VALUATION OF COMMON SHARES IN NIGERIA: EXAMINATION OF SOME FACTORS

BY

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DECLARATION

I hereby declare that this project has been composed by myself, and that it is a record of my own research work. It has not been accepted in any previous application for a higher degree. Homage has been duely paid to individuals whose work has aided my research. The various sources of information are clearly indicated in the references. Any error in the script is entirely my own.

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CERTIFICATION

This project titled " VALUATION OF COMMON SHARES IN NIGERIA " (EXAMINATION OF SOME FACTORS) BY ALIYU ABDULLAHI ZARIA meets the regulations governing the award of the degree of Masters in Business Administration (M.B.A.) of Ahmadu Bello University Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

THIS WORK IS DEDICATED

TO MY PARENTS AND FAMILY

ACKNOWLEDGEMENT

In a project of this type, it is impossible to handle it solely without the assistance of other persons. I wish to acknowledge the tremendous assistance and general guidance rendered by one of the hardest working lecturers and one of the few lecturers I have come across who is ever ready to give such helping hand to all students.-- Dr Sheikh Abdullahi.

My thank also goes to the officials of the National Securities and Exchange Commission and the Nigerian Stock Exchange both in Kaduna for their assistance in making some information available.

My sincere appreciation goes to Miss Mercy E. who did all the typing of the work.

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ABSTRACT

This work attempts a modest contribution to the understanding of the concept of valuation of common shares in Nigeria firms, It also attempts to assess the extent to which shares and securities in Nigerian firms are valued through financial markets and as a basis of investment analysis.

The interest of the author on this subject is attracted by the fact that the rate at which public invest in firms shares and securities is very alarming. This is assumed to be as a result of inadequacies in managerial capacity of firm, ineffectiveness of the Nigeria stock exchange as a regulator of securities / shares in trade and the indecision of the investors as when, who, and where to invest.

To carry out this work guided interviews and observation methods were used. The respondents include NSC's official (Kaduna Office) and some share holders of some companies. The facts gathered and analysed from the respondents indicate a very low level of understanding on the part of the share holders and poor application of marketing concept by both the NSE and the firms.

It is therefore felt that the following recommendation be made to achive proper understanding of the concept and proper application of the models.

(i) Try to achieve managerial capacity by making emphasis on marketing concept rather than selling concept.

(ii) The N S E should make relevant information available for participants at all times, easy read and use.

(iii) There should be an education drive to make people aware of the work of the stock exchange and how it can be used.

(iv) That wee

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CHAPTER ONE

1.1 INTRODUCTION

Naturally, the objective of investors in putting their money in a business is to secure income from such business; on the other hand, the financial maximisation of owner's economic welfare.

However, there is a disagreement as to how this then could be achieved. The two well known and widely discussed criteria are;

a. Profit Maximisation
b. Well Maximisation

PROFIT MAXIMISATION

Accoding to Pandy, traditionally, the business has been considered as an economic institution. As such, it has developed a common and unique measurement of efficiency, viz.,[1] profit; Frequently, maximisation of profit is regarded as the proper objective of the firm, but it is not as inclusive a goal as that of maximising shareholders wealth. Therefore, it is plausible to assume profit maximisation as a natural business objective. The appropriatness of this objective is justified on any of the following counts:[1]

(a) A human being, performing any economic

activity rationally aims at utility maximisation. It is argued that utility can be easily measured in terms of profit. Thus profit maximisation can be justified on the ground of rationality.

(b) Profit maximisation ensures economic natural selection and in the ultimate end only profit maximisers survive.

(c) The firm by pursuing its objective of profit maximisation, also maximises social economic welfare.

(d) A free competitive capital market, in spite of the absence of competition in product markets, will allocate monopoly rights over capital to those who can use it most profitably. Thus, profit maximisation will be a motive force to acquire the monopoly powers in the imperfect product market.

With the above arguement in favour of profit maximisation as a correct objective of a firm, a lot of criticism have been leveled against this, some of which are:-

(a) That profit maximisation is a consequence of perfect competition, and in case of imperfect modern markets today it cannot be a legitimate object of the firm.

(b) It is argued that profit maximisation as a business objective, developed in the early 19th century, when the characteristic features of the business structure were self-financing, private property and single enterpreneurship. The only aim of the single owner was to enhance his individual wealth and personel power, which could easily be satisfied by the profit maximisation objective. However, the modern business environment is characterised by limited liability and a divorce between Management and Ownership. The business firm today is financed by owners the share-holders of its equity capital and outsiders (Creditors) and controlled and directed by professional management. The other interested parties connected with the business firm are customers, employees, government, and the society. In this changed business structure the owner manager of the 19th Century has been replaced by professional manager who has to reconcile the conflicting objectives of all the parties, connected with the business firm. In this new business environment, profit maximisation is regarded as unrealistic, difficult, inappropriate and immoral.[2]

Apart from the aforesaid objections, profit maximisation has been rejected as an operational criterion for maximising the owners' economic welfare. It fails to provide an operationally feasible measure for ranking

alternative courses of action in terms of their economic efficiency[3]. It suffers from the following limitations.

i. It is vague

ii. It ignores the timing of returns

iii. It ignores risk.

The precise meaning of profit maximisation objective is unclear. The definition of the term profit is ambiguous. Does it mean short term profits or long term profits?. Does it refers to profit before or after tax?. Total profit or profit per share?. Does it mean total operating profit or profit to common share holders?.

The profit maximisation objective does not make distinction between returns received in different time periods. It gives no consideration to the time value of money and values benefits received today and benefits after a year or more as same.

Let's suppose that maximising profit means maximising profit after taxes. In the sense of net profit as reported on the profit and loss account of the firm. It can easily be realised that maximising this figure will not maximise the economic welfare of the owners. A firm could always raise total profit by issuing additional common shares and investing the proceeds in low yielding assets.

such as government bonds. Profit after tax would go up, but earnings per share would go down.

If we adopt maximising earnings per share as the financial objective of the firm, this will also not ensure the maximisation of the owners, economic welfare. Maximising earnings per share also suffers from the flows always mentioned, that is, it ignores timings and uncertainties of the expected benefits. Apart from these problems, maximisation of earnings per share has certain deficiencies as a financial objective. It implies that market value of the company's shares is a functions of earnings per share, which may not be true in many instances. If market value is not a function of earnings per share, then maximisation of the latter will not necessarily result in the highest price for the company's shares. Maximisation of earning per share further implies that the firm should make no dividend payments so long as funds can be invested internally at any positive rate of return, however small. Such a divident policy may not always be to the shareholders' advantage.

Above is a demonstration that the maximisation of profit as a firm's financial objective fails to maximise the economic welfare of the share holders. This method takes no account of timing and uncertainty of the benefits. An alternative to profit maximisation, which solves these problems, is the objective of wealth maximisation.

WEALTH MAXIMISATION

The use of wealth maximisation or net wealth maximisation objective has been advocated as an appropriate and operationally feasible criterion to choose among the alternative financial actions. According to Ezra Solomon, it provides an unambiguous measure of what financial management should seek to maximise in making investment and financing decisions.[4] He described wealth maximisation objective as:-

> " The gross present worth of a course of action is equal to the capitalised value of the flow of future expected benefits discounted at a rate which reflects their certainty or uncertainty. Wealth or net present worth is the difference

between gross present worth and the amount of capital investment required to achieve the benefits. Any financial action which creates wealth or which has a net present worth above zero is a desirable one and should be pursued. Any financial action which does not meet this test should be rejected. If two or more desirable courses of action are mutually exclusive (that is, if only one can be undertaken), then the decision should be to do that which creates most wealth or shows the greatest amount of net present worth.

In short, the operating objective for financial management is to maximise wealth or net present worth[5]

The net present value (worth) or wealth can be defined more explicitly in the following way:-

$$W = \frac{A_1}{(1+K)} + \frac{A_2}{(1+k)^2} + \ldots\ldots + \frac{A_n}{(1+k)^n} - C$$

$$= \sum_{t=1}^{n} \frac{A_t}{(1+k)^t} - C$$

Where $A_1, A_2,$ = stream of benefits expected to occur if course of action is adopted.

C = the cost of that action

k = the appropriate discount rate to measure A's.

W = the net present worth or wealth net which is the difference between the present worth of the stream of benefits and the initial cost.

The firm should adopt the action only when W is positive.

The objective of wealth maximisation helps to resolve the two problems encounted in the profit maximisation objective. These are the considerations of the time value of money and the problem of handling uncertainty of expected benefits. This problem is overcome by the selection and introduction of appropriate rate of discount and using this rate to discount the expected flow of future benefits.

The wealth maximisation objective is consistent with the objective of maximising the owners economic welfare. Maximising owner's welfare is equivalent to maximising the utility of their consumption overtime. With this, the owners can adjust their fund flow in such as way as to optimise their consumption. The wealth of shareholders is reflected by the market value of the company's shares. Therefore, the wealth maximisation objective implies that the financial objective of a firm should be to maximise the market value of its shares.

The implications of wealth maximisation are that apart from handling the question of quality dimension and time dimension, it also maximises the owners economic welfare as well as being consistent with the diverse interest of all other parties concerned in a business firm. These other interests can be briefly outlined as:

Suppliers of loan capital. These people include trade creditors, debenture holders, commercial banks, and financial institutions. They make available to the firm short term and long term loan capital. It is in consonance with their interest because they are entitled to fixed rate of interest and have a prior claim on the company's earnings and assets. The shareholders are entitled to residual earnings, so if the firm pursues the policy of maximising the owner's wealth, the position of the suppliers of loan capital is safe.

Employees. It is said that the objectives of the employees is to maximise their benefits which are both monetary and non-monetary. The cost to the company is monetary. For the firm to maximise the wealth of the owners, it has to pursue a policy of maximising labour productivity and efficiency. This imples maximisation of corporate efficiency which is directly and positively correlated with high labour productivity. The high labour productivity and efficiency will only be as a result of a very good condition of service for the employees in terms of good pay, better working environment and more incentives for good performance. This will meet the employees monetary and non-monetary needs in the firm.

To the society, the social benefits will be maximised if the society's resources are optimatly allocated to achieve wealth maximisation objective. This objective is in agreement with society's view that resources should be allocated to those directions in which they have been or would be productive, and the very definition of wealth maximisation by Exra Solomon in which he stated that a course of action (or resource allocation) should be pursued only when worth or present worth of the benefit is positive.

MANAGEMENT

The Management in whose hands lies the decision taking

authority has the unenviable job as reconciling the conflicting objectives of these parties. The survival of management will be threatened if the objective of any of these parties is not satisfied. The management will survive only when all the group interest have been duely satisfied. And by the wealth maximisation objective, as shown above, management will be able to meet all the groups' interest and this will be in consonance with the management objective, reign and survival.

Having discused and accepted wealth maximisation as an appropriate and operational objective of a firm, we are now faced with the financial decision a firm has to take to achieve the wealth maximisation objective, the firm has to look and consider critically the following decision areas:

(a) Financing decisions

(b) Investment decisions and

(c) Divident decisions.

This work will be limited to the discussion of only one of the above decision areas, and this is the divident decision area.

Dividents

The definition of divident cannot adequately be given until profit from which divident is declared is explained. Profits which are legally distributable.

It is said that directors may be held liable to personally repay and dividends made otherwise than out

of profits and therefore the definition of profits and any restriction on their legality of distribution are rather important. Unfortunately the law on this subject is not completely straight - ferward.

The profit for a period may be described as the excess of income over expenditure incurred in earning that income after making good any loss in value of fixed assets or current assets similarly incurred.

A definition offered by Lord Justice Fletcher Moulton in 1911 when the Court of Appeal was concerned with the case of the Spanish Prospecting Co. Ltd. was as follows;[6]

> " If the total assets of the business at the two dates be compared the increase which we show at the later date compared with the earlier date (due allowance, of course, being made for any capital introduced into or taken out of the business in the meanwhile) represents in strictness the profits of the business during the period in question". He went on to say that'I will have it clearly understood that these remarks have no bearing on the vexed question of the fund out of which dividends may be legally paid in limited companies".

