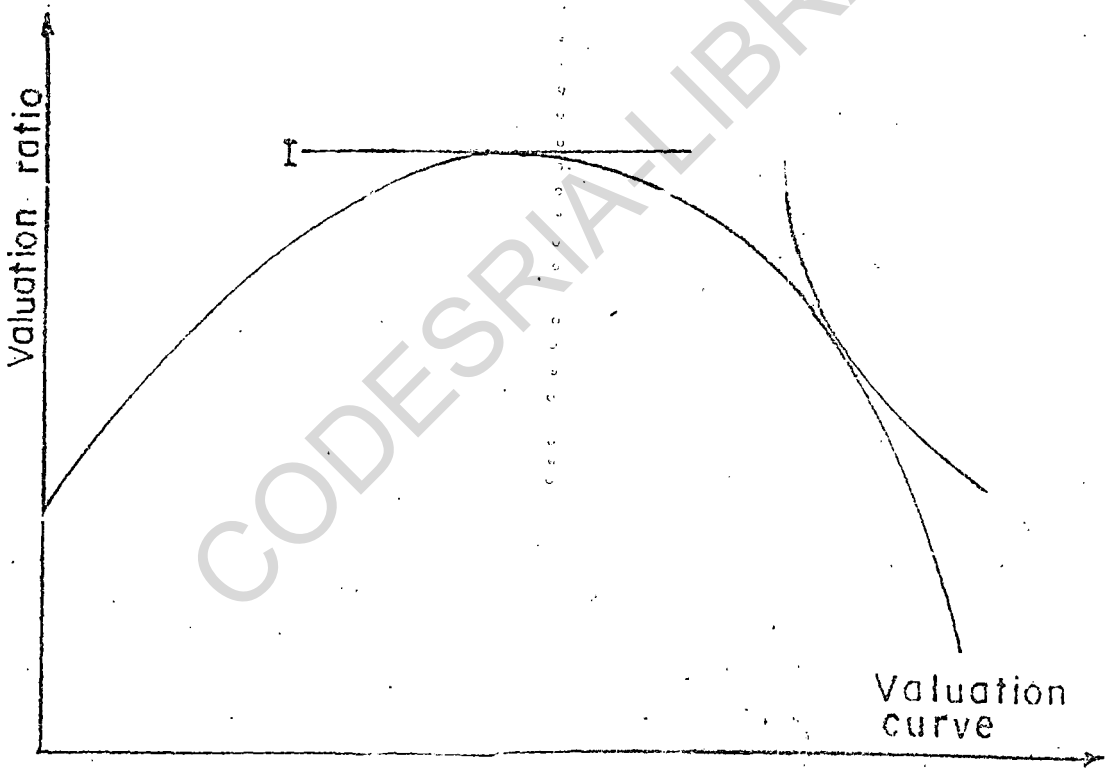

Fig. 5. Radice's diagramatic Exposition of Marris' Model

Obviously, the choice will lie along the negatively sloped portion of the demand-growth curve. Radice however indicates that this type of choice is peculiar to the individual firm, and that the observed relation between growth and profitability across a number of firms is likely to be positive. This is because the demand-growth curve will be much more variable across firms than the supply of capital curve which reflects common capital market for the firms.

Eatwell (1977)[35] agrees with this view and elaborates more on why the growth-profitability relationship is likely to be different between an individual firm on one hand and a cross-section of firms on the other. He formulates a model which incorporates the two-way relationship between the two variables simultaneously thus

$$G = \alpha + \beta P + \epsilon \quad (\beta > 0) \quad . \quad . \quad . \quad (2.25)$$

$$P = \gamma + \delta G + \mu \quad (\delta < 0) \quad . \quad . \quad . \quad (2.26)$$

G = growth rate, P = profitability, α, β, γ and δ = parameters and ϵ and μ are error terms.

Citing Singh and Whittington (1968)[36], Eatwell observes that while regressing long-term growth on long-term profitability, the 'conventional' and intuitively

---

35. Eatwell, J., "Growth, Profitability and size: The Empirical Evidence" in The Corporate Economy eds Marris R., and A. Wood Longon Macmillan.

36. Singh, A. and Whittington, G. (1968), Growth Profitability and Valuation University of Cambridge Department of Applied Economics, Occasional Paper 7; Cambridge CUP.

more direct profitability growth relationship of equation 2.25 is more likely to be identified rather than equation 2.26. This is attributed mainly to the variance of μ which is likely to be much greater than that of ϵ. The implication is that the economic specification of equation(2.26)is peculiar to individual firms and will therefore vary very widely between firms, especially that each firm tends to be unique in its managerial abilities, market conditions and expectations about future profitability. Eatwell goes further to reiterate that equation(2.25)tends to be observable across quoted companies partly because the state of the capital market is independent of the characteristics of the individual firms.

The two-way relationship between growth and profitability is also reflected in Baumol's (1967) dynamic model[37]. The firm in this model attempts to maximise the rate of growth of sales over its life-time. Given that the sales revenue, R grows at a rate g percent, the stream of revenue over the life-time of the firm is

$$R,\ R\left(\frac{1+g}{1+i}\right),\ R\left(\frac{1+g}{1+i}\right)^2,\ \ldots,\ R\left(\frac{1+g}{1+i}\right)^n$$

where i is the subjective/rate of discount of the firm which is exogenously given by the expectations and risk preferences of the firm, and is higher than any form of

---

37. Baumol, W. J., Business Behaviour ..., Op. Cit.

market interest rate because of the inclusion of subjective assessment of risk.

The sum of the discounted value of all future revenue is given as

$$S = \sum_{t=o}^{n} R\left(\frac{1+g}{1+1}\right)^{t} \quad . \quad . \quad (2.27)$$

In solving for R and g that will maximise S, Baumol expresses growth as a function of profits P, and sales revenue R i.e.

$$g = g(P, R) \quad . \quad . \quad . \quad (2.28)$$

while the profit function is expressed as

$$P = P(R, g, i, c) \text{ (where C is costs . , } \quad (2.29)$$

Although the simultaneity between growth and profitability is clearly indicated in equations 2.28 and 2.29, Baumol explains that the growth function is actually derived from the profit function, thus further corroborating equation(2.25)above as the one that is more likely to be identified in a cross-sectional empirical work.

Marris extended his basic model by examining the effects of external finance and uncertainty on share valuation and hence growth.

On the effect of external finance, he posited that

> the surmise that under assumptions of certainty and full comprehension the value of a growth rate is independent of the method of finance is generally confirmed[38]

---

38. Marris R., "An Introduction to the Theory of Corporate Growth" Op. Cit.

On the effect of uncertainty, Marris realised that the steady-state approach to the theory of corporate growth is made more credible by transforming the steady values into some expected values which are subject to some probability distributions. He did not undertake any elaborate analysis, but based his arguments on the work of Lintner (1971)[39] who demonstrated how steady state models behave in an inherently uncertain environment. By identifying the firm within numerous business conditions and prospective changes of the underlying economy which include the oligopolistic behaviour of its competitors, Lintner appears to give some support to Downie's second major contribution to the theory of corporate growth - the competitive process.

As observed by Wood (1971)[40], under such uncertain environment, there are two options opened to management. It may make a once and for all decision on strategy on the basis of expectations or targets of average rates of growth out into the future. In the alternative, as a result of some random shocks or the incompatibility of its strategy with the action of other firms, management may have to adjust its decision variables from time to time. This latter option is compatible with the behavioural theory of the firm which has been identified

---

39. Lintner, J., "Optimum or Maximum Growth Under Uncertainty" in The Corporate Economy Op. Cit.

40. Wood A., "Economic Analysis of the Corporation Economy" in The Corporate Economy.

with Cyert and March (1955)[41]. The behavioural theory takes account of the fact that modern corporate firms have complex organizations with hierarchical managerial bureaucracies and rejects the idea that firms wish to maximise anything and hence appears to represent a sharp departure from the steady-state growth, even under uncertainty. Hence, the theory is said to have introduced an element of realism into the theory of the firm.[42] However, it has been pointed out that both behavioural and maximisation models do not normally perform the same tasks and hence are not easily compared in relevant terms.[43]

In an essentially theoretical paper, Lintner employed some elegant mathematical formulation to develop a model of corporate decisions in regard of policies aimed at achieving growth under expectational steady-state conditions in which the outcome of any policy is based on probability. The model has three versions: the first, which forms the basis for the other two is identical with the steady-state growth model under certainty; the second drops the assumption of certainty, but assumes that the uncertainties associated with any policy are considered to be constant over time, while the third allows for the fact that less is known about the more distant future so

---

41. Cyert R. M. and J. G. March, A Behavioural Theory of Firm Op. Cit.

42. Kontsoyiannis A., Modern Microeconomics Op. Cit. p. 400.

43. Lintner J., "Optimum or Maximum Growth under Uncertainty" Op. Cit.

that uncertainties increase with time. His conclusion in comparing the outcome of his models with that of Marris is that

> all the models ... produce the same shape of the relation between market value and the attainable growth rate as suggest by Marris...[44]

Although Lintner's value function differs significantly from that of Marris, Wood has noted

> in case both of random shocks and of general systems of interaction between firms, specific enough assumptions will produce convergence of the dynamic adjustment process to a steady-state solution reducing it to a type of stability condition[45]

This in essence validates estimations based on steady-state models as being close to reality.

Solow (1971)[46] raises the question of growth and initial size of the firm. His primary objective was to examine how profit-oriented firms react to external stimuli. As a preliminary study, he had wanted to determine what initial capital size will be appropriate for a particular steady-state growth rate. He however demonstrates that the growth-oriented models have the weakness of being unable to determine a sensible initial scale for the firm. His analyses with the models show that to achieve high growth rates, smaller and smaller

---

44. Ibid, p. 217

45. Wood, A., "Economic Analysis of the Corporate Economy" in The Corporate Economy Op. Cit.

46. Solow, R. M., "Some Implications of Alternative Criteria" in The Corporate Economy Op. Cit.

initial capital size has to be taken. Since this does not appear plausible, he had to assume that the initial scale of the firm is given by some historical accident.

Marris (1964)[47] had argued that managerial satisfaction flows from both size and rate of change of size, but that emphasis is on the latter. With steady growth from an arbitrary starting point, both criteria produce the same policy. If however, the growth rate is variable while Managers are concerned only with the rate of growth, then they may not care about a particular imitial size.

Marris (1971)[48] recognises the novelty in Solow's model and added an assumption to his basic model - that the firm, at an arbitrary point in time, is found at an arbitrary size measured by some criteria. This is however not to say that the question about the relationship between size and growth is not relevant. The growth-size relationship has been widely examined within the context of Gibrat's (1931)[49] law of proportionate effect.

Closely related to the growth-size relationship is the question of autocorrelated growth i.e. the cummulative effects of growth in period t on growth in perid t+1.

---

47. Marris, R., Managerial Capitalism Op. Cit.

48. Marris, R., "An Introduction to Theories of Growth" in The Corporate Economy Op. Cit.

49. Gibrat, R., Les Inequalities Economiques Paris 1931.

Ijiri and Simon (1964)[50] (1967)[51] developed a model to explore autocorrelated growth in large American business firms. The simple reasoning behind the study is that when two firms of equal size are compared, the one that grows more recently is likely to have a better chance for growth than the other whose growth occurred in the remote past. In other words, a sudden change in the growth momentum is not likely, except in the case of an unexpected breakthrough in innovation. The extent to which this reasoning can be justified relies on empiricism.

In section 2.5, we undertake a review of the empirical evidence in regard of the models discussed in this section. Also, we review those studies that are based on some direct identification of growth motivating factors.

2.5 The Empirical Evidence

Given the wide range of theoretical formulations on corporate growth, it may not be surprising to find various attempts to provide some empirical evidence either to support or to refute the theories. However it should be pointed out that many of the theories discussed in the previous sections appear not to have yielded models that could be cast in a form susceptible to empiricism. There are however, quite a number of works that have investigated the relationship between growth, profitability and size.

50. Ijiri, Y. and H. A. Simon, "Business Firm Growth and Size" American Economic Review vol. 54 1964

51. Ijiri, Y. and H. A. Simon, "A Model of Business Firm Growth" Econometrica vol. 35, 1967.

2.5.1 Profitability and Growth

On the growth-profitability relationship, it is noticeable that while it has been widely investigated on the bais of either equation(2.25)or equation(2.26)above, the simultaneous test of the two have proved abortive. Eatwell (1971)[52] attributes the difficulty involved in such a simultaneous test to the obvious complexity of the inverse function and the difficulty underlying the reduced linear form.

Of particular interest to us are those studies that have expressed profitability as the independent variable in the growth-profitability relationship. Among the scholars that have addressed themselves to this issue are Barna (1962)[53], Parker (1964)[54], Singh and Whittington (1968)[55], Jones (1969)[56], Eatwell (1969)[57],

---

52. Eatwell, J. (1971), "Growth Profitability and Size: The Empirical Evidence" in The Corporate Economy.

53. Barna, T. (1962), Investment and Growth Policies in British Firms CUP, Cambridge.

54. Parker, J. E. S. (1964), "Profitability and Growth of British Firms M. S. Unpublished.

55. Singh, A. and Whittington, G. (1968), "Growth, Profitability and Valuation University of Cambridge, Department of Applied Economics, Occasional Paper 7, Cambridge CUP.

56. Hones, W. J. (1969), Size, Growth and Profitability in the Mechanical Engineering Industry (National Econ. Development Office).

57. Eatwell, J. L., Growth of Firms: Some Analytics, Some Tests Unpublished Harvard.

Marris (1971)[58(a, b)] and Meeks and Whittington (1975)[59]. It is quite remarkable that despite the variety of definitions and samples used, fairly homogeneous results were obtained in the studies in the sense that they all indicated that corporate growth is a positive function of profitability. It is even worth mentioning that in some studies such as Marris (1971)[60], and Whittington (1980)[61] in which growth was expressed as an independent variables, positive regression coefficients were obtained contrary to what is expected from equation (2.26)

Barna regressed gross investment in fixed assets on gross rate of return on fixed assets for 479 quoted electrical engineering and 31 quoted food processing companies for a 10-year period, 1949 to 1959. The regression coefficients and the coefficients of determination for the two sets of companies were 0.43 (r^2 = 0.27) and 0.42 (r^2 = 0.35) respectively.

---

58. Marris, R. (a), "An Introduction to Theories of Growth" in Corporate Economy Op. Cit. pp. 1-36.

    (b) "Some New Results on Growth and Profitability" in The Corporate Economy Op. Cit. pp. 422-427.

59. Meeks, G. and Whittington G. (1975), "Giant Companies in the United Kingdom" Economic Journal, Vol. LXXXV.

60. Marris, R., "Some New Results on Growth and Profitability in The Corporate Economy Op. Cit.

61. Whittington, G. (1980), "The Profitability and Size of United Kingdom Companies 1960-74" Journal of Industrial Economics pp. 335-352.

Parker' study was for a six-year period, 1954/55-1960/61. Using 87 public companies, he regressed growth in gross investment in fixed assets on the gross rate of return from investment, and recorded 0.69 (r^2 = 0.712) as the regression coefficient. When profits on gross assets was used as the measure of profitability, the regression coefficient was 0.59 (r^2 = 0.78).

Singh and Whittington did a very comprehensive study of U. K. firms. Apart from the simple linear regression model, several other regression models, including the semi- and double-logarithmic functions, both in simple and multiple (in which some other financial ratios were included) forms were tried. Interestingly, the simple linear equation relating growth to profitability was found to be most appropriate, with post-tax equity returns providing a better explanation of growth than pre-tax net assets returns. They also grouped their sample companies on industry basis and found that the value of the regression varies significantly with industry. They also found that the regression coefficients vary significantly with time period, as was the degree of variation in growth rates explained by changes in profitability. Whereas, for instance, a one per cent point increase in profitability of the engineering firms led to an average of 0.7 percentage points increase in its growth rate, similar increase in Clothing and Footwear

firms is in a ratio 1:1. Temporally, while in the 1948-54 period, the regression coefficient for clothing and footwear was 0.57, it was 0.98 in the 1954-60 period. In the food industrial, the regression coefficients for the two periods were 0.55 and 0.35 respectively.

On the average, profitability was found to explain about 50% of the variation in growth rates between firms; a 1 percentage point increase in post-tax equity return being associated with a 0.7 percentage point increase in growth rate.

Jones divided his sample of 299 mechanical engineering groups into seven size classes and found that in only two was the regression significant at the 1 percent level. The other five were not significant even at the 5 per cent level, although the regression coefficient of the industry as a whole was significant.

The general conclusion then is that there is a positive relationship between growth and profitability, which is nevertheless, subject to considerable variation over time, between industries and even as suggested by Jone's study, between firms.

Meeks and Whittington found that giant firms can grow more rapidly than smaller ones despite the greater profitability of the latter. The higher growth rate of the giant firms was attraibuted to take over and external

finance, the latter of which they have more access to than the smaller firms. Given that profitability is a determinant of growth as earlier indicated, then one would expect the smaller and more profitable firms to grow more rapidly than the bigger and less profitable ones. The inference one can draw from Meeks and Whittington's study therefore is that profitability is not the major determinant of growth in giant companies. Starting with Downie, the belief had been that access to external finance is a function of profitability. However, according to Meeks and Whittington, the capital market supplied relatively more external finance to the giant (and less profitable) companies because less risk is attached to the ownership of their shares, their performance was more stable over time and they lost money less often.

As indicated in section 2.3 above, Marris (1964)[62] and other managerial theorists had postulated that there is a limit to which firms can rely on the capital market for growth. Beyond that limit, the firm's shares may be so devalued that takeover may result. Contrary to this view, Singh (1971)[63] showed that the "statistical threat" of being taken over declines with size, so that a

---

62. Marris, R., Managerial Capitalism Op. Cit.

63. Singh, S. J. (1959), "Size Growth and Concentration" in Studies Corporate Finance ed Brain Tew and R. F. Henderson. Cambridge University Press.

financial restraint is anyhow likely to be weak for the large firms. Meeks and Whittington's findings suggest that a far more positive role could be associated with take overs and the capital market in the growth policies of the dominant companies in the economy (in contrast with their "watchdog" role in Marris). Considering the significant role played by acquisition in the growth process of those firms that have gained a place in the top 100 U. K. firms, the share exchange rate was seen as being significant in the calculations of growth oriented Managers. To the Managers of those top 100 firms, the maximisation of their share price relative to those of potential victims with a view to cheapen and facilitate takeover is conceived as the path to the maximisation of growth. The question when is, what is the process of ensuring maximum share price relative to those of the potential victims? The question is left open by Meeks and Whittington themselves as an area of further research.

While the cause of higher growth by the less profitable giant firms may appear quite plausible, it appears equally doubtful that the giant firms could be less profitable as asserted by Meeks and Whittington. In the first place, one may note in passing that the lower limit of the "others" in Meeks and Whittington's study is not defined. Baumol (1967) hypothesized that

> increased money capital (total assets) will not only increase the total profits of the firm, but because it puts the firm in a higher echelon of imperfectly competing groups it may very well also increase its earnings per dollar of investment[64]

Weiss and Hall (1967)[65] tested this hypothesis and concluded that big size does tend to result in high profit rates.

In a study involving 186 U. K. firms grouped into 10 sizes classes, Samuels and Smyth (1968)[66] found that profit rates and size of firms were inversely related as were the variability of profit rates within a size class and size of firms, that is, there is more variability of profit rates within the lower size classes than within the higher size classes.

Singh and Whittington's (1968) study was similar, but based on a more extensive data. Though they found the same trend with Samuels and Smyth, their results were not statistically significant. On the basis of the insignificance, they concluded that there is no systematic relationship between average profitability and size. It is suggested that the apparent conflict between these last two studies is due to lack of dissaggregation in

---

64. Baumol, W. J. (1967), Business Behaviour, Value and Growth New York Macmillan.

65. Weis, L. and Hall, M. (1967), "Firm Size and Profitability" Review of Economic Studies XLIX

66. Samuels, J. and Smyth, D. (1968), "Profits, Va Variability of Profits and Firm Size" Economica XXXV pp. 127-39.

the former. Thus, the conclusion of the latter study is generally accepted as being valued. A more recent study by Soetan (1985)[67] corroborates this conclusion since no significant relationship was recorded between profitability and size.

2.5.2 Size and Growth

Size as a determinant of corporate growth has for a very long time been an object of interest on its own. The studies on the growth-size relationship have Gibrat's (1931) law of proportionate effect (which is a proposition regarding the process of firm's growth) as their starting point. The law states that the probability of a given proportionate change in size during a specified period is the same for firms in a given industry, regardless of their size at the beginning of the period. This is to say that a firm with ₦100 million worth of net assets is as likely to double its size as a firm with ₦100 thousand worth of net assets within the same time period. Obviously, the law has some implications regarding the determination of the extent of concentration in an industry, and this probably accounts for the wide range of techniques of tests (with perhaps an equally wide range of techniques of investigation) that have been carried out to investigate the validity of the law.

---

67. Soetan, R. O. (1985), "Size, Mobility, Aggregate Concentration" Review of Economics and Statistics, vol. XXXIII pp. 269-296.

Though Adelman (1951)[68] did not study the growth-size relationship per se, it is implied in his study that over-all equality of growth rates exist between the growth rates of small and large firms, thereby supporting Gibrat's law. Meyer and Kuh (1957)[69] recorded a negative relationship between the size of firms and their rates of growth, while Hymer and Pashigian (1962)[70] reported that no relation existed between size of the firm and their mean growth rates, but that an inverse relationship existed between the size of the firm and the standard deviation of firms' growth rates. Mansfield's (1962)[71] study corroborates Hymer and Pashigian's. He did not find a clear-cut relationship between growth and size. Rather, he indicated that smaller firms have relatively higher and variable growth than larger firms, thereby proving Gibrat's law to be inconvenient empirically.

Prais (1959)[72] was convinced in his own study that the large firms grow more rapidly than the small ones. This, he attributes to the fact that the larger firms show a greater rate of investment which in turn results in

---

68. Adelman, M. A. (1951), "The Measurement of Industrial Concentration" Review of Economics and Statistics Vol. XXXIII pp. 269-296.

69. Meyer and Kuh (1957), The Investment Decision Cambridge HUP.

70. Hymer, S. and Pashigian, P. (1962), "Firm Size and Rate of Growth" Journal of Political Economy Vol LXX.

71. Mansfield, E. (1962), "Entry, Gibrat's Law, Innovation and the Growth of Firms" American Economic Review Vol. 5

72. Prais, S. J. (1959), "Profitability and Growth" in studi in Company Finance eds. Tew B. and R. E. Henderson Cambridge pp. 108-129.

higher profits. Thus, Prais' study did not actually indicate that size per se is the determinant of higher growth rate, but the rate of investment.

In all the tests conducted by Hart (1962)[73], non refuted Gibrat's law. On the other hand Samuels (1965)[74] concluded that Gibrat's law had ceased to operate and that large firms had been growing at a significantly faster proportional rate than small firms. The reason adduced for this was however external - the influence of amalgamation. This is corroborated by the earlier cited study by Meeks and Whittington in which giant firms were found to growth through takeover (and external loans). The differences between Hart's and Samuels's results can be traced to their approaches. While Samuels based his study on firms from all industries, Hart adopted industry groupings. Secondly, Samuels used net assets to classify the firms into size classes while Hart made use of the profit of firms in his own study. In view of the fact that the volatility of profits makes it less preferred to net assets as a measure of size, Samuels's conclusion appears more acceptable. Singh and Whittington (1975)[75] too found that large firms grow proportionately faster

---

73. Hart, P. E. (1968), "The Size and Growth of Firms" Economica Vol.

74. Samuels, J. (1965), "Size and Growth of Firms" Review of Economic Studies Vol. XXII pp. 105-12

75. Singh, A., and G. Whittington; Growth, Profitability and Valuation Op. Cit.

than smaller ones. Soetan (1985)[76] also indicated that big firms have a better chance of survival than smaller ones, thereby suggesting deviations from Gibrat's assumption of proportionate growth for all classes of firms.

In studying autocorrelated growth in American Firms, Ijiri and Simon (1964)[77] actually found that there were cases where a firm suddenly acquires an impetus for growth. Such sudden changes in growth momentum were traced to such factors as innovation in production or marketing processes and the effect of new management staffs or techniques. Thus, while some firms in an industry were found to be growing at say 5% a year, some firms grew 10%. Furthermore, they found that as a result of carry-over effects of an innovation in the previous year, those that experienced a faster growth still maintained the lead in the current year. It then means that, on the average, a firm which grew rapidly in one year subsequently retains a greater share of the industry assets from that time on than do firms that have enjoyed only the average industry growth. The shorter the length of time period considered, the more likely was the carry over effect.

It is glaring that the growth-size relationship is yet to be conclusive and will likely continue to be debated upon as long as researchers use different measures of size.

---

76. Soetan, R. O., "Size, Mobility, Aggregate Concentration and the Growth of Large Firms" Op. Cit.

77. Ijiri, Y. and H. A. Simon, "Business Firm Growth and Size" Op. Cit.

2.5.3 Exogenous Factors and Growth

Singh and Whittington (1968), as earlier stated, found that in general, 50% variation in the growth rate of firms was found to be attributable to variation in profitability. They went further to analyse the remaining 50% residual growth rates and hypothesized that once the influence of a major systematic factor such as profitability is removed, the distribution of the residual growth rates can be deemed to have been generated by the law of proportionate effect. They did not however indicate the actual factors that might be responsible for the residual growth rates. Interestingly too, most corporate growth theorists appear to have been more preoccupied with the financial characteristics and size of firms. Yet, as noted by Collins and Preston (1961)[78], differential rates of growth of individual firms may result from a number of causes, including differences in management skills and goals, different rates of expansion of relevant markets and technological changes. In a study that appears to have captured a wider horizon of possible corporate growth determinants, Filippi and Zanetti (1971)[79] examined the relative importance of exogenous and endogenous factors in the growth of Italian firms. They however found that the exogenous factors which include

78. Collins, N. R. and Preston, L. E. (1961), 'The Size and Structure of the Largest Industrial Firms 1909-1958, American Economic Review Vol. 51, pp. 986-1003.

