NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF MANAGEMENT SCIENCES

COURSE CODE: ACC 415

COURSE TITLE: FINANCIAL MANAGEMENT I

FINANCIAL MANAGEMENT
ACC415
Course Guide

Course Developer/Writer: ICAN STUDY PACK

Adapted by: Dr I. D. Idrisu
National Open University of Nigeria

Course Editor: Dr O. J. Onwe
National Open University of Nigeria

Programme Leader: Dr. I. D. Idrisu
National Open University of Nigeria

Course Coordinator: Anthony I. Ehiagwina
National Open University of Nigeria

CONTENT

INTRODUCTION

You are holding in your hand the course guide for ACC415 (Financial Management). The purpose of the course guide is to relate to you the basic structure of the course material you are expected to study as a B.Sc. Accounting Student in National Open University of Nigeria. Like the name 'course guide' implies, it is to guide you on what to expect from the course material and at the end of studying the course material.

COURSE CONTENT

The course content consists basically of issues relating to how finance is managed in various organisations.

COURSE AIM

The aim of the course is to bring to your cognizance the theoretical and practical tools used in financial management and how issues relating to financial management are handled.

COURSE OBJECTIVES

At the end of studying the course material, among other objectives, you should be able to:

- Define and explain strategic financial management;
- State the two broad categories of strategic financial decisions that are normally made by the financial managers of an organisation;
- Mention some of the alternative courses of action (strategies) that are available to the company and capable of achieving the organisation's financial objectives;
- State some other aspects of the overall strategic plan in which financial managers are involved;
- List the steps involved in strategic financial decision-making
- Cary out sensitivity analysis of a projects outcomes;
- Calculate the Expected Net Present Value (ENPV) of projects;
- Draw decision trees with a view to solving future alternative sequential problem;
- Discuss and state the qualitative factors affecting capital investment decisions.
- State, and explain, the key factors which a company should consider when raising finance through issue of loan stocks:
- State, and explain, the major factors which a company should consider when raising equity funds; and
- Explain the special nature of such Issues as convertibles and warrants and state their advantages to the company issuing them

COURSE MATERIAL

The course material package is composed of:
The Course Guide
The study units
Self-Assessment Exercises
Tutor Marked Assignment
References/Further Reading

THE STUDY UNITS

The study units are as listed below:
MODULE 1
Unit 1: Nature and Scope of Strategic Financial Management
Unit 2: Capital Budgeting under Risk and Uncertainty
Unit 3: Sources of Finance
MODULE 2
Unit 1: Valuation of Securities
Unit 2: Medium-Term Sources of Finance
Unit 3: Cost of Capital
MODULE 3
Unit 1: Capital Structure and Value of the Firm
Unit 2: Dividend Policy
Unit 3: The New Issues Market
MODULE 4
Unit 1: Working Capital Management
Unit 2: Corporate Restructuring Merger and Acquisition/Take-over

ASSIGNMENTS

Each unit of the course has a self assessment exercise. You will be expected to attempt them as this will enable you understand the content of the unit.

TUTOR MARKED ASSIGNMENT

The Tutor Marked Assignments (TMAs) at the end of each unit are designed to test your understanding and application of the concepts learned. Besides the preparatory TMAs in the course material to test what has been learnt, it is important that you know that at the end of the course, you must have done your examinable TMAs as they fall due, which are marked electronically. They make up to 30 percent of the total score for the course.

SUMMARY

It is important you know that this course material was actually adapted from ICAN study pack. This provides you the opportunity of obtaining a BSc. degree in Accounting and preparation for your professional examinations. Therefore, it is very important that you commit adequate effort to the study of the course material for maximum benefit. Good luck.

FINANCIAL MANAGEMENT

ACC415

MAIN CONTENT

Course Developer/Writer: ICAN STUDY PACK

Adapted by: Dr. I. D. Idrisu
National Open University of Nigeria

Course Editor: **Dr. O. J. Onwe**
National Open University of Nigeria

Programme Leader: Dr. I. D. Idrisu
National Open University of Nigeria

Course Coordinator: Anthony I. Ehiagwina
National Open University of Nigeria

MODULE 1

Unit 1 Nature and Scope of Strategic Financial Management.
Unit 2 Capital Budgeting under Risk and Uncertainty
Unit 3 Sources of Finance

UNIT 1 NATURE AND SCOPE OF STRATEGIC RNANOAL MANAGEMENT

CONTENTS

1.0 INTRODUCTION

Strategic financial management can be described as the allocation of scarce resources to identified possible strategies among competing opportunities and taking necessary actions to monitor the progress of the chosen opportunity so as to achieve set objectives.

However, the Chartered Institute of Management Accountants of UK (CIMA) defines Strategic Financial Management as" the identification of the possible strategies capable of maximising an organisation's net present value, the allocation of scarce capital resources between competing opportunities and the implementation and monitoring of the chosen strategy so as to achieve stated objectives".

In order to understand what Strategic Financial Management is about, it is necessary to know the meaning of the two words 'Strategy' and 'Strategic' as provided by the Oxford Advanced Learner's Dictionary, 6th edition.

Strategy: This is the process of planning something or carrying out a plan in a skilful way.

Strategic: This is done as part of a plan that is meant to achieve a particular purpose.

If the above definitions are used as a guide, then strategic financial management can be defined, as those aspects of the overall strategic plan of an organisation that concern the financial managers. For example, there are many aspects of a business plan (to be discussed later under Corporate Strategy): marketing and sales plan, production plan, capital expenditure plan, etc. All these plans have far-reaching financial implications for the financial terms for the purpose of evaluating the overall performance of the organisation; which, itself, is measured in financial terms.

2.0 OBJECTIVES

After studying the chapter, readers should be able to:

- Define and explain strategic financial management;
- State the two broad categories of strategic financial decisions that are normally made by the financial managers of an organisation;
- Mention some of the alternative courses of action (strategies) that are available to the company and capable of achieving the organisation's financial objectives;
- State some other aspects of the overall strategic plan in which financial managers are involved; and
- List the steps involved in strategic financial decision-making.

3.0 MAIN CONTENT

3.1 The Scope of Strategic Financial Management

There are two broad categories of strategic decisions that are normally made by the financial managers of an organisation:

Decisions regarding investments in the assets of the company: The most appriopriate level and mix of the assets.

Decisions regardng how such investments should be financed: The optimum level and mix of funding requirements for the assets.

The above main decisions will focus on providing answers to the following questions:

Should a new factory be built for the purpose of producing (and selling) a new product or should a company already involved in the production of such a product be acquired?

Should an organisation make a particular component in-house or should it buy it from outside?

In financing the investments, should the company rely solely on funds from owners or should it mix these funds with those from lenders?

If a mix of funds is the option taken, what proportion of each source should be used?

How should the funds be made available and at what cost?

Should dividends be paid now or should earnings be re-invested and dividends paid later?

If the organisation decides to pay dividend, what proportion of the available earnings should be paid and what proportion should be retained for future expansion and growth?

Should the organisation be paying a fixed Naira amount or a fixed percentage of earnings every year?

What should be the appropriate level of stocks to hold at any point in time? Should the company extend credit to customers and how much should be given to each customer?

Should the company take advantage of cash discount if offered by suppliers? Which type of banks' facility arrangement should be put in place -term loan, overdraft or both?

3.2 Impucation of the Prefix *'Strategic'* In Strategic Financial Management

The prefix "strategic", to financial management, means that decisions to accept or reject proposals have to be based on strategic factors. Capital investment decisions are typical examples of these decisions. An investment proposal may add value to the business based on the application of the discounted cash flow techniques which takes into account only the quantifiable cash flows. However, the decision might be to reject the proposal if some highly uncertain but very beneficial inputs are not considered. On the other hand, a proposal might be accepted on strategic bases even if, based on quantifiable cash flows alone, it subtracts value from the business.

3.3 Other Related Activities in Which Financial Managers Are Involved

The other related activities in which Financial Managers are involved include the following:

Financial managers work with other managers within the organisation in the preparation of the various plans with a view to producing the projected financial statements of the organisation.

Financial managers match each aspect of the business plan with the financial resources available and ensure that each plan, in financial terms, falls within the total funds available. A production plan, for instance, must not only be in agreement with the overall strategic plan but must also be financially feasible. Financial managers, along with other managers, are involved in monitoring and controlling the activities of the organisation. Actual resources used are compared with planned resources, deviations are highlighted and appropriate corrective action is taken in each case.

Financial managers work hand-in-hand with capital market operators, particularly the issuing houses and the stockbrokers. They are concerned with the effect of their decisions on the share price. For example they do not have worry about threats of take-over if their organisation's share price is increasing.

Financial managers concern themselves with the events in the legal, political and socio-economic environment, since it may affect the organisation's cash flow. An example is the enactment of the law on environmental pollution by the National Assembly.

3.4 Steps in Strategic Financial Decision-Making

- Determine the objectives of the organisation.
- Identify all possible courses of action.
- Collect, collate and record data in respect of each alternative course of action.
- Analyse, summarise and present data in a form suitable for decision making.
- Arrive at a decision, taking into account quantitative, non-quantitative, social, cultural, normative, psychological factors etc.
- Execute the decision, through pragmatic and co-ordinated action, to actualise the plan,
- Highlight the differences between planned results and actual results.

4.0 CONCLUSION

5.0 SUMMARY

6.0 TUTOR-MARKED ASSIGNEMNT

7.0 REFERENCES/FURTHER READING

UNIT 2 CAPITAL BUDGETING UNDER RISK AND UNCERTAINTY

CONTENTS

1.0 INTRODUCTION

Uncertainty and risk analysis in capital investment decisions play a vital role because the real economic worth of a project cannot be properly determined if they are not considered. Risk is a situation in which various outcomes to a decision are possible and the probabilities to those alternative outcomes are known. Uncertainty. on the other hand, describes a situation where there is no such knowledge of probabilities about the outcomes_ Risk and uncertainty in investment decisions arise because of the inability of the financial manager to forecast the possible future events of the project with certainty.

In resolving the issue of risk and uncertainty, various techniques are applied to analyse their effect on capital investment decisions. Some of the techniques are

(a) Payback period
(b) Finite Horizon
(c) Certainty Equivalent
(d) Risk Adjusted Discount Rate
(e) Sensitivity Analysis 6, Simulation
(f) Expected NPV
(g) Standard Deviation and Variance
(h) Co-efficient of Variation

(i) Decision Tree.

2 .0 OBJECTIVES

After studying this chapter, readers should be able to:

- Evaluate investment projects using "Certainty Equivalenr method;
- Cary out sensitivity analysis of a projects outcomes;
- Calculate the Expected Net Present Value (ENPV) of projects;
- Draw decision trees with a view to solving future alternative sequential problem; and
- Discuss and state the qualitative factors affecting capital investment decisions.

3.0 MAIN CONTENT

3.1 Payback Period

In the payback period method, the shorter the time required to return the project's initial outlay, the better. In its simplest form, the payback method completely ignores returns after the payback. the distribution of returns within the payback period, and discount rates. The payback period method is based on the rationalisation of "the sooner, the surer" and focuses attention on the near future. thereby emphasising the liquidity of the firm through the early recovery of capital.

3.2 Finite Horizon

In the finite horizon method, returns beyond a particular date are ignored, while returns within a certain period are subjected to analysis. The longer the horizon the less this will matter and the nearer the method becomes a straight forward discounting cash flow method. The assumptions for using this method are as follows:

a) Cash flows of future years for conventional projects would normally be the net cash inflows.
b) The inability to forecast cash flows of distant future years is unavoidable
c) The present values of distant future cash flows will be insignificant and immaterial since they will tend to zero. For example, a project with a ten year life span may be evaluated with cash flows of only the first five years.

3.3 Certainty Equivalent

Under the certainty equivalent method, a risk adjusted factor known as certainty equivalent co-efficient is used to adjust for the risk effect in the projects cash flow. Multiplying a period's cash flow with the co-efficient produces the certainty equivalent cash flow which is discounted to appraise the project.

I1LUSTRATION

A project costs 3470b00 and it has cash flows of 3340.000 4450,000 and 4435,000 in years 1 to 3. Assume the certainty equivalent co-efficient are estimated to be 1.00. 0.85. 0.75 and 0.6 for years 0-3. respectively, and the risk- free discount rate is 10%. Calculate the net present value.

SUGGESTED SOLUTION

Yrs	Cash flow ₦	Certainty Equivalent Co-efficient	Certainty Equivalent Cash flow ₦	DCF@10%	PV ₦
0	(70,000)	1.00	(70.000)	1.000	(70,000)
1	90,000	0.85	39,000	0.909	30,906
2	50,000	0.75	37.500	0.826	30,975
3	35,000	0.60	21.000	0.751	15,771
				NPV =	**7.652**

34 Risk Adjusted Discount Rate

Unlike the certainty equivalent method where adjustment for the riskiness of a project is done on the cash flow, in the risk adjusted discount rate method, the project risk effect is adjusted for in the discounting rate. For the riskiness of a project, a risk premium is determined and added to the risk-free discount rate. If, for instance. a firm evaluates its risk-free projects at 10% and defines extra 5% for risk premium, risky projects will be evaluated at 15%.
This means that:

Risk-Adjusted Discount Rate Risk Free Rate + Risk Premium.

3.5 Sensitivity Analysis and Simulation

This method is valuable, practical and is widely used. Sensitivity analysis is a particular kind of simulation in which limiting and crucial values of a project's parameters are ascertained. The parameters will usually be the values which will render NPV to zero.

Sensitivity analysis is a measure of the impact of a change in the value of one of the project's variables such as discount rate, lifespan, sales volume. Sales price and annual fixed cost. The more the changes that occur in the NPV. the more crucial the parameter of sensitivity analysis to the firm.

ILLUSTRATION

For an investment project, the following initial estimates have been made:

Initial outlay on equipment N100,000	
Sales price	₦30
Unit cost	₦20
Discount rate	10% per annum
Life of project	3 years
Sales volume	(units)
Year 1	4,000
Year 2	6,000
Year 3	3,000

The equipment will manufacture a product at the above-stated unit cost and selling price in the volumes indicated. Calculate the maximum tolerable unfavourable changes as a percentage of the original estimated value in:

a) Sales price
b) Unit cost
c) Sales volume
d) Initial outlay.

SUGGESTED SOLUTION

Yrs	Sales Volume	Unit Selling Price	Total Sales	Unit Cost	Total Variable Cost	Contribution button
	(Units)	₦	₦	₦	₦	₦

1	4,000	30	120,000	20	80,000	40.000
2	6.000	30	180,000	20	120,000	60.000
3	3,000	30	90,000	20	60,000	30,000

Calculation of NPV

Yrs	NCF (Contribution)	DCF®10%	PV
0	(100,000)	1.000	(100.000)
1	40.000	0.909	36,360
2	60,000	0.826	49,560
3	30,000	0.751	22.530
	NPV		**8.450**

Thus, the project is worthwhile. Maximum tolerable changes in:

(a) Sales Price

$$\frac{\text{NPV of NCF}}{\text{PV of Total Sales}} \times 100\%$$

NCF = Net Cash Bow (Contribution)

Yrs	Total Sales ₦	DCF ®10%	PV ₦
1	120.000	0.909	109.080
2	180.000	0.826	148.680
3	90,000	0.751	67,590
			325,350

$$= \frac{₦8.450}{₦325.350} \times 100\% = \mathbf{2.6\%}$$

The sales price should not fall by more than 2.6% of 4430 (which is 78/0. It should at least be sustained at ₦29.22K, otherwise the project will not be viable.

(b) Unit Cost

$$\frac{\text{NPV of NCF}}{}$$

PV of Variable Cost x 100%

PV of variable cost

Yrs	Variable Cost	DCF010%	PV of Variable Cost ₦
1	80.000	0.909	72,720
2	120.000	0.826	99.120
3	60,000	0.751	45,060
			216,900
		= N448,450 / N4216.000 x 100% = 3.9%	

For the project to remain viable, the unit cost of the product should not fall by more than 3_9%. The variable cost should not be less than ₦19.22 (4420 less 78k) per unit.