Cases such as Verner Vs General and Commercial Investment Trust and Lee Vs Neuchatel show that this fund may in some cases be larger than what can rightly be regarded as profits, and the decisions in these cases depend largely on the fact that there is no statutory enactment which forbids it to be so.

The cases to which his Lordsip referred together with a number of other cases have established certain principles concerning the legal meed to provide depreciation before paying a divident. These principles can be summerised as follow:-

i. Any depreciation of current assets must be made good before a divident is paid. (Verner V. General and Commercial Investment Trust Limited., 1894; Bond V Barrow Haematite Steel Co. Limited, 1902

ii. Any depreciation in value of fixed or wasting assets need not necessarily be made good before a dividend is paid but assets sufficient to pay liabilities must be retained. (Lee V Heuchatel Asphalt Co. Limited., 1892, Verner V General and Commercial Investment Trust Limited., 1894 Wilmer V McNamara And Co Limited., 1895). However, each case should be judged by reference to its own particular circumstances and the memorandum and articles of the Company concerned.

The question whether surpluses recorded from the sale of assets under or during inflation can be distributed as divident has been helped by the cases of Lubbock V British Bank of South America, 1892 and Foster V the new Trinided Lake Asphalt Co. Limited, 1901. These cases established that the following conditions must be satisfied before such a surplus can be distributed.

a. The surplus is realised, and
b. it remains after all the assets have been revalued, and
c. the distribution of the surplus is permitted by the Articles.

Although condition one was upheld as recently as 1960 the decision in the case of Dimbula Valley (Ceylon) Tee Co. Limited V January 1960, conflicted with this condition and the Jenkins Committee, recognising that the Law needed clarification and recommended that this be done in the next Company Act.

Dividend then may be defined as that part of a firm's profit declared as available for distribution to shareholders at the end of an activity period. The usual practice in dividend distribution is for it to be made in case.

Other options for distribution of dividend is also open to the firm. This option is the stock dividend. There is also stock split which is not necessarily a form of dividend but its general effect is the same as that of dividend.

1.2 SOME FORMS OF DIVIDEND

Cash Divident

The usual method of dividend payment by most company is by the cash method. By cash dividend, it is meant when cash is paid to shareholders at the end of an activity period as a form of profit distribution in proportion to each investors holding in the firm. For this to be possible, the firm must have enough cash available in the bank. Where there is a shortage of cash, overdraft facilities have to be arranged or other forms by which cash can be raised should be pursued.

Where the company has a stable dividend policy, this can be incorporated in the cash budget making provision for the payment of dividends at the end period or whenever the directors say. Where the dividend policy is unstable this becomes very difficult. The effect on the balance sheet when cash dividend is paid is that the cash account and the reserve account is reduced. Thus, both the total assets and the net worth of the firm are

reduced when cash dividend is distributed. The market price of the share drop in most cases by the amount of the cash dividend distributed[7].

Stock Dividend

This represents a distribution of shares in lieu of or in addition to the cash dividend to the existing shareholders. The effect of this is that the number of outstanding shares in the firm is increased. The number of common shares is increased and the reserve and surpluses reduced. The total net worth is not affected and this method of paying dividend represents the capitalisation of owners' equity portion. This distrinution of stock dividend is carried out in proportion of shareholders investment in the firm. At the end of this each investor retains his initial proportionate ownership in the firm.

ADVANTAGES OF STOCK DIVIDEND

On the face of it, the stock dividend does not affect the wealth of the shareholders but the following benefits accrue:

a. Tax Benefit

One of the benefits of stock dividend is the non-payment of income tax on it. If cash dividend is paid, this forms part of the income of the recipient and is

subject to income tax. When stock dividend is paid this is not so. The investor can then sell the shares received as dividend as only be charged the capital gain tax which is usually lower than the income change.

b. Future dividend may increase

If a firm has a policy of stable dividend and has been distributing cash dividends in the past, a distribution of stock dividend will mean a higher cash dividend when next the dividend is declared.

c. Psychological Value

It is said that the declaration of the stock dividend may have a favourable psychological effect on the shareholders. The receipt of stock dividends gives then a chance to sel the shares to make capital gain without inpairing their principal investment. They also associate the declaration of the stock dividend with the prosperity of the firm. Because of these positions aspects of the stock dividend, it is usually received positively by the market. The sale of shares, received by way of the stock dividend, by some share holiers widens the distribution of the firm's shares. This tend to increase the market interest in the firm's shares, thus reaising its market price[8].

Some advantages also accrue to the firm when stock dividends are distributed. The following are some of them.

i. Conservation Of Cash

The declaration of stock dividends without using that may be needed to finance the investment opportunity within the firm. There is always this need to declare dividend and at the same time the need to reinvest firm's profit in profitable venture. The two are very important but conflicting. The declaration and distribution of stock dividend dividend is a compromise position to take that satisfies both needs.

ii. The stock dividend method is another way for a firm to maintain the confidence of the share held or when it is not able to pay cash dividend due to cash shortage or entering a contructual agreement which forbids the payment of cash dividends.

iii. Another advantage of stock dividend to the firm is that it helps it to bring or keep down share prices to a reasonably and attractive for small investors. If the market price of the shares is very high, the trading activities is affected but with the declaration of stock dividends some investors might decide to sell off the stock dividend to get cash and at the same time take advantage of the capital gain tax. This will drive down the price of the prices of the shares and the trading activities will improve.

DISADVANTAGES OF STOCK DIVIDEND

To the Shareholders. The stock dividend as have been explained before has no effect on the capital employed or net asset of the firm thereby resulting in no actual gain to the shareholders. In short, declaration of stock dividend does not affect the wealth of the share holder. It only divides the ownership of the firm into a large number of share certificate. In the words of porterfield, 'stock dividends represent simply a division of corporate pie into a larger number of pieces.[9]

To the Firm. The principal disadvantage of stock dividends to the firm is that they are much more costly to administer than cash dividends.[10] The stock dividend can be disadvangageous if the firm declares period small stock dividends. The investment analysts do not adjust the earnings per share for small issues of stock dividend.

When earning per share are not adjusted from small stock dividends, the measured growth in the earning per share will be less than the true growth based on the adjusted earnings per share. As a result, the price-earnings ration would be distored downwards.

1.3 STATEMENT OF THE PROBLEMS

Recent events shows that the rate at which public invest in firms shares is very alarming, therefore the problems of this research are broadly as follows:-

a. How do the operation of Nigerian firms induce the investors to invest in their securities.

b. How effective is the stock exchange in its role as an arbitraitor in the valuation of shares and in the distribution of maximised profit to share holders when they are due.

c. How do investors make their decisions as regard quoted securities (purchase of shares)

1.4 AIMS AND OBJECTIVES

The area of financial management that deals with valuation of shares and management has provoke so such-controversy among the academicians and professionals. The aim of this work (Project) is not to engage in the on-going debate on the said topic, but to study valuation of common shares in details in an attempt to understand the working of the whole principles of valuation of shares in Nigerian firms. (Application in Nigeria)

The discussion of valuation of common shares and its examining factors/methods without due consideration of Dividend Policy and its effects on the value of the firm's shares under different circumstances and different purposes cannot be completed.

The studies will go into analysis of the concept of valuation of the firms, and also a study of the theory of capital structure and its relevance for valuation of firms will be looked into. And what influences the appreciation of the shares of the firm. This work's ultimate objective is to attempt to examine:

i. The relevance of or other wise of theories to actual practice in Nigeria.

ii. The relevance of or otherwise of Dividend decision, capital structure, investment decision, as examining factors on valuation of firm's shares (as quoted in the Nigerian stock exchange).

iii. The reliability of values attached to quoted firm's shares at the Nigerian stock exchange.

Apart from these above, this paper attempts to pin-point the short comings of the N.S.E.C. guide lines on valuation of common shares. This paper also attempts to show that only real market price of any quoted firm's shares can be determined by the force of Demand and Supply.

1.5 SCOPE OF THE STUDY

This project is to Study the different ways by which common shares can generally be valued and how prices are fixed in Nigeria and extent to which dividend policy affects these.

1.6 METHODOLOGY OF THE STUDY

The data was gathered through interview drawn orally. Theories on the general concept of valuation of firms are examined as well as analysis of dividend policy as a fundamantal factor of valuation of firms shares. Dividend policy and its relationship with other valuation models was also examined.

1.7 LIMITATIONS OF THE STUDY

It is good to accept that not all objectives of this study could be fully achieved due to a number of possible contraints and limitations.

1. Time

The study is for a short period of time within which one is expected to collect, write and analyse data collected and submit typed copies to the department.

The time period is not long enough to conduct good research on the kind of project.

ii. Accuracy

As the project is concerned with the study of the firms value and decision to invest. It is impossible to achieve absolute mathematical accuracy.

iii. Finally, the interviews etc. had to be conducted by self in most instances the officials to be interviewed were reluctant to the question asked

1.8 SIGNIFICANCE OF THE PROJECT

This project attempts a modest contribution to the understanding of the concept of valuation of common shares and pain-point the lapses of the N.S.E.C's guide lines. This work also provide a yard stick to the understanding of the meaning of common shares and their valuation.

1.9. DEFINITION OF CONCEPTS AND TERMS

Accounting rate of return:

Accounting rate of return is a project's average income after-taxes divided by the project's original cost. Sometimes, average income after-taxes is divided by the average investment

that is original cost divided by two. This is a capital budgeting method and is also called the average rate of return method.

Book Value

The value of an asset as shown in the accounting books. The book value is of a common share is equel to the net worth (paid - up capital plus reserves and surplus) divided by the number of common shares outstnding.

Capital

The term capital in financial management means total funds invested in the business.

Capital Gains

Gains on the sale of assets that are not held for resale as inventory.

Capital Structure

The inter-relationship between long-term sources of financing represented by long-term debt, preference share capital and net worth (ordinary share capital plus reserves and surplus). Sometimes a distinctions is made between capital structure and financial structure; the later term includes current liabilities also.

Capitalisation Rate:

A rate of discount used to find out the present value of a series of future cash receipts.

Certainty Equivalents

The amount of cash (or rate of return) that some one would required with certainty to make him indifferent between this certain sum (or rate of return) and a particulacly uncertain, risky sum of cash (or rate of return) and a particularly uncertain, risky, sum of cash (or rate of return).

Debt Ratio

Debt divided by total assets or total capital.

Degree Of Leverage

The percentage increase in profits resulting from a given percentage in sales. The degree of leverage may be calculated for financial leverage, operating leverage operating leverage, or both combined.

Discount Rate

The rate used in the discounting process. Some time called capitalisation rate.

Discounting

The process of finding the present value a series of future cash flows. Also called present value analysis. Discounting is reverse of compunding.

Dividend Yield

The ratio of current dividend divided by the current market price of a share.

Equity

The net worth of a business, consisting of share capital, share premium and reserves and surplus. Common equity is that part of the total net worth that belongs to common shareholders. Total equity will also include preference share capital. However, the terms "Net Worth", "Common Stock", "Common Equity" and "Equity" are frequently used interchangably.

Financial Leverage

The magnification of returns to common shareholders through the use of debt. The process of magnifying the shareholders' earning by the use of debt it also called trading on equity.

Financial Management

Managing the funds of the firm most wisely with a view to maximise the wealth of shareholder.

Financial Objective

The Financial Objective refers to the aim at which the financial decisions should be directed. The most commonly advocated financial objective is to maximise the wealth of shareholders.

Financial Risk

The common shareholders' risk resulting from the use of debt. Debt causes financial risk by increasing the variability of the shareholders' return and

threatening the solvency of the firm.

Floatation Cost

The costs of marketing new securities.

Going Concern:

The value of the firm derived from the earning power of its assets.