79. Filippi, E. and Zanetti, G. (1971), "Exogenous Factors in the Growth of Firms" in The Corporate Economy Op. Cit.

total demand, the availability of manpower and the financial policies of the monetary authority were found to be insufficient to explain the growth of the firm. Rather than wait for the expansion of total demand in their industry, firms' management were found to attempt to capture some market shares by increasing sales in certain areas at the expense of their competitors, in which case there may be an increase in the total sales of its sector as a whole. The other alternative the firms adopt was to diversify into some latent needs of the market. Filippi and Zanetti also discovered that following increased cost of labour, which was due to labour union activity as evidenced in the number of strikes, firms changed their product mix in such a way as to improve the labour-capital ratio in favour of the latter. Thus, while during the period of the study, 1958-63, employment increased by 20.81 per cent, output and plant increased by 85.45 per cent and 90.86 per cent respectively.

It was also discovered that Italian firms profited from the abundant money supply of the period, more to consolidate or improve their cash position than to embark on new investment projects. They attributed this to the cautions behaviour of the entrepreneurs who decide to invest only, although not always, when there was a constant rythm of growing demand.

In their examination of the endogenous factors, both growth and profitability were found to have a direct relationship, but rather than attribute growth to profitability, they concluded that

> technical progress quickly introduced into the company, together with an efficient organization, has, in the Italian experience of the period contributed the most convincing explanation for the growth of the firm of which profitability represents one of the more important results.[80]

It then means that the efficiency of the managerial team which allows the firms to overcome marketing and financial obstacles was recognised as the major determinant of growth. In fact, they had found, as indicated above, that market can be characterised as a limiting factor if diversification or greater effort to capture greater market share are not undertaken. Filippi and Zanetti's study may therefore be seen as providing some empirical evidence in support of Penrose's model.

2.6 Concluding Remarks

Corporate growth is, no doubt, a complex phenomenon. A clear grasp of it requires a comparison of various interacting and changing variables of which profitability appears to stand out, if only in the long run. Obviously, the particular variables whose influence override at particular point in time and space depend on the peculiarities of that time and environment. If, as

---

80. Ibid., p. 163.

suggested by Meeks and Whittington's study the capital market could be playing some active role in the growth process of U. K. firms in 1970s, it is very doubtful if same can be said of Nigeria of that time. Even though the Nigerian Stock Exchange has been in operation since 1961, it was reported that in 1978 no fully owned indigenous company was listed on the Stock Exchange. Moreover, as at the end of 1988, there were less than 100 quoted companies of all types in Nigeria. A priori therefore, the effect of the capital market in the growth process of the manufacturing companies in Nigeria hitherto may be expected to have been negligible.

In the next chapter, we present some models that will enable us capture as many relevant factors in the growth process of Nigerian corporate firm.

CHAPTER THREE

M E T H O D O L O G Y

There are many approaches to identifying corporate growth determinants, and to carry out a fairly comprehensive study of the phenomenon, various types of statistical and econometric techniques seem imperative. Thus, we subject different aspects of the growth process to the type of reserach techmique we consider most appropriate.

The essential structure of the theory of corporate growth is found in the relationship between growth and profitability and stock market valuation.[1] In our statistical and econometric models therefore apart from examining the effects of size and growth, we also test the explanatory powers of such variables as profitability (as measured by the rates of return on net assets and rate of return on equity assets), dividend returns and liquidity on the growth of firms. We also examine the effect of size on profitability. Although there are many financial ratios which can influence the growth rate of corporate firms, our restriction to certain ones is a direct result of the quality of the Annual Reports and statements of Accounts of the Nigerian Companies.

---

1. In view of the fact that the Nigerian Stock Market is relatively new, we are directing attention at the generality of Nigerian firms i.e. whether quoted or not. Hence, valuation ratio, a measure of stock market valuation is excluded from our list of variables.

Such variables as the state of competition, the nature of management, the state of demand and technological opportunities are also relevant, but are not derivable from companies' statements of Accounts. We collect information on such variables through questionnaire survey and subject the data so collected to some semi-quantitative analyses involving the use of charts.

3.1 Variables in the Study

In setting our to identify the determinants of corporate growth, it appears rational to first discuss growth indices which obviously are the dependent variables.

3.1.1. Growth Indices

As indicated in chapter one, within the context of this study, we define growth simply as the change in size over time.[2] In discussing growth indices therefore, we examine the measures of size.

Measures of size are of two main types; one based on stocks i.e. amount recorded at a moment in time, and the other based on financial flows. The stocks type of measure is usually in terms of the assets of the firm and may represent such quantities as net assets, total assets working capital or market value of assets. Apart from the assets measure, the number of employees is another

---

2. In growth analysis, the interest is more in the rate of change of size rather than the change in itself. Hence, most of the analyses in the study are in relation with the rate of growth.

stock measure of size. The main flow measures are turnover (or sales), value added (or net output), cost of labour and profit rates. Each of these has its advantages and disadvantages and suits certain purposes more than others.

However, even though it is not an all-purpose index, net assets has been most frequently used in studies relating to corporate growth. This is probably because of its being more embracing and very likely to determine some of the other indices, We therefore employ net assets as one of the two measures of size.

Our definition of net assets is similar to that of Singh and Whittington (1968)[3]. It is defined as total fixed assets plus current assets, net of current liabilities. Alternatively, net assets may be defined as share capital plus reserves plus long-term liabilities.

If size is considered as the present result of forces operating in the past, in which case assets are seen as the result of accumulation, then assets are a better measure of size. Furthermore, apart from being more embracing than any other measure, an important advantage that makes net assets attractive for our purpose is that all firms are required to place a value on their assets at the end of every financial year and this guideline by the Nigerian Productivity Prices and Income Board is

---

3. Singh, A. and Whittington G., Growth Profitability and Valuation Op. Cit.

being complied with by many Nigerian companies, as the book values are readily available from the published accounts of the companies.

It may however be mentioned that the book value of assets do present some difficulties when comparisons are being made among firms. This is because, due to the fact that changes in price level tend to give a wrong impression about the changes in earning capacity, some companies find it necessary to revalue their assets at varied intervals of time. Furthermore, assets measure of size do not necessarily provide a reliable indication of the relative importance in terms of employment, which as indicated above is another measure of size. In fact, Bates (1964)[4] in his study of small businesses in Britain found a low correlation coefficient of 0.18 between net assets and employment. Further still, differences in accounting procedures affects measurement of net assets.

In spite of this and other shortcomings that may be associated with assets in general as measures of size we still find net assets very suitable for our purpose of identifying firms' economic power with industrialisation and therefore national economic development.

Another attractive measure of size is the number of employee or employment. It is the only non-monetary measure, and this attribute ranks it better than other

---

4. Bates, J. A. (1964), The Financing of Small Businesses London Sweet and Maxwell, p. 147.

measures because of their deficiencies, not only in terms of the effect of price changes (which can however be corrected for), but also because the significance of a given amount of output or assets is very different according to the general productive powers of society. If output per capita was, say doubled over some time period, a firm which produces twice as much at the end as at the beginning can scarcely be said to have doubled in size.[5] Nevertheless, comprehensive data on employment is not readily available as compared with data on financial measures as most Nigerian companies rarely publish the number of their employees in their Annual Reports and State of Accounts.

Another measure which we cannot employ on account of inadequacy is income generated or value added. The ratio of this measure to total asset is a kind of index of productivity. However, as with employment, firms rarely make value added or other information from which it can be calculated (e.g. total purchases from other companies) available. This practice is however not peculiar to Nigerian companies as it is also characteristic of companies in some developed countries.[6]

Our other measure of size is turnover, a flow measure. Bates recorded a fairly high correlation coefficient of 0.74 between net assets and turnover. Although it is not

---

5. Adelmon, M. A. (1951), "The Measurement of Industrial Concentration" Review of Economics and Statistics Vol. XXXIII, p. 272.

6. Ibid

our primary objective to test for similarity between net assets and turnover, it may not be out of place to examine which of these two measures shall yield better results in our analyses. Moreover, it is hoped that each of the measures will capture different aspects of the economy. As indicated above, net assets is the result of accumulation and therefore indicates the concentration of economic power, while on the other hand turnover readily indicates the extent of firms' role in market transactions. Turnover is an important balance sheet item which is also readily available in published accounts of Nigerian Companies.

Temporarily, we distinguish among three types of size: opening size which refers to size at the beginning of the time period of the study (this appears as an explanatory variable), closing size i.e. size at the end of the time period, and average size which is simply the average size for the period of analyses or some sub-periods. We denote our size measures as NAS and TNR for net assets and turnover respectively. Sub-scripts t-1 and t denote opening and closing measures respectively. Where the notations appear without subsscripts, they stand for the average size.

Our interest is not limited to the determinants of size changes; we are equally interested in the determination of disparities in the rate of change of size i.e. growth

rates of firms. Hence NAS and TNR appear in growth rate forms as $GNAS = \frac{NAS_t - NAS_{t-1}}{NAS_{t-1}} \times 100$

and $GTNR = \frac{TNR_t - TNR_{t-1}}{TNR_{t-1}} \times 100$

3.1.2 Explanatory Variables

Our explanatory variables are derived from some balance sheet items which have some bearings with the financial transactions of firms and hence their profitability and market valuation.[7]

Size

As earlier indicated, size as an explanatory variable refers to the opening size. The effect of size on growth (alternatively stated as the effect of previous size on current sized is usually examined within the context of Gibrat's law of proportionate effect, which states that the proportional change in the size of a firm is independent of its absolute size.[8] As indicated in the previous chapter, the results of previous studies of this relationship have not been conclusive.

Profitability

Apart from size, profitability is the other variable that has been widely examined as a determinant of corporate growth. The next two pairs of variables are measures of profitability which have been separately defined to

---

7. That is, in the case of quoted companies.

8. Gibrat, R., Lés Inegalites Economiques Op. Cit.

incorporate the view points of both the Managers and shareholders as regards the performance of the companies.

Pre-tax Profits/rate of return on net assets

These measures indicate the efficiency of productive capacity and they are some of the important indices with which Managers are likely to appraise their performance. Rate of return on net assets is defined as the pre-tax profits divided by net assets expressed as a percentage. This may be preferred to absolute pre-tax profits because of the crude nature of the latter. The absolute profit may be misleading in a cross-sectional comparative study since it is possible that firms of different sizes record the same absolute returns; in which case a bigger firm which in actual sense is less profitable will be presented as being of the same level of profitability with a smaller one. We denote these measures as PRTP and RRNA respectively.

Post-tax profits/rate of return on equity assets

We define equity assets to be synonymous with shareholders' funds which is the sum of share capital and reserves or capital employed less debentures, stocks and other long term loans. Thus, our rate of return on equity assets is the post-tax profits divided by shareholders' funds, expressed in percentage. From the point of view of an individual shareholder, pre-tax profits/rate of return on net assets is of little importance when compared

with the post-tax returns on equity shares which has more bearings with what he earns as dividends. The discussion on the relative importance of rate of returns on net assets over crude pre-tax profits also holds between the rate of return on equity assets and crude post-tax profits. We denote these variables as PSTE and RREA respectively.

Dividend returns on equity assets

More important to the shareholder than post-tax profits/rate of return on equity assets is the dividends returns on equity assets. Dividends return is defined as total dividends divided by shareholders' funds expressed in percentage and denoted as DDR.

The next variables are two of the three financial ratios in Marris (1963)[9] model of managerial enterprises. They are liquidity ratio and retention ratio. The third ratio in Marris model, leverage ratio is excluded on account of lack of comprehensive data on the debts of the firms. This, in turn, is not unconnected with the fact that until very recently, Nigerian firms have used debts very sparingly.[10]

---

9. Marris, R., "A Model of Managerial Enterprise" Op. Cit.

10. Adedeji, A., "Corporate Growth in a Recession" A paper presented at a National Conference on "Corporate Performance in a recession" Faculty of Business Administration, University of Lagos May, 1989.

Liquidity

This consists of average net liquid assets (cash receivables plus other current assets less current liabilities) divided by average net assets. Marris used total assets as the denominator. We however prefer to go along with Tew and Henderson (1959)[11] in using net assets especially since net assets is one of our measures of size. The importance of liquidity to a firm is based on the fact that if the firm is too liquid, it may be an easy target for take-over raids, and if it is not liquid enough it may find it difficult to finance its day to day operations. Either of the two cases may hinder the growth of the firm. We denote this as LQR.

Retention Ratio

Retained profits are, according to Marris, the most important in terms of reliability as source of finance for the growth of the firm. The firm is however not free to retain as much as it might wish because distributed profits must be adequate to satisfy the shareholders. The ratio of retained profits to total profits after tax must therefore be kept within some bounds. It must not be too high as to discourage the shareholders and thereby lead to a fall in the share price, neither must it be too low as to hinder the growth of the firm. We define the ratio here as retained profits divided by the total post-tax profits. The obvious defect of this definition

---

11. Tew, B. and Henderson R. E. (1959), eds Studies in Company Finance Cambridge.

however, is that retained profits often have some minority interests such as recovery funds which are not usually indicated in the breakdown of the statement of source and use of funds of many companies in Nigeria. The implication is that not all retained profits are ploughed back into the business. Nevertheless, it appears to be the best we can derive from available data. Our source of data did not indicate retained profits, hence we calculated it from earning per share, dividend per share and post-tax profits as follows:

$$\text{Number of shares} = \frac{\text{Post Tax Profits}}{\text{Earning Per Share}}$$

$$\text{Total Dividend Payments} = \text{Number of Shares} \times \text{Dividend per share}$$

$$\text{Therefore, Retained Profits} = \text{Post Tax Profits} - \text{Total Dividend Payments}$$

We denote retention ratio as RRA.

Apart from the variables on financial characteristics, other non-financial growth-factors examined under our questionnaire survey include rate of overall expansion of existing markets, diversification of product range, rate of expansion of market share in existing markets and advertising.

Ansoff (1969)[12] postulates that internally induced growth can take two forms: expansion of existing lines and

---

12. Ansoff, H. I. (1969), "Toward a Strategic Theory of the Firm" in Ansoff H. I. (ed.) Business Strategy Penguin.

markets; and diversification which involves introduction of new products. He goes further to postulate that there is a natural tendency in the firm for priority to be given to expansion. The reason adduced for this is that diversification within the firm is generated from the Research and Development (R & D) and Design Departments, but only if the departments allocate time to such research and design. At the same time other departments (such as marketing and production) press the Design department for improvements of existing products so as to satisfy the demands of customers or meet competition of rivals in existing product lines and markets. Inevitably the conflict is tilted in favour of expansion and against diversification.

For the Nigerian case we are particularly interested in the relative importance of these two sources of growth especially that the R & D department does not exist in most Nigerian firms.[13]

Apart from product diversification, diversification may also be achieved through some other means such as property investment. Hence diversification through some

---

13. Fabayo, A., Odejide, A. F. (Mrs.) and Alade, J. A., "Technological Self-Reliance for Industrial Development in Nigeria: Issues and Impediments" Paper presented at the Nigerian Economic Society Conference on Self-Reliant Strategies for National Development May 1983. The authors indicated that during the decade of the 1970's the funding of R & D activities in Nigeria was much less than 0.005% of the GDP (p. 27).

other means constitute another variable whose relative importance in the growth process we seek to ascertain in the study.

The more prevalent oligopolistic market structure in most economies makes it imperative for most firms to adopt measures that will enable them expand their market share in the existing markets. An important means of achieving this objective is through advertising. Other means include pricing and product differentiation. In fact, advertising has been identified as a major means of competition in a modern oligopolistic world.[14] Traditionally, theory distinguishes two forms of advertising - informative and persuasive. Either of the two forms of advertising, especially the latter, is aimed at achieving higher turnover and therefore growth in an oligopolistic market environment.

Thus, while we seek to know the relative importance of competitive action to expand market share in existing market in general, we also seek to ascertain the relative importance of advertising in particular in the growth process of Nigerian firms.

---

14. Devine, P. J. et al, An Introduction to Industrial Economics George Allen and Urwin 1976 p. 333.

3.2 The Models

Our analyses and models are divided into two main parts based on the nature of data. Part I is based on the secondary data collected on the financial characteristics of our sample firms, and the analyses involved are the estimations of some parameters relating the size and financial characteristics of the firms to their growth rates through the use of some statistical and econometric techniques. Part II is based on the primary data generated from our questionnaire survey and the analyses involved are the discussions of the responses to our questions that have been designed to identify those factors outside the scope of financial characteristics that have bearings with the growth of firms. The discussions are made with the aid of charts.

Obviously, each of the methods of analysis in each part complements the others. Although the non-financial factors can be subjected to quantitative techniques under the analysis of residuals, we consider the questionnaire approach more appropriate since it affords us the opportunity of identifying the various components of the non-financial factors.

3.2A PART I PARAMETER ESTIMATION APPROACH

3.2.1 Size and Growth

The models under this heading are to test the hypothesis that there is no systematic relationship between size and growth of Nigerian firms.

i. Mean Growth Rate and Variance Analysis

A simple way to test Gibrat's law is to measure the logarithm of proportionate change to see if any significant differences exist among the mean rate of growth of different size classes. To do this, we group our sample of firms into three size classes on the basis of their opening size, calculate the logarithm of proportionate change of size within the period of study for each firm and take the mean and variance for each class. We employ the study t-test to test for significant differences between pairs of the means. Let $\bar{X}_1$ represent the mean of proportionate change for small size firms and $\bar{X}_2$ the mean of proportionate change for medium size firms, then we test

$$H_o : \bar{X}_1 = \bar{X}_2$$

$$H_1 : \bar{X}_1 \neq \bar{X}_2$$

with the t - ratio [14]

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sigma \sqrt{1/n_1 + 1/n_2}} \quad \text{with } (n_1 + n_2 - 2) \text{ degrees of freedom}$$

where $\sigma = \sqrt{\frac{n_1 S_1^2 + n_2 S_2^2}{n_1 + n_2 - 2}}$

n_i and S_i^2 $(i = 1, 2)$ are the sample size and variance of the respective size-class.

---

14. Spiegel, M. R. (1972), Theory and Problems of Statistics Schaum's Outline Series McGraw Hill Book p. 190.

If Gibrat's law holds, we expect to record insignificant differences among the growth rates, and the variances around the mean growth rates are expected to be significantly equal.

Although the mean growth rate and variance analyses provide us with a simple and direct examination of the relevance of Gibrat's law in the Nigerian context, they do not possess the predictive attribute which is necessary for policy measure recommendations. Hence, we proceed to undertake the slightly more advanced regression analysis.

ii. Regression Analysis

The regression analysis involves regressing size in time t (closing size) on size in time t-1 (opening size) with a view to determine the extent to which the latter explains variation in the former. It also involves the application of Chow's (1960)[16] test of equality of coefficients of regression equations obtained from different samples. This is with a view to compare the explanatory powers of size on growth among different size classes.

Gibrat's law may be stated as

$$X_t - X_{t-1} = P_t X_{t-1} \quad . \quad . \quad . \quad . \quad 3.1$$

16. Chow, G. C. (1960), "Tests of Equality Between sets of Coefficient in Two Linear Regressions", Econometrica Vol. 28, pp. 591-605.

where X_t denotes the absolute size of a firm at time t, P_t denotes a proportion drawn at random from a set of proportions which are mutually independent and also independent of X_{t-1}

Equation 3.1 may be re-written as

$$(X_t - X_{t-1})/X_{t-1} = P_t \quad . \quad . \quad . \quad . \quad 3.2$$

Summing both sides gives

$$\sum_{t-1}^{n} (X_t - X_{t-1})/X_{t-1} = \sum_{t-1}^{n} P_t \quad . \quad 3.3$$

Given that each interval is small, the continuous form of the left hand side of equation 3.3 is given as

$$\int_{X_o}^{X_n} \frac{dX}{X} = \ln X \Big]_{X_o}^{X_n} \quad . \quad . \quad . \quad 3.4$$

$$= \ln X_n - \ln X_o$$

$$\text{i.e } \ln X_n - \ln X_o = \sum_{t-1}^{n} P_t$$

$$\text{or } \ln X_n = \ln X_o + P_1 + P_2 + \ldots + P_n \quad . \quad 3.5$$

By the additive form of the central limit theorem, the variate $\ln X_n$ is normally distributed, provided n is large. This is true even if $\ln X_t$ and the P_t's are not normally distributed, provided n is very large.[17]

---

17. n is sufficiently large if n > 30. See Koutsoyiannis A. (1978) Theory of Econometrics Macmillan pp. 86-87.

Equation 3.5 is the formal statement of the theory that firms grow by randomly distributed proportions and therefore tend to be lognormally distributed.

The stochastic relationship postulated between $\ln X_t$ and $\ln X_{t-1}$ is of the form

$$\ln X_t = \alpha + \beta \ln X_{t-1} + u \quad \ldots \quad 3.6$$

where α is a constant and u is an additive random variable with zero mean and variance σ_u^2.

Taking the anti-logarithm of 3.6, the relationship takes the following exponential form

$$X_t = e^{\alpha} X_{t-1}^{\beta} \varepsilon \quad (\text{where } \varepsilon = e^{u}) \quad \ldots \quad 3.7$$

Clearly, if $\beta = 1$, then on the average, the ratio of a firm's size at time t to its size at time t-1 is a constant. $\beta > 1$ implies the rate of growth increases over time while $\beta < 1$ implies a decreasing growth rate over time. In a cross-sectional study, $\beta = 1$ implies that all firms grow at the same rate, in which case Gibrat's law is deemed to be in operation, while $\beta \gtrless 1$ refute Gibrat's law.

We estimate equation 3.6 with the ordinary least square technique for the three size-classes of firms, in which case we obtain estimates of the same relationship for three different cross-sectional sample of firms.

In our notations we estimate

$$\ln NAS_t = \hat{\alpha}_i + \hat{\beta}_i \ln NAS_{t-1} \quad \ldots \quad 3.8$$

i = 1, 2, 3 for small, medium and large sizes respectively. We go on to test for the equality of coefficients of pairs of equation estimated for different size samples.

For example, to test for the equality of coefficients of equations estimated for small and medium size-classes of n_1 and n_2 observations respectively, we pool together the two samples thus forming a sample of $n_1 + n_2$ observations from which we estimate another equation

$$\ln NAS = \hat{\alpha}_p + \hat{\beta}_p \ln NAS_{t-1} \quad \ldots \quad 3.9$$

(p stands for estimates from pooled sample)

The unexplained variations for each of the equations are calculated thus:

$\Sigma e_1^2 = (NAS_{1t} - \hat{NAS}_{1t})^2$ with n_1-k degrees of freedom

$\Sigma e_2^2 = (NAS_{2t} - \hat{NAS}_{2t})^2$ with n_2-K degrees of freedom

$\Sigma e_p^2 = (NAS_{pt} - \hat{NAS}_{pt})^2$ with (n_1+n_2-K) degrees of freedom. From these we form the F-ratio

$$F = \frac{\Sigma e_p^2 - (\Sigma e_1^2 + \Sigma e_2^2) \ /K}{(\Sigma e_1^2 + \Sigma e_2^2)/(n_1 + n_2 - 2K)}$$

[18]

$$V_1 = K, \ V_2 = (n_1 + n_2 - 2K)$$

---

18. Koutsoyiannis A. Op. Cit. p. 166

$$H_o : r_1^2 = r_2^2$$

$$H_1 : r_1^2 \neq r_2^2$$

If the observed F-ratio is greater than the theoretical value, we reject the null hypothesis and conclude that the two size classes differ significantly in their growth rates. If otherwise, we accept the null hypothesis and in event of accepting the null hypothesis in the tests conducted between small and medium size firms on one hand and that between medium and large firms on the other, then we conclude that Gibrat's law holds in Nigeria i.e. all firms regardless of their size have the same probability of growing at the same rate.

iii Bivariate size distribution and variance analysis

Rather than test the law of equi-proportionate growth directly especially as in our second model above, a third one tests it indirectly by examining two of its implications. The implications examined are:

(i) the distribution of the proportionate growth rate of firms is J-shaped or log-normal, and

(ii) the relative dispersion of the size of firms tend to increase with time.

To examine these implications, a bivariate size - distribution of the firms is constructed. We re-classify our sample into a greater number of units with the upper limit doubling the lower limit of each size class, the essence of which is to allow for a logarithmic

transformation of our data to base 2.[19] The classification is done for both the opening and closing years and the bivariate size distribution constructed to indicate size mobility from one size class to others within the period of study.

For the first implication, we calculate the coefficient of skewness of the distribution with Pearson's second coefficient of skewness

$$SK = \frac{3(\text{mean}-\text{median})}{S}$$ [20]

$$\text{where } S = \sqrt{\frac{\Sigma (X-\bar{X})^2}{N}}$$

This measure can assume both negative and positive values. The closer it is to zero, the more symmetric is the distribution. Since our data has undergone logarithmic transformation, we expect that for Gibrat's law to hold, our coefficient of skewness must be significantly equal to zero (since the data must have been log-normalized).

For the second implication we calculate the variance of firms in each size class for both the opening and closing years and carry out a test to see if firms regressed towards the mean size. The model used is one

---

19. The implication is that measurements under this analysis are in units of logarithms to base 2.

20. Spiegel M. R. Op. Cit. p. 91.

developed by Hart and Prais (1959) which is expressed in the following equation

$$Var_t = \beta^2 Var_{t-1} + \sigma_e^{2}{}^{21} \quad . \quad . \quad . \quad 3.10$$

where β is the regression coefficient and σ_e^2 is the residual variance.