(c) Sales Volume

NPV of NCF / (PV of Contribution) x 100%

PV of Contribution

Yrs	Contribution	DCF@IO%	PV of contribution
1	40,000	0,909	36.360
2	60,000	0,826	49,560
3	30,000	0,751	22,530
	= ₦8,450 x 100% / ₦ l08.450 = ₦7.79%		**108.450**

The sales volume of the product should not be reduced by more than 7179% every year for the project to be worthwhile.

(d) Initial outlay:

$$= \frac{\text{NPV}}{(Initial\ outlay)}\ x\ 100\%$$

$$= \frac{\text{N8,450}}{N100,000}\ x\ 100\%$$

= 8.45%

For the project to be viable, the initial outlay of the project should not increase by more than 8.45%.

3.6 Expected NPV

This is based on the principle of expected value. Once probabilities are assigned to future outcomes of net cash flow lord period, the expected value would be calculated and discounted. The expected NPV arithmetically takes account of the expected variability of two or more possible outcomes by averaging possible outcomes weighted by their respective probabilities.

ILLUSTRATION

For example, a jltject.rds for three years with the following distribution of returns in each year, viz:

Year 1		Year 2		Year 3	
Return ₦000	Probability	Return ₦000	Probability	Return ₦000	Probability
10.000	0.1	20.000	0.4	10.000	0.3
12,000	0.6	30,000	0.6	16,000	0.5
16.000	0.3			20,000	0.2

The project will cost the company 4442 million to establish. Calculate the expected NPV if the discount rate is 10%.

SUGGESTED SOLUTION

Calculation of Expected value

Year 1 Returns	Probability	Expected Value	Return	**Year** *2* Probability	Expected Value
₦000		₦000	₦'000		₦000
10,000	0.1	1.000	20.000	0.4	8.000
12,000	0.6	7.200	30.000	0.6	18,000
16.000	0.3	4.800			
		13.000			**26.000**

Returns	**Probability**	**Year 3 Expected Value**
₦'000		**₦000**
10.000	0.3	3.000
16,000	0.5	8.000
20,000	0.2	4.000
		15,000

Calculation of Expected NPV

Yrs	**ENCT**	**DCF@10%**	**PV**
	₦'000		**₦000**
0	(42.000)	1.000	(42.000)
1	13,000	0.909	11.817
2	26.000	0.826	*21.476*
3	15.000	0.751	11.265
			2.558

Decision: The project cash flow gives a positive NPV of ₦2.558 million, therefore it is accepted.

3.7 Standard Deviation and Variance

Standard deviation is an absolute measure of risk. It measures the dispersion of cash flow or the spread about the mean value. The standard deviation of NPV (SD_{NPV}) is given by the formula:

$$\text{SDNPV} = \sum \sqrt{(NPV - ENPV)^2 \rho}$$

Standard deviation is a proxy measure of total risk for the investment and takes no account of possible offsetting variations in other projects that may be undertaken by the same investor.

Variance is the square of standard deviation. It is the average squared departure of NPV from its mean value.

ILLUSTRATION

Suppose a firm has to choose between two mutually exclusive projects that cost 193 million each. The following are the possible net cash flows of the project and their associated probabilities; viz:

Project X		**Project Y**	
Probability	**NC? N000**	**Probability**	**NCF**
0.10	3.000	0.10	2,000
0.20	3.500	0.25	3,000
0.40	4,000	0.30	4,000
0.20	4.500	0.25	5,000
0.10	5,000	0.10	6,000

Determine the standard deviation and variance of each project and advise which of them is preferable

SUGGESTED SO1UTION

Project 'X'

Probability	NCF(x)	Expected Value	$(x - \bar{x})$	$(x - \bar{x})^2$	$P(x - \bar{x})^2$
	₦000	₦000	₦000	₦'000	₦000
0.1	3,000	300	(1,000)	1,000,000	100,000
0.2	3,500	700	(500)	250.000	50,000
0.4	4,000	1.600	0	0	0
0.2	4,500	900	500	250.000	50.000
0.1	5,000	500	1.000	1,000,000	100,000
Expected Value (EV) $\bar{x}$		4,000			300.000

Project x_δ (SD) x $\sqrt{₦300,000,000}$ = N547,720

Project 'Y'

Probability	NCF(x)	Expected Value	$(x - \bar{x})$	$(x - \bar{x})^2$	$P(x - \bar{x})^2$
	N000	N000	N000	N'000	N000
0.10	2.000	200	(2.000)	4.000,000	400.000
0.25	3,000	750	(1.000)	1.000,000	250,000
0.30	9,000	1.200	0	0	0
0.25	5.000	1,250	1,000	1.000.000	250.000
0.10	6,000	600	2,000	4.000,000	400 000
Expected value (EV) $\bar{x}$		4,000			1,300,000

Project Y. (SD) Y = $\sqrt{₦1,300,000,000}$ = ₦1,140,180

Since both projects will yield the same net present value, the firm should choose the project which is less risky. This is project X.

3.8 Coefficient of Variation

Co-efficient of variation is a relative measure of risk. It is simply the ratio of standard deviation of possible outcome divided by its expected value, depicted by the following formula:

Co-efficient of variation $\frac{\text{Standard Deviation}}{\text{Expected value}}$

ILLUSTRATION

Using illustration 12-4. compute the co-efficient of variation for the two projects.

SUGGESTED SOLUTION 12-5

Project X

$= \frac{547.72}{4{,}000} = 0.13693$

Project Y

$= \frac{1140.18}{4{,}000} = 0.2850$

Using this concept, the lower risk of project 'X' has been confirmed.

3.9 Decision Tree

This is a method of representing alternative sequential decisions and the possible outcomes from the former, in a graphical form. Since present investment decisions may have implications for the future and the outcomes of those chance events are not known, then a probability distribution can be assigned. Decision tree shows the relationship on a future event and their consequences.

ILLUSTRATION

A project has an in I outlay of 4415 million. Return in Year 1 is 0613.5 million with probability of 0.4 or 349 million with probability of 0.6. If in Year 1449 million return is generated then in Year *2* there can be 3412 million IP=0.2) or 0110.5 million (1^3:0.8). If the first year return had been 4413.5 million, then in the second year there is a seven-tenths chance of 446 million and a three-tenths chance of 441.5 million. Find the co-efficient of variation if the discount rate is 10%.

SUGGESTED SOLUTION

Probability

	0.4	₦ 6,000	0.7	0.28	(0.7 x 0.4	i
	₦13,500	₦ 1,500	0.3	0.12	(0.3 x 0.4	ii
(₦15,000)	0.6	₦12,000	0.2	0.12	(0.2 x 0.6	iii
	₦ 9,000	₦10,500	0.8	0.48	(0.8 x 0.6	iv

All figures are in N'000

Calculation of NPV

Alternative

I. = (15,000) + $\frac{13,500}{1.1} + \frac{6,000}{(1.1)^2}$ = ₦2,231.40

II. = (15,000) + $\frac{13,500}{1.1} + \frac{15,,000}{(1.1)^2}$ = (₦1,487.60)

III. = (15,000) + $\frac{9,500}{1.1} + \frac{12,000}{(1.1)^2}$ = ₦3,099.18

IV. = (15,000) + $\frac{9,000}{1.1} + \frac{10,500}{(1.1)^2}$ = 1,859.50

All figures are in ₦'000

Probability		NCF x	Expected Value	$(x - \bar{x})$	$(x - \bar{x})^2$
		₦'000	₦000	₦000	₦000
I	0.28	2,231.40	624.79	520.66	271,086.84
II	0.12	(1.487.60)	(178.51)	(3,198.34)	10.229.378.76
III	0.12	3,09918	371.90	1,388.44	1,927,765.63
IV	0.48	1,859.50	892.56	148.76	22,129.54

$\bar{x}$ =1,710.74

Probability	$(x-x)^2$	$p(x-x)^2$
0.28	271.086.84	75,904.32
0.12	10,229,378.76	1.227.525.45
0.12	1,927.765.63	231.331.88
0.48	22.129.54	10,622.18
1.00		1,545,383.83

Variance = G^2NPV = 1.545.383230

δ_{NPV} (SD) = $\sqrt{₦1,545,383,830}$

= ₦1,243.130 approximately

Coefficient of variation $\frac{₦1,243,130}{₦1,710,740}$ = 0.7267 approximately

3.10 Qualitative Factors in Capital Investment Decision

It is not simply the use of the most referred DCF techniques (quantitative factors) that is important in capital investment decision, other practical considerations are as equally important. These are the qualitative factors and judgment.

In theory, the use of sophisticated techniques (DCF, IRR and so on) is emphasized since they maximize shareholders wealth. However in practice, companies give considerable importance to qualitative factors.

Reliability of figures could not be achieved without due consideration given to qualitative factors and in this respect judgment plays a significant role. For example, vision of judgment of the future plays an important role in factors like market potential, possibility of changes in technology, trend of government policies and so on. which are judgmental. Therefore, qualitative factors and judgment go together.

Qualitative factors

The qualitative factors to be considered in capital investment decisions include:

(a) adaptation to the changing market environment - market potential.

(b) technological development/change or obsolescence. This plays a significant role in guiding investment decisions
(c) employees morale and safety.
(d) projects' critical utility in the production of a main product.
(e) strategic importance of capturing a new product first
(f) investors and customers image
(g) legal matters.
(h) competitors.
(i) risk involved in the project to be undertaken.
(j) capabilities of management to cope with the implementation of the project.
(k) consumer preference.
(l) inflation.
(m) the environment in which the project is to be undertaken.

Finally. DCF and other evaluation methods are guides. There is little value In using an analysis that does not consider the most appropriate alternative and sound assumptions. Resource allocation is not simply a matter of choosing the most profitable new projects; there are other factors that are equally important and may affect the final decision. It is therefore important for management to also spend time improving the quality of assumptions and assuring that all the strategic questions have been asked before taking final decision on capital investments.

Once strategic questions have been answered, investment proposals may be subjected to DCF and other investment techniques.

4.0 CONCLUSION

Capital Investment Appraisal under uncertainty involves the special appraisal technique such as payback period, finite horizon, certainty equivalent sensitivity analysis and others. All these techniques are methods of incorporating risk into the appraisal process.

Under uncertainty the appropriate decision variable to use in projects appraisal, is the expected net present value (EN PV), the standard deviation and variance of the project.

5.0 SUMMARY

In evaluating projects with sequential outcomes. it might be more informative to use decision trees.

In addition to quantitative factors, finance managers should also try to assess any qualitative benefits that accrue to a project before taking final decision.

6.0 TUTOR-MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING ICAN STUDY PACK

REVISION QUESTIONS

1. In relationship to capital budgeting, what is the difference between risk and uncertainty?

2. In the context of projects Investments evaluation what Is ¯certainty equivalent?

3. State one way of calculating the expected net present value of a project.

4. What is decision tree?

5. What is the process involved in simulation?

UNIT 3 SOURCES OF FINANCE

CONTENTS

Strategic financing is a major function of financial managers in business organizations. While they require short-term finance to support their companies' working capital needs, they strategically search for the appropriate long-term finance(s) to enable them carry out their strategic investment functions of allocating Capital resources towards fixed assets. The finance managers, in order to function effectively and efficiently, need to know all the major sources of funds available, their characteristics, their advantages and disadvantages both on a stand alone basis and in relation to one another. The knowledge of all the above will enable a finance manager to locate the right source, choose the cheapest

Source, balance risk and return, and Select that source of finance that will fit in with the strategic goals of the firm.

2.0 OBJECTIVES

After studying this invite readers should be able to:

- Identify, and discuss, the main sources of long-term finance
- State, and explain, the key factors which a company should consider when raising finance through issue of loan stocks:
- State. and explain, the key factors which a company should consider when raising finance through the issue of preference shares;
- State, and explain, the major factors which a company should consider when raising equity funds; and
- Explain the special nature of such Issues as convertibles and warrants and state their advantages to the company issuing them

3.0 MAIN CONTENT

3.1 Sources of Short-Term Finance

The major sources of short-term funds for companies are trade credit, bank overdraft, bankers' acceptances (BAs) and commercial papers. All these sources have certain common characteristics: they provide liquidity for companies possess little or no risk for the lenders and thus provide relatively cheap sources of finance for the borrowing companies.

3. 1.1 Bank Overdrafts

These are commercial banks' facilities which, by arrangement, allow companies to draw cheques in excess of what they have in their current accounts. A company, based on its risk profile, may be asked to pay a specified percentage for example 3% to 5% over the prime lending rate of the lending bank. There are, also, fixed establishment charges such as management fees payable on the facility.

The cost of funds is usually low as interest is only paid on funds used for the period the funds are actually utilised and the rates are relatively low vis-a-vis rates payable on loans.

Overdraft facilities help companies to cover temporarily net cash outflow situations. However, in principle, they are repayable on demand. This is, no doubt, a disadvantage to those companies that use overdraft facilities more or less as a permanent source of finance.

3.1.2 Trade Credits

This is a credit which a company takes when it is allowed to defer payment for goods supplied to it. As the credit is an inherent part of all credit transactions, there is. unlike interest on overdraft, no explicit cost to the firm. If a cash discount is offered to the company to encourage the company to pay earlier than agreed and the company takes advantage of this discount, there is still no cost. However if the company does not take advantage of the discount, there is a cost that is real.

ILLUSTRATION

Assume that a 3% cash discount is offered for a period of 45 days, that is "3/15 net 60"

Calculate the real cost of fund?

This process can be likened to taking a loan of ₦ 97 for 45 days at an interest cost of ₦3.

The company can compare this rate with interest rate on overdraft and decide whether or not to take advantage of the cash discount. If. for example, the company currently pays 21% p.a., it will be advisable to take advantage of the discount The assumption here is that the company would borrow at 21% p.a., use the funds thereby raised, to pay the creditor early enough to enjoy interest savings of 25.06% p.a.

It should be noted, from the above that trade credit is not per se, a free source of funds.

Where the credit term is expressed as say “3/15 net 60”, it means that the payment for goods supplied can be delayed for 60 days. If, however cash is paid within 15 days a discount of 3%will be given. The following formula can then be used:

$$\frac{\%\text{Discount}365}{100\% — \%\text{Discount}} \; x \; \frac{365}{\text{payment date} — (\text{Mount period}}$$

The real cost of funds can be calculated as follows:

$$\frac{3\%}{100\% — 3\%} = \frac{3}{97} = 3.09\% \; for \; 45 \; days$$

If this is expressed on an annual basis, that is, annualised it becomes.

3.09 x 365/45% = 25.06% p.a.

Advantages

From the point of view of the company, the advantages of trade credit include:

(a) It provides interest free funds where there is no cash discount or an advantage is taken of cash discount when offered.
(b) The arrangement pays the company in a period of inflation.

Disadvantages

The disadvantages include:

(a) Possible higher price
(b) The company might have the opportunity of paying cheaper if immediate settlement of a transaction is made.
(c) Lower credit rating. If trade credit is abused, the company's credit rating might be lowered. Suppliers might subsequently be demanding cash or stop supplies.
(d) Administrative Costs. Credit taking usually involves some paper work with its attendant administrative and account costs.
(e) Restrictive Covenants. Restriction may be embodied in the trade credit agreement, which call for minimum order size, continued patronage and so on.

3.1 .3 Revolving Credit Facility

This is a type of bank finance and it entails the following steps:

(a) The bank enters into a legal commitment, with the company. to lend up to a specified amount of money for an agreed period of time.

(b) Based on the above commitment the company issues successive promissory notes covering the whole amount of the facility and bearing an interest rate already agreed and perhaps linked to the central Bank of Nigeria (CBI%) monetary policy rate (P1PR).

(c) The bank undertakes to sell these notes (commercial paper) in the money market and where unsuccessful agrees to underwrite the issue by buying the notes up in the market.

(d) The company agrees to pay a commitment fee of say 1% per annum on the unutilised part of the specified amount for the bank's promise to make funds available. This is besides the interest on the amount of the credit actually given.

The flexible nature of this form of facility is the major advantage to the company. The bank may also benefit as it gives its customer a support that is unlikely to hinder its

3.1.3 Bankers Acceptance (BA)

This instrument has been discussed earlier in this pack under money market instruments. Companies use BAs to finance both domestic and global trade.

3.1.4 Commercial Papers (CP)

Similarly, this short-term promissory note had been discussed under money market instruments. It should be noted however. that it is a more expensive way of financing when compared with bankers acceptance.