Internal Financing:

Funds made available for investment in fixed assets or current assets through the normal operations of the firm, internal financing is approximately equal to retained earning plus depreciation.

Net Book Value

The unexpire cost of an asset carried in the accounting records, it is original cost of the assets less depreciation charged to date.

Net Present Value Method

A capital budgeting technique in which an investment project is accepted only if the net present value is equal or the difference between the present value of future cash flow, discounted at the marginal cost of capital, minus the present value of the cash outlay of the investment project.

Net Worth:

This is the wealth of the shareholders at book value. It is the difference between total assets (excluding intangible assets and accumulated losses and expenditures) and total liabilities.

Owner's Equity

Owner's equity consists of the contributed capital (paid up an premuym) and retained earnings, Owners' equity is generally on book value basis.

Par Value

The nominal or face value of a share or debenture.

Reinvestment Rate:

The rate of return at which cash flows from an investment are reinvested.

Weighted Average Cost of Capital:

The average cost components of capital, weighted by their relative proportion in the capital structure. Also called the composite cost of capital.

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CHAPTER TWO

2.1 BROAD CONCEPTS OF VALUATION OF FIRMS

It is generally agreed that the financial objective of a firm should be to maximise the market value per share. This calls for an acceptable model for share valuation so that the growth or decline of of company shares can be monitored by interested parties. The valuation model should not only take into consideration the expected returns but should also consider the uncertainty inherent in such future returns. The model therefore, should be expressed in terms of the influences of the financial decisions on the market price of the shares.

Such a valuation model which interelates the investment, financing and dividend decisions may be expressed as follows.[1]

$$V = f(r, \sqrt{\ }) = g(I, f, D)$$

Where V represents the market value per share, r and $\sqrt{\ }$ respectively are the firm's investment, financing and dividend decisions. The second equation explicitly shows that value of a share is a function of the firm's risk-return character, which

in turn, is a function of its investment, financing and dividend decisions. The advantage of value model, such as the one shown above is that it adequately considers those factors which influence the market price of a firm's shares.

2.2 CONCEPT OF VALUE

The term value is usually used to connote different meaning. The different meanings of value are important for different purposes.

The value of an asset to a firm is the revenue generating ability of that asset. Value is a function of cash inflow and their timing and risk. When the cash inflows are discounted at an appropriate or required rate of return to account for their timing and risk, we get the value or more appropriately the present value of the asset. This present value may also be referred to as fair or intrinsic value or true value..

The market value of an asset or security is the current price at which it can be sold. The firm will be having two market values - a liquidating value and a going concern value. Only the higher of the two is generally referred to as the market value.

Generally, the market value of shares should depend upon the firm's returns, that is cash inflows and their timing and risk. If the market correctly forecasts

the firm's future cash inflows and other information, there should not be any difference between the market value per share and the intrinsic value per share. The shares would be stated to be over valued when the intrinsic value is greater than the market value, and one may purchase the shares in the hope that market would soon recognise the true value of the shares.

On the other hand, if the market value is greater than the intrinsic value, the particular shares would not be purchased by the investors as it is undervalued.

VALUATION OF COMMON SHARES

The value of common shares is more difficult than valuation of preference shares and valuation of bonds or debentures. This difficulty is attributed to two factors:

i. The estimates of the amount and timing of the cash flow expected by investors are more uncertain. In the case of debentures and preference shares, the rate of interest and dividend is known with relative certainty. Therefore, it is easy to make forecasts of cash flows associated with them.

ii. The earnings and dividends on common shares are generally expected to grow, unlike the interest on debentures and preference share dividend. This future of common shares makes the calculation of share values difficult.[3]

2.3 FORMS OF SECURITIES

There are principally two forms of securities used for the purpose of raising funds through the stock exchange . These are debt and equity securities. This classification is however very broad. Therefore we break it into another sub-classification in each class. In the debt class we have Bonds and Debentures; In the equity class we have common stocks. Preference share are a hybrid form of security with both debt and equity characteries. Therefore, it will be wrong to group it under debt or equity in sale work.

a. COMMON STOCKS OR EQUITY SHARES

The term common stocks refers to ordinary shares issued by a company. It is some times referred to as equity shares of the firm. There are various types of equity shares or ordinary shares issued by company which includes category A.and B. However for the purpose of this study, we take all of these collectively we do not distinguish one from the other.

Common stocks or ordinary shares represent ownership in the firm. Common stock holders of a firm are its residual owners.

Together, they own the firm and assume both rights and obligations associated with ownership. These security entitled its holders to claims on earnings and assets after the claims of debt holders and preference stocks are satisfied.

It is worth noting that common stock does not have a maturity date funds invested then are to be repaid but exist as long as the firm itself exist. They do not either have an upper bond on its devidend payment, which they receive as return for their investment.

Common stock holders assume the ultimate risk, and liability associated with ownership. Their liabilities however is restricted to the amount of their investments. Thus, they can not loss more than the value of shares they hold. In the event of liquidation, these stock holders receive their investments when and only if claims of the debtholders and preference stock holders have been satisfied.

RIGHTS OF COMMON STOCKS HOLDERS

Since common stocks represents ownership in the firm holders of this type of securities have several rights attached to them, these includes.

i. Right to income: Holders of common stocks have the right to share in the earings of the firm which

are distributed as dividends. However, this right can only be exercised when and if dividends are declared by the board of directors of the company.

ii. Voting rights: The common stock holders as owners of the firm, are entitled to elect board of of directors of their firm. Although there are exceptions, each share of common stock is entitled to one vote and this is the only security that carried the right to vote. Their voting right is not restricted to voting in board of directors but also includes the approval of any changes in the corporate chater. A typical chater change might involve the authorisation to issue new stocks or increase the capital base of the firm or perhaps a Manager's proposal.

iii. Right to appoint Proxies: A common stockholder has the right to appoint a proxy to exercise his voting right for him.

b. BONDS AND DEPENTURES

Essentially a bond is a long term promisory note issued by a firm or Government. It is simply an " I owe You". Bonds represent a formal legal evidence of debt and are senior securities of the issuer. Each bond is a part of a group of bonds issued under one indenture; which have the same rights

and protection. Bonds pay a stated rate of interest usually semi-annually and are retured at their maturity. It is therefre a form of fixed interest investment to the investor.

Bond are further sub-divided into several forms which includes: Mortgage bonds, Income Bonds, Convertible Bonds etc. However with respect to the investing setting of Nigeria, these sub classification is not important as they are normally not divided into classes as aforesead it should be noted that bonds differs according to their terms. Concerning repayment security pledged, interest return and other technical ties.

Each bond issue has a lot of features attached to it. These features includes;

(a) Coupon rate: This refers to the interest rate payable on the bond. It indicate what percentage of the per value of the bond that will be paid out annually as interest. Thus whatever happens to the issuing firm, this percentage is paid to the investor.

(b) Maturity: Every bond states in clear terms the date of maturity of the instrument. This therefore indicate the length of time that the nond will last before it is retured by the issuer.

(c) Par Value: The par value of a nond is the faces value appearing on the nond that is returned to the holder at maturity. Most bonds have a per value of ₦100.00 in Nigeria with only a few with par value of more than ₦400.00. These includes seven-up Bottling Company Plc 1995/1997 Redeemable Debenture stock (RDS) with a par value of ₦1000.00, British - American Insurance Coys mottgage debenture stock 1994/2005 with also ₦1000.00

(d) A Trustee: A truetee is a third party with whom a bond contract is made. The trustee usually a banker ensures that the issuing firm keeps to its promises contained in the bond indenture. The trustee acts for the investor to guide and protect him of this rights, even though he is choosen by the issuer of the security in question.

(e) Security: This states the asset of the firm that secures the bond issues. This could be either on a just or second charge which may or may not rank paripassu with other debt obligations of the issuer.

(f) Call Provision: This may or may not be included in the indenture. This provision allows the debtors to redeem or call the bonds a a specified amount(usually above par) before the maturity date.

Investment in bonds is an attractive investment particularly because of following reasons:

i. Certainty of yields and return: The investor is certain as to when and how much be will receive as returns on his investment. He is also certain as to the final date when his money invested in the security, shall be returned.

2.4 DIVIDEND CAPITALISATION - THE BASIC VALUATION MODELS

The valuation of share also falls within the general principles of valuation. The value of a share today is a function of the cash inflows expected by the investors and the risk associated with the cash inflows. For common shares, the expected cash inflows will consist of the stream of dividends expected to be received by the holder and the share price he expect to obtain when he sells it. The price which the holder expectes to get when he sealls will include the original investment and a capital gain or a loss. It has been observed that holders of common shares after receiving a stream of dividends sell off their holding to take advantage of capital gains on the shares. When he sells the share, the buyer is also purchasing a stream of future dividends and a terminal price when he sells the share.

From this behaviour, it has been concluded that for share holder in general, the expected cash inflows consist only of future dividends and therefore, the value of a common is determined by capitalising the future divident stream at an appropriate rate of discount. Thus the value of a share is the present value of its future stream of dividends.

This can be demonstrated as follows: Supposing an investor buys a share to hold it for one year and then sell. The value to him is the present value of dividend at the end of one year plus the discount value of the price he expects to receive on selling the share thus:-

$$P_o = \frac{D_1}{(1+k)_e} + \frac{P_1}{(1+k)_e}$$

Where P_o = Price per share today

D_1 = Dividend per share at the end of first year

P_1 = Price of share at the end of first year

K_e = The required.

If the investor who purchases the share for P_1 at the end of first year, will hold it for three years and than sell. The value of the share to him tody will be the discounted stream of future devidends and the discounted terminal price. Thus;

$$\frac{P_1}{(1+ke)} + \frac{D_2}{(1+ke)^2} + \frac{D_3}{(1+ke)^3} \quad \frac{D_4}{(1+ke)^4} \quad \frac{P_4}{(1+ke)^4}$$

The determination of the price at the end of fourth year and all future prices are carried out the dame way. The general formula for determination of the value of the share at the present time can be expressed as follows:-

$$P_0 = \frac{D_1}{(1+ke)} + \frac{D_2}{(1+ke)^2} + \frac{D_3}{(1+ke)^3} + \cdots \frac{D_n}{(1+ke)^n}$$

$$= \sum_{t=1}^{\infty} \frac{D_t}{(1+ke)^t}$$

From the equation above, it is quite obvious that the present value of the share is equal to the capitalised value of an infinite stream of dividends. In the equation Dt is the expected dividend which the investore estimated are likely to be paid in furture years. These estimate are based on their respective probability distribution. thus, the Dt are the expected values of these probability distributions.

ZERO GROWTH

In the real world, dividends may remain steady from one period to another, grow or decline depending on the economic and general commercial environment of the period and the earning capacity of the enterprise. Where the dividends do not grow but rather remain constant that is

$D_1 = D_2 = D_3 \ldots\ldots D_n$. A constant stream of dividends would be capitalised at an appropriate rate. Thus, the equation will become;

$$P = \frac{D}{ke}$$

GROWTH DIVIDENDS - NORMAL GROWTH

As observed above, the assumption that dividends remain constant is unrealistic. The earning and dividends of most firms grow over time, at least, due to their retention policies. According to Randy, historical evidences indicate that most firm have been retaining a substantial portion of their earning for reinvestment in the business.

This policy will increase shareholder's equity as well as the firms earning and if the number of shares remain constant, this policy tend to increase earnings per share and consequently, an expanding stream of dividend per share.