If $\beta < 1$, then there is a regression towards the mean and large firms grow at a slower proportionate rate than small firms. If $\beta = 1$, then all firms grow at the same rate regardless of their size as in Gibrat's law. If $\beta > 1$, then there is no regression towards the mean, rather, the larger firms are growing at a faster proportionate rate than the small ones.

3.2.2 Financial Characteristics and Growth

The models under this heading are used to test our second hypothesis that there is no systematic relationship between the financial characteristics and growth of Nigerian firms.

As mentioned in the previous chapter, past authors have indicated that the financial characteristics of firms constitute some systematic influence which may affect their growth. Profitability being the most striking and the one most likely to affect or influence others, has also been found to be the most important systematic influence on growth. Thus, apart from the interest that

---

21. Hart, P. E. and Prais, S. J. (1956), "The Analysis of Business Concentration: A Statistical Approach" Journal of the Royal Statistical Society Vol. 119. series pp. 150-91.

has been generated in the relationship between growth and profitability from the theoretical point of view, the relationship is also of some considerable interest from the practical point of view. It is generally believed that a firm's rate of growth depends on both its ability and willingness to grow. As earlier observed, a firm's ability to finance growth is closely linked with its achieved profitability. The higher the level of profitability, the more it would be in a position to grow from retained profits. Also, the higher the level of profitability, the more confidence will prospective investors have in the company, so that new issues can be raised on favourable terms. The same goes for a levered company that wants to finance growth with debts.

However, willingness to grow depends on such diverse factors as the state of demand and technological opportunities. Thus, for two firms of the same level of profitability within the same industry, the willingness to grow and therefore their growth rate may differ if there is a stronger demand for the products of one of them than that of the other. Variation in willingness to grow may also be inter-temporal as demand, for instance, changes over time.

Thus, given the expected systematic influence of profitability and the diverse factors affecting the

willingness to grow, positive correlation which is however subject to inter-firm and temporal variation is postulated between profitability and corporate growth in Nigeria as has been found in past studies.

As a link between size and growth on one hand and financial characteristics and growth on the other, we consider it necessary to explore the relationship between financial characteristics in general and inter-firm size differences. One important reason the size-financial characteristics (profitability in particular) is potentially important for our purpose is that it may provide clues to the degree of efficiency in resource utilization. If for instance, Gibrat's law holds and firms of all sizes have the same probability of growing at a particular rate, and if at the same time, inter-firm differences in size can be explained by profitability, it may be concluded that the bigger firms are less efficient in resource management.

The models employed are all in form of regression equations estimated with the ordinary least square technique. The alternative equations estimated are

$$P = a + bS + \epsilon \quad \ldots \quad 3.11$$

$$P = a + b\ln S + \epsilon \quad \ldots \quad 3.12$$

$$\ln P = a + b\ln S + \epsilon \quad \ldots \quad 3.13$$

where P = Profitability, S = Size, ϵ is the error term and a and b are parameters.

Equation 3.11 tests the simple hypothesis that profitability is a linear function of size. Equation 3.12 tests the hypothesis that profitability increases by a constant amount as size increases by a given proportion. The double logarithmic equation 3.13 tests the hypothesis that a given proportionate change in size is associated with a constant proportionate change in profitability.

The two alternative measures of profitability described in section 3.12 above were used in separate equations to know which of them would be better explaine by size.

Each of these equations is estimated for the entire period of study and for two sub-periods.

Next, in we replaced the profitability measures wit other financial ratios to know which of them would also be explainable by size.

The growth models are specified as in equation 3.11 to 3.13, except that the dependant variable is now replaced with a measure of growth of size. Thus, the alternative models used to explore the effect of profitability on growth are

$$G = a + bP + \quad . \quad . \quad . \quad . \quad 3.14$$

$$G = a + b\ln P + \quad . \quad . \quad . \quad 3.15$$

$$\ln G = a + b\ln P + \quad . \quad . \quad . \quad 3.16$$

where G = growth rate of size in percentage.

In estimating the models, both measures of profitability were incluced in the same equations and we relied on the automatic selection of the best measure by the computer.

The models that incorporate other financial ratios are:

$$G = a + b_1 P + b_2 RRA + b_3 LQR + b_4 DDR + \epsilon \qquad 3.17$$

$$G = a + b_1 \ln P + b_2 \ln RRA + \ln b_3 LQR + \ln b_4 DDR + \epsilon \qquad 3.18$$

$$\ln G = a + b_1 \ln P + b_2 \ln RRA + b_3 \ln LQR + b_4 \ln DDR + \epsilon \qquad 3.19$$

where RRA, LQR and DDR are as defined in section 3.12 above.

In estimating equations 3.17 to 3.19, we also relied on the computer to select the most important explanatory variables in their order of importance.

In estimating the semi- and double-logarithmic equations, those firms that experienced an average negative growth rate either during the whole period of study or any of the sub-periods were excluded. This involved the exclusion of about 15% of the firms.

Having identified the fast- and slow-growth firms in our bivariate analyses, we selected two fast- and two slow-growth firms in terms of net assets and the same number of firms in terms of turnover for case study analysis.

Theoretically, time-series data are more appropriate for the estimation of economic relationships. Growth in particular is a phenomenon that takes place over time.

We therefore find it necessary to supplement the cross-sectional analyses with the case studies which involve the use of time-series data.

In estimating equations for the individual firms, we used the linear model of equation 3.20

$$S = a + b_1P + b_2RRA + b_3LQR + b_4DDR + \epsilon \qquad 3.20$$

Although the model expresses size as a function of some financial ratios, we consider it also, in this case, as a growth function since by our simple definition, growth is the inter-temporal change in size. Since the average growth rates have been used in selecting the firms, we consider model 3.20 sufficient for our purpose. Furthermore, since the number of cases is twelve (see section 3.5 below) and the number of parameters estimated in each equation is five, coupled with the appearance of some negative growth, we find the semi- and double logarithmic models not theoretically plausible, hence we contend ourselves with the linear equations only.

3.2B PART II QUESTIONNAIRE APPROACH

We have observed that profitability has been widely proved to be a significant systematic determinant of corporate growth. However, there has always been an equally significant percentage of the variation in growth rate that cannot be attributed to the systematic influence of profitability. It is in anticipation of this that we

prepared a questionnaire, the essence of which was to identify the specific non-financial factors that have bearings with the growth of Nigerian firms.

In designing our questionnaire we take cognisance of the fact that business objectives may vary from one company to another. Thus, we asked our respondents to indicate the relative importance of some suggested business objectives which we borrowed from the literature. We consider such a question relevant since willingness to grow should necessarily be a primary business objective or a function of other alternative objectives. On the premise that the responding firms have some degree of willingness to grow, we also sought to know, among other things those factors they consider as the major means of achieving growth and those factors they consider as the major hindrances to growth. All our questions have suggested answers which the respondents were asked to rank as very important, important, unimportant and very unimportant. We however gave some rooms for other possible answers which by error of omission could have been excluded from the suggested ones.

We also provided two empty charts, one for the profits and Loss Accounts and the other for the Balance Sheets from 1970 to 1985. The essence of this was to compare information from the primary source with the published ones. This however, was not possible because

A facsimile of the questionnaire is in appendix 1.

Although the questionnaires were directed to the respective company secretaries, the status of our respondents varied very widely, with 15 (or 35.7%) being Accountants, 12 (or 28.6%) company secretaries and 5 (or 11.9%) Personnel Managers. The rest are made up of Managing Directors, quality control officers, administrative officers and their equivalents in other offices. Considering the status of those who completed our questionnaires, it appears plausible to judge that the responses are reliable to a considerable extent.

Our mode of analysis has been the semi-quantitative technique of charting the responses in form of frequency tables and reconciling the responses with the annual reports of some companies and some government reports.

3.3 Target Industries

Nigeria has so far followed the classical route to industrialization which is import substitution strategy. Our sample of firms fall within some manufacturing industries that come under import-substitution industries. Our restriction to import substitution industries is based on the fact that the Nigerian industrial policies favoured their early establishment, and thus, they have passed through enough length of time to experience some meaningful expansion, and in some cases decline.

Specifically, the selected industries are Beer/Soft Drinks, Footwear, Textile, Food and Food Processing, Chemical and Plastics, Cement and Building Materials, and Paper Products. Table 3.1 indicates the value added and employment generation of these industries as percentages of the total of the manufacturing industries in some selected years.

Table 3.1: Value Added and Employment Generation for Selected Industries for Selected Years

	1978				1980				1982			
	Value Added		Employment		Value Added		Employment		Value Added		Employment	
	Actual '000	%tage of Total	Actual '000	%tage of Total	Actual '000	%tage of Total	Actual '000	%tage of Total	Actual '000	%tage of Total	Actual '000	%tag of Tota
Beer and soft drinks	322352	14.24	16215	5.31	944962	17.69	32169	7.09	517499	13.08	16682	5.0
Footwear	29985	1.32	4931	1.61	39595	0.74	6198	1.37	101617	2.57	13204	4.0
Textile	323424	14.29	83720	27.40	455063	8.36	84149	18.55	546455	13.81	51483	15.6
Food and Food Processing	327095	14.45	47394	15.51	302806	5.67	41156	9.07	546455	13.81	51482	15.6
Cement and Building Materials	115716	5.11	15554	5.09	20792	0.39	3272	0.72	127926	3.23	3330	1.0
Chemical and Plastics	491079	21.69	41888	13.71	799654	14.97	62818	13.85	321205	8.70	23246	7.0
Paper and Paper Products	59192	2.61	7175	2.34	77083	1.44	9923	2.19	39513	1.00	7189	2.1
T o t a l	1668843	73.71	216877	70.97	2639955	49.26	239685	52.84	2200670	56.20	166617	50.5

NOTE: *Total of all Manufacturing Industries

Source: Federal Office of Statistics, Industrial Survey

3.4 Sources of Secondary data

For our secondary data, we have relied mainly on the four available editions of Nigeria Company Handbook, a publication of a private company involved among other things in the publication of management books and business consultancy - Jikonzult Management Services Limited. The first edition was published in 1980, with the published figures starting from 1974, while the fourth edition contains relevant figures for up to 1985. Thus, our study covers a period of twelve years. The particular period covered by our study is very important in the economic history of Nigeria because it covers two different phases of business cycle. Hence, we divide the whole period into two sub-periods. The first 1974-80 coincides with the affluent period of oil boom while the second, 1979-85 coincides with the recessionary period. Thus, we are able to access the importance of each of the corporate growth determinants identified during each of the two phases. We regard the overlapping period 1979-80 as a transitional period during which there were still traces of the boom but the full impacts of the recession were not yet being felt.

Although the publications are purported to have been based on studies and researches conducted by the staff of the company, they are not free from some minor inaccuracies as figures for years that overlap in

successive editions differ in some cases. To correct for such anomalies, since the differences were in most cases very neglible, we merely found the arithmetic mean of such overlapping figures. In cases where the differences are large, and in the absence of any other means of cross-checking the correct figures we had to exclude the company concerned.

In view of the fact that the figures from our source of data correspond in most cases with those from the few available Annual State of Accounts of companies, we have no doubt about the authenticity of the data. In all, we were able to identify 82 companies whose data are useable.

CHAPTER FOUR

ANALYSIS OF SIZE AND CORPORATE GROWTH

In this chapter, we test our first hypothesis that there is no systematic relationship between size and growth of Nigerian firms. The hypothesis is tested within the context of Gibrat's law using the models presented in section 3.2.1.

4.1 Mean Growth Rate and Variance Analysis

This analysis is a simple way of testing Gibrat's law and to do this we have classified out sample of firms into three size classes. Firms are often delimited into size classes on the basis of various criteria such as particular range of financial figures, the type of management structure and the number of paid employment. However, none of these criteria is of universal acceptance. In particular, given the temporal variation in prices, financial classification require regular revision if it is to be meaningful in the context of any particular economy. For example in 1972, the term small scale industry in Nigeria was defined to include all manufacturing units with a total capital investment of up to ₦60,000 and paid employment of up to 50 persons.[1]

---

1. Federation of Nigeria Facilities and Opportunities for Starting Small Scale Industries, FGP, 1750 (72)/273/1500 1972 p. 7.

However, at 1989 current prices, this upper limit of capital investment is such that cannot be regarded as being realistic, given the rate of price increases. An upward revision is apparently inevitable.

Apart from temporal variations in financial definitions of firm sizes, there are also variations in the definitions given by different financial institutions which have to do with giving loans to business establishments both on international and national bases.

In Nigeria, the financial definitions as indicated above, are in terms of capital investments. Thus the Nigerian Bank for Commerce and Industry defines small scale firms as those with capital investment of not more than ₦750,000, medium scale firms are those whose capital investment fall between ₦750,000 and ₦1.5 million while any firm that has a capital investment in excess of ₦1.5 million is regarded as a large scale firm.[2] The Nigerian Industrial Development Bank (NIDB) defined the small/medium scale firms as those with capital investment of less than ₦1 million while any firm with capital investment in excess of ₦1 million was regarded as a large scale firm. That was however when the naira and the dollar were at per.[3]

---

2. The Administrative Manager, NBCI Akure

3. The Economist, NIDB, Akure

Under a loan agreement to finance small scale enterprises in Nigeria, the donor country, Czechoslovakia defined small scale firms to be those with capital outlay of less then ₦10 million. However, Nigeria prefers to give a definition that has a far less upper limit.

It is then clear that firms are classified into various size classes as found convenient by institutions.

Most of the firms in our sample fall within the medium scale as classified by the NBCI. For analytical convenience we have classified our sample of firms into three - small, medium and large.

On the basis of their opening sizes, we define small firms as those whose net assets fall below ₦1 million or whose turnover is less than ₦5 million, medium firms are those whose net assets fall between ₦1 million and ₦3 million or whose turnover fall between ₦5 million and ₦12 million, while firms whose net assets and turnover are above ₦5 million and ₦12 million respectively are regarded as large firms.[4] With this classification, on the bais of net assets, we have 18 small firms, 35 medium and 29 large firms. On the basis of turnover we have 20 small, 36 medium and 26 large firms.

---

4. Samuels (1965), showed that whatever reasonable method is used for classifying of companies, the raning varies very little. See Samuels, J. "Size and Growth of Firms" Review of Economic Studies XXXII, p. 106.

The means and variances of the logarithm of proportionate changes in size for the three size classes within specified periods are presented in Tables 4.1 to 4.6. All calculations are in natural logarithm.

Table 4.1: Mean and Variance of Logarithm of Proportionate Changes in Net Assets Between 1974 and 1985

Size Class	Mean	Variance	t-score for difference of means of pairs of size-classes	
Small	2.1575	0.4669	Small and Medium	2.6332
Medium	1.7941	0.2094	Small and Large	8.6757
Large	1.3068	0.4920	Medium and Large	2.9839

Table 4.2: Mean and Variance of Logarithms of Proportionate Changes in Net Assets between 1974 and 1980

Size Class	Mean	Variance	t-score for differences of means of pairs of size-classes	
Small	2.6514	0.6713	Small and Medium	1.9850
Medium	2.3606	0.6602	Small and Large	4.5782
Large	1.7120	0.4481	Medium and Large	3.1765

Table 4.3: Mean and Variance of Logarithms of Proportionate Changes in Net Assets Between 1979 and 1985

Size Class	Mean	Variance	t-score for differences of means of pairs of size-classes	
Small	0.3999	0.4557	Small and Medium	1.7048
Medium	0.6093	0.3425	Small and Large	2.8819
Large	0.9263	0.4276	Medium and Large	1.8419

Table 4.4: Mean and Variance of Logarithms of Proportionate Changes in Turnover between 1974 and 1985

Size Class	Mean	Variance	t-score for differences of means of pairs of size-classes	
Small	1.5135	0.5411	Small and Medium	2.2251
Medium	1.1541	0.1372	Small and Large	2.6950
Large	1.0837	0.2062	Medium and Large	0.6172 NS

Table 4.5: Mean and Variance of Logarithms of Proportionate Changes in Turnover between 1974 and 1980

Size Class	Mean	Variance	t-score for differences of means of pairs of size-classes	
Small	1.6755	0.7989	Small and Medium	1.7494
Medium	1.2977	0.4137	Small and Large	2.1591
Large	1.1302	0.8892	Medium and Large	0.7528 NS

Table 4.6: Mean and Variance of Logarithms of Proportionate Changes in Turnover between 1979 and 1985

Size Class	Mean	Variance	t-score for differences of means of pairs of size-classes	
Small	0.0635	0.6251	Small and Medium	1.9885
Medium	0.2493	0.3292	Small and Large	1.6942
Large	0.3996	0.4136	Medium and Large	0.9762 NS

Except for the cases with asterisks, at 5% level of probability there is significant differences between pairs of means in each of the size-classes.

All our results in tables 4.1-4.3 are consistent in refuting Gibrat's law that average proportionate growth of firms is the same for all size-classes of firms as significant differences are recorded in the mean growth rate of net assets of our three size-classes. Even with the non-significance of the differences between the means of proportionate changes in the turnover of medium and large size-classes, the fact still remains that if all the firms are classified into two; small and large, Gibrat's law will be refuted, as significant differences are recorded between the means of proportionate changes in the turnover of small and medium, and also between that of small and large size-classes.

The implied mean ratios of net assets in 1985 to net assets in 1974 for the different size classes are: small, 8.65; medium 6.014 and large, 3.69. For the first sub-period, 1974-80, the implied mean ratios are 14.17, 10.60 and 5.54 while for the second sub-period they are 1.49, 1.84 and 2.52 respectively. These figures indicate substantial average growth rates for the firms. These might have been exaggerated by the rate of inflation.

The same trend is revealed with turnover. The implied mean ratios for the longer 1974-85 period are 4.54, 3.17 and 2.95 for the three size-classes. For the first sub-period, they are 3.34, 3.66 and 3.10 and for the second sub-period they are 1.49, 1.28 and 1.06 respectively.

For the longer period, 1974-85 the average growth rates of both net assets and turnover as shown in tables 4.1 and 4.4 respectively, for the small size-class are higher than that of medium size-class which in turn are higher than that of the large size class. This apparent negative relationship between the size and proportionate changes in size is more pronounced in the first sub-period, 1974-80 (tables 4.2 and 4.5). However, the trend was reversed in the second sub-period 1979-85 (tables 4.3 and 4.6) which for most part fell within the period of economic recession which set in in 1981. Generally, the growth rates were lower in the second sub-period but the bigger firms recorded average higher proportionate changes in size.

The variances do not maintain any particular pattern, except that in most cases, the medium size-class records the lowest variance. We also observe that the variances are generally lower in the second sub-period than in the first sub-period. A better picture of the variances is presented in section 4.3 below.

The tentative conclusion from this analysis is that size, either in terms of net assets or in terms of turnover affects the growth of firms either positively or negatively, depending on the prevailing economic condition, with the smaller firms showing the tendency to growth faster in a boom and the bigger firms showing more resistance and therefore higher growth rates in the difficult times. To know the actual proportion of growth that is accounted for by size, we examine the coefficient of determination in Section 4.2 below.

4.2.1 Regression Analysis

Beyond finding the mean growth rate and variance of different size-classes, we also sought to know the proportion of the mean growth rate that may be accounted for by size. The question is, can the differences in the growth rate recorded in Section 4.1 be attributed to differences in sizes per se? A direct way of answering the question is through the estimation of equation 3.6. While the magnitude of our regression coefficients are relevant in either confirming or refuting the results in Section 4.1 the coefficients of determination reveal the extent to which inter-firm differences in growth can be explained by size.

The results of our regression analysis are presented in tables 4.7 to 4.12.

Table 4.7: Regression Coefficients of $LogNAS_{85}$ on $logNAS_{74}$

Size Class	Constant	β	r^2	F
Small	1.8341	0.827	0.423	41.321
		(0.206)		
Medium	2.5174	0.785	0.296	10.500
		(0.242)		
Large	3.0285	0.755	0.428	18.750
		(0.174)		

Note: Figure in parenthesis are the standard errors

Table 4.8: Regression Coefficients of $logNAS_{80}$ on $logNAS_{74}$

Size Class	Constant	β	r^2	F
Small	3.438	0.791	0.408	17.249
		(0.190)		
Medium	2.583	0.238	0.016	0.402
		(0.376)		
Large	2.984	0.820	0.382	12.415
		(0.233)		

Note: Figures in parenthesis are the standard errors

Table 4.9: Regression Coefficients of $\log NAS_{85}$ on $\log NAS_{79}$

Size Class	Constant	β	r^2	F
Small	2.290	1.053	0.472	22.378
		(0.222)		
Medium	1.592	1.108	0.151	4.43
		(0.526)		
Large	2.217	1.047	0.462	21.471
		(0.204)		

Note: Figures in parenthesis are the standard errors

Table 4.10: Regression Coefficients of $\log TNR_{85}$ on $\log TNR_{74}$

Size Class	Constant	β	r^2	F
Small	4.666	0.507	0.162	4.824
		(0.231)		
Medium	-1.512	0.828	0.503	28.559
		(0.212)		
Large	4.193	0.751	0.479	22.978
		(0.30)		

Note: Figures in parenthesis are the standard errors

Table 4.11: Regression Coefficents of $\log TNR_{80}$ on $\log TNR_{74}$

Size Class	Constant	β	r^2	F
Small	2.806	0.837	0.339	12.871
		(0.233)		
Medium	-1.232	0.869	0.518	26.902
		(0.214)		
Large	4.229	0.687	0.433	19.084
		(0.157)		

Note: Figures in parentheses are the standard errors

Table 4.12: Regression Coefficients of $\log TNR_{85}$ on $\log TNR_{79}$

Size Class	Constant	β	r^2	F
Small	4.741	1.007	0.148	4.360
		(0.291		
Medium	2.501	1.175	0.108	3.020
		(0.504)		
Large	2.590	1.151	0.308	11.148
		(0.255)		

Note: Figures in parenthesis are the standard errors

With the exception of the estimate of β for medium size-class in table 4.8, all our estimates of β are significant at 1% level. The fact that all the β's are less than one in Tables 4.7 and 4.10 corroborates the results in Section 4.1, that for the longer time period, 1974/85, the smaller firms showed a higher tendency to expand in terms of both net assets and turnover.

Interestingly too, the results for the two sub-periods support the earlier analysis because the estimates of in Tables 4.8 and 4.11 are all less than one for the first sub-period and greater than one in Tables 4.10 and 4.12 for the second sub-period.

However, there is much variation in the values of our coefficient of determination, especially in the case of turnover. In the case of net assets where the values are fairly more stable, about 40% variations in current size is accountable for by variation in previous size. It is only in the longer period that as much as about 0.3 is recorded for the medium size-class while the value is not significant for the first sub-period (F-statistics is 0.402), it is as low as 0.15 in the second sub-period.

The value of r^2 is less stable and more varied with turnover. For example, while the value is as high as 50% for the medium size-class for the whole period and the first sub-period, it is as low as about 10% in the

second sub-period. For the small size-class, the value ranges between 16% for the longer time period and about 34% for the first sub-period. For the large size-class, it ranges between 31% for the second sub-period and 48% for the longer period.

We explore further in the next section if significant differences actually exist among the values estimated for r^2 between pairs of size-classes, using the F-ratio described in Section 3.2.1.

4.2.2 Chow's Test

To test whether the set of estimated relationships in each of tables 4.7 to 4.12 differ significantly using Chow's test, we pooled the data for pairs of size-classes and estimated a set of equations (see appendix 2) whose sum of squares of errors together with the sum of squares of errors of the equations in Tables 4.7 to 4.12 are used in computing the F-statistics in Tables 4.13 and 4.14.

Table 4.13: F-Statistics for Chow's Test (NAS)

Pooled size classes	1974/85	1974/80	1979/75
Small and Medium	379.990	20.629	24.143
Small and Large	10.259	6.317	11.940
Medium and Large	25.749	6.021	2.089*

Table 4.14: F-Statistics for Chow's Test (TNR)

Pooled Size-Classes	1974/85	1974/80	1979/85
Small and Medium	27.053	10.837	18.957
Small and Large	5.240	49.111	34.804
Medium and Large	14.909	141.201	4.122*

Except for the case with an asterisk, the F-Statistics calculated are greater than the tabulated value, implying that there are significant differences in the estimated relationships i.e. the effect of previous size on current size changes from one size-class to another.

Our tentative conclusion in Section 4.1 that the effect of size on growth varies with the prevailing economic conditions remains valid. However, the evidence from our r^2 is too inconsistent to suggest that size per se has any discernible systematic effect on corporate growth. However, before we make a final conclusion on this aspect of the study, we explore further some more advanced dynamics of the theory of the growth of the firm.

4.3 Bivariate Size Distribution and Variance Analysis

Two of the implications of the law of equi-proportionate effect we are examining here as stated in chapter 3 are:

(i) the distribution of the proportionate growth rate of firms is J-shaped or log-normal, and

(ii) the relative dispersion of the size of firms tend to increase with time.

To examine these implications we have constructed bivariate size distributions of firms showing the sizes of the same set of firms at two points in time. The nature of the distribution is such that we now have a maximum of 12 size-classes in which the upper limit of each group doubles the lower limit. The distributions are as presented in Tables 4.15 to 4.20.