3 .2 Sources of Long -Term Finance

In law, long-term finance, is financing that is made available for more than one year. However, in practice, finance under this heading would include medium-term and long-term. The classification into time periods say 3 years. 5 years. 7 years. 10 years and 25 years will depend on the company.

The main sources of medium to long-term finance are loan (debt) capital preference share capital, ordinary (equity) share capital, convertibles and medium-term bank credits such as equipment finance, project finance and finance lease. Each of these sources has its own unique characteristics which are discussed except medium-term bank credit which will be discussed in the subsequent chapter.

3 .2.1 Loan (Debt) Capital

This comprises fixed-interest, secured loan stocks (also known as debentures) issued by companies. The loan stocks are said to be secured by a fixed charge on the company's specific identifiable property and a floating charge on all the assets of the company, both movable and immovable.

A floating charge means that the company can continue to deal with the assets charged (that is buy or sell). collaterise them for further loan until it does something (for example, defaults on interest payment or principal repayment) which makes the charge to crystallise. When this happens, the company can no longer deal with those assets. Debenture holders can then sell as many assets they require to redeem their loan.

A Trost Deed is normally prepared to protect the interests of the debenture holders. The Trust Deed defines the rights of the debenture holders in case of default. put certain restrictions on the company (for example a limit on the further amount of debt that can be raised) and provides for the appointment of a receiver If. for example, the company defaults, a receiver will be appointed to sell its assets and re-imburse the creditors to the extent of the amount owing.

Unsecured lenders are less protected; on default, they will only share with other unsecured creditors.

3.2.1.1 Factors to Consider When Raising Finance through Issue of loan Stock

The following factors should be considered by the company when issuing loan stocks:

(a) Issue (or floatation) costs
These are low compared with costs of issuing preference or ordinary shares.

(b) Servicing costs
The expected return, in terms of interest income and capital growth, is low because anticipated risk by lenders is also low. This implies that the cost of funds to the company is relatively low vis-h-vis other major forms of finance.

(c) Interest Payment
Interest must be paid whether or not the company makes a profit_ This may impact negatively on earnings per share (EPS) which is an important measure of company's performance from the stand point of equity shareholders. Also, default on interest payment may attract sanction from creditors.

(d) Capital Repayment
Where it is a redeemable loan stocks issue, the company has a contractual obligation to pay back the principal amount.

(e) Tax Deductibility
Interests unlike preference or ordinary share dividends. are fax deductible. They are allowed to be charged against profit before taxing such profit. This makes it to be relatively cheaper as preference and ordinary shares dividends are appropriations of profit.

(f) Control
The managers' ability to run the affairs of the company is limited by the restrictive covenants entrenched in the Trust Deed.

3 .2.2 Preference Shares Capital

This is capital raised through issue of preference shares.
Holders are regarded as part-owners of the company and are entitled to a fixed income in form of dividend and receive this income before equity shareholders get anything. However, unlike interest payment, the holders need not be paid. Notwithstanding, where the shares are expressed to be cumulative, all previously unpaid dividends must be paid before the ordinary shareholders.

On liquidation of the company. preference shareholders, subject to the provisions of the Articles, are entitled to a return of capital before ordinary shareholders

3. 2. 2. 1 Factors To Consider When Raising Finance Through Preference Shares

The following factors should be considered by the company when issuing preference shares:

(a) **Issue (or floatation) cost**
These are likely to be more than costs of issuing loan stocks but almost the same as those incurred when raising equity finance.

(b) **Servicing Costs**
These are likely to be more than those of lenders but less than those of the ordinary shareholders. This is because, in terms of risk, preference shares are regarded by the market as more risky than loan stock but less risky than ordinary shares.

(c) Dividend Payment
The company needs not pay dividend as the law does not compel the company to pay preference dividend.

(d) Repayment of Capital
Where the issue is redeemable, capital must be returned at maturity. Where it is irredeemable, the holders of preference shares are in a similar position with ordinary shareholders.

(e) Tax Deductibility
Preference dividends are not tax deductive. They are an appropriation of profit.

(f) **Control**
Preference shareholders have no right to vote. They may vote only when their dividends are in arrears.

3 .2 .3 Ordinary Shares Capital

This is capital raised through the issue of ordinary shares. Holders are the owners of the firm and exercise the ultimate control over it. They bear the greatest risk as they may or may not receive dividends and their capital may be partially or totally lost.

While the firm is a 'going concern' they are the last to receive income and while on liquidation they occupy the bottom of the list in terms of capital replacement.

However, if the company is successful, ordinary shareholders gain substantially as they take the residual income after all other interests have been satisfied and also take the balance of capital on liquidation. Ordinary shareholders have voting rights which they use at annual general meetings to exercise control over the company. Lenders have no such voting rights and preference shareholders have limited voting rights as they are only allowed to vote when their dividends are in arrears.

3 .2. 3. 1 Factors to Consider When Raising Finance through Ordinary Share Capital

The following factors should be considered when issuing ordinary shares:

(a) Floatation (issue) costs
Those costs fluctuate, depending on the issue method used and the amount raised in the market. The costs of raising equity finance are very high when they are compared with rights issue cost and zero explicit cost of retention.

(b) Servicing Costs
The returns required (or expected) by the equity shareholders are very high in terms of dividends and capital growth (capital appreciation). This is. because they presumably bear the greatest risk.

(c) Dividend Payment
There is no commitment by the company to pay dividends, since there is no legal obligation to do so. Dividends can only be declared at the instance of the directors, although approval will come horn the ordinary shareholders. It is only on liquidation that

a company is obliged to pay dividend where the final position of the liquidated company permits it.

(d) **Repayment of capital**
The company has no obligation to repay capital except when the company is in liquidation.

(e) **Tax Deductibility of Dividends**
Ordinary share dividends, like preference dividends, are not tax deductible. This makes dividends more expensive, as cost of funds, than interest, even without considering risk.

(f) Control
New issue of ordinary shares to the general public may shift voting power from its present share and possibly dilute control over the company.

(g) Pricing of Issues
Pricing is a critical factor when raising new capital from the general public. Over-pricing of securities may not attract enough buyers while under-pricing may not bring enough funds for the company to execute its programme.

(h) Success of Issue
Raising of capital via the general public can be less successful than through rights issue.

3.2.4 Convertible Securities

These are fixed-income securities (loan stocks or preference shares/ of a company which can be converted during a specified future period of time into the ordinary shares of that company at a pre-determined price at the option of the holder As the principle Involved in each of the above categories of instruments is the same, subsequent discussion will centre on convertible loan stocks, which is more common than convertible preference shares.

3. 2 .4 .1 Convertible Loan Stock

These are normal loan stocks with all their characteristics but carrying the additional feature of the right to convert into ordinary shares. This right, known as conversion right, is normally expressed in terms of conversion price or conversion ratio.

(a) Conversion Price

This is the par (nominal) value of each unit of loan stock that will convert into one ordinary share. The conversion price can be set such that it increases over time to match expectations regarding increase in future share price-Thus 443.000 par value loan stock might have, for each ordinary share, a conversion price of 44100 of stock in first two years. 44110 in the next two years and 41120 in the third two-year period. This means that as the company moves into the future, fewer shares will be exchanged for one unit of loan stock, Conversion price can also be set such that adjustment could be made for share split or dividend that is declared after the convertible is sold.

(b) Conversion Ratio

This is the quantity of ordinary shares that will be exchanged for each unit of loan stock. The conversion ratio may be specifically stated or can be worked out from the conversion price which can be set at a percentage over and above the current market price.

ILLUSTRATION

L & K Plc has just Issued at par ₦50 million. 15% convertible loan stocks in units of ₦1.000 each. The conversion terms allow ₦5000 of stock to be converted into 100 ₦1 ordinary shares.

Calculate the conversion price and the conversion ratio.

SUGGESTED SOLUTION

100 ordinary shares will exchange for = ₦5.000

$$\text{I ordinary share} = \frac{5000}{100}$$

$$= ₦50$$

₦5,000 loan stock = 100 ordinary shares

$$₦1 \text{ Loan stock} = \frac{100}{5{,}000} \text{ ordinary shares}$$

$$₦1000 \text{ loan stock} = \frac{100}{5{,}000} \times \frac{₦1000}{1} \text{ ordinary shares}$$

That is. 20 shares will be received = 20 shares from the conversion of each ₦1.000 of loan stock

(c) Conversion Value

This is the market value of the quantity of shares into which a unit of loan stock will be converted. It can be expressed as conversion ratio times market price of share at the time of issue, Thus assuming the current market price is ₦40. the conversion value using the above illustration will be ₦40 x 20 = ₦800.

The conversion value will be below the value of the convertible stock at the date of issue but will be expected to increase over time because the market price of the share is expected TO increase as the date for conversion approaches.

(d) Conversion Premium

This is the difference between the issue value of the convertible stock and its conversion value at the date of issue. If each unit of ₦1000 convertible is issued at par then the issue value will be ₦1000. The conversion premium will be ₦1000 - ₦800. which is equal to ₦200 or as ills done more frequently

$$\frac{₦1000 - ₦800}{₦800} \quad \text{x } 100\% \text{ which is equal to } 25\%$$

This can also be expressed as

$$\left(\text{Conversion price} - \begin{array}{l}\text{Market price of share at}\\ \text{the date of issue}\end{array}\right) \text{x (Conversion ratio)}$$

Using the above figures. this will be (₦50 - ₦40 x 20 = ₦200.

A company will endeavour to issue a convertible loan stock with as much premium as possible by setting a high conversion price or a low conversion ratio. The company by chaing this, will be able to issue low number of new shares for a given amount of capital raised.

3.2. 4.2 Advantages of Convertible Loan Stock to the Company

The following are the advantages that accrue to a company which finances its operations through the issue of convertible loan stocks.

(a) Avoidance Of excessive interest payments

In a period of high interest rates, the company may be able to avoid unduly high interest payments. It can issue convertible stock at lower rate than issuing the Straight loan stock at the high current interest rate because of the conversion right. The greater the value of this right to investors, the lower the servicing cost the company has to pay in order to sell the issue.

(b) **Risk**

A company Whose rating by lenders is very poor might not be able to raise the straight long term debt. If, however, it has good growth potentials. it can still.

Successfully raise finance via the issue of convertibles. The market views the issue from the stand point of its quality as ordinary shares rather than its quality as a 'straight'.

(c) Access to funds

In a period of tight monetary conditions, the prospect of sharing in the future profits of the company may encourage investors to put their money in it.

(d) Financial Market Meltdown

Where there is a market meltdown and prices are depressed, convertibles offer an alternative source of capital to ordinary shares. The company might not want to issue shares at very low prices as enough funds will not be received for its programmes.

(e) Reduction in Earnings Per Share (Dilution)

Raising capital through convertible stock rather than through ordinary shares creates less dilution in earnings per share. While the conversion price is usually set higher than the current market price of the share, the price of the new issue of ordinary shares is usually lower in circler for the issue to be successful in the market. Few numbers of shares are consequently made in the case of convertibles while more shares are issued in the case of new issue of ordinary shares.

(f) Financing Strategy

Convertibles, as against new shares, can be used as a financing strategy. Management may, due to asymmetry of information be able to assess the future potential of the company better than the market. They therefore issue convertibles now so that if their expectations materilise, the share price would rise. It should be noted that this benefit hinges on the ability of management to assess the future more correctly than the market.

3 .2.5 Warrants

A warrant, also known as subscription right, is a right to buy new shares of a company, during a specified period in future, at a price determined now. This price is known as exercise price.

Warrants are normally issued by the company as part of the issue of unsecured loan stocks to act as 'sweetners for such stocks: that is. to make them more marketable.

The following are the salient features of a warrant:

(a) **Exchange Ratio**

This is the number of shares which the holder of the warrant is entitled to buy for each warrant. This is normally stated in the warrant itself at for example 1 for 1.

(b) Price

This is the exercise price which is pre-determined and fixed. However, it may be stepped up over time during the exercise period (the period during which the right can be exercised). It maybe stated, for example, as 4410 per share until a particular date and $11.25 per share until the expiry date. The exercise price is normally set at the time of the issuance of the warrant, over and above the market price of ordinary share of the company. This premium may be. 15% percent above the share price. If the exercise price is set, for instance at ₦15. it means the holder must pay ₦15 per share in order to exchange one warrant for one share.

(c) Independence

Once issued, warrants are traded on the stock market, independently of the loan stock underlying their issue.

(d) Other Rights

Holders are not entitled to any cash dividends paid on ordinary shares and they have no voting power. However, the exercise price is usually adjusted to take care of any share split or declared dividend.

3 .2.5.1 Advantages of Warrants to the Company

a) **tower cost of funds**
The company is able to pay a lower interest rate because of the opportunity to share in the future prospects of the company by investors.

b) **Restrictive Covenants**
Restrictions placed on the company are less severe for the same reason above.

c) **Access to new loans**
The company will be able to raise new loans with less difficulty.

d) **Additional Equity base**
Warrants, when exercised, will add to the equity base of the company. This will increase the company's ability to raise new loan stock even when the original loan is still to be repaid.

e) **Cash Flow**
Cash outflow of dividends can be delayed until a future time when the company is, presumably in a financially comfortable position.

4 .0 CONCLUSION

The various sources of short-term and long-term finance have been discussed. The common characteristics of short-term funds are low return to the investors 'and therefore low cost to the company), low risk, high liquidity but zero growth. The long-term sources of finance which were discussed are the long-term securities quoted on the stock market.

These include the basic ones which are loan stocks (debenture), preference shares and equity shares. Others are convertible loan stock and warrants.

5.0 SUMMARY

Each of these securities has its own unique characteristics in terms of issue or floatation costs, servicing costs, income payment, capital repayment, tax effect and dilution of control. Financial managers, in raising capital, must consider the unique characteristics of each of the instruments, both in absolute and relative terms, before making a decision on which sourcer(s) is the best vis-a-vis the long-term strategic objective(s) of the firm.

6 .0 TUTOR - MARKED ASSIGNMENT

Suggest three factors to consider in choosing between sources of Finance.

7.0 REFERENCES/FURTHER READING

ICAN STUDY PACK

REVISION QUESTIONS

In a convertible loan stock agreement, how is the conversion right expressed?

In the issuance of a convertible security what is the conversion value?

In the issuance of warrants, what is exchange ratio?

MODULE 2

Unit 1 Valuation of Securities
Unit 2 Medium-Term Sources of Finance
Unit 3 Cost of Capital

UNIT 1 VALUATION OF SECURITIES

CONTENTS

1 .0 INTRODUCTION

Financial managers of a company should be interested in how investors value in units, the shares and debentures of their company. There is a strong relationship between many financial decisions of the company and the value of that company's share. Financial decisions are taken against the backdrop of the need to at least in principle. Maximize this value. Also all investors expectations regarding future cash receipts from the share or debenture determines how much will be paid for the share or debenture: it is these same expectations that financial managers are attempting to satisfy.

The principles that were learnt in time value of money will be applied in determining respectively the value of the following Major Securities: debenture, preference share, ordinary share, convertible loan stock and warrant.

2.0 OBJECTIVES

After studying this chapter, readers should be able to:

- Define different concepts of value as used in finance literature:
- understand how debenture holders value their securities:
- Explain how preference shareholders value their shares:
- understand how ordinary shareholders value their shares:
- Know the process of determining the value of a convertible loan stock: and
- understand how warrants are valued by the markets.

3.0 MAIN CONTENT

3.1 Concepts of Value

There are Various concepts of value, depending on what value is being discussed. They are the book value, the market value, the intrinsic value, the going-concern value and the break-up value.

a) Book Value of an Asset

The book value of *an* asset is the value of an asset as stated in the books of account. It is the cost less depreciation to date. The book value of the firm is the aggregate book value of all the company s assets less the total book value of its liabilities and the total book value of preference shares (if any)

b) Market Value

The market value of an asset is just the price at .vhich the asset will be bought and sold in the open market. The market value of a security is the market price of the security. The market value of a firm is usually taken to be the higher of its break-up value or going-concern value,

c) Intrinsic (true) value

The intrinsic value of a security is what **the value** should **he** if appropriately valued based on the company s fundamentals, that is, - its turnover, earnings, assets, future prospects, management and so on. This value is its economic value. If the stock market is price efficient that is.

all new information about a share is immediately incorporated into its price) the market price of the share should hover around its intrinsic value.

d) Going-concern value

This value is bawd on the assumption that the firm will continue to operate into an indefinite future period and generate positive future cash flows for its investors. This is the value that will be assumed in this chapter.

e) Break-up (Gone Concern)

This is the value of the firm where the assets (class of assets; are individually sold at their realisable values. This often happens when the firm is being liquidated and assets have to be realised in order to pay off the liabilities of the firm and distribute the balance (if any) to the owners.