This can be demonstrated and reduced to an equation: " If we assume that the firm retains a constant proportion of its annual earnigs, B, every year and reinvests it at the internal rate of return r, then the firm's equity and dividends will grow at a constant rate, br, = g. To illustrate, suppose that the total assets of the firm,

A_0 are financed by equity funds alone and that the firm earns a rate of returns r, on its assets. The earnings of the firm in the initial year will be $E_0 = rA_0$. If the retention ratio is, b, the current dividend would be, $D_0 = (1 - b) E = (1-b) rA_0$. The firm's earning in the following year will consist of (1) the earning on the original investment, rA_0, plus (ii) the earnings on the reinvested amount rb $E_0 = rbrA_0$. Thus the total earning in the following year will be $E_1 = rAb_0 = rA_0 (1+br)$ or $E_0(1+br)$. or (1+br). The growth in dividend[4] is

$$g = \frac{D_1 - D_0}{D_0} = \frac{(1-b) E_0 (1+br) - (1-b) E_0}{(1-b) E_0}$$

$$g = \frac{(1-b)E_0 (1+br-1)}{(1-b)E_0} = br.$$

Having established the growth dividend, it can be incorporated into the general formula for determing the value of the share. Pandy worked this in the following way. Assuming that dividends of a firm are expected to grow at a constant rate, g. If the firm pays D_0 dividend in the first year, the dividend at the end of the second year will be; $D_2 = D_1 (1+g)$ or $D_0 (1+g)$ and dividend at the third year will be $D_3 = D_2 (1 + g)$ or $D_1 (1+g)$.

This can be calculated for any number of years

required by the analyst. Therefore, the present value of the share will be the capitalisated value of all furture dividends;

$$P_o = \frac{D_1}{(1+ke)} + \frac{D_2}{(1+g)} \frac{D_3}{(1+ke)^3} + \ldots\ldots$$

Since $D_1 = D_o(1+ke)$, $D_2 = Do(1+g)^1 \ldots\ldots\ldots +$ we can substitute D_1 D_2 D_3..... in the above equation

$$P_o = \frac{D_o(1+g)^o}{(1+ke)} + \frac{D_o(1+g)^1}{(+ke)} + \frac{D_o(1+g)^2 \ldots +}{(1+ke)}$$

This can be rewritten in the following way:

$$P = \sum_{t=1}^{\infty} \frac{D_o(1+g)^{t-1}}{(1+ke)t}$$

Solving for the above equation, we have

$$P_o = \frac{D_o(1+g)^o}{(1+ke)} \quad \frac{D_o(1+g)}{(1+ke)} \quad \frac{D_o(1+g)^2 \ldots\ldots +(A)}{(1+ke)}$$

by multiplying this equation by $(1+g)/(1+g)$, we obtain;

$$P_o = \frac{(1+g)}{(1+ke)} = \frac{D_o(1+g)^2}{(1+ke)^2} + \frac{D_o(1+g)^2}{(1+ke)^3} + \frac{D_o(1+g)^3}{(1+ke)}$$

$\ldots\ldots(b)$

subtracting equation b, from a we have;

$$P_o - P_o \frac{(1+g)}{(1+ke)} + \frac{Do(1+g)^o}{(1+ke)} = \frac{D_o}{(1+ke)}$$

$$\left\{\text{Since } (1+g)o = 1\right\}$$

$$P_o \left(1 - \frac{(1+g)}{(1+ke)}\right)$$

$$P_o \left(1 - \frac{(1ke - 1 - g)}{(1+ke)}\right) = \frac{Do}{1+ke}$$

$$P_o = \left(\frac{Do}{1+ke}\right) \times \frac{(1+ke)}{(ke-g)}$$

$$P_o = \frac{D}{ke-g}$$

This means that the present value of a share is to the initieal dividend, Do, dividend by the difference of the capitalisation rate and the growth rate, ke -g, This is, as stated above, a perpetual growth model, and is based on the following assumptions.

i. The capitalisation rate must be greater than the growth rate, ke g, if they are equal, this will yield in infinite price, and, if ke g it will yield a nagative price.

ii. The initial dividend, Do, must be greater than zero (D◑ o) id not, zero price will will be obtained.

nor retention of earnings for reinvestment.

Thus, if the retention, b = o, the growth rate g=o too, (because g= br) and $D_o = E_o$. Under these conditions, the market value of the share will be equal to the expected earning per share divided by the equity capitalisation rate. This is shown as follows;[5] Since D_o = Eo (1-b) and g = rb, the equation for deriving the value of the share will be $P_o = \frac{E_o (1-b)}{ke - rb}$

Since E_o = rAo, and b = o, then g = o and $D_o = E_o$, the equation becomes:

$$P_o = \frac{D_o}{ke} = \frac{E_o}{ke}$$

FOOT NOTES

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CHAPTER THREE.

SHARE VALUATION AND CAPITAL STRUCTURE

3.1 CAPITAL STRUCTURE THEORIES

Before now in the last chapter we have been discussing the common share valuation methods and models of a firm. We shall now talk about the effect of capital structure of a firm on its value. The capital structure or leverage decision will be studied as to its effect on the firm's value, and if there is any effect, the firm should be able to employ such capital structure to maximise its market value.

Previously we noted that the value of a firm depends upon its expected earning stream and the rate used to discount this stream. The rate used to discount earning stream is the firm's required rate of return or cost of capital. It is observed that the capital structure decision can effect the the value of the firm either by changing the expected earning or cost of capital or both. Lecerage cannot change the total expected earning of the firm, but it can affect the shareholders' earnings. The effect of leverage on cost of capital is not clear and this has generated so much controversy that it has become the most discussed issue in financial management.

Whether leverage affects the cost of capital and the value of the firm has called for the optimum capital structure which would be obtained at the combination of debt and equity that maximises the total value of the firm, or minimises the weighted average cost of capital.

This question of optimum use of leverage has lead Ezra Solomon to ask the following:[1]

' Given that a firm has a certain structure of assets, which offers net operation earning of given size and quality, and given a certain structure of rates in the capital markets, is there some specific degree of financial leverage at which the value of the firm's securities will be higher (orcost of capital will be lower) than at the other degrees of leverage.?

The existence of an optimum capital structure is not accepted by all. The two extreme view as indentified be David Durand are

(i) The net income and

(ii) Net operating income approach[2]

NET INCOME APPROACH (NI)

Under this approach, the cost of equity and the of debt are assumed to be independent of the capital structure. The weighted average cost of capital declines and the total value of ghe firm rises with increased use of leverage.

NET OPERATING INCOME APPROACH (NOI)

Under this approach, the cost of equity is assumed to increase linearly with leverage. As a result, the weighed cost of capital remains constant and the total of the firm also remains constant as leverage is changed.[3]

In the two approaches, leverage as a sighnificant variable and financing decisions have an important effect on the value of the firm in the (NI) approach; while in the NOI approach, the financing decision should not be of great concern to the financial manager, as it does not matter in the valuation of the firm. Between these two extremes we have the midlle position version advocated by the traditional writers. This view argues that the cost of capital declenes with leverage up to a point and after reaching a minimum start rising. Thus, there exists an optimum captial structure at which cost of capital is minimise. Modigliani and Milier deny the existence of an optimum capital structure. This view is in support of the NOI approach.

The M and M approach is based on some assumptions.

ASSUMPTIONS AND DEFINITIONS

i. We assume that there are no income taxes. This assumption is removed later.

iii. The ratio of debt to equity for a firm is changed by issuing debt to repurchase stock of issuing stock to pay off debt. In order words, a change in capital structure is effected immediately in this regard, we assume no transaction costs.

iii. The firm has a policy of paying 100 percent of its earnings in dividends. Thus we abstract from the dividend decision.

iv The expected values of the subjective probability distributions of expected future operating earning for each company are the same for all investors in the market.

v. The operating earning of the firm are not expected to grow. The following definitions would be used in subsequent analysis:-

S = Market value of common shares

D = Market value of debts

V = Total market value the firm

NOI = X = Expected net operating income

R = Interest charges (KdD)

NI = Y = Net income or shareholders' earning

Debt Cost of debt = kd = R/D

Value of debt = D = R/Kd

Equity cost of equity = $ke = \frac{D}{P} + g$

$= \frac{E}{P} + o$

$= \frac{E}{P}$ ($\therefore$ D=E, g =O

Where D is dividend per share, E is earnings per share, P is market price per share and g is growth rate. The cost of equity can, alternatively, be calculated like this;

$$ke = \frac{NI}{S} = \frac{NOI - R}{S}$$

$$= \frac{X - Kd}{S} \quad D$$

$$\text{value of equity} = S \quad \frac{X-Kd}{ke} \quad D$$

Weighted Average cost of capital is

$$K_o = ke \frac{(S)}{(S+D)} Kd \frac{(D)}{(+D)}$$

$$= ke \frac{(S)}{(V)} + Kd \frac{(D)}{V}$$

This can also be defined as follows:-

$$ko = ke \frac{(S)}{(V)} + kd \frac{(D)}{(V)}$$

$$= ke \frac{(1)}{(V)} + kd \frac{(D)}{(V)}$$

$$= ke - ke \frac{D}{V} + Kd \frac{D}{V} = ke - (ke - kd) \frac{D}{V}$$

The total value of the firm is therefore;

$$= V = (S+D = \frac{X}{k_o} = \frac{NOI}{k_o}$$

$$= \frac{R}{kd} + \frac{X - R}{ke}$$

It is said that the above equations are valid under any of the capital structure theiries. The controversy centres around the behaviour of the variable ko, ke v etc. with leverage.

3.2 NET INCOME APPROACH (NI)

According to the net income approach the firm can increase its value and lower its cost of capital, ko as it increase the degree of leverage. As a result the market price per share increases.

The central assumptions of this approach are that:-

1. The use of debt does nto change the risk perception on investors; as a result, the equity - capitalisation rate, ke, and the debt-capitalisation rate, kd remain constant with changes in leverage.

2. The debt-capitalisation rate is less than the equity -capitalisation that is(Kd Ke)

3. The corporate income taxes do not exist. To illustrate the NI approach, assume that a firm has ₦ 5,000.00 in debt a 5% interest, that the expected value of annual net operating earning is ₦ 1,500.00, and that the equity-capitalisation rate, ke, is 10 percent. The value of the firm according to the NI approach is:-

X	Net operting earning	:	₦ 1,500.00
R	Interest	:	250.00
Y	Shareholders' earning	:	1,250.00
Ke	Equity Capitalisation rule	:	10.00
S	Market value of stock	:	12,500.00
D	Market value of debt	:	5,500.00
			₦ 17,500.00

The overall cost of capital, Ko is assuming that the cost of equity, Ke, and the cost of debt, Kd, are constant.

$$Ko = \frac{NOI}{V} = \frac{₦\ 1500}{17,500} = 8.57\%$$

$$Or\ ko = Kd\ \frac{(D)}{(V)} + Ke\ \frac{(S)}{(V)}$$

$$= 0.05\ \frac{(5000)}{(17,500)} + 0.10\ \frac{(12500)}{(17,500)}$$

$$= 0.01428 + 0.07142 = 0.0857 \text{ or } 8.57\%$$

If the company employs a debt of ₦7,000 instead of ₦5,000, the value of the firm will be as follows;

X =	Net operating	:	₦1,500.00
Kd =	Cost of debt	:	350.00
Y =	Shareholder's	:	1,150.00
Ke =	Cost of equity	:	0, 10.00
S =	Market Value of Stock	:	11,500.00
D =	Market Value of debt	:	7,000.00
			₦18,500.00

The overall cost will be;

$$ko = \frac{NOI}{V} = \frac{1,500}{18,500} = 0.0811 \text{ pr } 8.11\%$$

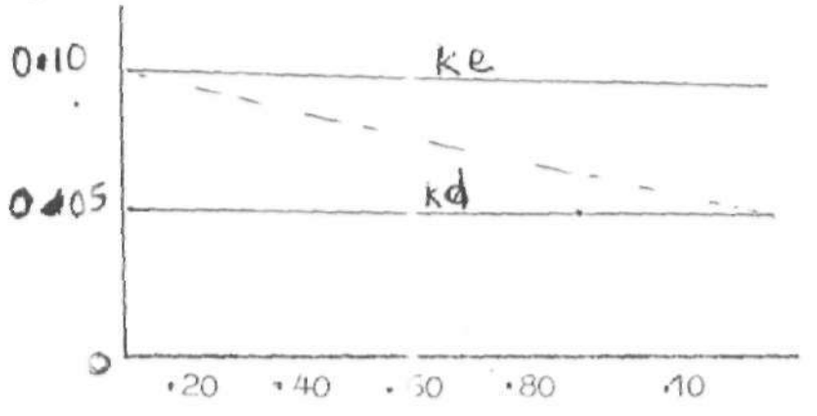
$$\text{Or } ke = \frac{Kd(D)}{(V)} + ke\ \frac{(S)}{(V)}$$

$$= 0.5\left(\frac{7,000}{11,500}\right) + 0.10\left(\frac{11,500}{18,500}\right)$$

$$= 0.0189 + 0.0622 = 0.0811 \text{ or } 8.11\%$$

Thus, by increasing the debt proportion in its capital structure, the firm is able to increase — the value of the firm and lower average cost of capital.