Table 4.15: Bivariate Size Distribution of Firms (NAS) 1974-1985

Size-Class at the end of 1985

Size class at the end of 1974 ₦'000		A	B	C	D	E	F	G	H	I	J	Total
10	A		1	4	3	1						9
20	B	1		1	4	6	5					17
40	C			2	2	6	5	5				20
80	D			1		3	6	3	1			14
160	E					2	1	2		1		6
320	F						4	1	3	2		10
640	G								2	2		4
1280	H								1		1	2
2560	I											
5120	J											
Total		1	1	8	9	18	21	11	7	5	1	82

Table 4.15b: Distribution of Proportionate Growth Rates (NAS) 1974-85

Proportionate Growth	1/16	1/8	1/4	1/2	1	2	4	8	16
Number of Firms	0	0	0	2	9	11	28	19	13
Proportion of Firms	-	-	-	0.02	0.11	0.13	0.34	0.23	0.16

SK = 1.800

Table 4.16a: Bivariate Size Distribution of Firms (NAS) 1974-80

Size-Class at the end of 1980

Size class at the end of 1974 (₦'000)		A	B	C	D	E	F	G	H	I	J	K	Total
10	A												
20	B	1	1	1	6	1							10
40	C				3	5	7	1					16
80	D				1	4	10	4					19
160	E				1	1	11	1	1				15
320	F						2	2	2				6
640	G					1	1		4	4			10
1280	H								3	1			4
2560	I									1		1	2
5120	J												-
10240	K												-
Total		1	1	1	11	12	31	8	10	6	-	1	82

Table 4.16b: Distribution of Proportionate Growth Rates (NAS) 1974-80

Proportionate Growth	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	16
Number of Firms	0	0	1	2	9	27	29	13	1
Proportion of Firms	0	0	0.01	0.02	0.11	0.33	0.35	0.16	0.0

SK = 1.843

The first question is, is the distribution of the proportionate growth rate of Nigerian firms J-shaped (or Lognormal)? To answer this question, we generate the 'b' part of each table from its 'a' part by summing across its diagonal. For example, the sum of the elements in the leading diagonal AA, BB... JJ... gives the total number of firms which on average stayed the same size over the respective time period. The sum of the elements in the diagonal immediately above this, namely row A, Column B, BC, CD..... KL gives the number of firms which on average doubled in size.

Table 17a: Bivariate Size-Distribution of Firms (NAS) 1979-1985

Size-Class at the end of 1985

Size class at the end of 1979 N'000		A	B	C	D	E	F	G	H	I	J	K	Total
10	A												-
20	B		1										1
40	C			1	3								4
80	D				3	4	3	1	1				12
160	E				1	3	8	7	1				20
320	F				1		6	9	5	1			22
640	G						1	2	4	1			8
1280	H							1	1	3	2		7
2560	I							1	1	2	3		7
5120	J												-
10240	K											1	1
Total		-	1	1	8	7	18	21	13	7	5	1	82

Table 17b: Distribution of Proportionate Growth Rates (NAS) 1979-85

Proportionate Growth	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	16
Number of Firms	0	0	2	4	20	34	18	3	1
Proportion of Firms	0	0	0.02	0.05	0.24	0.41	0.22	0.04	0.01

SK = 1.613

Table 18a: Bivariate Size Distribution of Firms (TNR) 1974-85

Size-Class at the end of 1985

Size class at the end of 1974 M'000		A	B	C	D	E	F	G	H	I	J	K	L	Tot
10	A						1							1
20	B		1		1			1						3
40	C			1	1		2	2						6
80	D				1	2	5	4						12
160	E						5	8	7	1				23
320	F						2	5	6	1				14
640	G						1		1	4	4			10
1280	H				1					2	2	3		8
2560	I										1	3		4
5120	J												1	1
10250	K													-
20480	L													-
Total		-	1	1	4	4	16	20	14	8	7	6	1	82

Table 18b: Distribution of Proportionate Growth Rates (TNR) 1974-85

Proportionate Growth	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	16	32
Number of Firms	0	1	0	0	1	7	17	30	21	3	2
Proportion of Firms	0	0.01	0	0	0.01	0.09	0.21	0.37	0.26	0.04	0.02

SK = 1.649

Table 19a: Bivariate Size Distribution of Firms (TNR) 1974-80

Size-Class at the end of 1980

Size class at the end of 1974 ₦'000		A	B	C	D	E	F	G	H	I	J	K	Total
10	A					1							1
20	B		1	1				1					3
40	C				1	3	1	1					6
80	D					2	8	1	1				12
160	E						9	11	3				23
320	F							5	8	1			14
640	G								4	3	3		10
1280	H								1	2	5		8
2560	I										2	2	4
5120	J											1	1
10240	K												-
Total		-	1	1	1	6	18	19	17	6	10	3	82

Table 19b: Distribution of Proportionate Growth Rates (TNR) 1974-80

Proportionate Growth	$\frac{1}{32}$	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	16	32
Number of Firms	0	0	0	0	0	3	26	40	9	3	1
Proportion of Firms	0	0	0	0	0	0.04	0.32	0.49	0.11	0.04	0.01

SK = 1.529

It can be seen from tables 4.15 and 4.18 that for the longer period, a very large proportion of our sample of firms experienced substantial expansion in their sizes both in terms of net assets and turnover, with only two firms in either case demonstrating some contraction. We also observe that 9 (or 11%) firms remained in the same size-class of net assets while 7 (or 9%) firms remained in the same size-class of turnover.

Table 20a: Bivariate Size Distribution of Firms (TNR) 1979-85

Size-Class at the end of 1985

Size class at the end of 1979	₦'000		A	B	C	D	E	F	G	H	I	J	K	L	Total
	10	A													-
	20	B													-
	40	C		1											1
	80	D			1	1		2							4
	160	E				1		5	1						7
	320	F				1	3	5	8	5					22
	640	G					1	2	5	7	1				16
	1280	H				1		2	5	3	2				13
	2560	I									2				5
	5120	J									3	4	4		11
	10240	K											2		2
	20480	L												1	1
	Total		-	1	1	4	4	16	19	15	8	7	6	1	82

Table 20b: Distribution of Proportionate Growth Rates (TNR) 1979-85

Proportionate Growth	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{2}$	1	2	4	8	16
Number of Firms	1	0	4	16	23	29	9	0	0
Proportion of Firms	0.01	0	0.05	0.20	0.28	0.35	0.11	0	0

SK = 1.472

It is also quite apparent that on either side of the central tendencies, the distributions tail off assymetrically to the right. Using Pearson's second coefficient of skewness, we measure the degree of skewness of the distributions to be 1.800 and 1.649 for net assets and turnover respectively for the whole period, thus clearly indicating the absence of lognormality. It then follows that the aspect of the law of proportionate effect which suggests that if a certain percentage of large firms double their size the same percentage of small firms will halve their size is invalidated in the Nigerian context.

In the shorter two sub-periods, the patterns of distribution are similar to what obtained in the longer period, with slight variations in the degrees of skewness. the first sub-period (Table 4.16), a firms (or 11%) remained in the same size-class of net assets while a total

of 3 firms (or about 4%) moved to lower size-classes. The remaining 70 (or 85%) firms moved to higher size classes. On the other hand, as indicated in Table 4.19, only 3 (or about 4%) firms remained in the same size-classes, none moved into a lower size-class, while as many as 78 (or 95%) moved into higher size-classes of turnover. As earlier observed, the expansion of firms in this first sub-period was a reflection of the state of the economy when the economic boom resulted in high turnover rate for most firms of all sizes. If there were such forces that tended to make for business contraction, they were obviously overwhelmed by the expansionary ones.

There is a slightly different picture in the second sub-period. Although as indicated in Tables 4.17 and 4.20, the degrees of skewness are positive, the number of firms that moved into lower size-classes were higher. In Tables 4.17, 20 firms (or 24.4%) remained in the same size-class of net assets while 6 (or 7.82%) moved into lower size-classes. On the other hand 23 firms (or 28.05%) remained in the same size-class of turnover while as many as 21 firms (or 25.61%) moved into lower size classes.

Obviously, on the whole, the backward movement of the firms within the second sub-period was not sufficient to wipe off the gains of the first sub-period. Hence, the backward movement of only two firms in the longer period.

The second implication of Gibrat's law we are examining in this section is that the relative dispersion of firms tend to increase with time. This concerns finding the degree of mobility of firms between size groups over time. Working in terms of deviations from the mean, we estimate the correlation and regression of closing size on opening size, using the model expressed in equation 3.10. The data for this is derived from the 'a' part of Tables 4.15 to 4.20, and the results are presented in Tables 4.21 to 4.22.

Table 4.21: Variance and Regression Parameters of Size Mobility (NAS)

	1974/85	1974/80	1979/85
σ_e^2	3.738	0.300	0.406
β	0.638	0.334	1.020
$S_{(\beta)}$	0.110	0.111	0.232
ρ	0.850	0.400	0.830
β^2/ρ^2	0.563	0.697	1.510

Table 4.22: Variance and Regression Parameters of Size Mobility (TNR)

	1974/85	1974/80	1979/85
σ_e^2	5.361	2.553	0.768
β	0.903	0.751	1.008
$S_{(\beta)}$	0.332	0.270	0.264
ρ	0.947	0.813	0.795
β^2/ρ^2	0.909	0.853	1.608

Given that the ratio of the variance in year t to the variance in year t-1 is β^2/ρ^2 [5], we can see that the ratios for the entire period and the first sub-period are less than one for both net assets and turnover, indicating a decrease in the variance over time within these periods. This is a direct rejection of that implication of Gibrat's Law we are investigating. However, for the second sub-period, the ratios are greater than 1. It then follows here that the forces making for contraction in sizes of firms were able to exert greater pressure in the second sub-period. However, in view of the fact that the degree of skewness of the distribution of growth rate are positive both in terms of net assets and turnover, it means there were more expending firms.(albeit at a slower rate than during the first sub-period) than contracting ones.

Of much importance to us in this analysis is the striking observation that the estimates of β are less than one for the whole period and for the first sub-period, and greater than one in the second sub-period, thus again corroborating the earlier results that the smaller firms expanded faster than the bigger ones in the boom era of the first sub-period, that the trend was reversed in the subsequent recession of the second sub-period and that the expansionary effects of the first sub-period still lingered on till the end of the period of the analysis.

---

5. See Hart and Prais Loc. Cit. for full details

A relevant statistic in this type of analysis is the value of σ_e^2 which reflects size mobility or the extent to which firms moved from one size class to another. From an economic point of view, this residual variance may be regarded as measuring the variance of the multiplicative erratic shocks some of which make for growth and some of which make for contraction as postulated in the law of equi-proportional growth. However, for our purpose we have adopted another straightforward means of achieving the same goal. If the proportion of firms that have had more than double or less than half of the mean proportionate growth are regarded to have had substantial changes in their sizes, then with reference to the b parts of Tables 4.15 to 4.20, we derive Table 4.23 which shows the proportion of firms that have had substantial size mobility.

Table 4.23: Measures of Firm's Size-Mobility

	1974/85	1974/80	1979/85
Net Assets	74%	53%	29%
Turnover	70%	65%	17%

It is obvious that over the entire period, there were high rates of size-mobility. We may however want to compare size-mobility for the two sub-periods. That fewer firms

changed their sizes substantially in the second sub-period than in the first sub-period is quite evident. This result clearly indicates the variability of the growth rate of firms over trade cycles.

Once more, our analysis has refuted the validity of Gibrat's law. Neither is the distribution of proportionate growth rate of Nigerian firms lognormal nor does the relative dispersion of firms tend to increase with time. In particular the relattive dispersion of firms fluctuate with time.

4.4 Time Series for Individual Firms

Before we make our final remarks in this chapter, we present the result of regressions carried out on some individual firms. If our cross-sectional studies have hidden some information, we believe such information may be brought out in case studies.

For this purpose we have picked the four smallest and the four largest firms; a pair in terms of net assets and the other pair in terms of turnover. Using the same model expressed in equation 3.6, we estimated the following set of equations:

$$\log NAS_t^S = 2.969 + \underset{(0.076)^{**}}{0.688}\log NAS_{t-1}^S \qquad r^2 = 0.902 \ldots 4.1$$
$$F = 82.519 \ldots 4.2$$

$$\log NAS_t^S = 10.338 - \underset{(0.143)}{0.073}\log NAS_{t-1}^S \qquad r^2 = 0.029 \ldots 4.2$$
$$F = 0.267$$

$$\log NAS_t^L = 5.470 + \underset{(0.303)}{0.492}\log NAS_{t-1}^L \qquad r^2 = 0.226 \ldots 4.3$$
$$F = 2.635$$

$$\log NAS_t^L = 3.050 + \underset{(0.138)^{**}}{0.628}\log NAS_{t-1}^L \qquad r^2 = 0.696 \ldots 4.4$$
$$F = 20.583$$

$$\log TNR_t^S = 4.206 + \underset{(0.322)^{*}}{0.600}\log TNR_{t-1}^S \qquad r^2 = 0.279 \ldots 4.5$$
$$F = 3.479$$

$$\log TNR_t^S = 3.494 + \underset{(0.278)^{*}}{0.609}\log TNR_{t-1}^S \qquad r^2 = 0.348 \ldots 4.6$$
$$F = 4.799$$

$$\log TNR_t^L = 4.505 + \underset{(0.146)^{**}}{0.590}\log TNR_{t-1}^L \qquad r^2 = 0.643 \ldots 4.7$$

$$\log TNR_t^L = 4.397 + \underset{(0.282)}{0.464}\log TNR_{t-1}^T \qquad r^2 = 0.231 \ldots 4.8$$
$$F = 2.699$$

The superscripts S and L denote small and large sizes respectively. The figures in parentheses are the t-ratios ** and * indicate significant at 99% and 95% levels respectively.

That all the estimates of β but one are greater than zero is an indication that majority of the firms experienced some growth. The only estimate with a negative sign is insignificant statistically. We also observe that all the

firms grew at a decreasing rate. We observe further that the small firms except the one with a negative and insignificant parameter have almost the same growth rate. However, the proportion of growth that can be attributed to size is much varied, being 0.902, 0.267 and 0.34 in equations 4.1, 4.5 and 4.6 respectively. For the large firms, (equations 4.3, 4.4 and 4.8) there is more variation among the growth rates, and with the exception of equation 4.4 they are generally lower than that of the smaller ones. The coefficient of determination is also equally much varied.

The general picture here again is that the smaller firms appear to have grown faster, but in neither the smaller nor larger firms can growth be appreciably attributed to size.

Generally, in this chapter we have tested the null hypothesis that there is no systematic relationship between size and growth of Nigerian firms. Our results have indicated that within the period of study, the smaller firms proved to have grown faster than the bigger ones. This is contrary to a priori expectations.[6] On dividing the period into two sub-periods, we found that while the

---

6. The possible explanation for this result are enunciated in chapter five.

first sub-period witnessed a faster growth rate for the smaller firms, the second sub-period which coincided with the era of economic recession witnessed a reversal of the trend, indicating the ability of the bigger firms to absorb economic shocks more than the smaller ones.

Given a relaxed business environment, management may not be making enough efforts at resolving the increasing complexities associated with increasing size as they may tend to be complacent with their performance. However, in a harsh and hostile environment, the struggle for survival may result in those with the bigger financial strength being able to outperform the smaller and weaker ones in terms of their ability to cope with more advertising, and increasingly more difficult foreign exchange requirements i.e. in a situation where the import content of the products are high and increasing.[7] Should there be a recovery and subsequently another boom, the question of whether size and growth will again be negatively related will be a question of empiricism.

---

7. See Central Bank of Nigeria Annual Report 1977 p. 10.

CHAPTER FIVE

ANALYSIS OF FINANCIAL CHARACTERISTICS AND CORPORATE GROWTH

It is well established in literature that profitability provides the ability to finance growth. But there are a number of other financial ratios that have to do with the extent to which profits can be used to finance growth. Although in this study, we are particularly interested in the effect of profitability (the most widely acknowledged financial indicator) on growth, we also examine the effects of three other ratios, especially that we are set to identify the most important corporate growth determinants in the Nigerian context. The ratios have already been discussed in chapter three.

5.1 Correlation Analysis

As a preliminary, we present the correlation matrices which show the degree of association among our variables in each of the periods we have been concerned with in tables 5.1, 5.2 and 5.3.

We observe in the tables that there are high correlation among the absolute measures of size and absolute profits measures. Of particular interest are the correlation-

Table 5.1: Correlation Matrix Among the Variables (1974-80)

	NES	TNR	PRTP	PSTP	RREA	RRNA	GTNR	RRA	GNES	LQR	DDR
NES	1.000	0.878	0.961	0.955	-0.105	-0.185	-0.027	0.206	-0.023	-0.124	0.041
TNR		1.000	0.911	0.874	-0.078	-0.077	-0.023	0.123	-0.118	-0.011	0.020
PRTP			1.000	0.978	-0.063	-0.052	-0.013	0.050	-0.021	-0.048	-0.086
PSTP				1.000	-0.055	-0.088	0.013	0.045	0.006	-0.086	0.086
RREA					1.000	0.128	0.410	0.020	0.311	0.089	0.512
RRNA						1.000	0.711	0.216	0.867	0.375	0.357
GTNR							1.000	0.038	0.020	-0.040	0.008
RRA								1.000	0.080	0.058	0.047
GNES									1.000	0.004	0.153
LQR										1.000	0.179
DDR											1.000

Table 5.2: Correlation Matrix Among the Variables (1979-85)

	NES	TNR	PRTP	PSTP	RREA	RRNA	GTNR	RRA	GNES	LQR	DDR
NES	1.000	0.840	0.822	0.747	0.000	-0.015	-0.117	0.147	-0.094	-0.188	0.118
TNR		1.000	0.672	0.610	-0.013	-0.049	-0.022	0.166	-0.096	-0.087	0.134
PRTP			1.000	0.823	0.147	0.230	-0.001	0.264	-0.053	0.073	0.348
PSTP				1.000	0.163	0.120	-0.005	0.224	-0.075	-0.169	0.306
RREA					1.000	0.496	0.074	0.183	-0.528	0.066	0.555
RRNA						1.000	0.671	0.385	0.825	0.204	0.614
GTNR							1.000	0.041	-0.008	0.042	0.035
RRA								1.000	0.025	0.118	0.184
GNES									1.000	0.113	0.026
LQR										1.000	-0.022
DDR											1.000

Table 5.3: Correlation Matrix Among the Variables (1974-85)

	NES	TNR	PRTP	PSTP	RREA	RRNA	GTNR	RRA	GNES	LQR	DDR
NES	1.000	0.889	0.954	0.907	-0.603	-0.101	-0.037	0.197	-0.085	-0.088	0.117
TNR		1.000	0.871	0.805	-0.007	-0.031	-0.036	0.127	-0.115	-0.002	0.106
PRTP			1.000	0.057	0.069	0.046	-0.075	0.157	-0.051	-0.056	0.239
PSTP				1.000	0.057	0.007	-0.069	0.162	-0.026	-0.011	0.233
RREA					1.000	0.409	0.475	0.242	0.225	0.173	0.486
RRNA						1.000	0.705	0.221	0.832	0.287	0.519
GTNR							1.000	0.028	0.168	0.182	0.042
RRA								1.000	0.003	0.180	0.104
GNES									1.000	-0.030	0.267
LQR										1.000	0.048
DDR											1.000

coefficients between net assets and turnover which are 0.878, 0.840 and 0.889 for the three periods respectively. Considering the heterogeneity of our sample, we consider these figures very high and therefore justify their use as our alternative measures of size.

Apart from the absolute measures, we also record high correlation coefficients between our growth variables and the profitability ratios. Interestingly, the correlation among the other ratios are very low and in most cases negative. More detailed insights into these relationships are provided in the analyses that follow.

In the previous chapter, we found that size does not have a consistent systematic effect on growth. In particular, we found that in the first sub-period, the growth rate of firms tended to decrease with size, while the trend was reversed in the second sub-period. If profitability provides the ability to finance growth, the question then arises as to whether the smaller firms were more profitable than the bigger ones during the oil boom era of the first sub-period and indeed the longer period, 1974-85. Thus before we examine the effects of profitability and other financial ratios on growth, we investigate the relationship between size and all the financial variables.

5.2 Size and Financial Characteristics

We calculate each of the measures of size and financial ratios on annual basis and the arithmetic mean of the annual value was calculated over the relevant periods. Table 5.4 gives some descriptive measures of each of the variables over those relevant periods.

Comparing the average absolute profit measures for the two sub-periods, it will appear that the second sub-period was better than the first for the companies in general. However, we observe that the dispersion around the common mean of the profit measures are generally higher in the second sub-period than the first. The high inflationary trend of the second sub-period must have accounted for this apparent higher profitability.

Table 5.4: Descriptive Statistics of the Main Variables

	Mean			Standard Deviation			Skewness		
	I	II	III	I	II	III	I	II	III
NES	15004	30469	22797	27357	46555	35799	0.930	0.915	0.871
TNR	45297	72254	58036	78821	114979	92262	1.089	1.104	1.160
PRTP	4433	7090	5541	8238	12328	9132	0.898	0.985	0.993
PSTP	2398	3707	3092	4346	5814	4982	0.876	1.049	1.034
RRNA	43.29	22.56	33.82	23.17	18.31	18.09	0.385	0.415	0.127
RREA	24.88	15.63	20.75	10.00	11.74	8.40	0.385	0.010	0.147
LQR	47.86	48.83	45.65	22.80	21.34	21.85	0.218	0.729	0.233
DDR	9.33	7.40	8.30	4.99	4.82	4.16	0.412	0.360	0.594
[illegible]RA	55.67	38.43	46.97	17.51	27.06	17.49	-0.690	-0.691	-0.570

Notes: 1. Means of NAS, TNR, PRTP and PSTP are in thousand naira while others are in percentages.

2. I and II indicate the first and second sub-periods respectively. III indicates the entire period.

3. The Skewness measure is based on the second coefficient of skewness described in chapter three.

More realistically, when the absolute profit-measures are deflated with size measures, a clearer picture of the profitability trend emerges, as whatever the rate of inflation might be is cancelled out in the process of deflating the absolute profit measures. Obviously, the

companies were less profitable in the second sub-period than the first. This fall in profitability is readily reflected in the dividend returns which fell from 9.33 per cent in the first sub-period to 7.40 per cent in the second sub-period. We observe from our correlation matrices that the correlation coefficient between RRNA and DDR for periods I, II and III are 0.357, 0.614 and 0.519 respectively, while they are 0.512, 0.555 and 0.486 between RREA and DDR. The retention ratio also fell from 52.67 per cent to 38.48 per cent. We suggest that this might be explained by the fact that the companies made efforts to retain the confidence of their shareholders during the difficult times of the second sub-period, probably in order to avoid take-over bids as postulated in Marris growth theory.

We observe further in table 5.4 that the size measures NES and TNR are all positively skewed for all periods. This is indicated by the skewness measure and by the fact that the standard deviations exceed the means. This confirms the well known observation that the size distribution of firms is broadly consistent with the lognormal or Pareto patterns. Absolute profit measures PRTP and PSTP also exhibit strong positive skewness, but when they are deflated by the size measures to produce the profitability ratios, most of the skewness disappeared to the extent of producing some weak negative skewness in a

particular case - the second sub-period for RREA. With the exception of RRA, the other two financial ratios also exhibit slight positive skewness.

5.2.1 Size and Profitability

We estimated each of equations 3.11, 3.12 and 3.13 for each of the three periods. In all cases, equation 3.11 gave a better explanation in terms of r^2 and we found pre-tax profits to be more related with the size measures than does post-tax profits. We report here in table 5.5 the regression results for the linear equations.

Table 5.5: Regression Results with PRTP as the dependent Variable and Size as the Independent Variables

Size Measure	Period	Coefficients a	b	r^2
Net Assets	I	100.21	0.289 (0.009)**	0.923
	II	172.17	0.217 (0.017)**	0.676
	III	125.11	0.243 (0.008)**	0.911
Turnover	I	129.93	0.095 (0.005)**	0.829
	II	1809.56	0.072 (0.009)**	0.457
	III	646.13	0.086 (0.005)**	0.759

Notes: 1. ** indicates significantly different from zero at 1% level

2. Standard deviations appear in parenthesis

3. I, II, III as in table 5.4

That a positive linear relationship exists between absolute variations in absolute profits and absolute variations in size is a clear indication that it is the larger companies that exhibit drastically higher profits. This, of course is not unexpected. We observe that both the coefficients of b and the coefficient of determination are generally higher with net assets than with turnover. This is very surprising, since a priori one would have expected the reverse because pre-tax profits are necessarily a component of turnover. A plausible explanation for this result might be found in the microeconomic theory of the firm which postulates that a firm that maximises revenue will normally record a lower profit rate. Coupled with this is the fact that the concentration of economic power in form of accumulation of assets, rather than a firm's role in market transaction as reflected in its rate of turnover is more likely to determine the extent of profit margin because of the ability to acquire resources at a cheaper rate.

We also observe that both the slope of regression lines and the coefficients of determination in the second sub-period are generally the lowest. This is clearly a reflection of the increased distortions in the second sub-period.

As earlier noted, absolute profits may not give a true performance of a firm unless in relation to the economic base from which the profits are generated, especially when efficiency is being measured by

profitability. We therefore also expressed the rates of return on net assets and on equity assets as functions of size.

In our regression analysis, we found the double-logarithmic specification of equation 3.13 to be more relevant. This is at variance with the study of Whittington (1980) in which the semi-logarithmic function was found to be more relevant; and also with the one by Singh and Whittington (1968) in which a linear relationship was found to be the best in terms of r^2. The implication of our reported specifications is simply that there is an exponential relationship between size and profitability. The degree of this relationship is however subject to the regression coefficients and the coefficients of determination.

We also found RRNA rather than RREA to be better explained by inter-firm variations in size. We report in Table 5.6 the regression results in this regard.