The value which this chapter will be discussing is the intrinsic or true value of a security. This is the discounted value of future cash receipts from the security: using the investors required rate of return as the discount rate.

3.2 Value of Debentures

The perpetual debenture will first be disc tined.

3.2.1 Perpetual Debentures

This is a debenture where a fixed amount of interest is paid for an indefinite time (infinity).

The present value of a debenture is obtained simply by capitalising the interest payments at the lenders required rate of return. This required rate of return may be represented by 'k and it is the risk-free rate plus a premium for risk. It should be noted that there are different interest rates in the long-term corporate bond (debentures) market because of different degrees of risk.

The value of a perpetual debenture can be mathematically expressed as $1/k_o$. where / is the fixed periodic interest paid

k_o is the lender s required rate of return.

ILLUSTRATION 14-1

Assume an investor intends to purchase a ₦1000 debenture issued at par. The coupon rate is 15%; with promise of a fixed interest payment for an indefinite period. If the required rate of return of the investor is 20% determine the value of the debenture.

SUGGESTED SOLUTION 14-1

$$v = {}^{1}/_{k_o}$$

$$= {}^{150}/_{0.20}$$

$$= ₦750$$

The investor will buy this debenture for ₦750 as this is its true value. If the actual market price is greater than this amount, it does not pay him buying the debenture.

3.2.2 Debentures with Specific Maturity Dates

If a debenture has a specified maturity date. its value will be determined not only by the interest payment: the capital repayment at maturity will also be considered. The formula for valuing such a debenture is given as follows:

$$v = \frac{1}{(1+k_o)} + \frac{1}{(1+k_o)^2} + \ldots\ldots\ldots \frac{1}{(1+k_o)^2} - \frac{C}{(1+k_o)^2}$$

Where V is the market value of the debenture. I is the annual interest. C is the capital to be repaid at final maturity date, k_o is the yield to redemption on the debenture and the number of years to redemption.

Known as pull to maturity'. It should be noted that this yield to redemption is also the required rate of return. It can also he referred to as market rate of Interest as opposed to the coupon rate.

ILLUSTRATION 14-2

An investor intends to purchase a .$1^4$41000 debenture in 101.1 Plc The debenture originally issued at par in 2000 is due for redemption in 2017- If the coupon rate is 16% and lenders, in general consider 20% as required rate of return, given the risk of the debenture. determine the value of the debenture

SUGGESTED SOLUTION 14-2

$$v = \frac{160}{(1.20)} + \frac{160}{(1.20)^2} + \ldots\ldots\ldots\frac{160}{(1.20)^5} - \frac{1000}{(1.20)^5}$$

= N160 ($PV_{A20\%.5}$) + N1,000 ($PV_{S20\%.5}$)

Using the present value of annuity table and present value of a sum table respectively, it will be observed that the $PV_{A20\%.5}$ is 3.8372 and $PV_{S20\%.5}$ is 0.2328. Given this situation

V = ₦160 (3.8372) + ₦1000(0.2328)

= ₦613.95 + N*232.8*

= **₦846. 7 5**

3.2.3 Behaviour of Debenture Values

Debenture values fluctuate in response to changes in market interest rates relative to coupon rates. The lower the market interest rate (yield to maturity) compared with the coupon rate, the higher the value of the debenture. In the above example, assuming lenders are, in general, now demanding 14, as their appropriate rate of returns. The value will be:

V = ₦160 (4.0385) + ₦1000 (0.3,506)

= ₦742.16 + ₦350.60

= ₦1.092.96.

The required rate of return On a Security is a reflection of the risk of the security as perceived by investors. In the above example, when the required rate of return falls to 14%, it means the marketers perception of the risk of the security has dropped. Investors are therefore prepared to pay a premium in purchasing the debenture by paying N1.002.82 now to receive N1.000 at maturity. In the earlier case, the debenture had to be sold at a discount to its face or par value before investors could purchase such a debenture. It is by buying at the price of N849.75 that they would be able to enjoy the same financial benefits that are available from the next best alternative investment in the same risk class. yielding 20% return.

For a given change in required return, the value of a debenture wilt fluctuate by a greater amount, when there is a long pull to maturity (the remaining life of the security). Also, the value of a debenture will be nearer its redemption value, the nearer it is to its redemption date. When there is a short pull to maturity, interest payment and changes in required return play a less significant role in determining the value of a

debenture in the bond in However, when there is a long pull to maturity, the debenture has a great risk of price change when changes occur in the general level of interest rates.

3.2.4 Non Interest Beating Debentures (Zero - Coupon Debentures)

These are debentures that pay no interest. Instead, the debentures are sold at high discount to the par value with the return solely in steady capital appreciation over its original low price value toward the redemption date when the debenture will be redeemed at its nominal value.

The formula for zero-coupon debenture is:

$$V = \frac{C}{(1= K_d)^0}$$

ILLUSTRATION 14-3

Assume Naylor Plc issues a zero-coupon debenture having a 12- year pull to maturity and par value of $41000. If an investors required rate of return is 15%. find the value of the debenture

SUGGESTED SOLUTION 14-3

Using the above formula

$$V = \frac{C}{(1= K_d)^0}$$

The value will be: $\frac{1{,}000}{(1= 15)^{12}}$

Using the present value at a sum table, the discount tactor (at 15% for 12 years) is 0.1869. Then.

V = ₦1.000 x 0.1869
= ₦186.90

If the debenture is purchased for ₦186.90 and is held to maturity for redemption for ₦1000, the original investment would have given a 15% yield on investment

3.2. 5 Interest Paid Twice a year (Semi-Annually)

Where compounding takes place twice a year (as against once a year), there is need to modify the value formula as follows:

$$v = \frac{{}^{1}/_{2}}{(1+{}^{K_d}/_{2})} - \frac{{}^{1}/_{2}}{(1+{}^{K_d}/_{2})^{2}} + \cdots \frac{{}^{1}/_{2}}{(1+{}^{K_d}/_{2})^{2n}} - \frac{v}{(1+\frac{K_d}{2})^{2n}}$$

Where K. is the required rate of return. /2 is the amount of interest paid semi-annually and *2/2* is the number of semi-annual periods till maturity.

ILLUSTRATION 14-4

Birlet Plc 18% Debenture Stock has 7 years to maturity. Interest is paid semi-annually. If the nominal required rate of return is 20% p.a.. Calculate the value of a 441000- face value debenture.

SUGGESTED SOLUTION 14-4

The value of this debenture is calculated as follows:

		PV_A		PV_S
V	=	90 ($PV_{A108.14}$)	+	1000 ($PV_{A108.14}$)
	=	₦90 (7.3667)	+	₦1.000 (0.2633)
	=	₦663	+	₦1.000(0.2633)
	=	₦663	+	₦263.30
	=	**₦926.30**		

It should be noted that the above calculations involve four variables- the coupon rate. the yield, maturity and market price (value). Once any three of the four variables are known, the fourth can be calculated.

3.3 Value of Preference Shares

As mentioned earlier in this pack, preference shares have no stated maturity dates and holders are entitled to fixed income. This fixed income, which is in form of dividend, goes into an indefinite future period.

In view of the above, the same valuation approach, as used in perpetual debentures, will be used.

The value of a preference share is. represented by V = D_p / K_p

Where V is the present value. D_p is the stated dividend per annum per share and K_p is the required rate of return.

ILLUSTRATIONS

Sirkay Plc has in issue 15%145m preference shares of Ni each. If the required rate of return is 20%, determine the value of each preference share.

SUGGESTED SOLUTION

Using the above formula:

$$V = \frac{D_p}{K_p}$$

$$V = 0.15 / 0.20$$

= N0.75per share.

3.4 Value of Ordinary Shares

There is no one generally acceptable method of valuing an ordinary share. However, there is one method that is so commonly used. This method looks at the value of an ordinary share as the discounted value of all expected cash dividends to be paid by the company for an indefinite future period. The formula for this expression can be written as follows:

$$V = \sum_{t=1}^{-} \frac{D_1}{(1 + K_c)^t}$$

Where D_i is the cash dividend to be received at the end of time period t_i and K_c *is* the required return for the investor.

The above formula is appropriate for a trustee of a perpetual trust fund who intends to hold the shares indefinitely. If an investor intends to sell his shares, say after three years, the formula can be adjusted as follows:

$$V = \sum_{t=1}^{3} \frac{D_1}{(1 + K_c)^t} + \frac{P_3}{(1 + K_c)^t}$$

Where P. is the expected selling price of the share at the end of the third

year assuming that buyers are prepared to acquire the shares at the end of the three years. These buyers would in turn base their decision to buy at a particular price on expectation of future dividends and future selling price at the time of disposal. This process and thinking go on and on successively for an indefinite period of time. It is clear from the above process that what the shareholder receives from the company is cash dividends. There is, therefore, justification for the use of dividends as the basis for the valuation of ordinary shares.

3. 4.1 Dividend Valuation Models

The use of dividend valuation models for computing the intrinsic value of a share involves making some specific assumptions about dividend growth patterns and required rates of return. The first of these models is the one of constant growth in rate of dividends.

(a) Constant Growth Dividend Model (Perpetual Growth Model)

In this valuation model, dividends per share are assumed to grow indefinitely at a compound growth rate, 'g'. This translates into the following formula:

$$V = \frac{D_i}{K_c - g}$$

Where D_1 is the dividend expected to be received at the end of year 1. (K_c) is the required rate of return for the share and (g) is the assumed constant growth rate.

ILLUSTRATION

JMJ Plc plans to pay a dividend of ₦2 per share at the end of year 1. This dividend is expected to grow indefinitely at the rate of 10 percent. The required rate of return on this share is 15 percent. What is the value of JMJ Plc's share?

SUGGESTED SOLUTION

Applying the above formula:

$$\mathrm{V} = \frac{2}{0.15 - 0.10}$$

= ₦40

It should be noted that where the dividend is the dividend that has just been paid (as against expected to be paid), this is dividend at the

beginning of the year D_o. This should be converted to D_I by multiplying D_o by (l + g), that is D_o (1 + g).

(b) Constant Growth Dividend Model Price-earnings (PIE) Multiple Approach

At times the value of an ordinary share can be computed using the **P/E** multiple approach. This approach enables a prospective investor to know how much he will pay for every Nair° of future expected earnings. In using this approach, the dividend constant growth model will be expressed in terms of earnings, as shown in the following illustrations.

ILLUSTRATION

JMJ Plc retains a constant percentage of its earning each year. This can be represented by X. The dividend payment ratio will also be constant at say (1-x)

SUGGESTED SOLUTION

Thus $\frac{D_1}{E_1} = 1 - x$

$D_1 = E_1 (1 – x)$

Substituting for D_1 in the dividend constant growth model

$$V = \frac{E_1(1 - x)}{K_c - g}$$

That is: $V(K_c – g) = E_l (1 – x)$

$$V/E_1 = \frac{(1-x)}{K_c - g}$$

Assuming MU Plc intends to retain every year 30% of its future expected earnings then

$$\frac{V}{E_1} = \frac{1 - 0.30}{0.15 - 0.10}$$

$$= \quad 0.70/0.05$$

= 14 Times

This is the P/E multiple (or ratio)

Based on ₦2 per share dividend and 0.70 pay-out ratio, the earnings per share (EPS) will be ₦2/ 0.70 and this will be approximately ₦2,80. The value of the share can then be obtained by multiplying the EPS by the P/E ratio: that is (₦2,80 X 14) which will be equal to approximately ₦40.

Although, this is an alternative valuation model, it is still based on the dividend constant growth model.

(c) Zero Growth

This assumes that the present level of dividend will be maintained indefinitely. The constant growth model can be modified for no growth situation as follows:

$$V = \frac{D_1}{K_c - 0}$$

$$= \frac{D_1}{K_c}$$

ILLUSTRATION

ABC Plc plans to pay a constant dividend of ₦2 per share indefinitely. The required rate of return on the share is 20 percent. Calculate the value of the share.

SUGGESTED SOLUTION

Using the above formula:

$$V = \frac{D_1}{K_c}$$

$$V = \frac{2}{0.20} = ₦10.00$$

Irregular Growth Rate

The growth patterns of dividends for some companies, particularly the young growing ones, may not follow the normal patterns shown by mature companies. Initially their dividend payments, because of their above-average earnings performance. may be following above-average patterns.

After sometime, competition and other factors may force them to revert to the normal growth patterns within the industry. The valuation of the shares of such companies will be done in three stages:
Stage 1: Calculation of the present value of each of the dividends paid during the above-average growth pattern, taking into account the compound growth rate, and addition of the PVs.

Stage 2: Calculation of the present value of dividend (with a constant growth 'g') paid for an indefinite future period.

Stage 3: Addition of the PVs obtained in stages 1 and 2.

ILLUSTRATION

YSG Plc is expected to achieve an above-average performance in the next six years of its operations, with dividends growing at say 12% per annum. After this period, it is envisaged that competition from both existing companies and new entrants will set in. The growth in dividends might consequently revert to industry average of say 8%

The current dividend is ₦1 per share. What should be the value of the share now, if the required return on capital is 10%?

SUGGESTED SOLUTION

Stage 1 End of year	**Dividend**	**Discount Factor @ 10%**	**PV**
1	₦1(1:12) : ₦1.12	0.909	1.02
2	₦1(1.12)2 : ₦1.25	0.826	1.03
3	₦1(1.12)3 : ₦1.41	0.751	1,06
4	₦1(1.12)4 :₦1.57	0.683	1.07
5	₦1(1.12)5 :₦1.76	0.621	1.09
6	₦1(1.12 /6 :₦1.97	0.564	1.11_
			6.38

Stage 2

Value of share at the end of year 6 (that is beginning of year 7)

$$= \frac{D_7}{K_c - g}$$

$$= \frac{₦1.97 \text{ x } 1.12}{0.10 - 0.08}$$

$$= \frac{₦2.21}{0.02}$$

Value now of year 6 price: ₦110.50 (0.564)

= ₦*62.32*

Stage 3

Value of share now = ₦6.38 + ₦62.32

= ₦68.70

The above iterative process can also be e pressed in terms of the following formula:

$$\sum_{t=1}^{0} \frac{D_C(1+g^+)^t}{(1+K_c)^1} + \left(\frac{D_c}{K_c - g}\right)(1+K_c)^{-0}$$

Where g^+ is the above-average growth rate while g is the normal growth rate.

It should be noted that the growth of dividends in the second stage uses the expected dividends in year 6 as its base.

3.5 Valuation of Convertible Loan Stock

A convertible loan stock tor debenture: is a hybrid security it is a Man stock but with the right to convert to Ordinary shares in future.

The value of a typical convertible will therefore be discussed from two points of view:

(a) Its value as a straight loan stock: and
(b) Its value as its conversion value.

Whatever value a convertible takes on. Will be largely influenced by movement in the price of the share of the issuing company. If the price of the share in the market moves up: the value of the convertible will be determined mainly by its conversion value. If the price falls. the value of the convertible will be determined by the value of a straight debenture issued by the same company. In this case. the value of the convertible will not fall below the value of the 'straight ; the convertible is said to have a downside protection against risk.

3.5.1 Valuation as a Straight Loan Stock

A straight loan stock is convertible without its conversion features, issued by the same company. The value of the convertible will be the price at which the stock will sell in the open market.

Assuming compounding takes place semi-annually, this value can be determined via the following formula:

$$VS_c \sum_{t-1}^{2n} \frac{{}^{1}/_{2}}{(1 + {}^{r}/_{2})} + \frac{RV}{(1 + {}^{r}/_{2})^{2n}}$$

Where VS_c is the straight debenture value of the convertible.
½ is the interest payment as determined by the Coupon rate and compounded semi-annually.