This can be graphically represented cost of capital



As the proportion of debt is increased in the capital structure, being less costly. It casuses wighted average cost of capital to decrease and approach the cost of debt. The optimum capital structure would occur at the point where the value of the firm is

maximum and the overall cost of capital is minimum. Under the NI approach, this will be when the firm is all debt financed or has as much debt as possible.

3.3 NET OPERATING INCOME APPROACH (NIO)

This approach states that the market value of the firm is not affected by the capital structure charges.

The market value of the firm is

$$V = (D + S) = \frac{NOI}{ko} = \frac{X}{ko}$$

The assumptions of NOI approach are as follows:-

i. The market capitalises the value of the firm as a whole. Thus, the split between debt and equity is not important.

ii. The market uses and overall capitalisation rate, ko to capitalise the net operating income. Ko depends on business risk. If the business risk changes, ko changes.

iii. The use of less costly debt funds increases the risk to shareholders. This causes the equity capitalisation rate to increase. Thus the advantage of debt is offset exactly by the increase in the equity-capitalisation rate, ke.

iv The debt-capitalisation rate, kd, is a constant

V. The corporate income taxes do not exist.

The market value of equity, S, can be determined by substracting market value of debt, D. from the total market value, (V, (S =V- D). The cost of equity, ke is therefore;

$$ke = \frac{NOI - R}{V - D} = \frac{NI}{S} = \frac{X - Ked}{S}$$

alternatively this can be determined as follows

$$ke = ko + (ko - kd) \frac{D}{S}$$

For illustration, lets assume the same figures as the same for NI, but the overall capitalisation rate, ko, is 10%

X	net operating income	:	N 1,500.00
ko	overall capitalisation rate	:	0, 10.00
V	total value of firm	:	15,000.00
D	market value of debt	:	5,000.00
S	market value of equity	:	10,000.00

$$ke = \frac{NOI - R}{V - D} = \frac{NI}{S}$$

$$= \frac{1500 - 25)}{15000 - 50)} = \frac{1250}{10000} = 0.125 \text{ or } 12\frac{1}{2}\%$$

Alternatively

$$ke = ko + (ko - Kd) \frac{D}{S}$$

$$= 0.10 + (0.10 - 0..5) \frac{5000}{10,000}$$

$$= 0.125 \text{ or } 12\frac{1}{2}\% .$$

If the debt is increased to ₦ 7,000 the equity capitalisation rate ke is $ke = \frac{NOI - R}{V - D} * NI$

$$= \frac{1500 - 350}{15000 - 7000} = \frac{1150}{8000}$$

$$= 0.14375 \text{ or } 14.38\%$$

Alternatively;

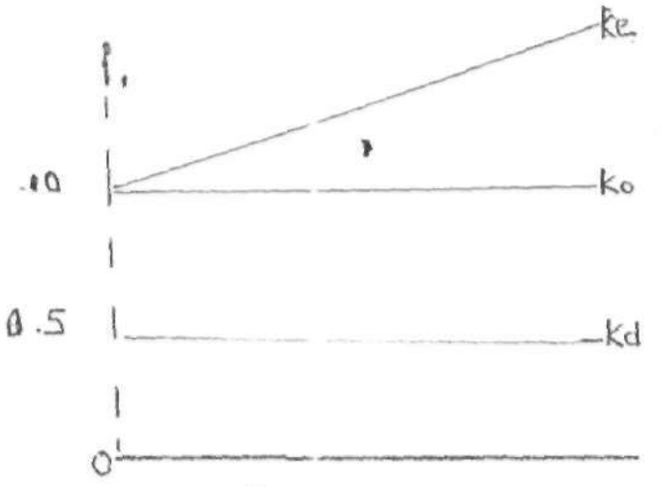
$$ke = ko - (ko - Kd)\ (\frac{D}{S})$$

$$= 0.10 + (0.10 - 05)\ \frac{7000}{}$$

$$= 0.14375 \text{ or } 14.38$$

Thus, we have proved that the weighted cost of capital is constant and the cost of equity increase as dent is substituted for equity capital. The NOI is illustrated graphically as showabelow.

Cost of capital percent:



Leverage

This shows that ko and Kd are constant and ke increases continously with leverage. Since the Ko, is constant, it means that with NOI there is no optimum capital structure.

3.4 TRADITIONAL VIEW

The view is also know as the intermediate approach. It covers all the ground between NOI and NI. This approach to valuation and leverage assumes that there is an optimal capital structure and the firm can increase total value of the firm through judicious use of leverage. The cost of capital within reasonable or acceptable limit of debt. The statement that debt funds are cheaper than equity funds carries the clear implication that cost od debt, plus the increased cost of equity, together on a weighter basis, will be less than the cost of equity which existed on equity before debt financing.[4]

Accouding to the traditional position, the manner in which the overall cost of capital reacts to changes in capital structure can be divided into three stages.[5]

First Stage:

In the first stage, the rate at which net income is capitalised by the shareholders, that is the cost of equity, ke, remains constant or rises slightly with debt. But when it increases, it does not increase fast enough to off set the benefit

of using cheaper debt funds. At this stage the value of kd remains constant or rises slightly or negligibly. As a result, total valuation and share price increase, and cost of capital decreases.

With theis assumption that ke remains constant within the acceptable limit of debt, the value of the firm will be;

$$V = S + D = \frac{X - kd\ D}{ke} + \frac{kd\ D}{kd}$$

$$= \frac{X - kd\ D}{ke} + D$$

$$= \frac{X}{ke} + \frac{(ke - Kd)\ D}{ke}$$

Thus, so long as ke and kd are constant, the value of the firm V increases at a constant rate, (ke-kd) as the amount of debt increases

When:

$$\frac{X}{V} \quad \text{we get} \quad ko = \frac{X}{V}$$

$$= ke - (ke - kd)\ \frac{D}{V}$$

Second Stage:

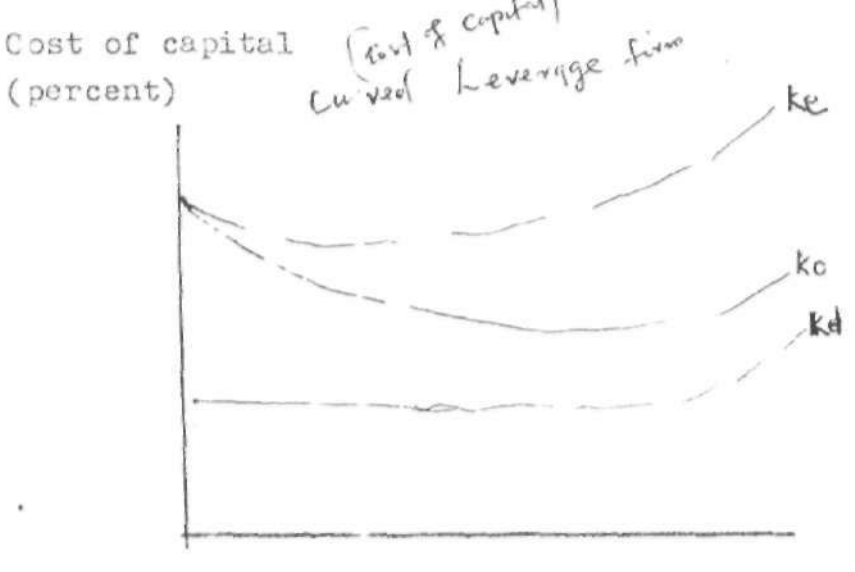
In the second stage, the firm has reached a certain degree of leverage where the increase in leverage has anegligible effect on the value of the firm because the increase in the cost of equity due to the added financial risk offsets the advantage of low cost of debt.

Within that range, the value of the firm will be maximum or the cost of capital will be minimum.

Third Stage:

At this stage the value of the firm decrease with any increase in leverage or the cost of capital increase with leverage. This is because the investors perceive a high degree of financial risk and increase equity-capitalisation rate more than off-set the advantage of low-cost debt.

The overall effect of this is that cost of capital is a function of leverage. Initially the cost of capital declines with the introduction of leverage. After a point, it begins to rise. The relation between cost of capital can be graphically represented as below;



The cost of capital behaviour

For illustration, let's assume that a firm is expecting a net operating income of ₦ 1,500 from an investment of ₦ 10,000.00. The equity capitalisation rate is 10 percent, if the firm has no debt, it will increase to 11 percent when the firm introduces ₦ 3,000 debt, and to 12.5 percent when debt rises to the tune of ₦ 16,000.00. Also assume that the debt can be raised at 6 per cent for ₦ 3,000.00 and 7 percent ₦6,000 The following table will clearly show the effect.

	No Debt ₦	5% ₦3,000 ₦	7% ₦ 6,000 ₦
X Net operating Income	1,500	1,500	1,500
R = KiD= total cost of debt	0	150	420
X - R= Net Income	1,500	1,350	1,080
ke = Cost of equity	10	11	125
$\frac{Y}{ke} - \frac{X - R}{ke}$ = Market value of Share	15,000	14,850	
D Market value of	0	3,000	6,000
V = S+D = Total value of firm	15,000		
ko = Average cost of capital			

3.5. THE MODIGHANI AND MILLER HYPOTHESIS

Modighani and Miller in their approach identified with the net operating income approach. They argued that in the absence of taxes, a firm's market value and the cost of capital remain invarient to the capital structure changes.[6]

They made a strong attach on the traditional position by offering behavioural justification for having the cost or capital, ko, remain constant throughout all degree of leverage. Their arguement is based on the following assumptions:

i. Capital market are perfect. Information is costless and readily available to all investors, there are no transaction costs; and all securities are infinitely divisible. Investors assumed to be rational, and to behave accordingly.

ii. The everage expected future operating incomes of a firm are represented by a subjective random variable. It is assumed that expected values of the probability distribution of all investors are the same. It is implies in the MM illustration that the expected value of the probability distributions of expected operating earnings for all future periods are the same as present operating incomes.

iii. Firms can be categorised into "equivalent return" classes. All firms within a class have the same degrace of business risk.

iv The absence of corporate income taxes is assumed. (MM removed this assumption later)

PROPOSITION 1

Given the above assumptions, M and M argue that, for firm's in the same risk class, the total maket value is independent of the debt equity combination, and is given by capitalising the expected net operating income by the rate appropriate to that risk class.[7] This propotion can be expressed as follows:

$$V = (S + D) = \frac{X}{ko} \quad \frac{NOI}{ko}$$

This can also be stated in terms of cost of capital, ko.