Table 5.6: Regression Results with $\log_e$ RRNA as the Dependent variable and $\log_e$ NAS (and $\log_e$ TNR) as the Independent variables

Size Measure	Period	Coefficient b	r^2
Net Assets	I	-0.802 (0.106)**	0.088
	II	-0.864 (0.059)**	0.114
	III	-0.768 (0.101)**	0.065
Turnover	I	-0.518 (0.156)**	0.189
	II	-0.281 (0.170)	0.010
	III	-0.333 (0.155)**	0.012

Notes: As in Table 5.5

The striking differences between this table and table 5.5 are the negative signs and the low r^2. Also, we note that with the exception of the second sub-period in the case with turnover, all the regression coefficients are significantly different from zero at 1% level.

The importance of turnover as an alternative measure of size may be noted in this analysis. Since net assets appears in our dependent variable as the denominator, its

appearance also as the independent variable implies that any error of observation will lead to a downward bias in the estimate of the slope coefficient, because an erroneously observed high rate of return will be associated with an erroneously observed low measure of size. Our alternative measure of size therefore serves as a means of ascertaining the validity of the result with net assets.

Although the r^2 are too low to justify any strong claim that variation in size can explain variations in the rate of return on net assets, nevertheless, that all the coefficients are negative and in all but one case significant at 1% level is a clear indication of the tendency for the larger firms to be less profitable than the smaller ones. In fact, although the double-logarithmic specification proved to be the best in terms of r^2, both the linear and semi-logarithmic specifications also gave results that were consistent with the ones reported here, because RRNA carried negative signs in those specifications.

We further grouped our sample into three size classes[1] on the basis of their average size for the entire period, 1974-85. For each size-class we calculated the mean profitability ratios and their standard deviations. The results are given in tables 5.7 and 5.8.

---

1. The Classification is on the same basis as in the previous chapter.

Table 5.7: Mean and Standard Deviations of Profitability Ratio by size class (NAS) 1974-85

Size-Class	Mean		Standard Deviations	
	RRNA	RREA	RRNA	RREA
Small	37.22	22.49	22.74	8.82
Medium	33.14	18.43	16.98	7.36
Large	31.75	20.24	12.98	7.00

Table 5.8: Mean and Standard Deviations of Profitability Ratio by Size-Class (TNR) 1974-85

Size Class	Mean		Standard Deviations	
	RRNA	RREA	RRNA	RREA
Small	35.64	20.35	23.28	11.35
Medium	33.90	22.18	17.45	6.06
Large	32.15	19.78	11.81	6.58

While the tendency for a negative association between size and profitability (RRNA) is confirmed, another revelation of much importance in tables 5.7 and 5.8 is the tendency for inter-firm dispersion of profitability to decrease with size.

As recorded in our regression analysis, there is no clear-cut relationship between size and the rate of return on equity assets[2], but the weak evidence in relation to this profitability measure together with the rate of

---

2. The results in this regard are not reported because of their insignificance.

return on net assets in tables 5.7 and 5.8 also give support to the observation that inter-firm dispersion of profitability tends to decrease with size.

Interestingly, when these results are compared with the studies by Samuels and Smyth (1968), Singh and Whittington (1968) and Whittington (1980), we found some striking similarities. Whittington had concluded among other things that

(i) average profitability is largely independent of firm size, but such relationship as there tends to be negative and

(ii) the inter-company dispersion of profitability tends to decline with size, although the relationship is not a strong one.[3]

Incidentally, the only home based study at our disposa with which we could have compared our results was based on a single company - the U. A. C., and the result of the study indicated that the association between profitability and size of U. A. C. was not well defined.[4] It has been suggested that due to the facts that the extent of scale of economies and monopoly are likely to differ between industries and that demand conditions are unlikely to be

---

3. Whittington, G. (1980), "The Profitability and size of United Kingdom Companies, 1960-74" Journal of Industrial Economics Vol. XXXVIII, p. 350

4. Inanga Eno, L. and Soyinbo, A. "The Profitability and Size a Nigerian Quoted

the same in all industries, studies on profitability should be on industry basis.[5] However, for paucity of data, it has not been possible to undertake such an industry based analysis in this study.

Based on our aggregated study of the Nigerian Companies therefore, we conclude that, in view of the very low coefficients of determination and the consistency of the negative and significant regression coefficients of rate of return on net assets recorded, there is a weak association between size and profitability, but that there is the tendency for the association that exists to be negative.

5.2.2 Size and Other Financial Ratios

We regressed other financial ratios on the size measures to see if any could be explained by variation in size. This we did only to satisfy our curiosity since the correlation coefficients of these variables with the size measure are very negligible. The exception is dividend returns on equity assets, DDR which we found to have a similar but weaker association with the size measures as RRNA. This may be explained by the positive correlation between RRNA and DDR earlier referred to in this chapter.

---

5. Devine P. J. et al Op. Cit. p. 218

We could not identify any discernible pattern of relationship of size with the other two ratios, RRA and LQR. We however observe that both recorded weak positive correlation coefficients with NES and TNR in each of the periods.
We present the regression coefficients of DDR on size in table 5.9.

Table 5.9: Regression Results $\log_e$ NAS (and $\log_e$ (TNR) as the Independent Variables and $\log_e$ DDR As the Dependent Variable

Size Measure	Period	Coefficient b	r^2
Net Assets	I	0.082	0.001
		(0.084)	
	II	-0.169	0.006
		(0.067)**	
	III	-0.117	0.048
		(0.063)*	
Turnover	I	-0.362	0.019
		(0.137)**	
	II	-0.361	0.022
		(0.159)**	
	III	-0.215	0.014
		(0.116)*	

Notes: As in Table 5.5

As earlier indicated, we observe here that the degrees of association between the size measures and DDR are much weaker than the ones recorded with RRNA. Not only are the coefficients of determination very low, but the number of regression coefficients that are significant at 1% level is lower. One of them is positive and insignificant, even at 5% level.

We can therefore conveniently conclude that profitability is the only financial ratio that appears to have some systematic relationship with the size of firms and that the relationship, although week, is such that as a firm attains a bigger size, its profitability tends to decrease.

However, it is quite pertinent to note that this conclusion should be understood in relation to some important characteristics of the firms in our sample.

First is the age of the firms. It is very plausible to expect that a newly established firm will experience higher profitability as it expands, especially if its establishment had been preceded by a well researched feasibility study. Beyond a certain size however, due to stiffer competition which results as the firm tries to exploit new markets and probably coupled with its inability to keep abreast of technological innovations, profitability may start to fall. In an expanding economy,

we believe it will take some time for any particular firm to attain such a size. As shown in table 5.10, 61 (or 74.39 per cent) of the firms were established before 1966. This implies that about 75 per cent of the firms have had at least 10 years of expansion before they qualify for inclusion in our growth analysis. Considering the fact that all the firms fall within the import substituting industries which have been most favoured in terms of government industrial policies, it may be plausible to postulate that most, but definitely not all of them have had the opportunity to expand up to the point where the managerial restraint, as postulated in Downies theory becomes operative, more so that many of the firms in our sample are not quoted and therefore free from take-over treats.

Our postulate in this regard is supported by the assertion by the International Finance Corporation (IFC) that Nigeria's (and in deed Africa's) severe shortages of people trained and experienced in managing relatively complex ventures has contributed to the disappointing performance of enterprises in the region.[6]

Secondly, the firms in our sample are non-conglomerates in the manufacturing sub-sector in which the product range have similar technological bases. This implies

---

6. See Business Times Monday, July 3 1989 p. 7.

that although the dictum that size is might may be applicable to the commercial and merchant banks in the financial subsectors and such companies as the U. A. C. N. and S. C. O. A. which are conglomerates in the commercial sub-sector, the same is not true of those manufacturing firms for which Fabayo (1989) obtained an average positive technical progress of only 0.019. Such a low technical progress is an indication of the extent to which the manufacturing firms in Nigeria are lagging behind their foreign competitors where technical progress have been found to be contributing well over 80 per cent to their overall growth.[7]

A corollary to the above point is the fact that there has been stiff competition with cheaper and superior substitutes from foreign competitors. In spite of government efforts to protect the home based manufactured goods through tariffs and total ban of foreign substitutes, stiff competition continues through smuggling activities. For example, in 1977, the Central Bank of Nigeria reported that:

> "In particular, smuggling effectively hampered the ability of various industries to compete in the domestic economy to the extent that some industries had to reduce their levels of production and lay off workers.

---

7. Fabayo, J. A. (1989), "Empirical Estimates and Analysis of Technical Progress in the Nigerian Manufacturing Industries" Seminar Paper, Department of Economics, Obafemi Awolowo University, Ile-Ife.

> Among the industries worst hit by smuggling activities are those producing cotton and knitted textiles, cigarattes, bbatteries, radio and footwear."[8]

Although those firms involved in the reduction of their levels of production might not have been able to deplete some already acquired assets (fixed assets for instance), the reduction in production must definitely have led to lower rate of return on net assets. The bigger the firm, the more it is likely to be hit by the smuggling activities.

It should also be stressed that although we have classified some of our firms as small for analytical purposes, most of the firms lie within the continuum of what may be regarded as medium and large firms by government definition. Thus, our conclusion may not, in the extreme for instance be taken to mean that a sewing factory will be more profitable than a textile firm.

Furthermore, for paucity of data, we have carried out an aggregated all industry study. Some variations may not be unexpected in a disaggregated study.

---

8. CBN Annual Report, 1977 p. 29.

Table 5.10: Distribution of Firms by Period of Establishment

Period of Establishment	Number of Firms	Percentage of Total
1926-1935	6	7.32
1936-1945	5	6.10
1946-1955	13	15.85
1956-1965	37	45.12
1966-1973	21	25.61
Total	82	100.00

5.3 Growth and Financial Characteristics

5.3.1 Growth and Profitability

To examine the relationship between these two variables, we estimated the models presented in equation 3.17, 3.18 and 3.19. Before we consider the results of our regression analysis, we present in tables 5.11 and 5.12 the classification of growth rates by rate of return on net assets and rate of return on equity asset; and in tables 5.13 and 5.14, the rates of return are classified by growth rates. The four tables provide some *prima facie* evidence for the existence of some positive correlation between growth and profitability.

A close look at these tables reveals that association between growth and profitability is stronger between RRNA

and GNES and weakest between GTNR and RREA. These corroborate the correlation coefficients, especially in table 5.1 which is the matrix for the longer period for which the classifications in tables 5.11 to 5.14 have been made.

Table 5.11: Classification of GNAS and GTNR by RRNA (1974-85)

RRNA %	Growth of Size % GNAS	GTNR
∠ 10	20.50	15.53
∠ 15	23.72	16.28
∠ 20	26.17	18.91
∠ 25	26.86	18.97
∠ 30	27.57	18.09
∠ 35	31.75	20.62
∠ 40	31.22	21.80
∠ 45	32.54	21.35
∠ 50	32.47	23.07
∠ 55	49.35	21.85
≥ 55	50.69	29.80

Table 5.12: Classification of GNAS and GTNR by RREA (1974-85)

RREA	Growth of Size % GNAS	GTNR
∠ 10	24.16	13.23
∠ 15	25.48	17.60
∠ 20	31.18	21.44
∠ 25	32.71	26.17
∠ 30	31.56	23.20
∠ 35	32.71	23.10
∠ 40	37.52	27.72
⩾ 40	43.26	24.20

In our model estimations RRNA came out as the best explanatory variable in terms of r^2. Although RREA also gave some good fits, they were not as consistent as the estimates with RRNA. This appears to be at variance with most studies in other countries where the rate of return on equity assets have always proved to be a better explanatory variable for growth. We suggest that the peculiar accounting system which gives room for tax evasion, even by the companies might be responsible for this for instance, Sunny Ewujowoh had asserted that

Table 5.13: Classification of RRNA and RREA by GNAS (1974-85)

GNAS, %	Profitability % RRNA	RREA
< 5	22.82	12.28
< 10	24.44	12.29
< 15	24.22	14.93
< 20	29.57	28.76
< 25	27.04	18.13
< 30	30.33	18.81
< 35	34.58	21.81
< 40	33.27	22.65
< 45	37.09	23.84
< 50	37.18	23.78
< 55	42.93	22.24
< 60	40.14	24.65
≥ 60	93.25	61.71

Table 5.14: Classification of RRNA and RREA by GTNR (1974-85)

GTNR, %	Profitability % RRNA	RREA
< 5	26.92	17.40
< 10	28.39	13.49
< 15	31.07	20.66
< 20	32.32	21.45
< 25	35.84	22.83
< 30	34.57	22.82
< 35	39.72	26.46
≥ 35	36.79	19.52

Nigerian Companies' accounting position before auditing (especially in the indigenous and the mixed i.e. partially indigenous and partially foreign owned)[9] is purely incomplete records.[10] The pre-tax profits might therefore have been manipulated for growth and some other internal purposes before being declared for tax purposes. This is more likely to be true since, according to Soyode (1978), Nigerian companies in the manufacturing and commercial sectors appeared to utilize debt very sparingly, when at all. He suggested that a probable explanation for the low or non-use or debt has to do with the use of retained earnings.[11] The various distortions that might have occurred in the post-tax profits of the various companies might therefore have accounted for the inconsistencies recorded in the coefficients associated with RREA in our estimations. The regression results are presented in table 5.15.

It is obvious from table 5.15 that the growth of Nigeria Companies is to a large extent a function of their profitability, as all the estimate of b are greater than

---

9. Most firms in our sample fall within the mixed group, while the remaining few fall within the first group.

10. Sunny Ewujowoh, "Tax evasion: Why blame Auditors?" Business Times Monday, May 29, 1989 p. 7.

11. Soyode, A. (1978), "Financing Industrial Growth in Nigeria; A Study of the place of debt and Retained Earnings". If Social Sciences Review Vol. I No. 2 pp. 89-107.

zero, and with the exception of sub-periods I and II in the case with growth of turnover which are significant at 5% level, all others are significant at 1% level. Also, we observe that RRNA explains variations in GNES better than it does variations in GTNR. The same bias that we

Table 5.15: Regression Results with Growth Measures as the Dependent Variables and RRNA as the Independent Variable

Growth	Period	Coefficients		
		a	b	r^2
GNES	I	18.459	0.492 (0.103)**	0.750
	II	14.043	0.324 (0.125)**	0.681
	III	18.790	0.889 (0.343)**	0.693
GTNR	I	168.002	0.719 (0.399)*	0.505
	II	68.379	0.199 (0.120)*	0.452
	III	20.761	0.167	0.490

Notes: As in table 5.5

observed in table 5.6 should also be noted in this case. The bias is however in the opposite direction and less pronounced than in the former case. It is in opposite

direction because the positions of the variables are now reversed and less pronounced because net assets is not in absolute terms, but as growth rates. As in the former case, the regressions with turnover serve to ascertain the validity of the results with net assets. We observe that the values of r^2 which are generally very high for an heterogenous data, are also generally lower in the second sub-period than in the first sub-period. This indicates the reduced importance of profits in the growth process of the Nigerian companies in the second sub-period. A probable alternative to this has been the use of debts. Although our data has not been sufficient to test the use of debts in the growth process of the companies, we find a clue to the increased importance of this source of financing growth in the study by Adedeji (1989). Whereas Soyode (1978) had found that Nigerian firms scarcely used debts in financing growth, Adedeji later found that in the 1980s, the profitability of Nigerian companies appeared to have decreased and that the companies in general had resorted to the use of more debt, presumably to cover the yearning gap created by the decline in their profitability.[12]

---

12. Adedeji, A., (1989), "Corporate Growth in a Recession" A Paper Presented at a National Conference on Corporate Performance in a Recession. Faculty of Business Administration, University of Lagos. May, 1989.

Interestingly, Oyetan John (1989), a Managing Director of a merchant bank had advocated the use of more equity by Nigerian Companies as against the practice whereby they tend to use more debts as a result of the ease in securing loan in the country.[13] While this shows the extent to which the Nigerian Companies have shifted from one source of financing growth to another, it is not to mean that profitability could be pushed to the background as it usually serves as a primary basis for qualifying to obtain loans.

On the whole, we find profitability as a reliable source of achieving growth by the Nigerian firms. While it accounts for about 70% in the variation of growth rates of net assets, it accounts for about 50% in the variation in turnover.

This result is clearly in harmony with our earlier findings. We had found in chapter four that the smaller firms tend to grow faster and in section 5.1 above, that the smaller firms tend to be more profitable. It then follows that the more profitable a firm is, the higher tends to be its growth rate.

---

13. Oyetan John, "NAL MD on Equity" Business Times Monday June 12, 1989 p. 2.

5.3.2 Growth and Other Financial Ratios

In our step-wise regression analysis, we identified liquidity ratio, LQR as the only other financial ratio that is consistently selected in the computer automatic selection. Although dividend returns was selected in some cases, its coefficients were not significant. Moreover, we observe its fairly high correlation with RRNA, in which case it appears as a possible cause of multicollinearity. Liquidity ratio too recorded some degree of correlation with RRNA, but we consider the correlation coefficient sufficiently low not to lead to any serious multicollinearity. Surprisingly, our retention ratio RRA did not prove to be a good explanatory variable. This may not be unconnected with the fact that it is a post-tax phenomenon, and since our rate of return on equity assets did not yield a consistent result a better result cannot be expected from RRA.

We present the regression coefficients of LQR and its contribution to R^2 in table 5.16.

It is quite obvious from table 5.16 that a very low variation in growth is caused by liquidity ratio. Although the coefficients are positive (thus indicating that the more liquid a firm, the more conducive it is for it to grow) two of them are not significant, two are

significant at 5% level while the remaining two - for the whole period, are significant at 1% level. The contribution to R^2 is also very low. Thus, liquidity ratio has not been a significant determinant of the variations in the growth rates of the Nigerian firms.

Table 5.16: Regression Coefficients and Contribution of LQR to Growth Models

Growth	Period	b	Contribution to R^2
GNES	I	0.217 (0.108)*	0.038
	II	0.085 (0.084)*	0.013
	III	0.128 (0.074)**	0.029
GTNR	I	1.499 (4.175)	0.020
	II	1.448 (3.87)	0.020
	III	0.136 (0.086)**	0.033

Notes: As in table 5.5

5.4 Growth, Size and Profitability of Individual Firms

As a supplement to our cross-sectional analyses in the previous sections, we have identified some fast and slow-growth firms for the purpose of examining the

interaction among their growth, size and profitability - the three main variables that have been found to have some appreciably consistent relationship in the previous section. While we present the size-profitability regression results in table 5.17, the growth-profitability relationship are shown in table 5.18.

In table 5.17 all the coefficients of size except one of the slow-growth are less than one. Since the regression specifications are in the logarithmic form, the results indicate that most firms in our sample regardless of whether they are slow-growth or fast-growth tend to experience a fall in their profitability

Table 5.17: Regression Results of $\log_e$ Profitability on $\log_e$ Size for Individual Firms

Size	Firm	Coefficients		
		a	b	r^2
Net Assets	S	27.1	1.003 (0.557)*	0.209
	S	29.1	0.400 (0.142)**	0.078
	F	-28.1	0.293 (0.114)**	0.025
	F	14.8	-0.898 (0.149)**	0.025
Turnover	S	10.0	0.073 (0.038)*	0.625
	S	-122.7	0.042 (0.293)	0.005
	F	14.9	0.879 (0.219)**	0.535
	F	-62.61	0.293 (0.021)**	0.870

Notes: S = Slow-growth Firm, F = Fast-growth Firm

as they attain a higher size. As in the case of cross-sectional analysis, we also observe that the coefficient of determination in most cases is very low, also indicating that the extent to which variation in size leads to variation in profitability is very low. In fact, the only firm that records a fairly high coefficient of determination has a low regression coefficient. Furthermore, that all the regression coefficients except one are less than one is a further confirmation of the fact that profitability tends to rise at a decreasing rate with size.

Table 5.18: Regression Results of Growth on Profitability for Individual Firms

Growth	Firm.	Coefficients		
		a	b	r^2
GNES	S	29.91	0.094 (0.017)**	0.688
	S	-71.26	0.036 (0.016)**	0.588
	F	26.61	0.160 (0.001)**	0.749
	F	-167.49	0.124 (0.014)**	0.382
GTNR	S	-6.270	0.197 (0.043)**	0.507
	S	-4.483	0.152 (0.011)**	0.401
	F	15.380	0.381 (0.101)**	0.671
	F	-62.61	0.293 (0.021)**	0.870

Notes: As in Table 5.17

The results in table 5.18 fully corroborates the cross-sectional analyses. We observe that there is no evidence of any negative association between growth and profitability as postulated in the Marris-growth model. Although profits are used to finance growth over the period of study, the evidence here does not suggest that, even for the individual firms, growth ate so deep into profits as to cause a reduced or negative profitability. Until very recently when the economic conditions have become rather difficult, Nigerian companies are not known to have been making much efforts at diversification of their product through research and development (R & D) Thus, the issue of spending a reasonable proportion of their profits on growth through R & D does not arise. In fact, as will be shown in chapter six, the type of diversification they have been involved in does not require any research as it is, in most cases, backward integration into local sourcing of raw materials. In the few cases where research have been involved, it has always been in conjunction with foreign technical partners or associates.

CHAPTER SIX

NON-FINANCIAL AND EXOGENOUS FACTORS IN CORPORATE GROWTH

In chapter five, we identified profitability as a key factor in the growth process of Nigerian Companies. However, it is only some percentage of the growth process that can be attributed to profitability, the remaining percentage being constituted by a number of other factors exogenous to the operations of the companies, some of which are economic and some of which are non-economic. Such factors cannot be readily subjected to such statistical and econometric techniques as we have done in testing for the systematic influences of size and financial characteristics. We have made an attempt to identify such factors through a questionnaire survey, the results of which are hereby analysed.

6.1 Business Objectives

Out point of departure is in regard of the business objectives of firms. We have observed in chapter two that contrary to the postulate of the traditional theory of the firm, modern business organizations tend to have objectives other than that of profit maximisation. It appears plausible to postulate that business objectives will have some influence on the growth patterns of companies. The suggested alternative business objectives

in Nigerian firms together with the frequency of responses in our sampled firms are shown in table 6.1.

The first impression from table 6.1 is that all the companies consider both profit maximisation and maximisation of growth rate of sales as either very important or important, none of them rated neither of the two objectives as unimportant. Expansion of market

Table 6.1: Company Business Objectives

Alternative Business Objectives	Very Important		Important		Un-important		Very Unimportant	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1. Profit Maximisation	31	72.09	12	27.91	0	0.00	0	0.00
2. Maximisation of the level or rate of growth of sales	29	67.44	14	32.56	0	0.00	0	0.00
3. Expansion of market size of products	32	74.42	10	23.26	1	2.32	0	0.00
4. Diversification in order to reduce dependence on existing products	14	32.56	14	32.56	14	32.56	1	2.32
5. Expansion of net assets in relation to others	19	44.19	23	53.49	1	2.32	0	0.00
6. Others (e.g. Employment Generation)								

size of products records the highest ratings in terms of being very important, but is also rated as unimportant by one company. Expansion of net assets in relation to others' is also highly rated, except that only 19 companies (44.19 per cent) rated it as very important, as compared with 29 companies (67.44 per cent) for maximisation of the level or rate of growth of sales, our alternative measure of growth. The former is however rated as important by 23 companies (53.49 per cent) as compared with 14 companies (32.56 per cent) for the latter. Diversification has the lowest ratings, with 14 companies (32.56 per cent) rating it as very important. It also has an equal number of ratings as important. It records the highest number of unimportant ratings and it is the only objective that is rated as very unimportant by one company. Although in relative terms it appears to have been rated low, cognisance is taken of the fact that in absolute terms, it is highly rated; over 65 per cent of our respondents rated it as either very important or important.

The inferences we can draw from table 6.1 are that in line with the modern theories of the firm, especially the behavioural theory of Cyert and March, Nigerian companies have multi-dimensional business objectives, including growth of turnover and net assets.

Apparently however, more companies are more concerned with the growth of their turnover than with addition to their stock of net assets. This conforms with the experience of Baumol (1967) who found that Managers are pre-occupied with the maximisation of sales. It could be argued that in the process of pursuing the growth of sales - objective, companies may have to be building up the stock of their net assets, especially that we recorded high correlation coefficients in our correlation analyses of chapter five.

Although room was given for the companies to indicate any other business objective which was not included in the suggested alternatives, only two indicated maximisation of returns on shareholders' funds as very important, while another company indicated that one of its important objectives is employment generation.[1]

In response to our question as to whether the companies had course to change emphasis from one particular objective to another, a few gave negative answers, 14 responded in the affirmative while majority did not give any response. Most of the companies that responded in the

---

1. We suspected that either the establishment or location of the particular company with employment generation as one of its objectives is politically motivated since it is a textile company which requires high labour input and is 100 per cent government owned. Moreover we see this objective more as a social than a business objective.

affirmative indicated that they have had course to change emphasis to diversification in recent times. The cause for change of emphasis is summed up in the response of one company that

> dynamic business management demands a mix of several variables and the company has had to change emphasis from time to time to meet with the challenges of the time

Thus, the only company that rated expansion of market for existing products as an unimportant business objective had indicated that

> as more oil millers are springing up, we had to consider the increase in the size of our products' market which hitherto had been our domain[2]

While this company had to change emphasis as a result of physical changes in its business environment, another changed emphasis on the basis of general economic alterations as it reported that

> during periods where growth was possible, the emphasis was on increasing market share. Currently, with existing various contraints on optimum production capacity, the emphasis has shifted to maximising profitability

The inference one can draw from this is that since the change in emphasis from the growth-objective is a recent phenomenon, the buoyant oil boom era was a growth

---

2. The company is engaged in vegetable oil refinery

inducing one while the more difficult times of the recessionary period has been dominated by the survival objective. This accounts for the change in emphasis to diversification by most companies that responded to this question. Diversification therefore has been as a result of a harsh economic environment rather than as a means of achieving growth in the face of restrictions imposed on a company's ability to grow in its existing products as proposed in the Downie-Penrose-Marris growth model. We note however that diversification in the present case has been mainly in terms of backward integration into agriculture in order to be able to source raw materials locally. This does not fall into any of the types of diversification as proposed for instance by Gort (1962).