RV is the redemption value of the debenture.
2n is the number of compounding periods to redemption.

${}^{r}/_{2}$ is Yield to Maturity of a straight loan stock of the same company assuming semi-annual compounding,

ILLUSTRATION

Fidelis Plc has in issue 12% ₦1000 Convertible debenture due to mature in 10 years time. The interest is paid semi-annually. A straight debenture similar in all respects to the convertible except that it has no conversion features, can be sold in the market to yield 16% per annum. Calculate the straight debenture value of the convertible.

SUGGESTED SOLUTION

VSD = 60 ($PV_{5\ 04.20}$) + N1000 ($PV_{5\ 04.20}$)

VSD = 60(9.818) + N1000(0.215)

= ₦589.08 + ₦215.00
= ₦804.08
= **₦809 Approx.**

3.5.2 Value as it Conversion value

As earlier said, the conversion value of a convertible is simply the product of the current market price of its company's share and the conversion ratio. This value is a function of the attractiveness of the

conversion feature which, in turn, depends on the upward movement of the share price. However a convertible because of its downside protection will normally sell over and above its conversion value. Volatility of share price increments add sonic value to this downside protection. The more volatile the share price movement is, the greater the value added: and the greater the likelihood of the convertible selling at a price over its conversion value.

3.5 Premiums

When a convertible debenture sells at a price over the straight bond value, the difference is known as a premium over straight bond value. When the convertible sells at a price above its conversion value, the difference is called a premium over conversion value.

In the illustration above, the straight debenture floor value of Fidelis Plc convertible debenture is ₦804. This means that if the price of the share has dropped so much that the conversion attractiveness is nil or negligible, the market price of the convertible cannot fall below this floor price of iii804. The straight debenture value of a convertible does fluctuate over time depending on fluctuations in interest rate and changes in the risk profile of the company. Both variables will affect the expected yield to maturity of the straight debenture and hence its value.

In the market. a convertible will normally sell at a value over and above a straight debenture, that is, at a premium. As long as the market price of the company s share is rising relative to the conversion price, the conversion right has some value and it pays to convert. To the extent that the conversion right has some value, the convertible will be selling at a value over and above the straight debenture value. The higher the market price, the greater the difference between these two values (the premium).

The major reason for the existence of premiums in both cases is the uncommon attractiveness of a convertible due to its dual characteristics of a debenture and a built-in option. The security simultaneously gives the holder a protection against downside risk and an opportunity to share in the future fortunes of the company if and when its share price goes up.

3.6 Value of a Warrant

The theoretical value of a warrant can be calculated by the following formula:

₦$(P_0 - E)$ where P_0 is the current market price of the ordinary share of

the Milt/any. E is the exercise price and *N* is the number of shares the holder of the warrant can buy with one warrant.

Assume, for example, that a holder of one warrant is entitled to purchase one share at hi. He is also allowed to exercise this warrant anytime within the next four years. The present market price of the share is N4. The theoretical value of the warrant should be 1(₦4 – ₦1) = ₦3. The actual price of the warrant in the market should not drop below N 3.1f it falls below this figure, speculators will move in, buy up the warrants, exercise them and sell the shares. The arbitrage activity will push back the price of the warrant to ₦3.

Where the actual market price of the share is less than the exercise price, the theoretical value of warrant is nil. The actual market price of the warrant should normally be higher than its theoretical value. The reason is the gearing benefits which accrue to buyers of warrants.

Suppose the exercise price of a warrant is hi when the price of the underlying share is NO: this gives the warrants theoretical value of ₦2. Suppose further

that there is a 50%. upward Change in share price to N9, then the theoretical value will be N5 or 150%.

It will be seen from the above that a greater benefit will accrue from holding the warrant rather than holding the share. Gearing, of course, also operates to the disadvantage of the warrant holder, as against the shareholder. Where there is a drop in the price of the share, there will be more than proportionate loss to the warrant holder. For example a 10% downward change in price would create a 30% drop in the theoretical value of the warrant ($₦2 - {}^{₦1.40}/_{2}$).

However, the warrant cannot fall to a price below zero. For the warrant price to fall to zero, the thinking in the market must be that the share price cannot rise over the exercise price during the exercise period: this is not so.

Market prices are, in general, usually over their theoretical values. This is because when prices of the underlying shares are going up, warrants do have potentials for upward movements in their values: however when prices of the shares are falling there is a downward protection. In that the value of a warrant cannot fall below zero.

3.6.1 Value of a Warrant Using the DCF Approach

In terms of the discounted cash flows, the current value of warrant

should be the difference between 0,1z future price of the share and the exercise price of the warrant. This relationship can be stated in terms of the following formula:

$$V_w \frac{7 \div \cup)^n - F}{(1 \div K_w)^n}$$

Where V_w is the current value of the warrant
P_o is the current market price of the share
g is the expected growth rate in share price
K_w is the cost of capital relevant to the warrant
n is the number of time periods expiring before the warrant is exercised

4.0 CONCLUSION

The processes of determining the intrinsic values of various financial assets have been highlighted. The value in each case, is what it should be. given the fundamentals of the issuing company. The intrinsic or true value of any financial asset is of particular interest to the investor. This value is normally compared with actual market price before a decision to buy or sell is taken.

5.0 SUMMARY

The Discounted Cash Flow (DCA method has been used in the valuation process of the securities discussed. The full cash receipts from each asset should be discounted to their present worth, using the cost of capital appropriate to that security,

6.0 TUTOR-MARKED ASSIGNMENT

Your company wishes to raise new debt capital on the stock market. Your managing Director has heard of warrants and traded options and suggests that an issue of debt, accompanied by either attached warrants and traded options might be attractive to investors and have benefits for your company.

You are required to discuss whether you consider your managing director's suggestion to be useful.

7.0 REFERENCES/FURTHER READING

REVISION QUESTIONS

1. A bond which does not make any periodic interest payments but instead is traded at a price much below its per value is called

2. What is a perpetual debenture?

3. What is the difference between Interest yield and yield to maturity?

4. (i) What is the similarity between preference shares and debentures?
   (ii) In terms of valuation, what is the relationship between preference shares and irredeemable debentures?

5. Where growth rate, (in using the Gordon's growth formula) is not given, how will this rate be estimated?

UNIT 2 MEDIUM -TERM SOURCE OF FINANCE

CONTENTS

1.0 INTRODUCTION

Medium-term sources of finance provide funds on fairly more permanent basis than short-term sources. The periods of loan usually lie between one year and seven years. Although, what constitutes medium term is not exactly specified. Financial managers normally utilize funds obtained from these sources to finance fixed assets and investments in stocks and debtors. Repayments of loans from these sources are usually from cash flows generated in future years and are made in regular periodic installments. The major sources that will be discussed in this chapter include medium term bank loans, equipment financing, project financing and financial lease financing.

2.0 OBJECTIVES

After reading this chapter, readers should be able to:

- Discuss the main medium-term sources of finance available to a company:
- Highlight the two main categories of lease and state the major

differences between them:

- Describe the main types of finance lease:
- State the steps involved in evaluating a lease or buy decision:
- Appraise a lease or buy investment proposal and take an appropriate decision: and
- State the advantages and disadvantages of a lease arrangement to the lessee,

3.0 MAIN CONTENT

3.1 Medium -Term Bank Loan

These are loans given out by commercial banks for periods ranging from one year to five or seven and even ten years. They are usually given to companies to finance their medium-term working capital requirements or to finance on a longer time basis their fixed assets needs. There is usually a legal contractual loan agreement which specifies the terms of the loan and right of the parties to the loan transaction. Interest is usually charged on the amount borrowed to cover the period of the loan. The amount charged varies between banks and it is usually a specified percentage say, between *2%* and 5% over a bank's prime lending rate depending on the bank s opportunity cost of funds and the risk perception of the company by the bank. In addition there is a fixed percentage up to *2* percent of the amount borrowed as a flat charge called

"management fees" or "administrative charges", by the banks. Repayments are normally geared toward the cash flow generating patterns of the company but generally they are made either in periodic equal annual instalments or in lump sum at the end of the period of the loan. The former is more common.

The loan agreement usually provides for a period during which only interest will be paid and after which capital repayment starts. This period is called **'rest' period** or **moratorium period** and it gives the company enough time to operate, before generating cash inflows that will be used to start liquidating the loan.

The loan agreements normally provide for the loan to be secured by a fixed charge on the company's specific property or a floating charge on all the assets of the company, valuable and invaluable.

3.2 Equipment Financing

This is the type of loan finance, obtained by a company, whereby the company uses its equipment as collateral for the loan. The equipment

might have been already owned by the company or might be about to be purchased. The terms of the loan normally spread into future years, hence, it is treated as a medium-term finance.

The bank normally advances only a percentage of the market value of the equipment to create some margin of safety What percentage will be advanced will depend on the marketability of the equipment Of it were to be sold): it may be 80%. (60% or 40%. The repayment schedule for the loan will be prepared to match the economic loss of value of the equipment such that at any point in time, the market value of the equipment will be more than the balance of the loan.

3.3 Project Financing

This is the finance provided by the bank whereby the project itself serves as security for the loan. The bank looks at the project cash flows as the main source of repayment. The company's fundamentals - profitability, asset base - are of secondary importance.

The project should have identifiable cash flows and its risks should be assessable. Banks usually ask for higher returns on finance because of its attendant high risks. In addition they normally ask for domiciliation of the cash proceeds of the project.

3.4 Lease Financing

A lease is a contract whereby the owner (the lessor) of an asset gives an exclusive right to another person (the lessee) to use the asset for a specified period of time in consideration for services of payments known as "lease payments for rent)".

There are two main types of lease:

(a) Operating lease: and
(b) Financial lease

The discussion in this study pack will focus on the financial lease, although, it is necessary to know the difference between the two types.

3.4 .1 Operating Lease

This is a cancellable short-term lease contract usually shorter than the useful life of the asset. The contract can be determined at the instance of the lessee provided adequate notice had been given to the lessor. Examples of operating lease are. leases of photocopy machines, computer hardware, cars and so on.

3.4.2 Financial Lease

This is a non-cancellable long-term contract in which the period of the contract and the useful life of the asset are the same. Lease payments are made throughout this period. If and when the lease period expires, the lessee may return the asset or renew the lease contract or purchase the asset.

3.4.3 Differences between Operating and Financial Lease

(a) Operating lease is a cancellable lease while financial lease is non-cancellable lease.

(b) Operating lease is a short-term lease while financial lease is a long-term contract.

(c) In operating lease the lessor is responsible for repairs, maintenance, insurance while in financial lease the lessee is responsible for carrying out these activities.

3.4.4 Types of Financial Lease

Types of Financial Lease

The main types of financial lease are direct lease, sale and lease back and leveraged lease.

(a) Direct Lease

This is the normal type of lease in which the manufacturer or the lessor (which may be a bank, a finance company or a leasing company) gives the lessee the right to use an asset.

The flow of transaction here is that a person (other than the manufacturer) acquires ownership of the asset, sells it to a lessor who in turn leases the asset to the lessee in return for periodic lease payments.

(b) Sale and lease back

In this form of lease, the lessee-company is the original owner of the asset. The company needs cash and at the same time wants a continued usage of the asset. It then sells the asset to the lessor company and leases it back from the lessor-company under the usual terms of a lease. By this arrangement the lessee will be able to get both cash and continued access to the asset.

(c) Leveraged Lease

In a leveraged lease there are three parties involved - the lessee, the lessor and el long-term lender. The lessor of the asset puts down only a certain percentage of the cost of the asset say 20% and borrows the balance from the lender.

The asset and assignment of the lease payments are used as collateral for the borrowing. The lessee s position is. However, not affected by this special arrangement.

Leveraged leasing is used in financing very expensive assets such as aircraft, ships, rigs, railway equipment and advance manufacturing technology (AMT) projects.

3.4.5 Lease or Buy Decision

There are times when financial managers have to make a decision on whether to lease an asset Or to outrightly buy the asset.

There are two separate but inter-related decisions involved:

(a) Financing Decision

This involves identifying the cheaper method of financing the asset assuming a decision has been taken to lease the asset or to purchase it outright presumably through borrowing.

(b) Investment Decision

This involves evaluating the economic viability of the asset using the appropriate discounted cash flow method (the net present value) with the right discount rate.

The steps entailed in a lease or buy decision are as follows:

3. 4.5.1 Financing Decision

(a) Determine the patterns of cash flows for each financing method in terms of their magnitude and timing.

(b) Determine the opportunity cost of funds (the discount rate) for the debt finance. If the company is in a taxable position. the relevant cost is the after-tax cost of debt capital.

(c) In the case of outright purchase, calculate the appropriate capital allowances for the asset and the tax shield on each of the allowances noting that tax payments are normally in arrears.

(d) Determine the net cash flow for each year.

(e) Using the relevant after-tax cost of capital, calculate the discount factor for each year.

(f) Apply the discount factor for each year to its net cash flow to obtain the present worth of each year s cash flow.

(g) Add up each years PV to get the aggregate after-tax cost of debt finance.

(h) In the case of leasing. determine the lease payment for each year noting that lease payments are usually made in advance.

(i) Using the company's tax rate. calculate the tax shield on each lease payment noting that tax payments are normally in arrears.

(j) Determine for each year the net cash flow, the discount factor and the PV.s of each cash flow.

(k) Add up each of the PVs to arrive at the aggregate after-tax cost of lease finance.

(l) Compare the after-tax cost of debt finance with the after-tax cost of lease finance to get the cheaper method of finance.

3.4.5.2 Investment Decision

The steps are:

(a) Determine the pre-tax operating cash flow for each year.
(b) Determine the after-tax cost of capital for the asset in the same risk class !assuming the company is in a taxable position,.
(c) Calculate the tax payable on each year's cash flow noting that tax is actually paid in arrears.
(d) Calculate the after-tax cash flow for each year.
(e) Using the after-tax cost of capital, calculate the discount factor for each year.
(f) Multiply the net operating cash flow of each year by its related discount factor to its PV.
(g) Add up the PVs with the cost obtained through the cheaper method of financing.

(h) If the above step results in positive NPV, accept the project if not reject it.

ILLUSTRATION

DAAP Plc plans to acquire a new machine on January 1. The cost of the machine is expected to be N2.5 million. When the machine is put into use the company plans to inject another N300.000 as working capital for the whole life of the machine. Once the machine starts operation, the company expects that it (the machine) will generate additional pre-tax operating ne cash flows as follows!

Year	1	₦1.025.000
	2	₦1.143,000
	3	₦1.210.500
	4	₦1.170.500

The company is considering whether to lease or buy the machine. If the machine is to be leased the company (lessee) would make an annual leas payment of ₦750.000 per annum for 4 years: with each payment at the beginning of the respective year If the machine is to be bought, the company would arrange ford term loan at a fixed rate of interest of 20% per annum The machine is not expected to have any salvage value. The company believe that the appropriate after-tax cost of capital for *a* machine in the same rise class as the one to be bought is 22 percent. Company tax is 30%, payable on year in arrears.

Capital allowances are available as follows:

50% initial allowance and 25% annual allowance on a reducing balance basis: These allowances have been calculated as follows:

Year	**Initial Allowance 50% N**	**Annual Allowance 25% N**
1	1.250.000	312.500
2	-	239.375
3	-	175.781
	-	131,508
Balancing Allowance		**395.508**

Advise whether the machine should be bought or leased.

SUGGESTED SOLUTION
DAAP LIMITED
Financing decision Buy

End of yr	Cost ₦	capital Allowance ₦	Tax shield 30% ₦	Net Cash flow ₦	PV Factor @14% ₦	Pv of cash flow ₦
0	(*2* 500.00)			(2,500,000)	1,000	(2.500.0001
1	-	1,562,500			0.877	
2	-	234,3[7]5	468.750	968.750	0.[7]69	360.460
3	-	175,781	70,313	70.313	0 675	47,461
4	-	131,836 , 395.508	52,734	52,734	0,502	31,219
5	-		158.203	158.203	0.519	82,107
						(1.978,744)

Lease

End of year	Lease Payment	Tax Shield (30%)	Net Cash Flow	PV Factor @14%	PV of cash flow
0	(750.000)		(750.000)	1.000	(750.000)
1	(750.000)	225.000	(525.000)	0.877	(460.425)
2	(750.000)	225.000	(525.000)	0.769	(403.725)
3	(750.000)	225,000	(525.000)	0.675	(354.375)
4	-	225.000	225.000	0.592	(1 33.200)
					(2,101.725)

Based on the above calculations, it will be cheaper to buy. Buying has a lower cash outflow in present value terms.