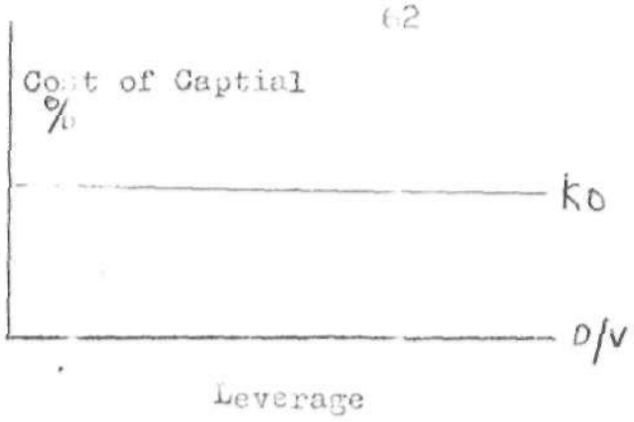
$$ko = \frac{X}{(S+D)} = \frac{X}{V}$$

If kd is expressed as the return on debt and ke as the return on equity then;

$$X = KoV = ke\,(S) + kd\,(D)$$

$$\therefore \quad = ko = ke\,\frac{(S)}{(S+D)} + kd\,\frac{(D)}{(S+D)}$$

In the above equation ko is expressed as the weighted average rate of return on equity and debt capital of the firm. And since the cost of capital is defined as the expected net operating income divided but the total market value of the firm, and MM have also concluded that market value of the firm is unaffected by financing mix, it follows that the cost of capital structure is equal to the capitalisation rate of a pure equity stream of its class. This is shown graphically below;



ARBITRAGE PROGESS

M & M argue that the total risk for all security holders of a firm is not altered by changes in its capital structure. Therefore, the total value of the firm must be the same regardless of its financing mix. The important support for this hypotheses is the presence of arbitrage in the capital market. Arbitrage here means perfect substitutes from selling at different prices in the same markt. In their case, the perfect substitutes are two or more firms in the same homogenous risk class that deffer only with respect to capital structure. M & M contend that the total value of these firms has to be the same; therwise, arbitragers will enter and drive the value of the two firms together. The presence of their arguement is that arbitragers are able to substitute personal leverage for corporate leverage.[8]

For illustration, let's consider two firms that comprises of a single risk class. These firms are identical in every respect except that firm A is not levered and firm B has ₦ 30,000 of 9% debt outstanding.

According to traditional view, firm B may have a higher total value and a lower average cost of capital than firm A. The valuation of the two firms is assumed to be the following;

	Firm A	Firm B
X = Net operating income	₦10,000	₦10,000
R = Interest on debt	0	1,500
Y = Net Income	10,000	8,500
Ke = Equity capitalisation rate	0.10	0.11
S = Market value of stock	100,000	77,272
D = Market value of debt	-	30,000
	100,000	107,272
ko = Implied overall capitalisation rate	10%	9.3%
D/S = Debt to equity ratio	0	38.8%

M & M maintain that this cannot continue, for arbitrage will drive the toal values of the two firms together. Firm B cannot command a higher total value simply because it has a different financing mix than firm A. M & M argue that investors in firm B are able to obtain the same dollar return with no increase in financial risk by investment outlay.[9] Because investors would be better off with the investment requiring the lesser outlay, they would sell their shares in firm B and buy shares in firm A. These arbitrage transactions would continue until firm B's shares declined in price and firm A's shares

increase in price enough so that the toal value of the two firms was identical.)

To illustrate, suppose that a rational investor owned I percent of firm B, the levered form, worth ₦ 777.72 (market value)given this situation, he should

i. Sell his stock in firm B for ₦ 772.72
ii. Borrow ₦ 300 at 5% interest. This personal debt is equal to 1 percent of firm B.
iii. Buy 1 percent of the shares of firm A,the unlevered firm, for ₦ 1,000.

Prior to this series of transaction, the investor's expected return on investment in firm B was 11% on a 772.72 investment of ₦ 85. His expected return on inves= ment in firm A is 10% or ₦ 100 on an investment of ₦1,000. From this return, he must deduct the interest charge on his personal borrowings. Thus his Naira return is

Return on investment in firm A	=	₦100.00
less interest (300 x 0.05)	=	15.00
Net return	=	₦ 85.00

Even though his Naira return in both cases are, he would prefer investing in firm A because of the lower outlay of ₦700 instead of the ₦772.72 in firm B.

The action of rational investors will tend to drive up the price of firm A's shares and lower its cost of equity, ke on the other hand, the opposite will happen to firm B until there are more opportunity for such transaction.

If for some reasons the value of firm A becomes higher than that of firm B, the whole process will go in opposite direction. Supposing that firm A in the above example had an equity capitalisation rate of 8%, giving it a total market value of ₦125,000. Here, the investor owning 1 percent of A's shares would sell his holdings for ₦1,250. He then would buy 1% of the share in firm B. for ₦772.72 as well as 1% of the debt of that dirm for ₦300. His total expected Naira income in firm B would be.

Return on investment in firm B shares	₦85.00
Return on investment in firm A debt	15.00
Net return	₦ 100.00

His return in firm B is the same as that of firm A but he has to invest only ₦1,072.72 in firm B instead of ₦1,250 in firm A. This will trigger off the arbitrage behaviour until there is no more need for such transactions because the value of both firm would become the same.

CRITICISM OF THE M & M HYPOTHSES

The arbitrage process of the behavioural foundation for the M & M thesis. The following are the shortcomings of the assumption.

i. Market Perfection:

Since the arbitrage process is expected to work under perfect market condition, the market imperfection that exist today will render the hypothesis unworkable.

ii. The assumption that firms and individuals can borrow and lend at the same rate of interest does not hold good in practice.

iii. It is incorrect to assume that 'personal leverage' is a perfect substitute for 'corporate leverage'. Because, for a limited liability firm, in an event of the firm going bankrupt the investors will not lose more than their investment in the firm. But for the individual, he would lose his capital and any other of his property to the extent of the total debt.

iv. The existend of transaction cost also interferes with the working of arbitrage as it would become necessary to invest a greater amount in the shares of an unlevered firm than in the shares of a levered firm in order to earn same return. As a result, the levered firm will have higher value.

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CHAPTER FOUR

DIVIDEND SHARES & VALUE OF FIRM

4.1. DIVIDEND THEORIES AND VALUATION

In the last chapter, the broad concept of valuation of firm's shares were surveyed. The basic valuation models were examined, and all the varibles that affect the value of the firm were established. The capital structure of the firm and how this affect the firm's value were also examined and analysed, and and basic assumption underlining them and their weaknesses were discussed.

In this chapter, the dividend theiries, and the place of dividends in the valuation of the firm's shares will be examined. Dividend as we understand it to be is the declaration and distribution of the legally distributable earning of a firm to the firms investors as a return on their investment.

Dividend decision of the firm is the third most important decision in financial management. The important aspect of dividend is to determine the amount to be distributed to the shareholders and the amount to be retained in the business. The retained earnings form the most important source of internal financing for the growth of the firm.

The retention of business earning in the firm to be able to take advantage of good investment opportunities is very desirable for the growth of the firm. On the other hand, divident is very desirable from the standpoint of the shareholders as it immediately increases their wealth. Thus, the divident policy, which is, the distribution of dividend to shareholders and the retention of earnings in the firm for growth, are both very desirable but conflicting. The management must find the optimum policy as regards the distrinution and or retention of earnings of the firm since their affects the value of the firm, and as a result, the cost of capital of the firm.

On the relationship between the dividend and the value of the firm different theories have been advanced. The theories can be group into two categories ;

i. Theories that considered dividend policies an important variable influencing the value of the firm, and

ii. The theories which consider dividend decision totally irrelevant.

4.2 DIVIDEND RELEVANCE APPROACH

This school of thought believes that choice of dividend policies almost alway affects the value of the firm.[1] They developed some theoretical models to show clearly the importnce of dividend policy to the value of the firm. Two of the most important ones

$$P = \frac{D}{K} + \frac{r\ (E-D)/k}{k}$$

where P = Market price per share

D = Divilend per share

E = Earnings per share

R = Internal rate of return

K = Cost of captial or capitalisation rate.

The above equation clearly show that the market price per share is the sum of the present value of two sources of income:

i. The present value of an infinite stream of of constant dividends, $\frac{D}{E}$ and

ii. the present value of the infinite streame of capital gains, $r(\frac{E - D)/k}{k})$. When a firm retain a perpetual sum of (E-D) at r rate of return, its present value will be $\frac{r\ (t - D)}{k}$. This quantity can be known as capital gain which occures every year, the present value lf an infinite number of captial gains, r(t-D)/k will be equal to $(\frac{r(t-D)/k}{k})$. From the above, Walter demonstrated that the value of share is the present value of all capital gains. This position has been reduced to the following equation. $P=\frac{(D+(r/k)\ (t-D)}{k}$. this equation is a contraction of the first one.

This equation stand true in any firm irrespective

of whether it is a growth, normal or declining firm. A demonstration of the position is shown below:-

Growth Firm	Normal Firm	Declining Firm
r k	r = k	r k
Supposing the		
r = .15	r = .10	r = .8
k = .10	k = 10	k = .10
E = N20	E = N20	E = N20

Where there is no dividend, D= 0 for the three firms the value of share will be;

$P = 0+\frac{\frac{(.15)}{(.10)}}{.10}(20-0)$	$0+\frac{\frac{(.10)}{(.10)}}{.10}(20-0)$	$0+\frac{\frac{(.08)}{(.10)}}{.10}(20-0)$
= N300	= N200	N 160

Where there is dividend of N8, the value of share will be;

$P = 8+\frac{\frac{(.15)}{(.10)}}{.10}(20-8)$	$8+\frac{\frac{(.10)}{(.10)}}{.10}(20-8)$	$8+\frac{\frac{(.08)}{(.10)}}{.10}(20-8)$
= N160	N 200	N 175

The above equation clearly shows that the market price per share is the sum of the present value of two sources of income:

i. The present value of an infinite stream of constant dividends, $\frac{D}{k}$ and

ii. the present value of the infinite streameoi captial gains, $\frac{r(E - D)/k}{}$. When a firm retains a perpetual sum of (E-D) at r rate of return, its its present value will be $\frac{r(t-D)}{k}$. This quantity can be know as capital gain which occurs when earnings are retained within the firm If this retained earning occurs every ear, the present value of an infinite number of captial gains, r(t-D)/k will be equal to (r(t-D)/k). From the above, Walter demonstrated that the value of a share is the present present value of all dividend, plus the present value of all capital gains. This position has been reduced to the following equation

$P = \frac{(D+(r/k)\ (t-D)}{K}$. this equation is a contraction of the first one.

This equation stands true in any firm irrespective of whether it is a growth, normal or declining firm . A demonstration of the position is shown below;

Growth Firm	Normal Firm	Declining Firm
r k	r = k	r k
Supposing that		
r = .15	r = .10	r = .8
k = .10	k = .10	k = .10
E = .N20	E = N20	E = N20

Where there is no dividend, D=0 for the three firms the value of shares will be;

maximum when all earning are retained to be able to take advantage of investments whose rate of return is higher than the cost of capital expected by the shareholders. This means that the firm can re-invest its earning to earn higher returns in future. This expectation of higher returns must have driven up the price of the shares. For this kind of firms, the optimum pay out ratio is zero. The market value per share, P, increase as payout ration declines.

b. For nomal firms which shall be defined as those firms that have reached a saturation point in the investment opportunities have the internal rate of return equal to the firms cost of captial r = k, In this kind of firms the pay out ratio does not affect the value of the shares. Since any payout option is as good as the other.

C. Some firms without any more profitable investment options are known as the declining firm. Such firms would earn on their investment rates less than their internal rate of return required by the investors. Investors most likely would prefer the all earning be distributed to them so that they may either spend or reinvest in other more profitable ventures outside the firm. The optimum dividend policy her is to pay out 100% of earnings each year.

As a summary, the model shows clearly that the devidend policy of the firm should depend on the availability of investment opportunities and the relationship between rate of return from investment, and the cost of capital of the firm, k. The firm should use earning to finance when r k and should remain indifferent when r = k, and finally should pay out all earning when r k.

This model has been criticised by some writers due to its simplified nature. It is said that Walter in his assumptions did state that all investment are financed by earnings alone with no issue of debt or equity. Francis states that when a situation like that arises, either the firms dividend or investment policy or both will suffer.

The model state that r is constant. In real life this is not so. The initial investments usually have higher returns than the later ones. Thus, the saying that more profitable investments are taken first before less profitable one.