6.2 Influences on Companies Business Objectives

We also sought to know the factors that most influence the companies' overall business objectives. The suggested alternatives and the responses are shown in table 6.2.

Table 6.2: Possible Influences on Companies' Overall Business Objectives

Influence on Companies' Objective	Very Important		Important		Un-important		Very Unimportant	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1. Board Members' view/ Aspirations	26	60.46	14	32.56	3	6.98	-	-
2. Company's Chairman's View/ Aspiration	17	39.53	23	53.49	9	20.93	-	-
3. Views of other employees	10	23.25	24	55.81	9	20.93	-	-
4. Condition in Product market	30	69.77	8	18.61	5	11.63	-	-
5. Specialist's Advice	18	41.86	22	51.16	3	6.98	-	-
6. Opinion of major institutional shareholder	4	9.30	26	60.47	4	9.30	9	20.93
7. Opinion of Individual shareholders	4	9.30	23	53.49	6	13.95	10	23.26
8. Government Policies	28	65.12	15	34.88	0	0.00	-	-
9. General Economic Conditions	29	67.44	12	27.91	2	4.65	-	-

The most important factor influencing companies' overall business objectives as shown in table 6.2 is the condition in the product market. With as many as 30 companies (69.77 per cent) rating it as very important and 8 companies (18.61 per cent) as important, it shows the extent to which the running of business activities are based on economic considerations. We also observe that 5 companies (11.63 per cent) do not consider this factor as an important influence on their business objectives. We discovered that such companies are those in which government participation is very high.[3] Such companies rated government policies as very important, although it is an influence that is so generally rated by many companies.

Conditions in the product market is closely followed by the general economic conditions. We have already inferred in section 6.1 above that the general economic condition is a strong factor that influences the companies' business objectives. Thus, the ratings in table 6.2 where as many as 29 companies (67.44 per cent) rated it as very important, 12 companies (12.91 per cent) as important and only 2 companies (4.65 per cent) as unimportant is a further confirmation of the inference drawn. Further

---

3. Distribution of the Companies by ownerships is shown in appendix.

discussions on the effects of general economic conditions on the growth objectives of the companies are undertaken in section 6.5 below.

That all the companies regard government policy as either very important or important as a factor that influences their business objectives may not be too surprising since they are all obliged to keep their operations within the law of the land. The ability to move purposefully into any area of economic activity is very much dependent on government policies. Further discussions of this variable as it affects the growth of firms are contained in sections 6.4 and 6.5 below.

As opposed to the traditional theory of the firm in which the entrepreneur is the one-man decision taker, most of our comapnies conform with the modern corporate organizations in which decisions are taken by a group of persons who constitute the board of directors of the companies. There are nevertheless, some that are owned and controlled by individuals. 26 (60.46 per cent) of our companies indicated that their board members' views and aspirations are very important in the decision making process while 14 (32.56 per cent) indicated that it is important. 3 companies (6.98 per cent) regard it as unimportant. These are the owner controlled companies.

Companies' Chairmen are usually people with wide business experience and in some cases, they also serve as the Managing Directors/Chief Executives of their companies. A report on one of the Chairmen/Chief Executives indicates that he symbolizes the soul of the enterprise, sets the agenda defines the parameters and breaths life into the venture. Of another, it is said that whenever a concensus is not reached during board meetings he calls his final decision and everyone must fall in line. Thus, we find that in 17 cases (39.53 per cent) the views/aspirations of the chairmen are rated as very important in the decision making process, while they are rated as important by 23 companies (53.49 per cent) and unimportant by 3 companies(6.98 per cent).

We observe that other employees of the companies cannot be regarded as mere passive factors of production which can just be manipulated at will. This is because their own views and aspirations have some extent to which they influence the objectives of the companies. They are not mere decision executors. Although only 10 (23.25 per cent) companies rated this as very important, as many as 24 companies (55.81 per cent) rated it as important, while 9 (20.93 per cent) rated it as unimportant. It then follows that for most Nigerian companies, the workers which include top management take part in the

decision making process, although they may not be as strong as the board members and therefore may often have to trade-off their own views and aspirations in favour of their employers.

Specialists are either in form of consultants or some individuals within top management, especially the chief executive who must have acquired a wide range of experience before getting to the top. We observe that this group of people have some fairly high degree of influence on the overall objectives of the companies. Although we do not have data to suggest the number of available consultancy companies or the rate at which they are springing up, the evidence from our survey indicates that Nigerian manufacturing companies are making good use of their services. As many as 18 companies (41.86 per cent) regard it as important while only 3 (6.93 per cent) regard it as unimportant. Given the extent to which the general economic conditions shape the objectives of the Nigerian companies, the relevance of this factor must have become more pronounced in recent times as effort to keep a company afloat or even to make the best out of the environment for expansionary purposes may require the expertise of specialists.

The only two factors in table 6.2 that are rated as very unimportant by some companies are the opinion of major

institutional shareholders and the opinion of individual shareholders. Also, they are the factors that are least rated as very important, with each being so rated by only 4 companies (9.30 per cent). However, they are rated as important by 26 (60.47 per cent) companies and 23 companies (53.49 per cent) respectively. The low ratings of these factors may not be unconnected with the fact that although the shareholders are the owners of the companies, most of them are more detached from the decision making organ i.e. the board of directors, than any other member of the coalition that make up the companies. They only have their views made known during annual general meetings which come up once in a year. Moreover a greater majority of shareholders rarely attend such meetings.

A synthesis of the analyses of tables 6.1 and 6.2 shows that the multi-dimensional business objectives of Nigerian manufacturing companies are formulated by Board members subject to the general economic conditions as modified by government policies and which invariably determine the condition in the companies' product markets.

For our purpose, we identified growth of both turnover and net assets as some of the important business objectives which have been negatively influenced in recent times by the general economic conditions. Having identified the

growth objective (i.e. the willingness to grow) we proceed to examine in more detail the factors considered by companies as being most important to them in the realisation of this objective.

6.3 Growth Inducing Factors

The relative importance of some suggested alternative factors in the growth process are set out in table 6.3.

Table 6.3: Major Sources of Growth

Means of Growth	Very Important		Important		Unimportant		Very Unimportant	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1. Overall Expansion of Existing Markets	24	55.81	16	37.21	3	6.98	0	0.00
2. Reorganization of Management	14	32.56	25	58.14	4	9.30	0	0.00
3. Competitive action to expand market share in existing market	25	58.14	14	32.56	3	6.98	1	2.32
4. Diversification of Product range through new product development	18	41.86	14	32.56	9	20.93	2	4.65
5. Diversification through some other means (e.g. property investment)	7	16.28	16	37.21	11	25.58	9	20.93
6. More intensive advertising	18	41.86	15	34.88	7	16.28	3	6.98
7. High Profit Rates	19	44.19	21	48.84	3	6.98	0	0.00

The most important sources of growth as evidenced from table 6.3 are competitive action to expand market share in existing market and overall expansion of existing markets which are rated as very important by 25 companies (58.14 per cent) and 24 companies (55.81 per cent) respectively, and important by 14 companies (32.56 per cent) and 16 companies (31.21 per cent) respectively. They are closely followed by higher profit rates, more advertising and product range diversification in that order. The first is rated very important by 19 companies (44.19 per cent) and the last two by 18 companies (41.86 per cent) each. They are also rated as important by 21 (48.84 per cent), 15 (34.88 per cent) and 14)32.56 per cent) companies respectively.

We observe a slight variation between the result here and that of chapter five where our regression results indicated that variation in profitability accounts for an average variation of about 70 per cent in net assets and about 50 per cent in turnover. Given these results, it would have been expected that high profit rates must be rated most highly as a growth inducing factor by our respondents.

The explanation we offer for this is that the two most highly rated growth inducing factors must be highly correlated with profitability. We posit that if those two factors have been equally quantifiable as profitability

for regression purposes, the problem of multicollinearity would have made it difficult to include them in the same regression model with the latter.

In fact, that the three variables are highly correlated is clearly borne out of the fact that 40 firms (93.02 per cent) rated both overall expansion of existing markets and high profit rates as either very important or important while 39 firms (90.70 per cent) rated competitive action to expand market share in existing market as either very important or important.[4]

Management structure re-organization forms the third class of ratings while diversification through other means is least rated as very important.

That competitive action to expand market share in existing market has the highest ratings as being very important conforms with the ratings in table 6.1 where expansion of market size of products is rated highest. While expansion of market size may involve competitive action to expand market share in existing market, it may also involve expansion into new geographical areas.

Whichever strategy is employed in achieving the objective, advertisement in one form or the other may be necessary except that while advertisement in the former case may be persuasive, it is informative in the latter. Thus the rating of advertisement as one of the most important

---

4. Further discussions in the relationship among the variables are made below

means of achieving growth is not unexpected. In the first sub-period of our study when the Nigerian economy was buoyant the high purchasing power made the economy to be a seller's one. In the more recent time of the second sub-period, the trends have changed. Table 6.4 indicates the views of our respondents on the degree of competition in recent times. It indicates how keen competition has become in recent times.

Table 6.4: Trends in Competition between 1974 and 1985

Trend	Number of Response	Percentage
1. Much more competitive	33	77.4
2. Fairly more competitive	7	16.28
3. No change in competition	3	6.98
4. Fair less competitive	0	0.00
5. Much less competitive	0	0.00

The Chief Executive of one of the companies had explained that with the generally harsh economic condition, the consumer had to re-order his priorities and this makes it necessary for the companies to understand the consumer and the market better as both of them were becoming more complex. This, according to him calls for more marketing expertise which involves pursuasive advertising among

other things. Expansion through competitive action is therefore more relevant for the second sub-period than for the first. We however observe that although as many as 33 companies (76.74 per cent) rated advertising as either very important or important, 10 companies (23.26 per cent) rated it as either unimportant or very important. This group of companies is constituted mainly by those in the food processing and pharmaceutical industries where both income and price elasticities are low. Most of them also fall into the category of companies that indicated that competition has either remained the same or increased only slightly.

Apart from the expansionary effects of advertisement on the overall growth of companies, we believe it is a development that induces some positive changes in the overall economy in the sense that it affords better services to consumers through offering of varieties of qualitatively and reasonably priced products. It is no wonder then that a close association is recorded between advertisement and diversification range through new products as means of achieving growth.

18 companies (41.86 per cent) rated diversification through new products as very important, 14 companies (32.56 per cent) as important and 9 companies (20.23 per cent) as unimportant. Only 23 companies (53.49 per cent)

rated diversification through other means as either very important or important. These other means include property investment and equipment hire. The remaining 20 companies (46.51 per cent) do not have any other means of diversification. Theoretically, diversification may take place for one or more reasons:

(a) from a desire to spread risks or compensate for seasonal or cyclical fluctuations in demand.

(b) because of the existence of spare management or productive capacity and

(c) from a desire to grow faster and earn greater profits than are possible in existing markets which may be declining or expected to decline.[5]

The third reason appears to have been the major cause of diversification in the case of Nigerian firms, especially when we examine the major types of diversification they have been undertaking.

The Central Bank of Nigeria, in the early years of the recession consistently reported that the index of manufacturing production declined due to shortage of raw materials resulting from import restrictions.[6] Thus, as earlier enunciated in section 6.2 above, most of those companies that responded in the affirmative to our question as to whether they have had cause to change

---

5. Bannock, G., Baxter, R. E. and Rees, R. (1972), The Penguin Dictionary of Economics Penguin Books.

6. See for example, Central Bank Annual Reports and Accounts (1979) p. 14.

emphasis from one business objective to another stated that their diversification had been in form of backward integration to agriculture and farming. The breweries in particular have used the opportunity of sourcing their raw materials locally to go into the production of malt drinks which do not only have technical propinquity with their original products but come from malted grain which can be obtained locally. An executive of one of the brewing companies had stated that it is their belief that the more the contents of a product are sourced locally the more its owners' confidence in it. There are some other companies that actually went into the production of other products that are not necessarily based on local sourcing of raw materials. For example while a furniture making company stated that it recently went into manufacturing of lecture seats for both junior and higher schools in addition to its original home furniture making, a tyre making company indicated that in the early 1970's it was engaged only in bicycle tyres and tubes manufacturing, but has had to add motor cycles tyres and tubes, adhesive solution and other rubber products.

Although, as noted above we observe that as many as 40 companies (93.02 per cent) rated high profit rates as either very important or important thereby further

corroborating the result in chapter five that profitability is a major corporate growth determinant in Nigeria, the result here suggests that profitability is not all that matters or that matters most. In the first place majority of the companies rated it as important rather than very important, and in the second place it is not the most highly rated as very important. However, as also earlier observed, it ranks equally with overall expansion of existing markets when the rankings as very important and important are considered together. The result here is further supported by the Central Bank of Nigeria annual reports which indicate for instance that in 1977 a large proportion of both new investments and working capital were financed from internal resources. While 55.0 per cent of new investment by the manufacturing companies generally were financed from internal resources, about 66.4 per cent of the working capital came from the same source.[7] Also, in 1982 it was reported that companies' own funds remained the major source of investment funds, accounting for 50.2% of total funds invested.[8] The trend has remained almost the same over the years.

---

7. Ibid, 1977, p. 16.

8. Ibid, 1982, p. 19

Lastly, we also sought to know the extent to which management structure re-organization influences the growth of Nigerian companies, 14 companies (32.56 per cent) rated this as very important, 25 (58.14 per cent) rated it as important while it was rated as unimportant by 4 companies (9.30 per cent).

The importance of human resources in any organization cannot be overstressed, and we believe that the provision of adequate training for staff at all levels will certianly make for greater efficiency and motivation. That the management and staff of Nigerian companies have high motivation is reflected in the fact that majority of the companies rated personnel problems as either unimportant or very unimportant factor among those that hinder their growth (see table 6.6). A further attestation to this is borne out of the fact that much accolades are often showered on the management and staff of companies at their annual general meetings where on some occasions, some workers are awarded long-service or dedication to duty merit awards.

Furthermore, as postulated in the Penrose-Marris growth model, the planning of diversification, which we have already identified and discussed as an important growth determinant is *per excellence* a typical function of high management.[9] The fact that take over bids are

---

9. Devine, P. J. *et. al* Op. Cit. p. 191.

uncommon phenomena in the Nigerian business system may in part be an indication of the efficiency of management of the companies, especially the private ones.[10] One of the company chief executives explained that management consultants were invited when the top management of the company was to be constituted. This obviously was in a bid to select the most efficient team. However, the level of development of the stock market might also have accounted for the non-existence of take-over bids. The major type of structural changes that take place within the management set up of the companies are either retirement or resignation of members who are immediately replaced by other members within the set up. In view of the fact that most companies train their staff up to management level, their management do maintain continuity after resignation or retirement of any member. For example, it is not uncommon for companies to sponsor their employees to attend conferences or seminars at which they acquire more knowledge especially about recent developments in their various fields of specialization with a view to enhance their efficiency at work. Sponsorship for in-service training programmes in form

---

10. Public Companies' Management are often politically appointed. Hence, the issue of take-over may not arise, except that a new government may have it dissolved and reconstituted.

of either certificate or diploma courses at specialized institutions are also available in some companies. Furthermore the larger companies are known to have their own training schools where newly recruited workers are acquainted with the level of development, operations and expectations of the companies and on-the-job training provided for other categories of workers. Moreover, the establishment of an Industrial Training Fund (ITF) by decree 47 of 1971 for the purpose of training Nigerian Managers has gone a long way to enhance the quality of management staff in most Nigerian companies. The ITF was established in response to the need of those companies which could not afford to own private training schools, and it was to run various training courses or to finance approved courses and facilities provided by employers. It derives its financial support from the Federal Government and from compulsory employers contributions.

6.4 Government Industrial Policy Measures and Corporate Growth

Government industrial policies constitute a class of factors that influence the growth process of companies in that the policies are often formulated within the framework of overall national development plans which

regard industrialisation as sine qua non in national efforts to achieve its developmental goals. The policy measures adopted therefore are meant to create some conducive business environment for the companies which constitute the industrial sector.

We also observed in section 6.2 above that government policies generally constitute an important influence on the business objectives of the companies. Specifically, we now examine the direction of influence of some important government policy measures. The relative importance of these pollicy measures in the growth process of the companies is shown in table 6.5.

Table 6.5: The Relative Importance of Government Policy Measures in the Realization of Company Growth Objectives

Policy Measure	Very Important		Important		Un-important		Very Unimportant	
	Fre-que-ncy	Per-cent-age	Fre-que-ncy	Per-cent-age	Fre-que-ncy	Per-cent-age	Fre-que-ncy	Per-cent-age
1. Pioneer status	6	13.95	11	25.58	16	37.21	10	23.26
2. Relief from Import duties	12	27.91	16	37.21	8	18.60	7	16.25
3. Accelerated Depreciation on Capital investment	9	20.93	18	41.86	11	25.58	5	11.63
4. Tariff Protection	10	23.26	20	46.51	13	30.23	0	0.00
5. The Nigerian Enterprises Promotion Decree	12	27.91	19	44.19	12	27.91	0	0.00

The first impression one derives from table 6.5 is the fact that none of the government policy measures enjoys strong popular support from the companies since none of the measures is rated as very important by up to 30 per cent of the companies. Weak popular support is evidenced in the "important" column where three of them are so rated by over 40 per cent each.

The Industrial Development (Income Tax Relief) Act 1958 as amended by Decree No. 22 of 1977 is an act that was designed to attract capital to Nigeria in the development of her natural resources and the expansion of her industrial capacity. To enjoy the benefits of the act, it is necessary that the industry or product it is proposed to establish, develop or produce be declared a pioneer industry or pioneer product.[11] Also, a public limited liability company registered in the country is eligible for a pioneer certificate. A company that is granted the pioneer status is exempted from income tax for a period of not more than three years in the first instance, subject to certain conditions, the most important of which are that:

(i) the company shall not engage during the tax relief period, in any enterprise except the pioneer industry in respect of which the pioneer certificate is granted and

(ii) the company shall start to operate the factory or where a mining company is concerned, begin operations within one year of the date estimated by the company in its application.[12]

---

11. For the list of pioneer industries and the corresponding main pioneer products, See Nigeria Company Handbook, Fourth Edition 1988 pp. 487-489.

12. Ibid, p. 486.

Subject to some other conditions, the tax relief period may be extended for either a period of one year and thereafter another period of one year or for one period of two years.[13]

Philips (1969) had indicated that ten years after the enactment of the Act, 340 applications had been submitted, of which only 179 (52.65 per cent) were approved. Of these successful ones, 101 had actually commenced operation. Twenty years after-1989, although we do not have data either on the number of companies that have applied or on the ones that have succeeded in getting their applications approved, evidence from our survey suggests that the policy has not benefitted majority of Nigerian companies. In fact with only six companies (13.95 per cent) rating it as very important, 11 companies (25.58 per cent) as important, 16 (37.21 per cent) as unimportant and as many as 10 (23.36 per cent) as very unimportant, it is the lowest rated policy measure in the survey. Many companies must have been unsuccessful in their bid to enjoy the benefits of the Act, and many of those who got their applications approved in the first instance must have had difficulties in getting an extension approved. These unsuccessful bids may not be unconnected with the numerous conditions

---

13. Ibid

required for an application to be approved. In fact, no application for the issue of a pioneer certificate to any company could be made unless the estimated cost and qualifying capital expected to be incurred by the company on or before production day (if the application was approved) is an amount which

(a) in the case of an indigenous-controlled company is not less than ₦50,000 or

(b) in the case of any other company, is not less than ₦50,000.[14]

Thus, the cost limit automatically disqualifies the smaller companies.

However, we note that the measure is aimed at enhancing the decision to set up businesses rather than their growth. Yet Philips had found that the companies in his study might have had their growth assisted by the policy measure if it had been for that purpose.

Relief from import duties is an aspect of the approved users scheme which allows for either exemption from import duty or grants a concessionary low rate of import duty on materials brought into the country for use in the manufacture or processing of goods or in the provision of services, provided that certain conditions are fulfilled.[15]

---

14. Ibid, p. 486

15. Ibid, p. 489

As with income tax relief, import duties relief is intended as a measure of temporary assistance in order to enable a new company to be established in Nigeria or for an already established one to grow on a scale suitable to the country's overall economic requirements.

The encouragement recorded from this measure by our respondents is better than that of the pioneer status with as many as 12 companies (27.91 per cent) rating it as very important, and 16 companies (37.21 per cent) as important. This however is not to say that it has been beneficial to all the companies as 15 (34.88 per cent) of them rated it as either unimportant or very unimportant.

Closely related to relief from import duties is tariff protection which is based on the infant-industry argument that to overcome a host of problems facing an infant industry, it must be protected from the competition of its more mature and for the moment, better endowed rivals, at least, until it is strong enough to stand on its own feet. This measure is achieved by placing high tariffs on imported manufactured products and by imposing restrictions on competitive imported goods. With as many as 30 companies (69.77 per cent) rating this measure as either very important or important, it is clear that it is one of the relatively most important factors that

has been aiding their growth. We however do not lose sight of the 13 companies (30.20 per cent) which rated the measure as unimportant. This confirms Oyejide's (1977) study in which he found that although tariff protection is a significant instrument of industrial policy, there are many other factors involved in the industrialization process. This assertion was based on the low values of R^2 in his econometric study.[16]

Accelerated Depreciation which is otherwise known as companies Income Tax Act grants to companies a much quicker write-down of their assets in the early years of production so as to enable them to amortise their capital assets during their formative years, and so build up liquid assets at an early date. The initial and annual allowances very according to the type of expenditure. For example while the initial and annual allowance for plant and machinery including furniture, fittings and motor vehicles are 20 per cent and 10 per cent respectively, they were 15 per cent and 10 per cent for industrial buildings. As with the other policy measures only a fraction of the companies can be said to have benefitted from accelerated depreciation, with 27

---

16. Oyejide, T. A. (1977), "Tariff Protection and Industrial Development in Nigeria" in Industrial Development in Nigeria eds O. Teriba and M. O. Kayode Ibadan University Press p. 282.

companies (62.79 per cent) rating it as either very important or important and the remaining 16 companies (37.21 per cent) rating it as either unimportant or very unimportant.

The Nigerian Enterprises Promotion Decree of 1972 which was amended in 1973, 1974, 1977, 1982 and more recently in 1989 to reflect changes in economic realities was described as one of the most patriotic measures taken by government of the time.[17] The decree was aimed at encouraging more Nigerians in participating in the ownership and control of business establishment in the country and it is the most highly rated measure among the suggested government policy measures, with 31 companies (72.09 per cent) rating it as either very important or important. As characteristic of other measures it is rated unimportant by a certain percentage of the companies 27.91 per cent i.e. 12 companies. However, although the measure was highly rated its effect on either the profitability or the expansion of turnover and net assets cannot be readily ascertained, except perhaps by inferring that by helping to retain more of the internally generated

17. Aboyade, O., Indigenizing Foreign Enterprises: Some Lessons from the Nigerian Enterprises Promotion Decree" in Industrial Development in Nigeria Op. Cit. p. 379.

funds within the economy (and perhaps within the company) more room is given for expansion. However, we note that the latest[18] amendment that was made was with a view to stimulating new and increased foreign investment. Under the 1982 amendment some industries in schedule II under the Act i.e. that which allowed for a maximum foreign participation of 40 per cent and a minimum Nigerian participation of 60 per cent had been moved to schedule III which allowed a minimum indigenous participation of 40 per cent and a maximum foreign participation of 60 per cent.[19] Given the high ratings of the decree by majority of the companies in our sample, we can infer that the various amendments that have been made to the decree had suited the needs of the moment for the companies. While in the early years of the decree foreign exchange did not pose any problem, its acute shortage in the latter years have made foreign participation very relevant. A company Chairman believes that the latest amendment would enable his company to form joint fventures with foreign companies and utilize their technical expertise when and if the opportunity should arise.

---

18. The latest amendment was made in May 1989. Our Survey was conducted before this date which also falls outside the temporal scope of our study.

19. See Nigeria Company Handbook Op. Cit. p. 483.

Here also, we are not losing sight of those companies that rated the measure as unimportant. They are as expected those without any foreign participation.

On the average, government policy measures are rated as very important by 10 companies (23.26 per cent) important by 17 companies (39.53 per cent), unimportant by 12 companies (27.91 per cent) and very unimportant by 4 companies (9.30 per cent). This is generally, a lower rating than any other growth inducing factor except diversification through other means in table 6.3. Indeed, as is shortly shown, it is the most highly rated very important among those factors hindering corporate growth in section 6.5 below.

6.5 Growth Retarding Factors

Given that some factors are aiding corporate growth certainly some are acting to drag their growth. The suggested alternative hindrances and their ratings are presented in table 6.6.

It may perhaps appear ridiculous to oberve that government policies which are formulated with a view to creating a very conducive business environment for the establishment and growth of business organizations are rated most highly as a general factor constituting a drag in the growth process of the companies. We however take

cognisance of the fact that although the degree of unanimity in rating each policy measure in table 6.5 as very important is very low, the same is not very true of the rating as important. We therefore infer that although there appears to be a general bias against government policies as a whole, specific policy measures do favour individual companies, although in some cases all the companies may be equally affected.