Investment Decision

End of Year	Operating Cash Flow ₦	Tax Payable 30% ₦	After Tax Net Cash flow ₦	PV Factor @ 22% ₦	PV of Cash flow ₦
0	(1.978.744) (300.000)	-	(2.278.744)	1.000	(2.278.744)
1	1.025,000	-	1.025.000	0.820	840.500
2	1.193.000	307.500	835.500	0.672	561.456
3	1.210.500	342.900	867.600	0.551	478.048
4	1.170.500 300.000	363.150	1.107.350	0.451	499.415
5		351,150	(351.150)	0.370	(129926)
				NPV	**(29.251)**

The company should not go ahead to obtain the use of the machine since its use will decrease the value of the company by ₦29,251.

Notes:

1) It is assumed that Investors see the lease and the term loan as perfect substitutes for each other from the stand point of capital structure and the riskiness of the cash flows. The same discount rate is, therefore, used for both leasing and buying through borrowing.

2) Since the company is in a taxable position, the correct cost of debt capital to use should be the after-tax cost, that is 20% (1-0, 30) =14%.

3) The discount rate that should be used to obtain the PV of the machine's cash flows is the after-tax cost of capital relating to these cash flows. A different discount rate of 22% is used because the cash flows of the lease and loan payments have a different level of risk from the cash flow of the machine. The cash flows of the former are deemed more certain.

4) The working capital is usually treated as cash outflow at the beginning of the economic life of the machine and cash inflow at the end.

3.4.5.6 Advantages of Leasing to the Lessee

a) The lessee needs not tie down a large amount of money.
b) The lessee company has access to the use of an asset when either it can afford to buy it or its borrowing capacity has been stretched to the limit.
c) Lease payments are allowed for tax purposes and this makes leasing tax efficient.
d) The lessee may be paying lower lease rentals as a result of part of capital allowance passed on to it by the lessor.
e) In a sale and lease back arrangement the lessee may be able to simultaneously raise cash and still continue to use the asset.
f) The lessee is able to avoid the risk of obsolescence that is typical of outright ownership of some assets.

3.4 .5.7 Disadvantages of Leasing to the Lessee

Leases are usually very expensive as lease payments contain both interest and profits to the lessor.

4.0 CONCLUSION

Companies need medium-term finance to be able to finance assets that are fairly permanent in nature. The main medium-term sources of finance are equipment finance, project finance and. most importantly

lease finance. Each of these sources has its own unique characteristics. In particular, lease finance has been treated as a medium term source of finance because it i5 viewed as an alternative to term loan. There are two major types of lease - the operating lease and the finance lease.

5.0 SUMMARY

The main focus of financial managers is the finance lease. This is the lease whose usage period coincides with the economic life of the asset leased and is therefore not likely to have any salvage value at the end of its life. The main decision confronting financial managers, here, is whether to lease or buy the asset that is needed for operations. It is not a one-off decision. There are two decisions involved - whether to lease or borrow (financing) and whether to acquire the asset or not (investing). The after -tax cost of leasing will be compared with the after-tax cost of borrowing to ascertain the cheaper method of financing. Then the investment itself will be evaluated to see whether it gives positive NPV and therefore Sh011id he accepted. There are advantages and disadvantages accruing to a lessee and these were highlighted.

6 .0 TUTOR-MARKED ASSIGNMENT

Briefly explain the following sources of finance:

1) Fixed asset financing;
2) Long term financing;
3) Equipment financing.

7 .0 REFERENCES/FURTHER READING

ICAN STUDY PACK

REVISION QUESTIONS

1) In a lease or buy capital project appraisal, state the two principal steps involved in the evaluation process.
2) In terms of parties to a typical lease agreement, what is the difference between direct leasing and leveraged leasing?
3) State one practical disadvantage of leasing.
4) In project financing, what is the main security for the funds provided and how could this security he perfected?
5) In the borrowing option (of a lease or buy decision) involving fixed equal annual Installments, give the components of the tax shield benefits.

UNIT 3 COST OF CAPITAL

CONTENTS

1.0 INTRODUCTION

In capital investment appraisal, a discount rate was used for discounting the future cash flows of a project with a view to determining its NPV, under the IRR method a "cut-off rate" was assumed or given for comparison with the IRR of the project. Both approaches were aimed at determining the acceptability or otherwise of the project and its eventual effect on the firm's value and, therefore. on the wealth of Its shareholders.

This discount rate or cut-off rate as the case may be is the company's cost of capital. In investment appraisal it is given or assumed but in this

chapter, what this concept means and how it can be estimated \vat be discussed.

There is a link between the investment opportunities undertaken by company and the funds that support those opportunities. The funds are obtained via financial assets issued to individual groups of investors that purchase these assets. These investors require certain minimum rates of returns on their investments. The project's return must achieve these minimum rates if they have to be acceptable. This desired minimum rate (for a particular group) is the firm's cost of capital provided by that group. The symbol normally used for cost of capital is ‘K’.

The key question financial managers attempt to answer is: what is 'K’ and how should it be measured.

2.0 OBJECTIVES

After studying this chapter. readers should be able to:

- Explain the meaning and nature of cost of capital;
- Describe how risk is incorporated into the cost of capital;
- Estimate the costs of the major individual sources of capital-debt, preference shares and ordinary shares etc:
- Estimate the weighted average cost of capital (WACC); and
- Explain the justification for the use of WACC.

3.0 MAIN CONTENT

3.1 Meaning and Nature 0 F Cost of Capital

Cost of capital is known as the minimum desired (required) rate of return. Van Home 12003i defines it as "the rate of return on the project that will leave unchanged the market price of the firm's stock". There are, however, differences of opinion on how cost of capital should be measured.

Cost of capital is an opportunity cost concept. It is viewed as the return which the providers of the capital could earn on their next best alternative investments. Thus, cost of capital is the opportunity cost of funds to be invested in a project and a composite, but an 'average cost. It is an average cost of the individual sources of capital, weighted by the amount of each source within the overall capital structure of the firm. Thus, the cost of each specific source of capital will be computed first before calculating the weighted average cost of capital (WACC).

3.2 Cost of Capital and Uncertainty

A major problem in measuring cost of capital is how to incorporate uncertainty frisk). There are three components on this cost:

a) **The risk-free rote:** the rate desired from a security which is totally free of risk.

b) **A premium for business risk:** an increase in the rate of return arising from uncertainty about the future earnings of the firm. Things may not happen as expected. hence there is need for additional return to compensate the investor for the type of risk.

c) **A premium for financial risk:** a further increase in the rate of return where the firm borrows and therefore is exposed to the danger of being liquidated. This means, for ordinary shareholders, variability in the earnings available for them after deducting the fixed-Interest obligations of the firm. The higher the level of a firm's financial leverage. The greater will be the financial risk to the ordinary shareholders. The risk premium that is required will be higher and the cost of capital will consequently rise. Each company will have its own cost of capital, depending on the type of business it does and the level of its gearing: even if all investors have the same marginal rate of time preference. Providers of debt capital would normally demand for a lower risk premium than that required by ordinary shareholders. In incorporating risk, it is usual to first calculate the weighted average cost of capital which includes: risk to investor and then add a further premium for risk to allow for the variability of the cash flows. If for instance, the firms WACC is 10 per cent, the directors may increase this by 5t., and appraise the project by discounting at 15 percent.

3.3 Measurement of the Cost of Capital

The approach to measuring the overall cost of capital of a firm is to first calculate the cost of specific sources of funds that make up the capital structure of that firm.

Each cost will be calculated in terms of required (or expected) return or yield of the security involved. This study pack looks at three main sources-long-term debt, preference shares and ordinary shares (including retained earnings). It should be noted that it is the incremental Cost of additional debt or preference capital or equity, that is, marginal cost, as against historical cost of existing debt or share capital, that is relevant when calculating these costs.

3.3.1 Cost of Debt Capital - Redeemable Debt

This is the discount rate (K_d) that equates the present value of future interest payment plus principal repayment with the current market value (price) of the debt. K_d is also known as market rate of in or yield-to-maturity (S'MT) and is solved, using the following formula:

$$P_c = \frac{1_1}{(1 + K_c)} + \frac{1_2}{(1 + K_d)^2} \div \frac{1_3}{(1 + K_d)^3} \ldots\ldots \frac{1_2}{(1 + K_d)^0} + \frac{P_0}{(1 + K_d)^0}$$

Where $\boldsymbol{P_n}$ is the current market price of the debts

I is the interest payment.

n is the year of redemption of the debt

$\boldsymbol{P_n}$ is the principal amount of the debt to be redeemed in year n.

Note

This formula is for a redeemable debt. It is a complex equation. K_d can only be calculated manually by using trial-and-error approach as in IRR. Even then, it will be an approximate figure.

The approach involves !assuming the debt is irredeemable; calculating its cost and then adding an annualized capital gain that will be made from present time to maturity. In this case, the following formula can be used for YMT.

$$\text{Interest yield} = \frac{capital\ Gain\ (Loss) to\ Redemption}{Years\ to\ Redemption}$$

This is the starting point towards using the trial and error approach,

3. 3.2 Irredeemable Debt

Here, K_c is simply the interest or current or flat yield of the debt and the formula is as follows:

$K_d = {}^{1}/_{K_o}$

ILLUSTRATION

Alen plc has in issue 15% debentures with a par value of ₦1000.00. The current market price is ₦900,00 ex interest. Estimate the cost of Ibis capital assuming.

a) It is irredeemable
b) It is redeemable at par in 2019. Ignore tax

SUGGESTED SOLUTION

a. Cost of debt capital

$$K_d = \frac{1}{P_o} = \frac{150}{900} \text{ x } 100\%$$

= 16.67%

b. Cost of debt capital is 16.67% if irredeemable. The average gain to be made from now to redemption date

$$\frac{₦1{,}000 - ₦900}{10}$$

= 10

The best estimate to start with is 26.67%

At say 26% the NPV of interest of ₦150 per annum for 10 years plus the principal repayment of ₦1.000 at the end of the tenth year is: ₦150(3.465) + ₦1.000(0.099) = ₦619.

That is, less than ₦900.00. At say 16% the NPV of interest of ₦150 per annum for 10 years plus the principal repayment of ₦1000 at the end of the tenth year is ₦150 (4.833) + ₦1.000 (0.227)

= ₦952, that is, greater than ₦900

By interpolation, the estimated cost of this debt

$$= 16\% + \left(\frac{952}{5171}\ x\ 100\right)\%$$

= 16% + 6.06%

= 22.06%

Note

a) The cost of capital estimated above assumes:

i) That the firm will continue to use the debt [than cc and not redeem the securities at their current market price.

ii) That the cost of raising additional capital would be equal

to the cost of the one in existence.

b) The cost of debt capital as calculated is the requited rate of return of lenders to the company and it is a before-tax cost of debt. This is the relevant cost for a company with no taxable income, that is, in a permanent non-taxable position.

3 3.3 Debt Capital and Tax

Since interest on debt capital is a tax deductible expense, the cost of debt capital to be properly compared with the cost of equity capital, must be adjusted for tax so that, an after-tax cost of debt is calculated. Assuming an irredeemable debt, the formula will be:

$$K_1 = \frac{1(1-t)}{P_o}$$

Where k_i is the after-tax cost of debt
I is the annual interest payment
P_o is current market price of the debt capital C after payment of the current interest)
t is the company's tax rate

ILLUSTRATION

A company has in issue 12% irredeemable debenture stock with a face value of ₦1m and a market price of ₦0.8 m, If the company's tax rate is 30%, what is the cost of the debenture capital?

SUGGESTED SOLUTION

Interest payment per annum is $^{12}/_{100}$ N1.000,000

= ₦120.000

$$K_1 = \frac{N120{,}000(1-0.30)}{N800{,}000}$$

$$= ₦\frac{84{,}000}{₦800{,}000}$$

= 0.105 or 10.5%

Where the debenture is redeemable involving equal period repayments that comprise both capital and interest, the capital element is not allowed for tax purpose. Only the interest will attract tax benefit. In this case, it

might be necessary to calculate the internal rate of return (IRR) that reflects the tax shield benefits of interest.

3.3.4 Cost of Preference Shares

This is the market - determined return or simply yield, of this element of capital. It depends on the stated dividend (an after-tax variable) and the capital to which it relates, has no redemption date. It is therefore represented as follows:

$$k_P = {}^{D_P}/_{P_O}$$

Where D, is the stated annual dividend and p is the current market price of preference share.

ILLUSTRATION

A company has in issue 15% preference share of ₦1 each at a book value of ₦Im. If new preference shares have to be sold, each share will sell at 90k per share. What is the cost of a preference share?

SUGGESTED SOLUTION

Using the formula $k_P = {}^{D_P}/_{P_O}$ the cost will be equal to

$$= \frac{0.15}{0.90} \; x \; 100\%$$

$$= 16.67\%$$

Note that this cost is not adjusted for tax because preference dividend is an appropriation of profit, rather than a charge against profit.

3.3.5 Cost of Ordinary Share Capital: Dividend Valuation Model

This model assumes a future constant dividend per share per year perpetually. It values a share using the following formula:

$$P_o = \frac{D_1}{(1 + K_c)} + \frac{D_2}{(1 + K_c)^2} + \frac{D_2}{(1 + K_c)^3} \dots\dots \frac{D_o}{(1 + K_c)^n}$$

$$\sum_{t-1}^{\infty} {}^{D_1}/_{(1+K_c)^1}$$

Where:

P_o is the current market price of the share ex-div,
K_c, is the shareholders marginal rate of time preference or cost of equity capital
D_t is the dividend per share which is expected to be paid at the end of year t and
$\sum$ represents the sum of the discounted future dividends
∞ is the symbol for perpetuity

This formula when simplified becomes

$$P_o = {}^{D}/_{K_c}$$

$$K_c = {}^{d}/_{P_o}$$

Cost of equity capital can be, in line with this formula, defined as the minimum rate of return if including a risk premium; which must be earned on a project to ensure the maintenance of the market value of existing shares.

ILLUSTRATION

KS Plc is expected to pay a constant annual net dividend of 50k per ordinary share into an indefinite future time. The current market price per share is ₦5 ex-div. What is the cost of equity?

SUGGESTED SOLUTION

Cost of equity = $\frac{50}{500}$ = 0.10 or 10%

3.3.6 Cost of ordinary Shares Capital: Dividend Growth Model

Re-arranging this, the ordinary shareholders cost of capital, where constant rate of growth in dividends is expected, can be obtained as follows:

$$K_c = \frac{d_1}{P_o} + g$$

Where:

d_1 is the dividend expected to be paid at the end of year 1.
K_c is the cost of equity capital
g is the constant growth.

This formula is known as Gordon's Growth Model.

Notes

(a) Where the dividend has just been paid or is a recent or current dividend, this is d_c and must be adjusted for growth rate during year I to become D_c (1+g) ord.

(b) P_o is market price ex div. if the price includes the next dividend to be paid that is cum-div price, this price has to be cleaned by removing this dividend.

ILLUSTRATION

A company's ordinary shares are currently being sold at *444* per share on the stock market. The company is expected to pay a dividend of N0.60 per share at the end of the year. Future dividends are expected to grow at an annual rate of 6 percent of the prior years dividend. Estimate the cost of ordinary shares of the company.

SUGGESTED SOLUTION

$$K_c = \frac{d_1}{P_o} + g$$

$$= \frac{0.60}{4.00} = 0.06$$

= 0.15 + 0.06
= 0.21 or 21%

Note: The simplistic assumptions of perpetual constant dividend and constant growth models are not real, as dividends are usually increased overtime by the company and are allowed to remain unchanged for sometime before a new increase.

3.3.7 Estimating the Growth Rate

When using the Gordon's growth model, it may at times be necessary to estimate the future growth rate from data in dividends growth in the last few years.