4.4 GORDON'S MODEL

Myron Gordon developed a very popular model relating the market value of a firm to the difidend policy of that firm.[3] The model is based on the following assumptions:-

grow at g = br. So for the price of the share to be established when the dividend is expected to grow is:

$$P = \frac{Do}{(1+k)} + \frac{Do(1+g)}{(1+k)} \quad \frac{D(1+g)^2}{(1+k)3} + \ldots \quad \frac{Do(1+g)^{8-1}}{(1+k)\,8}$$

$$= \sum_{t=1} Do\,\frac{(1+g)\ t}{(1+k)t} - 1$$

when this equation is solved, it becomes

$$P_o = \frac{Do}{K-g} = P_o = \frac{E_o\,(1-b)}{k - be}$$

Let us now consider a situation where r=k. Under this condition, the equation will be expressed as follows:

$$P_o = \frac{Eo(1-b)}{k - br} = \frac{rAo\,(1-b)}{r - br}$$

(Since Eo = rk, Ao = total assets)

$$P = \frac{Eo\,(1-b)}{k\,(1-b)} = \frac{Eo}{k} = \frac{rAo}{k}$$

From the above equation, the firm's value is not affected by dividend policy. This situation is true only when r = k, dividend policy is irrelevant since, b, which represents the firm's devidends policy cancels completely out equation. That means k is equal to the general available rate of return on outside investment.

i. The firm is an all equity firm

ii. No external financing is available

iii. The internal rate of return is constant

iv. The appropriate discount rate remain constant

v The firm and its stream of earning is perpetual.

vi The corporate taxes do not exist

vii. The retention ratio, b, once decided upon, is constant forever.

viii. k br = g.

According to Gordon's dividend capitalisation model, the market value of a share is equal to an indefinite stream of dividends to be received by the share. This, in equation form, is;

$$P_o = \frac{D_1}{(1+k)} = \frac{D_2}{(1+k)} \cdots + \frac{D_3}{(1+k)}$$

$$= \frac{Dt}{(1+k)} = \sum_{t=1}^{\infty}$$

The dividend is expected to grow when earnings are retained. The dividend per share is equal to the pay out ratio, (1 - b), times earning, that is $D_t = (1-b)Et$, where b is the fraction of retained earning. The retained re-invested is therefore, bE which is expected to have a return of r. This means that earning will

This means that any fund distributed as dividends may be invested in the market at the firm's internal rate of return. In effect, shareholders can neigher lose nor gain by any change in the firm's dividend policy and the market value of their shares must remain unchanged.[4]

In a situation where the internal rate of return is less than the cost of capital, the equation for the value of the firm will be; $P_o - \frac{rA_o}{k}$, when the retention ratio, b, is zero.

Under this condition of r k, any increase in the value of b, or part of earning retained further pulls down the value of the firm's share.[5] This result may be interpreted as follows - If the internal rate of return is smaller than k, which is equal to the rate available in the market, profit retention clearly becomes undesirable from the shareholder's stand point. Each additional doller could invest at a higher rate elsewhere, and this further depresses the value of ~~of~~ the firm's share. Under such conditions, the firm should adopt a policy of contraction and disinvestment, which would allow the owner to transfer not only the net profit but also the paid in captial (or part of it) to some other, more remunerative enterprises.[6]

For illustration, the implication of dividend of poli y according to Gordon's Model is set out below;

Divident policy and the value of the firm

(Gordon's Model)

Growth firm r > k	Normal firm r = k	Declining firm r < k
r = .15 k = .10 E = .N 20	r = .10 k = .10 E = N20	r = .8 k= .10 E = .N20
Pay -out Ration (1- 6) = 40%		
g = br = .6x .15 = .09 p = $\frac{20(1-.6)}{.10-.09}$ = $\frac{.8}{.01}$ = N800	g = .06 P = $\frac{20(1-6)}{.10-.06}$ = $\frac{8}{.04}$ = + 200	g = .048 p = $\frac{10(1-.6)}{.10-.048}$ = $\frac{8}{.052}$ = 144
if the pay out ratio is 60% then,		
g = .06 P = $\frac{20(1-.4)}{10-.06}$ = $\frac{12}{.04}$ = N 300	g = .04 P = $\frac{20(1-.4)}{.10-.04}$ $\frac{12}{.06}$ = N 200	g= .032 p= $\frac{20(1-.4)}{.10-.032}$ $\frac{12}{.068}$ = N176
When the pay out ratio (1-6) is 90%		
g = .015 P = $\frac{20(1-1)}{10\ .015}$ = $\frac{18}{085}$ = N 212	g = 0.1 P = $\frac{20(1-1)}{10-01}$ $\frac{18}{09}$ = N200	g= 008 P= $\frac{20(1-.1)}{.10-008}$ $\frac{18}{.092}$ = N196

From the demonstration above it is clearly show that under Gordon's Model;

i. The market value of the share p, increases with the retention ratio, b, for firms with growth oppurtunites r k,

ii. The market value of the share p, increase with the pay out ratio, (1-b), for declining firm r, k and

iii. the market value of the share is not affected by dividend policy when r = k.

These conclusions are the same wth those at Walter's Model. This is because their assumptions are similar.

4.5 DIVIDEND AND UNCERTAINTY

The Bird In The Hand Argument:

From observation on Gordon's Model, divident policy is irrelevant when r = k and when all other assumption are held valid. But when the simplifying assumptions are modified to conform closely with reality, Gordon concludes that dividends policy affects the share price even when r = k. This is based on the view that under condition of uncertainty, investment tend to discount distant divilends at a higher rate then the discount near devidend.

Accoding to Gordon, investors are not indifferent between current dividends and the retention of earnings with the prospect of future devidends,

capital gains, or both. They prefer the early resolution of uncertainty they are willing to pay a higher price for for the stock that offers the greater current divident, all other things held constant. This preference for the share that pays greater current dividend is refered to as the " bird - in- the - hand" arguement. This was first of all put forward by Kirshman in the following words;[7] of two stocks with identical earning, record, and prospect but the one paying a larger dividend than the other, the former will undoubtedly command a higher price merely because stockholders prefer present to future values. Myopic vision plays a part in the price making process. Stockholders oftern act upon the principle that a bird in the hand is worth two in the bush and for this reason are willing to pay premium for the stock with the higher dividend rate, just as they discount with the lower rate".

Graham and Dodd also maintain simialr view when they states[8]... ".....Given two firms in the general position and with the same earning power, the one paying the larger dividend will always sell at the higher prices."

This argument has been put in more formal terms by Gordon. According to him uncertainty increases with futurity; that is, the further one looks into the future, the more uncertain dividends become. Accordingly, wher dividend policy is considered in the context of uncertainty,

the appropriate discount rate k, cannot be assumed to be constant. In fact, it increase with uncertainty. Investors prefer to avoid uncertainty and would be willing to pay higher price for the share that pay greater current dividend, all things being equal.

4.6 MODIGLIANI AND MILLER'S HYPOTHESIS OF DIVIDEND IRRELEVANCE

It is said that the most comprehensive argument for irrelevance of dividends is found in Modigliani and Miller's 1961 article.[9] They asset that given the investment decision of the firm, the dividend-payout ratio is a mere detail. It does not affect the wealth of share-holders. M &M argue that the value of the firm is determined solely by the earning power or the firm's assets or its investment policy and that the manner in which the earning stream is split between dividends and retained earning does not affect this value. MM's hypothese of irrelevance is based on the following assumption:

A. Perfect capital market in which all investments are rational. Information is available to all at no cost; transactions are instantaneous and without cost; securities are infinitely divisible; and no investor is large enough to affect the market price of a security.

b. An absence of floatation cost on the securities issued by the firm.

c. A world of no taxes.

d. A given investment policy for the firm, not subject to change.

e. Perfect certainty by every investor as to future investments and profits of the firm.

MM dropped this assumption later.

The crux of MM's position is that the effect of dividend payment on shareholder's wealth is off - set exactly by other means of financing. Consider first selling additional stock in lieu of retaining earning. When the firm has made its investment decision, it must decide whether to retain earning or to pay dividends and sell new shares in the amount of the dividend in order to finance the investments. MM suggest that the sum of the discounted value per share after financing and dividend paid is equal to the market value per share before the payment of dividends. In other words, the stock's decline in market price because of external financing off-sets exactly the payment of the dividends and the retention of earning and subsequent capital gain.

From the above, the market price of share at the beginning of the period can be defined as equal to the present value of the dividend paid at the end of the period plus market price at the end of the period. Thus,

$$= P_o = \frac{D1 + P1}{1 + k}$$

Where P_o = Market price per share at Line 0

k = Capitalisation rate for the firm in the risk class (this rate is is assumed to be constant throughout time)

D_1 = Dividend per share at time 1

P_1 = Market price per share at time 1

Assuming that n is the number of shares of record time 0 and that m is the number of new shares sold at time 1 at a price of P_1 then the equation can be rewritten as

$$nP_0 = \left(\frac{nD_1 + (n_1 + m) P_1 - mp_1}{1 + k} \right)$$

This equation could be put in narative as the total value of all shares, npo, is equal to the present value of all dividends at time 1, nD1, plus value of all shares at all time 1, (n +m) P1, less share issued in the period, mp1.

Therefore, the amount of new shares is

$mp_1 = 1 - (x - n_1)$

When 1 = total new investment during period 1

X = total net profit of firm for the period

This equation merely states that the total sources of fund must equal uses, i.e, net profit plus new stock must equal new investment plus dividends.

By susbstitution we can obtain the following equation in

$$rp_o = \frac{(nD_1 + \frac{(n+M)p_1}{1 + k} - mp1}{}$$

We substitute I - (X-nD1) for mp_1 we have

$$\frac{(nD1 + (n+m)\ p_1 - 1 + (X-nD1)}{1+K} = \frac{(n+m)\ p-1-X)}{1 + k}$$

MM concluded from the above that the current value of the firm is independent of its current dividend decision.[10] They went on to say that what is gained by the stockholders increased dividends is off-set exactly by the decline in terminal value of his stock.

M go on to show that np_o is unaffected not only by current dividend decisions but by future dividend decisions as well .

Only $\left(\frac{n+m)P_1 - 1+()}{1 + k}\right)$ determines the value of the shares. Both for the present and also the future under MM assumption. As a result, shareholder' wealth is unaffected by current and future earning stream of the firm.

They maintain that their hypothesis of dividend irrelevance is not affected if the firm raises external funds by issuing debt instead of shares. When external financing involves debt, M-M invokes their indifference hypothesis with respect to leverage.

Some very strong criticism have been levelled against MM's hypothesis of dividend irrelevance.

The criticisms are based on the very simplifying assumptions put forward by MM on which their arguement we centred. It has been shown that MM's assumptions are so simple, they have no relevance to the reality of market economy of today. For instance, there is no place capital market has benn found to be perfect. The assumptions also suggest that external and internal financing are the same. This is not so.

The assumption that taxes do not exist is far from reality. And also the equation of taxes on dividend received and capital gain tax is wrong since both have defferrence tax rates. The capital gain tax is lower and will be payable only when the shares are sold. This means a saving for shareholders who will prefer the rention of earning since the value of shares will be higher.

MM argue that internal financing and external financing are equivalent. This means that when a firm pay dividends, it can finance new investment through external financing. They maintained that whether a firm retains earning or issued new shares, the shareholders wealth will be unaffected. The floatation cost inherent in the issue of new shares than the internal financing through retention of earning since this carried no cost.

MM maintain that shareholders' wealth will be unaffected whether dividend is pad or not, any shareholder who want money can always sell his share for cash. They overlook the presence of transaction cost in selling and buying shares. The seller has to pay brokerage fees in selling his shares . This will mean receiving lower cahs than MM presented in their arguement.

MM argue that uncertainty does not affect the shareholders wealth. This is not so according to Gordon uncertainty increase with the length of time period. Investor are risk averters and, prefer near dividends to future dividends. Thus, future dividends are discounted at a higher rate than near dividends. This implies that this discount rate increase with will command a higher value than a firm with a policy of retention.