Table 6.6: Hindrances to Growth

Suggested Alternatives	Very Important		Important		Un-important		Very Unimportant	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
1. Utility supply	17	38.53	13	30.2	13	30.23	0	0.00
2. Spare Part problems	21	48.84	14	32.56	8	18.60	0	0.00
3. Inadequate demand for products	6	13.95	8	18.60	22	51.16	7	16.28
4. Shortage of raw materials	27	62.79	6	13.95	9	20.93	1	2.32
5. Personnel problems	3	6.98	14	32.56	22	51.16	4	9.30
6. Technical know-how	4	9.30	15	34.88	22	51.16	2	4.65
7. Inadequate finance	20	46.51	9	20.93	12	27.91	2	4.65
8. Foreign competition	3	6.98	10	23.26	15	34.88	15	34.88
9. Government policies	27	62.79	8	18.60	6	13.95	2	4.65
10. Political instability	11	25.58	11	25.58	15	34.88	6	13.95
11. General Economic Condition	26	60.46	17	39.53	0	0.00	0	0.00
12.								

Among the problems encountered with government policies by individual companies are excessive tariff or excise duties on certain raw materials, misclassification into the schedule of the Nigerian Enterprises Promotion Decree, excessive profit tax among others.

Perhaps the most serious allegations against government policies are the frequent changes and contradictions among the numerous policy measures. The Chairman of a leading brewing company had lauded the recent amendment to the Nigerian Enterprises Promotion Decree for recognising and making efforts at attracting foreign investment. He however opined that the success of such a policy will depend on its implementation in such a way that industries could operate without the fear and uncertainty caused by frequent changes of policies and financial measures. In the same vein a forum held under the suspices of the Research Department of the National Institute for Policy and Strategic Studies with the subject matter "Restructuring of Nigeria's Industrial Sector" submitted that policy objectives, problem areas, programme initiatives and implementation guidelines enunciated by the Federal Government were generally in the right direction. The forum however felt that all these could go a significant way in ensuring that the manufacturing sector becomes a healthy and dynamic source of development

if they were finely articulated and effectively implemented with consistency and continuity.[20] For instance, prior to the 1989 credit guidelines, Nigerian industrialists were able to raise loans with foreign guarantee currency deposits and collaterals. The introduction of the guidelines in part, abolished this foreign currency deposits, thus making it impossible to raise more loans. Commercial and merchant banks were given a time limit to recall all outstanding loans. This, according to the Central Bank was a reaction to undesirable and alarming trends in the economy all of which stemmed from too much money in the system. Notable among these was the rate of inflation which was put at 35 to 40 per cent. Although such a policy was good intensioned for the overall economy, the time limit given the banks to recall the outstanding loans was so short that beneficiaries of the loans which had been legitimately raised probably for longer term planning had to push their goods out into the market immediately in order to raise money for the settlement of the loans. This had some debilitating effects on the operations of many manufacturing companies. This was a clear case of untimely implementation of a sound policy. Yet, the chief executive of the Manufacturing Association of

---

20. Business Concord, Tuesday, August 22, 1989, p. 10

Nigeria had enunciated that the delay in implementation of sound policies was one other area of concern for the companies.[21] Obviously, wrong timing of policy implementation may be too costly and unsatisfactory for the growth of any company.

Companies also regard company tax as being too excessive. Prior to 1979, company tax was fixed at 50 per cent. This was however reduced to 45 per cent in 1979. Although it has since been reduced to 40 per cent, it is still considered to be too high especially in a situation where capacity utilization is not more than 50 per cent.[22] It is believed that the company tax rate may also negate the efforts at attracting foreign as well as local investors and may be a dis-incentive to greater efficiency by on-going businesses.

Closely linked and almost equally rated with government policy is shortage of raw materials. Although the industrialization strategy has been that of import substitution, most of the manufacturing companies in Nigeria had depended largely on the importation of raw materials. Central Bank of Nigeria's annual report in 1977 reported a decline in the value added by the manufacturing companies and attributed this to the

---

21. Babatunde Jose (1989), (Chief Executive, Manufacturers' Association of Nigeria) Address at [illegible] Annual General Meeting.

22. Abebe, C. E. (1989), (Chairman Nigerian Breweries Ltd.) Address to shareholders at Annual General Meeting.

increasing share of imported raw material input of many enterprises[23]. The same source also attributed the drastic slow down in manufacturing production in 1979 to delays in getting supplies of imported raw materials among other factors.[24] The situation has remained largely the same over the years and has even worsened off in recent times because of the restriction on the importation of raw materials which had been necessitated by the poor balance of payment and foreign reserve position. The problem of raw materials has been so much that most companies have, as a matter of policy, adopted local sourcing of raw materials through backward integration into agriculture as one of their business objectives as reported in section 6.2 above.

Obviously, those companies that rated raw material shortage as either unimportant or very unimportant are those which had depended entirely on local raw materials and they are either food processing or furniture making companies.

We may also stress that the problems of raw materials like that of government policies which had been very liberal during the buoyant period, are closely linked with the general economic conditions. Thus, all the companies in our sample rated general economic conditions as either very important or important as a growth retarding factor.

---

23. CBN Annual Report, 1977, p. 10

24. Ibid, 1979 p. 15

We believe the lop-sidedness in the responses against this factor is influenced by the prevailing depressing conditions during which the survey was conducted. Had the survey been conducted during the buoyant period, the responses in this regard could have been less biased.

Also, closely associated with government policy and therefore the general economic condition are spare parts problems. Apart from the problems in getting the foreign exchange with which to procure spare parts, fabrication is another of the recent corollary problems. The delay in procuring a vital spare part may be very wasteful as it may lead to idleness of machines and labour. The waste may become more pronounced when unknowingly, a fabricated spare part is fitted into a machine as it is most likely to lead to further damages. All these definitely slow down the realization of any objective a company might have.

Another dimension to the problem of spare parts is their costs which as a result of the slumping of the naira against the U. S. dollar, have been going up at a rate many companies cannot cope with. This is however, not to say that spare parts problem is a recent phenomenon in the economy. It has only become more acute in recent times. For example, according to the CBN report in 1979, the

drastic slow down in manufacturing production was attributable in part to delays in getting supplies of spare parts.[25] In our survey, 21 companies (48.84 per cent) rated spare parts problems as very important, 14 companies (32.56 per cent) rated it as important while 8 (18.60 per cent) rated it as unimportant. This shows the extent to which corporate growth and therefore growth of the national economy is dependent on foreign technology.

Technology is one of the prime motive forces of development. It plays a decisive role in every facet of life, be it food, shelter, education, health services, transportation or communication. The experience of Nigeria, like all other developing nations has been that of foreign technological dependence, and this has inevitably imposed limits to the options opened for national development strategies.

Multinational corporations are known to have been responsible for the greater percentage of the technology transferred to the developing countries[26] and the market power of corporations is known to have been the major determinanent of the availability and pattern of technological transfer. Due to their researdh and development (R & D) activities, such corporations have become the major source of technological development and consequently the owners of improved and new technology.

---

25. Ibid.

26. Kindleberger, C. P. and Herrick, B. Economic Development McGraw-Hill, International Student Edition p. 141.

Although the presence of such corporations is still being felt in some sub-sectors such as the pharmaceutical and automobiles, the Nigerian enterprises promotion decree certainly reduced the overall dominance in the economy. This has reduced considerably technological transfer into the country, especially in such areas as textiles, breweries, soap and toileteries. Even in the few cases where R & D do take place, it is mostly in conjuction with some foreign associates. Thus for instance, a major brewing company indicated in one of its annual reports that to meet its local sourcing of raw materials objective, it had to change its technology and adopt a new process of brewing. To achieve this objective, it had to go into joint intensive research and development with its foreign technical associates.

In a competitive world economy, the diffusion of technology is largely restricted by such barriers as patent and licensing, and in view of the cost reducing and quality improving effects of improved technology, foreign manufacturered goods from the technology-rich countries are known to be preferable by Nigerian Consumers. Hence the keen competition of Nigerian goods with foreign and in many cases, smuggled goods.

Given the high rate of inventions and innovations in the multinational corporations and the inability or

difficulty of Nigerian scientists and technologists to adapt foreign technology to suit the Nigerian condition most machines in most Nigerian companies soon become obsolete. Spare parts that are ordered to meet old specifications are inevitably scarce and invariably more expensive.

The political factor in the growth process of Nigerian companies cannot be understressed. Much of the frequent changes in policies can easily be traced to instability in government. In fact, that only 22 companies (51.16 per cent) rated political instability as a hindrance to their growth may be as a result of the ignorance about the degree of association between the former and changes in government policies. It has been acknowledged that the political factor is one of the strongest environmental factors capable of shaping the destiny of most business enterprises.[27] Thus, in most democratic societies candidates are known to have been sponsored into parliament in order to protect business interests. In Nigeria where there had been more of military regimes than democratic ones, in an attempt to either discredit preceeding governments or to create good images for themselves, ruling

---

27. Bello, A., "Environmental Factors in Corporate Performance in a Recession". A par presented at a Conference on Corporate Performance in Recession. Faculty of Business Administration, University of Lagos, May, 1989.

governments are known to have either amended some policies or introduced new ones that may negate the desired effects of existing ones. Thus, many policies are known to have changed, not as a result of the economic realities per se, but as a result of political instability. Yet, although most changes of government have been associated with some undesired drifts in the economy and although some of the changes in policies may be traceable to economic realities, they are often associated with political instability.

According to Hakam (1966), prior to the military take-over Nigeria enjoyed among foreign investing countries, a high reputation not commensurate with the actual facts. After being in Nigeria for some time and having gone through several national crises that each time appeared to be shaking the Federal to its foundation, the expatriate personnel of their firms began to have second thoughts about stability factors.[28]

Such fears that were emanating from the political instability at that time are today being actualized within the business community as long range planning are made difficult or impossible with the unstable industrial policies that are associated with political instability.

---

28. Hakam, A. N., (1977), "The Locational Pattern of Foreign Private Industrial Investment in Nigeria" in Industrial Development in Nigeria eds. O. Teriba and M. O. Kayode Ibadan University Press p. 153.

In 1979 when the Federal Military Government handed over to the civilian government, Nigeria had foreign reserve of about $2 billion. By the end of 1983, not only did Nigeria have little or no reserve at all, we had accumulated debt totalling close to $18 billion.[29] As it became difficult to pay the debts, many Nigerian importers could not pay their suppliers abroad and Nigerian industries were grinding to a halt because they could not import spare parts and raw materials.

As a result of the stalemate that arose in negotiation with the International Monetary Fund (IMF), the military government that took over from the civilian one embarked on counter trade agreement with a number of Nigeria's trading partners.

However, less than two years later, a new military government came in to abolish the counter-trade system on the alleged grounds that Nigerians were being forced to buy goods at a price higher than what obtains in the international market. The Structural Adjustment Programme, a more comprehensive policy that was aimed at restructuring the whole economy was introduced. Included under SAP was the deregulation of the foreign exchange market whereby, in place of the former rigid import licensing system of rationing foreign exchange, a flexible system was adopted,

---

29. Falae, O., (Secretary to the Federal Military Government) in Giant Strides VBO International Link. October 1987 p. 404.

thus leading to a devaluation of the naira. Although some large companies, especially the conglomerates, are known to have benefitted from this system because of their financial might, the general economic atmosphere has been beclouded with more problems for most industrialists because of the high production costs and consequently high prices which result in difficulties in selling their products.

Although it cannot be envisaged that all companies will benefit or suffer equally from all policies, political stability can guarantee stable policies and therefore give room for better corporate planning.

The problem of inadequate finance is also rated very highly. 3 of the 20 companies that rated this problem as very important indicated that the problem is with both internal and external finance. 3 indicated that it is only with internal while the same number indicated that it is only with external source. The others did not indicate the very type that is posing problem. Also those 9 companies that rated it as important did not specify the type of finance that has not been adequate. CBN's report indicate the important role internal sources of finance have been playing in the growth process of Nigerian manufacturing companies. For example, it was reported that 66.4 per cent of the working capital of the companies in 1977 were financed from internal sources

while 20.6 per cent came from local commercial banks.[30] The remaining percentage was accounted for by Trade and Supplies credit from foreign suppliers and affiliates. In the same year, about 55.0 per cent of new investment was financed from the internal sources. Similarly, in 1980, it was reported that internally generated funds continued to be the main source of financing additional investment; accounting for 49.1 per cent of the total. Loans from local banks accounted for 35.1 per cent while the remaining was accounted for by other sources.[31] The trend has been the same over the years, with internally generated funds accounting for less and less percentage and externally generated funds accounting for more and more in the growth process of companies. This further supports our findings in chapter five, that the importance of externally generated funds has been increasing, especially during the recessionary period when most companies have been experiencing dwindling profitability. We sought to know the trend of profitabilit of our respondents in our questionnaire survey. The response is presented in table 6.7.

---

30. CBN Annual Resport 1977 p. 10

31. Ibid, 1980 p. 18.

Table 6.7: Trends in Profitability Between 1974 and 1985

Trend of Business	Number of Response	Percentage
Much more profitable	9	20.93
Fairly more profitable	12	27.91
No change in profitability	3	6.98
Fairly less profitable	17	39.53
Much less profitable	2	4.65
Total	43	100.00

The distribution in table 6.7 is almost symmetrical thus indicating that, given that profitability is a determinant of growth, about half of the companies must have had problems financing their growth from internally generated funds in recent times. As an important alternative, loans from financial institutions must have been sought after by those companies. The Nigerian Bank for Commerce and Industry (NBCI) and the Nigerian Industrial Development Bank (NIDB) are government established banks that are meant to aid industrialists in one way or the other.[32] We sought to know whether our respondents have at any time benefitted from the services of those institutions. The response is shown in table 6.8.

32. The specific roles of these banks have been discussed in chapter 1.

Table 6.8: Beneficiaries from NBCI and NIDB

Response	NBCI		NIDB	
	Frequenty of response	Percentage	Frequency of response	Percentage
Yes	6	13.95	6	13.95
No	37	86.05	37	86.05
Total	43	100.00	43	100.00

Note: "Yes" indicates the number of those that have benefitted while "No" indicates the reverse.

Out of the 37 companies that have not benefitted from the services of these institutions, 8 indicated that it is because they do not depend on loans in any way. While one indicated that it was because of lack of collateral. Others gave some wide ranging reasons among which are:

(i) government funding

(ii) too much beaucracy, too slow to act and

(iii) availability of loans from other commercial banks

Considering the number of those companies that do not depend on loans which is far less than a quarter of the total number, we can infer that majority of them

do depend on loans in one way or the other. Again when we consider the number that indicated that there are cheaper sources of loans and those that indicated that there had been one problem or the other in obtaining loans, then we can infer that external funds must have been inadequate for only a few companies which probably are among those whose profitability has either been fairly less or much less over the years.

We acknowledge that 14 companies (32.56 per cent) in table 6.6 responded that the problem of inadequate finance is either very unimportant or unimportant to them. Some of these companies are simply government financed. Although most of our respondents did not disclose their financial position we believe such other companies must be the large ones.

Another source of growth retardation that is highly rated is utility supply shortages. These include mainly electricity and water supply shortages. While 17 companies (39.53 per cent) rated it as very important, 13 companies (30.23 per cent) rated it as important. These problems, especially as it relates to electricity supply have been a long standing one.

For example, the slow down in the rate of expansion of the manufacturing sector, in face of a continually buoyant demand situation in the economy in 1976 was

attributed in part to inadequate supply of electricity.[33] In 1981 manufacturing production was reported to have been inhibited by the disruption of electricity supply among others.[34] Also, in 1982 it was reported that

> "Many manufacturing industries complained about increased costs of production resulting from additional costs incidental to the provision of water and electricity for industrial use.[35]

Apart from the reduced hours of operations, frequent disruption of electricity supply may lead to breakdown in the machines. As a result many companies have had to install their own electricity generating plants. To solve water supply problems, some companies have had to be making use of water tankers while some have had to lay water pipes over long distances. There are yet numerous smaller companies that cannot afford these alternatives to public utility supplies.

Another growth retarding factor we envisaged and included in the alternative answers for our respondents is inadequate demand. However, rather than work against growth, it was found that demand is an important growth inducing factor. A greater percentage of the firms rated the problem of inadequate demand as either unimportant

---

33. CBN Annual Report 1976 p. 12.

34. Ibid 1981 p. 19

35. Ibid 1982 p. 19

or very unimportant. Oyejide (1989) identified growth in the final demand for the product of manufacturing as one of the four major sources of growth in the manufacturing sector.[36] The Central Bank of Nigeria reported in 1975 that the index of manufacturing output showed an increase over the previous year and this was attributed partly to the buoyant demand situation that was associated with increased income. In 1976 there was a decline in the production of such industries as footwear, sugar, cotton textile and some others. It was also discovered that the quantum of shoe and sugar imports increased thereby suggesting that the decline in domestic production was not due to deficient demand. In the same year, a rise of 136.1 per cent on new machinery and equipment was attributed to the need to meet the ever growing demand especially in the areas of beer brewing, soft drinks and cement production.

At an annual general meeting, a brewing company Chairman reported that

> the financial results reflect sales constrained by production rather than by demand for our products ....

Also, the Chairman of a food processing company had attributed the increase in his company's turnover, to a resurgence in consumers' demand of the company's product.

---

36. Oyejide, T. A. (1981), Tariff Policy and Industrialization in Nigeria, Ibadan University Press Chapter three.

However, much as the demand must have been there for the companies' products the degree of competition in recent times has been militating against the advantages of high demand. We have shown in section 6.3 that competition has become stronger for the companies (see table 6.4). It will then appear contradictory that foreign competition is rated very low in table 6.6 as a growth retarding factor. With as many as 80 companies (69.76 per cent) rating this factor as either very unimportant or unimportant, then we can infer that the increased competition reported in table 6.4 is within indigenous companies. This inference is however based on the assumption that whatever foreign products that compete with the home made ones are imported by indigenous companies and not brought in by the foreign manufacturers directly. This assumption is necessary because there is ample evidence to suggest that there has been increased competition from foreign goods, the relative success of tariff protection reported in section 6.4 above notwithstanding.

For example, in 1977 the CBN reported that

> ... competition from imported substitutes was believed to have affected the performance of tobacco, cotton textile and footwear industries...[37]

---

37. CBN Annual Report 1977 p. 10

Even when the protection measures became tighter, the same source reported that

> In particular, smuggling effectively hampered the ability of various industries to compete in the domestic economy to the extent that some industries had to reduce their levels of production and lay off workers. Among the industries worst hit by smuggling were those producing cotton and knitted textiles, cigarettes batteries, radio and footwear.[38]

Thus, apart from those goods that are legally imported, smuggled goods also constitute another class of competing commodities. Although in the latter years, competition from legally imported goods considerably reduced as a result of more efficient administration of import licenses and stringent exchange controls, smuggling still continued to exert much pressures on some industries. For example, the decline in the quantity of textile produced locally in 1985 was attributed to what was described as "silk invasion"[39] as smuggled silk lace and guinea brocades from some foreign countries freely gave unfair competition to locally produced textile products.

Obviously, our third hypothesis that corporate growth in Nigeria is not determined by economic and financial factors, but by social and political factors is rejected.

---

38. Ibid, p. 19

39. Ibid, 1985 p. 29

Rather, we have found that corporate growth in our selected manufacturing companies is determined by a myriad of factors some of which are both financial and economic and some of which are socio-political. Also, while some of the factors are endogenous some are exogenous to their operations.

Given the growth rates recorded in chapter five; there is no doubt that if those growth retarding factors identified in this chapter could be removed or minimised the Nigerian manufacturing sector will have higher potentials for bridging the gap between their expected and actual contributions to economic growth.

CHAPTER SEVEN

SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Summary

The motivation to undertake this study has been borne out of the fact that, despite the introduction of various fiscal and monetary policy measures together with the provision of various economic infrastructures to boost the development of the Nigerian industrial sector, the sector has been performing far below expectation both in terms of value added and employment generation. Given the key role the industrial sector is expected to be playing in the overall development of the economy, we believe that efforts at activating the sector to achieve better results should be more intensified. Thus, we have primarily set out in the study to identify the key factors that aid corporate growth in some selected manufacturing industries in Nigeria. In the process we also identified some of the key retarding factors in the growth process of the firms in our selected industries.

In our first chapter of analysis - chapter 4, we examined the influence of size on the growth rate of firms and found that the size-growth relationship, although not very strong, varied with the prevailing economic conditions. While the smaller firms of our sample, contrary to expectations, demonstrated a higher average growth rate

in the affluent period of the oil boom, the bigger ones demonstrated stiffer resistance to the harsh economic conditions of the subsequent depression and therefore exhibited higher growth rates.

Given that profitability has always been identified as an important determinant of growth, we examined in chapter 5, the relationship between size and profitability to ascertain whether the smaller firms were more profitable in the first sub-period. Interestingly we identified the same pattern as between size and growth. While the smaller firms exhibited greater profitability in the first sub-period, the bigger ones used their might to exploit the situation in the second sub-period. In the same chapter, our study confirmed the established relationship between growth and profitability as the latter was found to be a good explanatory variable for the former. Although some other financial ratios, specifically dividend ratio, retention ratio and liquidity ratio were introduced in the analysis, only liquidity ratio was found to have some slightly discernible positive relationship with corporate growth.

In view of the fact that finance is not all that matters in the growth process of firms, we used a questionnaire survey method to identify those non-financial

and exogenous factors the industrialists consider as their major means of achieving growth. We discussed such factors in chapter 6. These include competitive actions to expand market share in existing markets and overall expansion of existing markets. Both means are pursued through more intensive advertising. Product diversification, especially through backward integration into agriculture is another means through which they achieve their growth objective.

On the factors that have been retarding the growth of firms, the ones identified and discussed include unstable government policies, shortage of raw materials, inadequate finance, utility supply shortages, foreign competition and general economic conditions.

7.2 Conclusion

Given the foregoing, we conclude that

(i) Nigerian companies have the willingness to expand both their rate of turnover and their net assets; hence the issue of pursing a particular optimum size does not arise.

(ii) The potential of size to put some manufacturing companies at a vantage position relative to the smaller ones in terms of their ability to grow faster is a recent manifestation which emerged with the emergent harsh business environment that followed the recession and the subsequent introduction of the Structural Adjustment Programme in the country.

(iii) As a corollary to point (ii) above, the ability of the bigger (non-conglomerate manufacturing) companies to generate higher rates of return has only come into reality with the recession.

(iv) Profitability has always been a crucial factor in the growth process of Nigerian companies.

(v) Corporate growth in Nigeria cannot be attributed solely to financial characteristics as intensive advertising and product diversification have become some major business strategies to be reckoned with.

(vi) The inability of Nigerian companies to meet the targets set for the industrial sector in the overall economic development is partly dependent on exogenous factors and partly on managerial inability to cope with accelerated expansion along their lines of production.

7.3 Recommendations

If more substained growth is to be experienced by our selected and other Nigerian manufacturing companies, and if they are to contribute more meaningful to the overall development of the economy, then it may be necessary that;

1. The issue of merger is given some more serious attention. The economic realities have exposed the weaknesses of the smaller firms as manifested in their inability to withstand the stress of a recession. In particular, as the continued devaluation of the naira is increasing the stress on the companies to generate enough profits to adequately maintain and/or replace their assets,

there is no doubt that by merging, the companies involved will be able to combine their financial strengths and eliminate such inherent weaknesses in them.

2. The companies are encouraged to be more far sighted by committing a certain percentage of their pre-tax profits to Research and Development with a view to:

(i) Sourcing a greater percentage of their raw materials locally. The establishment of the Raw Materials Research and Development Council by the Federal Government in this regard is quite commendable. One of the functions of the Council is to take a census of the various raw materials available in the country with a view to subsequently drawing up a development programme to ensure self sufficiency. The activities of this council should not be allowed to wane off and the results of its activities should be adequately disseminated for the companies to benefit from. However, beyond the activities of the council companies that are still dependent on imported raw materials should be able to find some alternatives through their own research activities, as the Raw Material Research and Development Council may not be working specifically on behalf of any particular company.

(ii) Improving the quality of their products so that they will be able to compete more favourably with foreign products for which the average Nigerian appears to have

a very strong taste. The Nigerian Standard Organization has been providing some motivation in this regard in form of annual awards for high quality products manufacturers. However such motivations still have a long way to go as most Nigerian made goods are still less preferred by most consumers. It appears some minimum quality that must be enforced is urgently required for the manufacturing companies.

The issue of quality improvement should be of interest not only to the manufacturers themselves, but also to the government. To the manufacturers, quality should be a mark of excellence and potentials for growth as a wider local market may be guaranteed; and to the government it should be some measure of potentials for generating and conserving some foreign exchange as the activities of those who smuggle in foreign substitutes may be curtailed and some foreign markets may be sought for the products.

(iii) Ensuring that their growth is enhanced through the development of home technology or adaptation of foreign technology to meet local needs rather than through acquisition of foreign capital goods which in many cases require the expertise of their manufacturers for simple maintenance and more importantly repairs when they break

down. The local development of machines and equipments will no doubt reduce costs of production, and dependence on foreign technology. Continued and more stable production of goods may also be guaranteed, and the problem of technical know-how will be minimised.

If technical progress through R & D could be contributing as much as 80 per cent to the overall growth of manufacturing companies in the development countries, it is imperative that concerted efforts be made to raise the contribution of technical progress if Nigerian manufacturing companies are to continue to grow in a competitive world economy.

We acknowledge that, due to the small size of most Nigerian companies, many of them may not be generating enough profits as to be able to be appropriating a certain reasonable percentage of it to any meaningful research. This however only helps to butress our first recommendation that companies should be encouraged to merge so that they can combine their financial strength for such R & D purposes.

3. As an alternative to merger, some means of improving the management services of the companies may be sought and adopted. We acknowledge that there are some attendant problems of merger, which include fears of retrenchment by the workers, fears of losing control of the company by

shareholders and total loss of identity of the company. These may not encourage some companies to venture into merger aggreements. An alternative will be for the Managers to find some means of improving their management techniques.