ILLUSTRATION

The earnings and dividends of Abbey Plc in the last five years have been as follows:

Year	Earnings ₦000	Dividends ₦000
2004	2,000	750
2005	2.550	960
2006	2.750	1.030
2007	3.250	1.225
2008	3.500	1.312

The company is an all-equity company with 5m shares in issue, each with a market price of ki3.50$_1$ex-div. Estimate the cost of ordinary share.

SUGGESTED SOLUTION

Dividends have gone upconi.14750,000 in 2004 to 441,312.000 in 2008. This is 4 years growth. The average growth rate 'g' may be calculated as follows.

Dividend in 2004 x $(1+ g)^4$ = Dividend in 2008
Re-arranging

$$(1 + g)^4 = \frac{Dividend\ in\ 2008}{Dividend\ in\ 2004}$$

$$= \frac{₦1,312,000}{₦750,000}$$

$$1 + g = 1.75$$

$$= \sqrt[4]{1.75}$$

$$g = \sqrt[4]{1.75} - 1$$

= 1.150 -1
= 0.15
= 15%

$$D_o = \frac{\text{Dividend}(2008)}{\text{No. of Shares}} = \frac{₦1{,}312{,}000}{₦5{,}000{,}000} = 0.2624$$

The previous years average growth rate is expected by shareholders to continue into an indefinite future time. The cost of equity K_c will therefore

Be $\frac{D_1}{P_o} + g$

Where D_1 $= D_o (1+g)$
$= 0.2624 \times 1.15 = 0.3018$

$$= \frac{0.3018}{3.50} + 0.15$$

$= 0.08623 + 0.15$

$= 0.23623$

$= 0.24 = 24\%$

3.3.8 Share Issue Costs

Where there is issue cost, adjustment has to be made to the investment appraisal process. There are two approaches:

(a) Acid the issue cost to the initial capital outlay of the project. Cost of capital is not affected.

(b) Calculate the cost of new equity with the formula.

$$K_c \frac{d_1}{P_o - x}$$

Where x represents the issue cost.

ILLUSTRATION

The issue price of a share is N3.00. Issue costs are 15 kobo per share. If the new shareholders expect a constant annual dividend of 50kobo per annum, what is the cost of the new equity?

SUGGESTED SOLUTION

$$\frac{50}{300-15} = 17.54\%$$

3 3.9 Cost of Ordinary Share Capital; Capital Asset Pricing Model (CAPM)

The cost of equity could be estimated directly using the CAPM approach. CAPM calculates the required rote at return R_A on a share, using the following formula.

$R_1 = R_1 + \beta(R_m - R_1)$

Where $R_{j.}$ is the required return of security j
R_j is the risk-free rate.
R_m is the expected return of the market portfolio
β_j, is the beta co-efficient of the security

As discussed earlier in this study pack, beta is a measure of the systematic risk of a security's return and because investors are risk averse, the greater the beta of a share the greater its required return. This risk-return relationship as shown in the above equation is known as the security market line (SML)

ILLUSTRATION

JSK Plc share had been found to be 1.25 reflecting the fact that its excess return (return in excess of the risk free return) varies more than proportionately in relation to the excess return for the market. The directors believe that this relationship will continue into the future. If the market index return is 15% and the return of treasury bills is 12%, calculate the cost of equity of JSK Plc.

SUGGESTED SOLUTION

Using the above CAPM formula
R_j = 0.12+1.25 (0.15-0.12)

= 0.12 + 1.25 (0.03)

= 0.12 0.0375

= 0.1575 or 1575%

3.3.10 Cost of Ordinary Share Capital: Before Tax Cost of Debt plus Risk Premium

This is a simple speedy hut incorrect way of estimating the cost of equity. A risk is premium is added to the risk-free rate to reflect the sYsternatic risk of the firm to lenders. The greater this premium, the greater the interest that has to be paid by the firm. A further premium added to take care of the relative higher systematic risk or ordinary shares.

Assume, for example, that the normal risk premium expected for shares over debentures is about 6% and assume further that this appears okay for JSK Plc. If the company s before-tax cost of its debenture stock is say 10%, then its Cost of equity will be estimated as 10% + 6% = 16%.

3.3.11Cost of Retained Earnings

The cost of equity is normally used because retained earnings are also part of equity.

3.3.12 Computation of Weighted Cost of Capital (WACC)

The costs of individual company's source of capital have so far been considered. The approach to calculating the WACC is explained in the illustration 16-9 below.

ILLUSTRATION

The management of Elumade Plc is planning an investment programme and it needs to decide on the appropriate cost of *capital* for evaluating investment projects. The company has in issue 1 million ordinary shares of 50k each with a current market price of 90 kobo per share cum div. It has also, in issue, ₦500.000 15% irredeemable debentures with a current market value of ₦105 (par value ₦100) and ₦300.000 11% preference shares currently priced at 80kobo per share. The preference dividend (net) has just been paid but the ordinary dividend and debenture interest are due to be paid in a not too distant future. The ordinary share dividend will be ₦120.000 this year and management has made its views known that earnings and dividends will grow by 6% per annum into perpetuity.

The extract from the company’s balance sheet is as follows:

Ordinary share of N50 each	500.000
16% Preference Shares	300.000
Debentures	500.000
Reserves	200 000
	1,500.000

Advise the management of Elumade Plc on the cost of capital to use stating any assumptions deemed necessary. Assume company tax of 30%.

SUGGESTED SOLUTION

The cost of capital of a financial-as-Set (security) is the internal rate of return which equates the PVs of the expected future cash flows of the asset with its market price. The balance sheet (book) values of the securities and reserves should be ignored.

(i) Cost of debenture (Irredeemable)

$= \frac{15}{105-15}(1-0.30)$

$= \left(\frac{15}{90}\right)(0.70)$

$= (0.1667)(0.70) = 0.1167$ or 11.67%

(ii) Cost of preference share

$= \frac{11\ kobo}{80\ kobo}$ x 100%

$= 13.75\%$

(iii) **Cost of ordinary share**

Given a 6% per annum indefinite constant growth rate, this cost may be estimated as follows.

$= \frac{₦120,000\ (1.06)}{900,000-120,000} + 0.06$

$= \frac{127,200}{780,000} + 0.06$

$= 0.1631 + 0.06$

$= 0.223$

$= 22.30\%$

(iv) WACC

Item	Market Value	Cost of Capital	Hash total
Debentures	525,000	11,67%	61,268
Pref. shares	290,000	13,75%	33,000
Ordinary share	780,000	22,30%	173,940
	1,545,000		**268,208**

ex div WACC = $\frac{₦268,208}{₦1,545,000}$

= 0.1736 OR 17.36%

(v) The management of Elumade Plc may decide to add a risk premium of say 6% to take care of risk of the project itself and then use approximately 23% to evaluate projects.

Important assumptions underlying the use of WACC

(i) The capital structure (financing proportion) of the company is known and the company will continue to finance new projects in this proportion.

(ii) The costs of the individual sources, as computed will not change in future.

(iii) The risk of the project under consideration is not different from the average risk of all other projects undertaken by the company.

(iv) New projects are financed by new funds to be obtained for the protects.

(v) The cost of capital used reflects the marginal cost of new funds to finance the project.

3.3.13 Justification for the Use of WACC

The reason that had been advanced for the use of WACC is that a company will be able to enhance the market value of the company (and therefore the shareholders wealth) by financing new investments in the proportions specified and accepting only those projects that yield more than WACC

ILLUSTRATION

Success Plc is financed by a mix of equity and debt. The capital structure has always been equity (3/5) and debt (2/5). The cost of equity is 15% and that of debt is 10%. A new investment opportunity has just emerged. The project will cost ₦1m and provide a return before interest of ₦150.280 for an indefinite future period. Should the company accept the project? Ignore tax

SUGGESTED SOLUTION

WACC Is calculated as follows:

= $\frac{3}{5}\ x\ 15\% + \frac{2}{5}\ x\ 10\%$

= 9% + 4%

= 13%

Return before interest = ₦150,280

PV future cash flows is $\frac{150,280}{0.13}$

NPV = ₦1,156,000 – ₦1,000,000

= ₦156,000

Funds deemed to be provided by lender = $\frac{2}{5}$ x ₦1m
= ₦400.000. Interest on this amount is ₦40.000 Amount available to the ordinary shareholders is ₦156.000 - ₦40.000 ₦116.000

Share of Equity finance = $\frac{3}{5}$ x ₦1m = ₦600.000

Return to the ordinary shareholders

Will be = $\frac{116,000}{600,000}$

= **19.33%**

This return exceeds the cost of equity of 15%

4.0 CONCLUSION

The cost of capital of a company is an average cost concept where, as it is in most cases, a company is financed by a mix of debt, equity and other sources of finance. It is a weighted average, putting into consideration the Importance of each source of finance. The cost of capital is normally required for the evaluation of investment projects of the company. The company's cost of capital must be lower than the yield on a new project if that project is to be acceptable. Alternatively, the projects future cash flows, discounted to their present values using the firm's cost of capital must be greater than the present cost of the project.

The WACC can only be computed after calculating the costs of individual sources of funds. A company finances its new project from a pool of funds. A project cannot be specifically identified with a particular source of funds, hence the use of WACC. It should be noted however, that the use of WACC can only be justified under specified assumptions. Including the one involving the continuing maintenance of the existing capital structure when raising new funds for new projects.

In computing the cost of equity, an alternative approach to using the Dividend valuation model is the use of CAPM. The CAPIN derives the cost of equity capital from capital market information. It deals explicitly with the risk of a security by calculating a risk premium that Is based on the expected excess return determined by the beta of that security WACC, although also market based, incorporates risk into the cost of capital less formally than CAPM.

5.0 SUMMARY

Finally the justification for using WACC hinges on the fact that WACC is the most dependable guide to the additional cost of extra capital made available for the financing of new projects of the firm, provided the above assumptions hold.

6.0 TUTOR- MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

ICAN STUDY PACK

REVISION QUESTIONS

1. Slate the relationship between the required rate of return of shareholders and the cost of equity capital of a company?

2. State ONE condition underlying the use of weighted average cost of capital (WACC) for a company's incoming project.

3. Where a debenture stock Is redeemable say at the end of the fifth year, what approach should be used in calculating the cost of the debenture?

4. Where a company's policy is to reflect the issue cost of equity in the cost of equity capital, how should this cost be treated?

5. What is the cost of short-term funds such as overdrafts?

MODULE 3

UNIT 1 CAPITAL STRUCTURE AND THE VALUE OF FIRM

CONTENTS

1.0 INTRODUCTION

Capital structure decisions are critical financing decisions of a company, because of their implications for the value of the company. Should a company borrow at all? If it decides to borrow, how much? The effects of these decisions are, up to now not settled. This chapter will provide the necessary inputs that will guide financial managers in their decision-making process. The fundamental Issue is whether a company can influence its total value through its cost of capital by varying its capital structure. The following assumptions will be made:

(a) All earnings are distributed in form of dividends, thus ignoring the effect of dividend policy;
(a) These earnings are assumed to have zero growth into perpetuity:
(c) There is no change in the investment decisions of the company:
(d) Although the total capitalisation will not change, the gearing of the company can be changed by issuing long-term debt to repurchase shares or issuing shares to redeem long-term debt: and
(e) Taxis, for now, ignored.

The ensuing theoretical discussion will thus centre on the relationship between capital structure (only debt-equity financing assumed for

simplicity) and the company's weighted average cost of capital and the impact of the variation of this relationship on the value of the company.

2.0 OBJECTIVES

After studying this chapter, the reader should be able to:

- Define and understand capital structure of a firm
- Discuss the views of the traditional approach to the impact of gearing on the value of the company
- Discuss the views of the net operating income approach
- Discuss the views of Modigliani and Miller - the pretax position; and
- Discuss their post-tax views.

3.0 MAIN CONTENT

3.1 CAPITAL STRUCTURE: ALTERNATIVE VIEWS ON VALUE OF THE COMPANY

Capital structure, also called financial leverage or gearing, is the proportion of a company's long-term debt (and preference shares if any) to ordinary share capital. A company may, for example, have 30% debt and 70% equity or 40% debt and 60% equity making up its capital structure.

In relation to the effect of capital structure on the value of the company, there are two views - the 'traditional' view and the net operating income approach.

3.1.1 Traditional View

The view of the traditionalist is that there Is an optimal capital structure and that the management debt-equity decisions can be made to achieve this optimal position. thereby increasing the total value of the company. The optimal capitol structure is that which minimizes the company's cost of capital (symbolised as K,) and maximises the total value of the company.

The following points are advanced by this theory of capital structure:

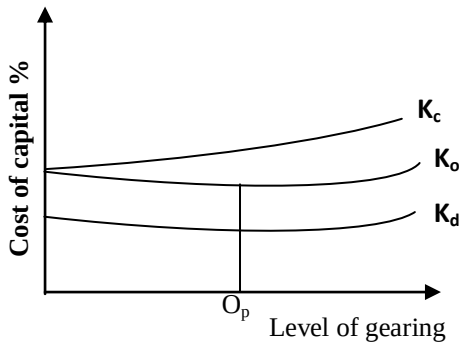
1) As the company increases its gearing level, the cost of debt (symbolised as K_c,) remains unchanged. After a certain level.

(significant level), however, the financial risk to the lenders increases. They then ask for higher return.

2) The equity holders for the above reason, also increase the cost of equity (their required return). Although the cost of equity (symbolised as K_c) goes up, the interest rate benefits are not completely offset by this increase. Consequently. WACC will still be following.

3) However, as borrowing increases, the equity holders will (because of the much increased risk perception of the company) be asking for more returns. There will be a level when the required equity returns will more than offset the interest-tax benefits of borrowing. At this level. WACC will start rising. This level is the optimal capital structure level.

4) At the optimal level, the value of the company will be maximised. The reason is that at this level the lowest capitalisation rate K, is applied to the net operating cash flows: the result is highest present value of such *cash* flows. The traditionalist thus concludes that K.. depends on gearing of the company and there is an optimal capital structure. The above view is demonstrated graphically as follows:



K_c is the cost of equity
K_d is the cost of debt
K_0 is the weighted average coal of capital
O_p is the optimal gearing level

AB Plc has N500.000 of debt with coupon rate of 10% and a market value which Is at par with the minimal value of the debt. There are 250,000 shares in issue. The cost of equity is 15% while the company earns N500.000 per annum before interest. Assume the company issues N480.000 of debt capital also at par) at 10% to buy back 40.000 shares leaving 210.000 shares in issue. Assume further that because of

Increased gearing level and the attendant increased financial risk, the cost of equity increased to 17%. Calculate the WACC and market value of ordinary share both before and after change in capital structure and explain the effect of a change in capital structure.

SUGGESTED SOLUTION

(a) Before change in gearing

Earnings per annum		500.000
Less: Interest (10% of 14500.000)		(50.000)
Earnings available to the Ordinary Shareholder		450,000
Cost of equity		15%
Market Value of Equity	₦450,000 + 0.15	
	= ₦3,000,000	
Add market Value of debt		500,000
Market Value of the company		**₦3,500,000**

The WACC is $\frac{₦500,000}{₦3,500,000} \ x\ 100\%$

Market Value of each ordinary share = 14.29%

= $\frac{₦3,000,000}{250,000}$

= ₦12.00

(b) **After Change In gearing**

		₦
Earnings per annum		500,000
Less interest (10% of N980.000)		(98,000)
Earnings available to the Ordinary Shareholder		402,000
Cost of equity		0.17
Market Value of Equity	=	2,364,706
Add market Value of debt		980,000
Market Value of the company		3,344,706

The WACC is = $\frac{₦500,000}{₦3,344,706} \ x\ 100\%$

= 14.95%

Market Value of each ordinary share = $\frac{₦2,364,706}{₦210,000}$

= ₦11.26

The increase in the proportion of debt to equity from about 17% to about 44.44% has increased WACC (due to increase in the *cost* of equity) and the market values of both the company and each share have dropped.

3.1.2 Net Operating Income Approach

This is a theory of capital structure whereby the Weighted Average Cost of Capital (WACC) and the total value of the company remain the same regardless of the level of gearing. In this case the net operating income of the company is capitalized by WACC (K_o) to obtain the total value of the company. The market value of the debt is then deducted from this total value to get the value of the company's equity.