4.7 DIVIDEND AS A RESIDUAL DECISION

The treatment of dividend as a residual decision sees dividends as payable only when there is no profitable investment to finance with the earning of the firm. Dividend as financing decidion means that the firm will use the earning of the firm to finance profitable project as long as there are such profitable investment.

Dividend will only be paid if there are no more profitable investment.

When dividend policy is seen in this light, the payment of cash is seen as a passive residual. The amount of dividend will fluctuate from period to period in keeping with fluctuation and in the amount of acceptable investment opportunites available to the firm. If these opportunities abound, dividend payout will be zero. On the other hand if the firm cannot find profitable investment, the dividend will tend towards 100% .

The treatment of dividend policy as a passive residual determined strictly by the availability of acceptable investment proposals implies that dividends are irrelevant; the investors is infifferent between dividends and capital gains. If investment opportunities promise a return greater than their required return, the investor is happy to have the firm retain earnings. If the return is less than the required return, he prefere dividends.

A residual theory of dividend policy does not necessarily mean that dividends needs fluctuate from period to period in keeping with fluctuation in investment opportunities. A firm may smooth out actual payments by saving some fund in surplus years in anticipation of deficit ones.[11]

FOOT NOTE

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CHAPTER FIVE

APPLICATION OF VALUATION MODELS IN NIGERIA

5.1 FINANCIAL MARKET

In varying degrees, all business firms operate within the financial system. When a product is sold, the seller receives either cash or a financial securities or asset in the form of receivables. In addition, the firm invest idle funds in marketable securities. More importantly, most firms use financial market to finance their investments in assets. Finally, the market prices of a company's stocks or securities are test on its success or failure. Thus, no business firm exist exist exclusively outside the Financial market.

Financial markets deal in financial assets or securities that allows the efficients flow of funds in the economy. Financial assets exists in an economy because the saving of the various individuals, co-operation and Governments during a given period of time differ from their investment in real assets. If the contrary were the case, there would be no external financing, no financial assets and money and capital markets. Since each unit will be self-sufficient, current income, But since these is not the case, the financial assets are created through financial market.

A financial asset is created only when the investments of a economic unit in real assets exceed its saving and it finances this excess by borrowing or issuing equity securities. Of course, there must be another economic unit able and willing to lend that is the saving surplus unit are willing to lend to the savings deficit units before a financial asset is created.

The purpose of financial markets in an economy is therefore to allocate saving efficiently to ultimate users. In modern economics, this is a very important factor since it leads to the economic growth and development of an economy through captial formation and utilisation of productive capacity and resources. Efficient financial markets are therefore absolutely essential to assure adequate capital formation and economic growth in an economy.

The more developed the financial market, the greater the efficiency in the distribution of funds A number of institutions have evolved to improve this efficiency. One is the Loanbroker whose purpose is to find savers and bring them together with economic units needing funds. Because they are specialist in this busire is, they are usually able to do this more efficiently and at lower cost the end individual

individual economic units would have had themselves. Another institution that enhances the efficiency of funds flow in an economy is the secondary market, where existing securities together constitute what is termed the securities market. The first institutions, loan broker, comprises investment banks, investment houses and all other issuing houses while the second, the secondarymarket, refers to the stock exchange market.

The securities market is made up of money and capital market. Even though the dividing line between the money and capital market is often very hazy, the distinction, at least for academic purposes, is still made. The money market is said to deal with securities of one year maturity or less such as treasury bills, treasury certificates, bank drafts ect. The capital market on the other hand deals with securities whose maturity extends beond one year such as goverment bonds and debenture stocks, or those that have no maturity at all such as equity shares and preferred stocks.

The capital market is further subdivided into two: the primary market which deals in new issues of securities. The market for old securities is generally referred to as the stock exchange.

The stock exchange can therfore by denied as the market in which secrurities (Govt) and Industrial which includes debentures, preferred,

Bonds, common stocks and any other instrument that is quoted on the stock exchange are traded in; bought and sold.

However, unlike other markets, not every body can enter the stock exchange and transact business directly and on his own. As a result, the public can only transact business through special agents referred to as brokers.

The need for the stock exchange arises because of one simple fundamental fact: That is the need to satisfy the desire of savers and dis-savers. Ordinarily, the savers of funds are quite different from the users of such funds. In other words, there are those who have money, in every capital economy, that is more than their needs for current consumption and thus looks for places to store their unneeded funds. There are others whose need for funds is always greater than what they have and as such look around for such additional funds. There is thus a need for an organised system for mobilising such savings or excess funds for the use of the deficit sector (Govt and BIZ). All the institutional arrangement that enable this transfer from the surplus units to the deficit units constitute the primary market. Other institutions engaged in this arrangement are called investment bankers (Marchant)

For example, commercial and savings banks receive deposits from their customers insurarance coys obtain.

funds through premium receipts from various policy holders, investment and unit trust obtain their funds through units solds to the public. All those institution then loan out such funds to the dissavers through the purchase of securities issued by them.

At this juncture then one is bound to ask where the stock exchange fits into this arrangement.

5.2 THE STOCK MARKET SYSTEM

The stock market provides an avenue in which stocks and shares are bought and sold. It also provides a mechanism for the raising of capital by means of new issues of securities. This is because the investor who purchase new securities issued by a firm or government is aware that he can easily resale them if and when he wishes to liquidate his investment. Without this assurance, most investors, if not all will not invest in new securities.

According to available information, the stock exchange orginated about the 15th century in the United Kingdom (UK). This started when merchants devise a way of pooling their newards and risks in such a way that other could buy and sell their individual securities through the market. According to sources, merchants who were keen on opening overseas trade but afraid of the hazards it involved, joined together with other willing and able to contribute to

form joint stock companies where both the rewards and risks were pooled together. The capital was divided into shares and any investor who wished to divest his investment could sell his shares to the other.

In order to facilitate the share transaction, the merchants were said to have come together in coffee houses in the city of London where trading on the stocks and shares were conducted. This is the beginning of the mechanism of stock exchange where both buyers and sellers could deal in stocks without being dependent upon finding an exact match for their own purchase or sale. Even today, the stock exchange continues to play this role with the only difference being the introduction of new and sophisticated mechanism.

ORIGIN AND GROWTH

Available records indicate that the Nigeria stock Exchange (herein after refered to as NSE) as an organisation within the capital market is recent creation that came into existence in 1960. Its creation was as a company limited by guarantee under the name of the Lagos stock Exchange. However, it did not start its business operations until about a year later, in 1961. Its creation was the government interest in encouraging its wide scope the name was changed to the Nigeria stock Exchange with branches in Lagos, Portharcourt and

Kaduna. [illegible]

change are at Kano and Aba.

Until 1971, functionaries of the Exchange, the capital issues committee and issuing habits were engaged in establishing a capital market whose rules and operation would be acceptable to the private sector and the foreign compaies operating in the country then. This was fashioned almost in its entirely on the regulations operating on the London Stock Exchange that after became accepted by most investors. The fashioning of the Nigerian stock Exchange on the same precepts as that of London was the anxiety to nurse the organisation so as to ensure its acceptability.

The Nigerian Stock Exchange, operating in an economy that is becoming conscious of Capital Market is a very crucial financial institution. This importance stems from the fact that its acts as a clearing house for stocks and shares issued within the economy. Investors therefore places a lot of confidence on Exchange and want to be assured that nothing is done to shake this confidence on the organisation.

Though still relatively small in terms of business, it conducts, in comparism with other stock exchanges world wide, particularly in the developed capitalist states such as Switzerland, Amsterdam, London, New York, the NSe has over the years made a

Clearly illustrates the increasing influence of the private sector in the Nierian economy. And theirly, the figures show that domestic capital mobilization efforts have contributed significantly in consolidating the Federal Government Engigenisation Programmes of the 1970s, and in subtaining the Privatisation and Commercialisation programmes of the last two years.

It should be noted that the historical growth and/or development of the Nigerian stock Exchange can not be completed without mention of the Privitusation and Commercialisation Programme of the Federal Government under the Technical Committee on Privatisation and Commercialisation, This body which was set up in in 1988 has contributed immensely to the phenomenon increase in the volume and value of securities quoted and traded on the Stock Exchange.

The TCPC has increased the number of ordinary shares traded on the Exchange by selling Government holdings in many companies. These firms, spanning from nearly able the sectors of the economy, have stepped up the capitalisation or mobilization of capital in the economy. The list of these firms cannot be conclusive since more and companies are being privatised and commercialised. The TCPC has been able to revolutionalise the securites quoted on the stock exchange either on the direct listing, or through the

second-tier securities market (SSM). This phenomenal increase in the number of quoted securities on the stock exchange clearly indicates that a work on the Nigerian Stock Exchange required at least a mention of the TCPC.

At the time of writing, a total of 234 secutities are listed and traded on the Stock Exchange. The breakdown of this showed that equities or ordinary shares lead by 143. This is followed by industrial loans with 42 securities, Federal Government development stocks, 41 in number, preference stocks, 3 and bonds 5.

FUNCTION OF THE STOCK EXCHANGE

The stock exchange was established to perform so many functions. These includes:

(i) To regulate the trading in the stock and shares. This is the main function of the Exchange. This includes admitting securities to listing (re granting quotation).[1]

(ii) The Exchange also has the function of authenticating transfer forms for transaction that have been previously done on the floor of the exchange.[1]

(iii) The creation of appropraite mechanism for capital formation and efficient allocation of saving among competing productive investment project.[2]

(iv) Maintenance of discipline and confidence in the capital market.

(v) Providing the necessary liquidity factors for investors through a formal market for debt and equity securities.

(vi) Maintenance of fair and equitable prices for securities.

(vii) Act as a leading indicator of economic activity in the aggregate economy

(viii) To broaden the share ownership base of enterprises.

(ix) The stock exchange also provide market for the purchase and sale of securities.[3]

(x) It also provide capital for the purpose industry and government.

SUMMARY

This work dwelt primarily on assessment of the extent to which the concept of valuation of shares in Nigeria has been adopted as a philosophy and implimented as the basis of investment analysis.

Before delving into this it was necessary to make certain assumption that it has been because of the poor operations of Nigeria firms, and in-effectiveness of the Nigerian Stock Exchange plus the decision of the investors as when, how and where to invest, that give rise to the present decline in the purchase of shares in Nigeria firms It was also necessary to look at the implication of the common shares valuation-concept and also discuss certain factors (models) that make success for financial operation of a firm, as a background to some of the revelation that were made in this study.

Not ignoring that some relevant information had existed on this field before this research was undertaken, these existing literture were looked into to act as the " Theory Behind the Practice"

As generally, agreed that the objective of investors in putting their money in a business is to secure.

income from such business (return). Effort was made in this project to show how this could be achieved.

Chapter three analysed the relationship between capital structure and shares valuation taking various theories into account; Net income approach, Net operating income approach, traditional approach etc.

Similarly, the extent to which dividend shares and value of firm interrelates was also assessed. In this case dividend as a residual decision of a firm was highlighted

The availability of professional bodies and executives skills and talents within the operation of 'financial markets' was also highlighted. That is where financial assets (securities) are traded. We have already learnt in this project that the purpose of financial markets in an economy is therefore to allocate saving efficiently to ultimate users. In modern economics, this is a very important factor since it leads to economic growth and development of an economy through capital formation and utilization of productive capacity and resources.

We have also assessed the operation of the Nigerian Stock exchange as a crucial financial institution that

RECOMMENDATIONS

The following recommendation have been advanced by the author from the findings.

(a) That the Government and its own handling the affairs of the exchange should make relevant information available at all times for participants' easy read and use.

(b) That there sholud be an education drive to make people aware of the work of the stock exchange and how it can be used.

(c) That weekly prices be published as is the practice now but this time with more information on how these prices are arrived so that participants can also forecast the trend the following week to allow full participation by all

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