As indicated in chapter 5, the International Finance Corporations (IFC) has identified the cause of most business failures in Nigeria (and indeed Africa as a whole) as shortages of people trained and experienced in managing relatively complex ventures. It is therefore heartening that the IFC is sponsoring the establishment of an African Management Service Company (AMSCO). The objective of the company is to provide a package of technical and managerial services to African enterprises that wish to improve their operating efficiency.

However, in view of the fact that the services are to be provided on commercial basis, some Nigerian companies may not be able to enjoy the services of the company. Government may therefore aid those viable companies that can show evidence of being able to contribute meaningfully to the industrialization objective just in the same spirit of sponsoring general education at some levels.

4. Government industrial policies should be more stable. In view of the fact that such policies are formulated with the objective of creating some conducive business environment, they should not be formulated without due consultation with and representation by members of the business community. In a democratically elected government, candidates should be sponsored by the industrialists into parliament so that policies may not be formulated or amended without their knowledge and contributions. In a military regime industrialist should always be invited for deliberations whenever any new policy is to be formulated or old ones amended. This, will no doubt, reduce the rate of dissatisfaction with most of the policies by considerable proportion of the industrialists. We believe that even if the government is not stable, industrial policies can still be stable if such due consultations as recommended here are made.

5. The issue of inadequate finance has to some extent been controversial. While industrialists always clamour for more easy monetary controls, it has been indicated at some quarters that it is not so much the issue of inadequate finance that is posing problems, but that of well analysed projects.

In this regard, we recommend that manufacturers should be encouraged to make more use of the services of consultants in seeking the areas in which they can invest more for expansion purposes and the possible means for financing such investments. It may also not be out of place for government to review downwards company tax rates so that the companies can be making more use of retained earnings. A discriminatory tax system in favour of companies (regardless of their size or age) that are able to show evidence for potentials for expansion at a certain rate within some specific periods may go a long way at alleviating the finance problems of many companies.

Companies may also be encouraged to be kmaking more use of equity financing by being floated on the stock exchange rather than going about financial institutions seeking for loans.

6. On the general economic conditions, companies should learn that business cycles cannot be prevented, but the effects can only be minimised by being watchful of trends in economic indicators and planning well adequately ahead to absorb any unexpected shocks.

BIBLIOGRAPHY

1. Abebe, O. C., (Chairman, Nigerian Breweries Ltd.) Address to Shareholders at Annual General Meeting. Business Times Monday, July 3, 1989.

2. Aboyade, O. (1977), "Indigenizing Foreign Enterprises: Some Lessons from the Nigerian Enterprises Promotion Decree" in Teriba, O. and Kayode M. O. (eds.) Industrial Development in Nigeria: Patterns, Problems and Prospects Ibadan University Press, pp.

3. Adedeji, A., "Corporate Growth in a Recession" Paper presented at a National Conference on Corporate Performance in a Recession. Faculty of Business Administration University of Lagos, May 1989.

4. Adelman, M. A. (1951), "The Measurement of Industrial Concentration" Review of Economics and Statistics Vol. XXXIII pp. 269-296.

5. Ansoff, H. I. (1969), "Towards a strategic Theory of the Firm" in Ansoff H. I. (ed) Business Strategy Penguin pp. 11-40.

6. Babatunde, Jose, (Chief Executive, Manufacturers Association of Nigeria) Address at an Annual General Meeting. Business Concord March 21, 1989, p. 17.

7. Bannock, G., Baxter, R. E. and Rees, R. (1972), The Penguin Dictionary of Economics Penguin Books 427p.

8. Barna, T. (1962), Investment and Growth Policies in British Firms, Cambridge University Press, 192p.

9. Bates, J. A. (1964), The Financing of Small Businesses. London Sweet and Maxwell, 193p.

10. Baumol, W. J., (1962a), Business Behaviour, Value and Growth Harcourt and Brace 159p.

11. _____, (1962b), "On the Theory of Expansion of the Firm" American Economic Review, Vol. LII pp. 1078-87.

12. Bello, M., "Environmental Factors in Corporate Performance in a Recession". A Paper presented at a Conference on Corporate Performance in a Recession Faculty of Business Administration, University of Lagos, May 1989.

13. Central Bank of Nigeria Annual Reports and statements of Accounts Various Issues.

14. Chow, C. G., (1960), "Tests of Equality Between Sets of Coefficient in Two Linear Regressions" Econometrica Vol. 28, pp. 591-605.

15. Collins, N. R. and Preston, L. E. (1961), "The Size and Structure of the Largest Industrial Firms 1909-1958" American Economic Review Vol. 51 pp. 986-1003.

16. Cyert, R. M. and March, J. G. (1963), A Behavioural Theory of the Firm Prentice-Hall 332p.

17. Devine, P. J., Jones, R. M., Lee, N., Tyson, W. J. (1976), An Introduction to Industrial Economics Minerva Series George Allen and Urwin 613p.

18. Downie, J. (1958), The Competitive Process London Duckworth.

19. Eatwell, J. L. (1969), "A Stochastic Theory of the Growth of Firms: Some Analytics, Some Tests. Unpublished, Harvard University, 12p.

20. _____ (1971), "Growth, Profitability and Size: The Empirical Evidence" in Marris, R. and Wood, A. The Corporate Economy London Macmillan, pp. 389-421.

21 Ewujowoh Sunny, "Tax Evasion: Why blame Auditors?" Business Times, Monday May 29, 1989 p. 7.

22. Fabayo, J. A. (1981), "An Economic Analysis of Productive Capacity Under-Utilization in some Nigerian Manufacturing Industries" The Quarterly Journal of Administration Obafemi Awolowo University, Ile-Ife, Vol. XV pp. 315-334

23. _____ (1989), "Empirical Estimates and Analyses of Technical Progress in the Nigerian Manufacturing Industries". A Seminar Paper, Department of Economics, Obafemi Awolowo University, Ile-Ife.

24. Fabayo, A., Odejide, A. F. (Mrs.) and Alade, J. A. "Technological Self-Reliance for Industrial Development in Nigeria: Issues and Impediments" Paper presented at the Nigerian Economic Society Conference on Self-Reliant Strategies for National Development, May 1983.

25. Federation of Nigeria, Facilities and Opportunities for Starting Small Scale Industries, FGP, 1750 (72)/273/1, 500 1972.

26. Filippi, E. and Zanetti, G. (1971), "Exogenous Factors in the Growth of Firms" in Marris, R. and Wood, A., The Corporate Economy London Macmillan, pp. 144-171.

27. Galbraith, J. K. (1967), The New Industrial State Harmond Harmondsworth, Penguin 205p.

28. Giant Strides VBO International Link October 1987.

29. Gibrat, R. (1931), Les Inegalites Economiques Libraire du Recueil Sirey, Paris. Reprinted in translation in International Economic Papers, No. 7 (Macmillan, London 1957).

30. Giwa, R. F. (Chairman/Managing Director of Lever Brothers, Nigeria Ltd.), Business Times, Monday May 29 1989 p. 12.

31. Gordon, R. A. (1948), "Short-Period Price Determination in Theory and Practice" American Economic Review Vol. XXXVIII pp. 528-56.

32. Gort, M. (1962), Diversification and Integration in American Industry, 1929-54 (NBER) General Series 77, Princeton, Princeton UP.

33. Hall, R. L., and Hitch, C. J., (1939), "Price Theory and Business Behaviour" Oxford Economic Papers.

34. Hart, P. E. (1968), "The Size and Growth of Firms". Economics, Vol.

35. Hart, P. E. and Prais, S. J. (1956), "The Analysis of Business Concentration. A Statistical Approach" Journal of the Royal Statistical Society Vol. 119 pp. 150-91.

36. Hymer, S. and Pashigian, P. (1962), "Firm Size and Rate of Growth" Journal of Political Economy LXX December.

37. Ijiri, Y., and Simon, H. A. (1964), "Business Firm Growth and Size" American Economic Review Vol. 54, pp. 77-89.

38. Ijiri, Y., and Simon, H. A. (1967), "A Model of Business Firm Growth" Econometrica Vol. 35, pp. 348-355.

39. Inanga, E. L. and Soyibo, A. (1982), "The Profitability and Size of a Nigerian Quoted Conglomerate, 1971-80: A Preliminary Study" Journal of Economics and Social Studies Vol. 24, No. 3 pp. 365-372.

40. Intriligator, M. D. (1979), Econometric Models, Techniques and Applications. North-Holland Publishing Company, Amsterdam, 638p.

41. Jones, W. J. (1969), Size Growth and Profitability in the Mechanical Engineering Industry (National Economic Development Office) Britain 102p.

42. Koplin, H. T. (1963), "The Profit Maximisation Assumption" Oxford Economic Paper pp. 130-139

43. Koustoyiannis, A. (1975), Modern Microeconomics Macmillan 462p.

44. _____ (1978), Theory of Econometrics Macmillan 681p.

45. _____ (1982), Non-Price Decisions. The Firm in a Modern Context Macmillan, 671p.

46. Lintner, J. (1971), "Optimum or Maximum Growth Under Uncertainty" in Marris, R. and Wood, A., The Corporation Economy London Macmillan pp. 172-241.

47. Machlup, F. (1946), "Marginal Analysis and Empirical Research" American Economic Review Vol. LXVI

48. Mansfield, E. (1962), "Entry, Gibrat's Law, Innovation and the Growth of Firms" American Economic Review Vol. 52 pp.

49. Manson, H. (1965), "Biological Models and Empirical Histones of the Growth of Organizations" in Manson H. ed. Modern Organization Theory London, John Wiley and Sons Inc.

50. Marris, R. (1963), "A Model of Managerial Enterprise" Quarterly Journal of Economics.

51. _____ (1964), The Economics of Managerial Capitalism London Macmillan 346p.

52. Marris, R. (1971a), "An Introduction to Theories of Corporate Growth" in Marris, R. and Wood, A. The Corporate Economy, London Macmillan pp. 1-36.

53. _____ (1971b) (1971b), "Some New Results on Growth and Profitability in Marris, R. and Wood, A., The Corporate Economy, London Macmillan pp. 422-427.

54. Meeks, G. and Whittington, G. (1975), "Giant Companies in the United Kingdom" Economic Journal Vol. LXXXV pp. pp.

55. Meyer, H. and Kuh, A. (1957), The Investment Decision Cambridge HUP.

56. Nelson, R. L. (1966), Business Cycle Factors in Choice Between and External Growth in Corporate Merger. Chicago, University of Chicago.

57. Nigerian Company Handbook, Jikonzult Management Services Ltd., Fourth Edition 1983.

58. Nigeria, National Development Plan, 1962-63, Federal Ministry of Economic Development, Lagos.

59. Nigeria, Second National Development Plan 1970-74 Federal Ministry of Economic Development and Reconstruction Lagos 1970.

60. Nigeria, Third National Development Plan, 1975-80 Federal Ministry of Economic Development Lagos, 1975.

61. Nigeria, Fourth National Development Plan 1980-85, Federal Ministry of National Development, Lagos, 1981.

62. Nwankwo, G. O. (1980), The Nigerian Financial System Macmillan International College Edition 184p.

63. Oliver, H. M. (1947), "Marginal Theory and Business Behaviour" American Economic Review pp.

64. Oyejide, T. A. (1977), "Tariff Protection and Industrial Development in Nigeria" in Teriba, O. and Kayode, M. O. (eds.) Industrial Development in Nigeria Pattern Problems and Prospects Ibadan University Press pp.

65. _____ (1989), Tariff Policy and Industrialization in Nigeria Ibadan University Press 118p.

66. Oyetan, J., (NAL MD on Equity), Business Times Monday June 12, 1982 p. 2.

67. Papandreou, A. (1957), "Some Basic Problems in the Theory of the Firm" in Halay, B. F. A Survey of Contemporary Economics Irwin.

68. Parker, J. E. S. (1964), "Profitability and Growth of British Firms M. S. Unpublished.

69. Penrose, E. (1952), "Biological Analogies in the Theory of the Firm" American Economic Review, pp. 804-819.

70. _____ (1959), The Theory of the Growth of the Firm Oxford, Blackwell.

71. Prais, S. J. (1959), "Profitability and Growth in Tew, B. and Itanderson, R. F. eds. Studies in Company Finance Cambridge.

72. Radice, H. (1971), "Control Type, Profitability and Growth in Large Firms; An Empirical Study" Economic Journal LXXXI.

73. Reder, M. W. (1947), "A Reconsideration of the Marginal Productivity Theory" Journal of Political Economy pp. 450-458.

74. Robinson, J. (1933), The Economics of Imperfect Competition London, Macmillan.

75. Rothschild, K. (1947), "Price Theory and Oligopoly" Economic Journal pp. 297-320.

76. Samuels, J. (1965), "Size and Growth of Firms" Review of Economic Studies XXXII 1965 pp. 105-112.

77. Samuels, J. and Smyth, D. (1968), "Profits, Variability of Profits and Firm Size" Economica XXXV.

78. Shepherd, W. G. (1979), The Economics and Industrial Organization Prentice/Hall International, Inc., London 463p.

79. Simon, H. A. (1955), "A Behavioural Model of Rational Choice" Quarterly Journal of Economics pp. 99-118.

80 Simon, H. A. and Banini, C. P. (1958), "The Size Distribution of Business Firms" America-Economic Review Vol. 48.

81. Singh, A. and Whittington, G. (1968), Growth Profitability and Valuation University of Cambridge, Department of Applied Economics, Occasional Paper 7, Cambridge CUP.

82. Sloan, H. S. and Zurcher, A. J. (1970), Dictionary of Economics Fifth Edition. Barnes and Noble Books.

83. Soetan, R. O. (1985), "Size, Mobility Aggregate Concentration and the Growth of Large Firms" Unpublished Ph.D Thesis MIT Manchester.

84. Solow, R. M. (1971), "Some Implications of Alternative Criteria" in Marriage and Wood, A. The Corporate Economy London Macmillan.

85. Soyode, A. (1978), Financing Industrial Growth in Nigeria: A Study of the Place od Debt and Retained Earnings. Ife Social Sciences Review Vol. 1 No. 2. pp. 89-107.

86. Spiegel, M. R. (1972) Theory and Problems of Statistics Schaum's Outline Series McGraw-Hill Book 359p.

87. Weiss, L. and Hall, M. (1967), "Firm Size and Profitability" Review of Economic Studies XLIX,

88. Whittington, G. (1980), "The Profitability and Size of United Kingdom Companies 1960-64" Journal of Industrial Economics June pp. 335-352.

89. Williamson, O. E. (1963), "Managerial Discretion and Business Behaviour" American Economic Review

90. Wood, A. (1971), "Economic Analysis of the Corporate Economy" in Marris R., and Wood, A. eds The Corporate Economy London Macmillan pp. 37-67.

APPENDIX IA

COVERING LETTER TO QUESTIONNAIRE

Department of Economics,
Obafemi Awolowo University,
ILE-IFE.
Oyo State.

The Company Secretary,
.....,
.....,
.....

Dear Sir,

I am currently involved in a Ph.D research in the Department of Economics at the Obafemi Awolwo University, Ile-Ife, My research is mainly concerned with identifying the relevant factors in the growth process of Nigerian Corporate Companies.

It is hoped that the findings of the study will be of help to the business people who are concerned about the survival and expansion of their businesses and the government in its formulation of industrial policies aimed at promoting corporate growth, especially in these austere times when many businesses are folding up and many remaining stagnant.

The enclosed questionnaire is an attempt to chart some key factors and their possible impacts on the growth of major Nigerian companies.

Would you kindly complete the questionnaire for me. I assure you that any information given will be treated in strict confidence as no single company will be separately identified in my data analysis.

A stamped envelope is enclosed with the questionnaire for your reply.

Thanks for your cooperation.

Yours sincerely,

E. O. Ogunleye

APPENDIX 1B

Questionnaire On Corporate Growth Determinants In Nigeria (1970-1985)

A. 1. Registered name of Company .....

2. Year of Establishment .....

3. Type of economic Activity engaged in .....

4. Location of Enterprise .....

5. Name of respondent .....

6. Status of respondent .....

B. (a) Please indicate the relative important of the following alternative business objectives for your Company (Please, tick the appropriate boxes).

Alternative business objective	Relative Importance			
	Very Important	Important	Unimportant	Very Unimportant
(i) To maximise the overall profitability	☐	☐	☐	☐
(ii) To maximise the level or rate of growth of sales	☐	☐	☐	☐
(iii) To increase the market size of your product	☐	☐	☐	☐
(iv) To diversify in order to reduce dependence on existing products	☐	☐	☐	☐

	Very Important	Important	Unimportant	Very Unimportant
(v) To increase the size in terms of net assets of the Company relative to others	☐	☐	☐	☐
(vi) Others (Please, specify)	☐	☐	☐	☐

(b) Have you had course to change emphasis from one particular objective to another since 1970? Please specify.

.....

.....

.....

.....

.....

2. (b) Please indicate the relative importance of the following possible influences on your Company's overall business objectives. (Please, tick appropriate boxes).

Influence of Company's Objective	Relative Importance: Very Important	Important	Unimportant	Very Unimportant
(i) Board Members' View/aspirations	☐	☐	☐	☐
(ii) Company's Chairman's Views/ aspirations	☐	☐	☐	☐
(iii) Views/aspirations of other employees	☐	☐	☐	☐

		Very Important	Important	Unimportant	Very Unimportant
(iv)	Conditions in your product(s) Market(s)	☐	☐	☐	☐
(v)	Specialist advice	☐	☐	☐	☐
(vi)	Opinion of major institutional shareholders	☐	☐	☐	☐
(vii)	Opinion of individual shareholders	☐	☐	☐	☐
(viii)	Government Policies	☐	☐	☐	☐
(ix)	General Economic conditions (recession, boom)	☐	☐	☐	☐
(x)	Others (please, specify)	☐	☐	☐	☐

3. Please indicate, for the period since 1970, how important each of the following has been as sources of growth in real terms for your company.

	Relative Importance			
Menas of Overall Growth	Very Important	Important	Unimportant	Very Unimportant
(i) Overall expansion of existing markets	☐	☐	☐	☐
(ii) Reorganisation of Management Structure	☐	☐	☐	☐
(iii) Diversifica				

		Very Important	Important	Unimportant	Very Unimportant
(iii)	Competitive action to expand market share in existing markets	☐	☐	☐	☐
(iv)	Diversification of product range through new product development	☐	☐	☐	☐
(v)	Diversification through Some other means (Please, specify)	☐	☐	☐	☐
(vi)	More intensive advertising	☐	☐	☐	☐
(vii)	Higher profit rates	☐	☐	☐	☐
(viii)	Other means (Please specify)	☐	☐	☐	☐

4. Please, indicate for the period since 1970, how important each of the following has been as hindrances to your growth in real terms.

	Relative Importance			
Hindrances to Growth	Very Important	Important	Unimportant	Very Unimportant
(i) Utility supply (i.e. water, electricity) shortages.	☐	☐	☐	☐
(ii) Spare Parts Problems	☐	☐	☐	☐

		Very Important	Important	Unimportant	Very Unimportant
(iii)	Inadequate demand of your product	☐	☐	☐	☐
(iv)	Shortage of raw materials	☐	☐	☐	☐
(v)	Personnel Problems (Please, specify e.gg too much external influence on Management, labour union activities, shortage of skilled-manpower.	☐	☐	☐	☐
(vi)	Technical know-how	☐	☐	☐	☐
(vii)	Inadequate finance (Please specify whether internal or external)	☐	☐	☐	☐
(viii)	Foreign competition	☐	☐	☐	☐
(ix)	Government Policies (please specify)	☐	☐	☐	☐
(x)	Political instability	☐	☐	☐	☐
(xi)	General economic conditions (e.g. recession, boom)	☐	☐	☐	☐

5. Please, indicate the relative importance of the following government policies in the realization of your overall company objectives (please, tick the appropriate boxed)

Relative Importance

Government Policies	Very Important	Important	Unimportant	Very Unimportant
(i) Pioneer status (the industrial Development (Income Tax Relief) Act, 1958, Decree No. 22, 1971)	☐	☐	☐	☐
(ii) Relief from Import Duties	☐	☐	☐	☐
(iii) Accelerated Depreciation on Capital Investments	☐	☐	☐	☐
(iv) Tariff protection	☐	☐	☐	☐
(v) The Nigerian Enterprises Promotion Decree, 1972	☐	☐	☐	☐
(vi) Others, (please, specify)	☐	☐	☐	☐

6. Please, indicate the equity participation of each of the following in your business organisation:

(i) Nigerian Government .....%

(ii) Nigerian Private Sector .....%

(iii) Foreign Investors .....%

7. (a) Has your company, at any time benefitted from the services of the following government owned financial institutions?

(i) The Nigerian Industrial Development Bank (NIDB) Yes ☐ No ☐

(ii) The Nigerian Bank for Commerce and Industry (NBCI) Yes ☐ No ☐

(b) If the response in 7(a) is No, please, indicate among the following alternatives the reasons for such a response.
(Please, tick the appropriate boxes)

(i) Lack of collateral security 

(ii) There are other cheaper sources of loans 

(iii) Your company does not depend on loans for expansion 

(iv) Others (Please, specify) 

8. How many times has your company improved on the quality of its products between 1970 and 1985?

9. Please, indicate what the general trends have been in regard to the degree of competition and profitability in your product markets between 1970 and 1985 (Please, tick the appropriate boxes).

(a) Trend in competition

Markets have become

(i) Much more competitive 

(ii) Fairly more competitive 

(iii) No change in competition 

(iv) Fairly less competitive 

(v) Much less competitive 

(b) Trend in Profitability

Markets have become

(i) Much more profitable 

(ii) Fairly more profitable 

(iii) No change in profitability 

(vi)
(iv) Fairly less profitable ▱

(v) Much more profitable ▱

10. Please, indicate the degree of centralization of your management structure.

Highly centralise ▱

Centralise ▱

Uncentralised ▱

Highly uncentralised ▱

11. Would you please complete these tables in regard of your Profit and Loss Account and your Balance Sheet for the period 1970-85.

PROFIT AND LOSS ACCOUNT

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Turnover																
Profit before Taxation																
Profit after Taxation																
Retained Profit																

BALANCE SHEET

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Fixed Assets																
Current Assets																
Current Liabilities																
Shareholders Funds																
Loan Stock																
Deferred Liabilities																

APPENDIX II

Regression coefficients of current size on previous size in respect of polled data for different size classes.

Dependent Variable	Independent Variable	Constant		r^2	F
$logNASM_{80}$	$logNASM_{74}$	4.544	0.664 (0.142)	0.294	21.701
$logNASM_{85}$	$logNASM_{79}$	8.576	0.951 (0.187)	0.428	4.878
$logNASM_{85}$	$logNASM_{74}$	27.716	0.302 (0.203)	0.526	57.722
$logNASL_{80}$	$logNASL_{74}$	0.437	0.841 (0.038)	0.947	93.722
$logNASL_{85}$	$logNASL_{79}$	0.493	1.238 (0.042)	0.942	85.023
$logNASL_{85}$	$logNASL_{74}$	0.116	1.066 (0.974)	0.974	198.571
$logNAML_{80}$	$logNAML_{74}$	1.192	0.917 (0.027)	0.973	188.810
$logNAML_{85}$	$logNAML_{79}$	0.230	1.229 (0.035)	0.939	1224.746
$logNAML_{85}$	$logNAML_{74}$	12.091	0.215 (0.031)	0.475	47.062
$logTNSM_{80}$	$logTNSM_{74}$	4.905	0.567 (0.082)	0.482	48.351
$logTNSM_{85}$	$logTNSM_{79}$	1.848	0.998 (0.128	0.537	60.428
$logTNSM_{85}$	$logTNSM_{74}$	0.409	1.122 (0.076)	0.805	214.428
$logTNSL_{80}$	$logTNSL_{74}$	2.501	0.855 (0.063)	0.778	182.890
$logTNSL_{85}$	$logTNSL_{79}$	2.996	0.966 (0.080)	0.639	92.054
$logTNSL_{85}$	$logTNSL_{74}$	0.861	0.930 0.049)	0.872	357.130
$logTNML_{80}$	$logTNML_{74}$	2.634	0.802 (0.076)	0.681	110.810
$logTNML_{85}$	$logTNML_{79}$	10.292	0.442 (0.05)	0.120	6.290
logTNML	logTNML	-2.857	1.305 (0.168)	0.536	60.209

Notes: 1. Standard Errors are in parentheses

2. Variables are defined to reflect the Size classes whose data are pooled. Thus:

NASM = Net Assets for Small and Medium
NASL = Net Assets for Small and Large
NAML = Net Assets for Medium and Large
TNSM = Turnover for Small and Medium
TNML = Turnover for Medium and Large

APPENDIX III

Distribution of Companies by Ownership Equity Participation (%).

Company	Nigerian Government	Nigerian Private Citizens	Foreign Investors
01	50	50	-
02	-	61.16[x]	38.84
03	-	60	40
04	100	-	-
05	90	-	10
06	100	-	-
07	-	60[x]	40
08	-	60	40
09	-	60	40
10	-	60	40
11	100	-	-
12	-	60	40
13	20	20	60
14	71	29	-
15	100	-	-
16	-	48.97	51.03
17	-	60[x]	40
18	-	60	40
19	-	100	-
20	-	100	-
21	-	60	40
22	-	60	40
23	-	60[x]	40
24	80	20	-
25	-	95	5
26	-	100	-
27	-	70	30
28	-	40	60
29	-	75	25

Company	Nigerian Government	Nigerian Private Citizens	Foreign Investors
30	-	60[x]	40
31	-	75	25
32	100	-	-
33	-	40	60
34	49	-	51
35	98	-	2
36	41	49	10
37	-	100	-
38	-	100	-
39	61	39	-
40	35	65	-
41	-	65	35
42	-	100	-
43	-	60	40

Note: x Figures include Government participation