ILLUSTIRATION

Using the Information in illustration 17-1 and assuming WACC of 20 percent. The following situation will obtain:

		₦
Earnings WACC		500,000
		0.20
Market Value of the Company		500,000
		0.2
Less market value of *the debt*	=	2,500,000
Market Value of equity		500,000
		2,000,000

The cost of equity is therefore ₦500.000/₦2,000,000 which is equal to *25%* and the market value of equity per share is ₦2.000.000/250,000 = ₦8.00

Suppose, again, that the gearing level is increased by Issuing N500.000 additional debt at 10% to buy back 62.500 ordinary shares at a market value of ₦8 per share. Leaving 187.500 shares in issue.

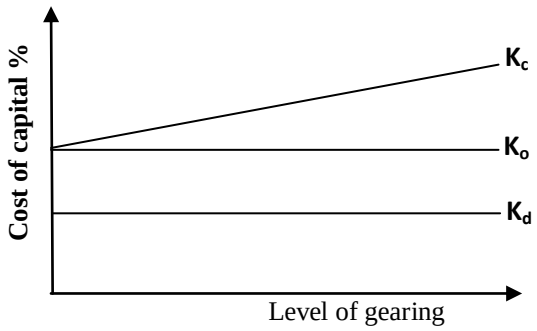
The following position will hold:

		N
Earnings per annum		500.000
WACC		0.20
Market Value of the Company	=	2.500.000
Market Value of debt		1,000,000
Market Value of Equity		**1,500,000**

Cost of equity = $\frac{\text{N500.000 – (10\% of 811.000.000)}}{N1,500,000}$

= $\frac{\text{N400.000}}{N1,500,000} = 26.67\%$

Market value of equity = $\frac{\text{N1,500.000}}{N187,500} = 26.67\%$



The NOI approach says that the level of gearing (changes in debt' equity ratio) does not affect the total value of the company or the market value of the individual share. Investors are not bothered as to how the company finances its operations as this does not affect them either in total or as individuals. The reasoning behind this position, is that, as the level of gearing increases, the cost of equity also increases. However, the increase in the cost of equity is such that it does not outweigh the tax-shield benefits: in fact they are exactly offset by each other, hence there is a constant level of WACC (K_o) as gearing changes.

3.1. 3 The Modigliani and Miller Theory

Modigliani and Miller (M & M) in their original version brought in a 'behavioural factor to support the NOI approach on the absence of any relationship between total value of the company or its cost of capital and its level of gearing. M & Ms belief is that the total value of the company depends on the future earnings stream of the company and the risk of those earnings and not on the way the company is financed. Thus, the discount rate used in evaluating any investment project has no relationship whatsoever with the method of financing the project. M&M made the following assumptions which are worth mentioning:

a) Perfect capital markets where there are transaction costs, information is perfect and investors' behaviour is rational:

b) The capital market has similar expectations vis-a-vi s the future

earnings of the company, which are assumed to the present earnings;

c) Investors' views about the risk of companies in the same risk class are the same: and

d) Absence of taxation (initial position).

M&M brought in their behavioural support factor via the concept of arbitrage.

In the context of the theory of capital structure and value, arbitrage means that shares (and debentures) of identical companies (identical in all respects except in their capital structures) are being sold at different prices and investors will sell the high-priced shares and simultaneously buy the low-priced ones with a view to making short-term profit.

The illustration below will explain how it operates:

ILLUSTRATION

Consider two companies. At Plc and DE Plc in the same risk class, which are identical in all respects except that At Plc is an all-equity company while DE is a debt-equity company (levered). DE's capital structure includes 8% .42m debt which is also its market value. The earnings before tax of both companies are the same at Him per annum. Assume the cost of equity in the all-equity (unlevered) company is 20% and the cost of equity in the debt-equity (levered) company is 21%. What would be the position of the:

(i) Traditional view
(ii) M&M view

Regarding the values of both At Plc and DE Plc ?

SUGGESTED SOLUTION

The traditional view

	AE Plc ₦	**DE Plc** ₦
Earnings per annum	1,000,000	1,000,000
Less interest (8% of N2m)	-	160,000
Earning belonging to Equity	1,000,000	840,000
Cost of Equity	(0.20)	(0.21)
Market Value of Equity	5,000,000	4,000,000

Market Value of Debt	-	2,000,000
Total Market Value of the Company	5,000,000	6,000,000
Weighted average cost of capital	20%	16.67%
Debt/Equity ratio	0%	$33\ ^{1}/_{3}$ %

The two companies are assumed, by the traditional view market values.

The M & M view

The argument of M&M, however, is that this situation is not sustainable because shareholders in DE Plc. the levered company. would soon discover that they could earn a higher return by selling their interests, replicating the gearing, that is, converting corporate gearing with his own personal gearing and investing the entire sum in AL Plc the unlevered company. They are, if they do the above, carrying out arbitrage transactions. The sale of the shares of DE Plc and the purchase of the shares of AL Plc will:

(a) Lower the price of DE Plc shares thereby raising its cost of equity capital; and
(b) Raise the price of AL Plc thereby lowering its cost of equity capital.

Until the total market value of each company is the same, when arbitrage activity would then end.

Assuming, for example. Mr. Jacob owns 5% of the equity of DE Plc, the following arbitrage activity steps will occur:

(a) He would sell his 5% stake in DE Plc amounting to ₦200.000, that is 5% of ₦4m

(b) Replicate the corporate gearing of the company with his own personal gearing by borrowing ₦100.000 5% of ₦2m) at 8%.

(c) Add this to the proceeds of sale of the shares (that is ₦200.000 ₦100.000) and invest the total in AL Plc so as to secure 6% interest in its equity capital.

His position would now be as follows:

Income 6% N1million	60,000
Less Interest on N100.000 @ 8%	8,000
Net Income	**52,000**

₦

Net Income before arbitrage: 5% ₦840.000 42,000

Mr. Jacob would be earning N10.000 more than his current earnings from his investment in DE Plc

Alternatively

(a) Mr. Jacob could use part of the N300.000 to acquire 5% interest in AE Plc that is 5% of N5m which is equal to N250.000.

(b) He would be entitled to 5% of **N**lm earnings of AE Plc which is equal to N50.000

Less: Interest on loan	8.000
Net income	42.000

(c) He would have maintained his earnings and at the same time have an account of li50.000 for other investments.

M&M argued that rational investors will go on substituting corporate financial leverage with personal financial leverage, selling shares of DE Plc and buying those of AL Plc until the price of the former has dropped and the price of the latter has risen, such that there is an equilibrium point. At this point, the cost of equity in the company in DE Plc, will be higher than the cost of equity in At Plc.

(d) The weighted average cost of capital in the two companies would be the same because both their market values and their earnings together with the associated risks were also the same.

Shortcomings of the M&M theory

(a) Personal financial leverage might not be exactly substitutable for corporate gearing as their risks to the investor might be different.
(b) Also, the interest costs might be different.
(c) The existence of transaction costs may limit the arbitrage operations.
(d) Taxation cannot be exempted in security transactions.
(e) Difficulty in getting companies with identical operating characteristics.

3.1.4 M & M Tax View

When tax is allowed, the consensus of most financial experts is that the astute use of debt in a company's capital structure might have positive effect on value. In view of the tax deductibility of interest, the aggregate amount available for both lenders and shareholders will be greater in a leveraged company.

Using the example of AE Plc and OF Plc, and assuming company tax rate of 30%, the AIM Post-tax view can be shown as follows:

	AV Plc ₦	DE Plc ₦
Earnings per annum	1.000.000	1.000.000
Less Interest (3% of 14.7m)	-	160.000
Earnings before tax	1.000.000	840.000
lax at 30%	300.000	252.4300
Earnings after tax	700,000	588.000
Earnings available for all investors (tenders and shareholders)	700.000	748.000
₦588,000 + ₦160.000		

The total earnings available to all Investors is greater in the levered company by an amount equal to the interest times the lax rate that is N160,000 x 0.30 which is equal to N48.000. This Is the tax-shield benefits which accrue to the levered company. Assuming the debt used Is Irredeemable, the present value of annual tax-shield benefits will be as follows:

pv of tax shield benefits $= \frac{(C)(f)(tc) - (D)(tc)}{K_1}$

Where Ki is the market interest rate (or yield) of the debt and Is *assumed* to be equal to the coupon rate. C and tc the company' tax rate. For company DE Plc PV of tax-shield benefits will be equal to N600.000 (₦2m x 0.30). M & M contended that the tax-shield benefits have value which goes to Increase the market value of the levered company by the amount of this tax-shield benefits. The additional value for DE Mc occurs because all investors in this company would be receiving every year ₦48.000 more than when there is no debt. The present value of ₦48.000/0.08 = ₦600.000. It is assumed that both the interest flows and the related lax-shield benefits have the same level of risk; hence the use of the same discount rate. The above can be shown by the formula:

$V_L = V_u + D_{tc}$

where:

V_L is the value of the levered company

V_u is the value of the unlevered company

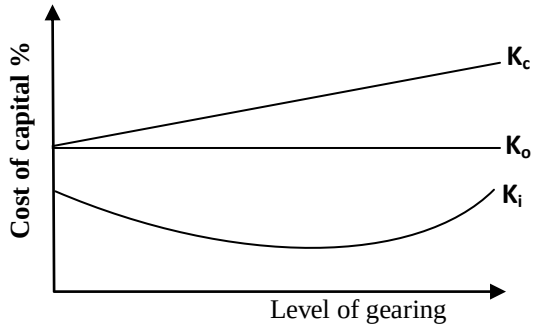
D is the value of the Debt

tc is the company's tax rate.

Given the cost of equity 01 20% for AE Plc which has no debt, its market value will be N700.000/0.20 which is equal to N3.5m. The value of the tax-shield benefits is N600.000. The total value of DE Plc the levered company is N3m + N0.6m which is equal to N4.1m.

It will be observed from the above equation of V_L that the greater the tax-shield benefits, the greater the value of the company all things being equal. In the same vein, the greater the level of gearing, the lower the overall cost of capital. MM. thus, altered their original view by factoring in company tax. The view implies that companies should continue to borrow because according to them there is an optimum level of gearing and this occurs at a level of near 100% debt financing. This situation is, however, not in line with the practical borrowing behaviour of companies in the capital markets; that is financing a company's operations with almost 100% debt.

MM (Post-Tax) View



4.0 CONCLUSION

Capital structure shows the relationship of debt to equity. The implication of this relationship for the value of the company is of great concern for the financial managers. There are two alternative views - the traditional view and the 1.1604 (pre-tax) view. The traditional view which emphasizes the Net Income CND approach showed that the amount of debt in the capital structure affects the value of the company. The view opined that the greater the level of gearing the lower the WACC because of the impact of the tax deductibility of interests. However after reaching a borrowing level, the WACC continues to rise.

It is at this point that WACC is minimized and total value of the company maximized.

Another approach - the Net operating Income (NOD approach believed that there is no relationship between the level of gearing and the value of the firm. This view stated that the variables that influence the value of the company are the future earnings of that company and their related risks as against the way the operations are financed.

5.0 SUMMARY

MM came up with a strong defense for this latter view and backed it up with a behavioural factor. This factor hinges on the possibility of arbitrage transaction by the shareholders. MM gave their view under certain assumptions. These assumptions, which include absence of taxation, must be noted. M&M later brought in tax to assert that, because of tax deductibility of interests, the tax-shield benefits have value. As far as M & M (Post-tax) view is concerned, the value of the geared firm will be greater than the value of the ungeared company by the amount of the present value of the tax-shield benefits. The greater the debt a company takes on, the greater the tax-shield benefits and therefore the greater the value of the geared company when compared with the ungeared company. This view implies that a company can take on almost 100% debt financing: a situation which is not in tune with corporate financing behaviour.

6.0 TUTOR - MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

Adapted from the ICAN study park (2011)

REVISION QUESTIONS

1. What is the traditional view on the overall cost of capital as gearing Increases?

2. State the key principle Involved In the total value approach to capital structure.

3. Investors In debt finance require a lower return than ordinary shareholders, because debt finance possesses a _____ risk.

4. What is that intangible assets factor that might affect a company's ability to borrow?

5. A geared company has in issue N500.000 Irredeemable debt

finance and N2m equity finance. Coupon rate of 15% is the same as market interest rate. The company's tax rate is 30%. What is the present value of the tax shield benefits of the debt?

UNIT 2 DIVIDEND POLICY

CONTENTS

1.0 INTRODUCTION

Dividends are payments by the company to those who provide it with equity finance - the shareholders. From the viewpoint of these shareholders, dividends represent compensation for postponing consumption. The dividend policy of the firm relates to various decisions on payments of dividend. The firm regards dividend decision as a major aspect of the financing decision of the firm. The critical question then is whether profits should be distributed as dividends or retained within the firm to finance future expansion and growth. What will be the effect of either decision on the value of the firm? If the company decides to pay dividends, how much should be paid and how much should be retained) If there are investment opportunities, should the firm use the monies available for dividend to finance these investments or should It pay dividends and borrow later to finance the investment opportunities? Should the company follow a policy of fixed Naira amount per share per annum or a fixed percent of earnings per

annum. All these questions require answers. The solutions and other aspects of dividends decisions including factors influencing payment of dividends will form the subject matter of this chapter.

2.0 OBJECTIVES

After studying this chapter, the reader should be able to:

- Understand the meaning or *a* company: dividend policy:
- Explain the differences between passive and active dividend policies;
- Advance theoretical reasoning for the relevance or irrelevance of dividend Payment to the value of the firm
- Discuss the practical factors that influence a company. dividend policy
- Explain the Impact of sternly or dividends on the value of a share:
- Mention the disadvantages of stable naira dividend payment and those of stable dividend pay-out ratio: and
- Explain other aspects of dividend decisions such *as* cash dividends, scrip dividends. scrip bases, share split, share consolidation and share re-purchase.

3.0 MAIN CONTENT

3.1 Passive and Active Dividend Policies

When a company follows a passive dividend policy, it means it is treating dividend payment as residual. This means that the determining factor as regards payment of dividend and how much to pay is the availability of profitable Investment projects. These are projects with positive NEV. The idea is that as long as the company has projects whose returns are in excess of (or at least equal to) the required returns. It should continue to finance these projects and pay out nothing as cash dividends.

If, however, the company has no single profitable investment, it can *pay* 100 percent of the profits available for distribution as cash dividends. This implies that in between zero percent and 100 percent there will be various dividend payout ratios whose values will depend on availability of profitable projects.

On the other hand, the active dividend policy regards dividend payment as a critical factor in the determination of the value of the firm and hence, the wealth of its shareholders. This policy treats dividend payment not just as a way of sharing profits. it also looks at retentions as

residue. The question that readily comes to mind when examining these two policies, is: *are* dividend payments really relevant lo the wealth of the shareholders or are they Irrelevant? The discussion below will focus on the theoretical arguments put forward by Modigliani & Miller (M & M) showing the Irrelevance of dividends to the wealth of the shareholders.

3.2 Irrelevance of Dividends

(i) If profits were distributed (instead of being retained) and external equivalent equity finance had to be raised to finance investment, the possibly reduced value of the share after financing plus the dividends paid will be exactly equal to the value of the share before financing. Dividend payments, according to M & M, thus have no effect on share value. The value of the share would have reduced because more shares were issued.

(ii) If shareholders were expecting dividends and they did receive the dividends, they could replace exactly these dividends by selling shares and receiving cash. Thus, by this action, they could manufacture "home made" dividends. if on the other hand, the company paid them dividends, when in fact they did not need such cash, they could use the "free" cash to buy shares of the company on the stock market.

Given this scenario, the company is not doing for the shareholders anything they cannot do themselves. It is therefore not creating value. Based on the above, the fact that a company pays dividend or does not pay dividend, according to M & M is therefore immaterial to the Investors.

Modigliani and Miller IM & MI strongly argued on how the value of the firm (and therefore the wealth of its shareholders) is unaffected by the way available profits are shared between retentions and dividend payout. They believe that the value of the firm is determined by the stream of its earnings or its pattern of investment rather than the pattern of distribution of its profits. Their contention is that as long as the firm has capital projects with positive NPV, it should continue to invest in them as this action will increase the value of the firm.

This M & M assertion was based on the assumptions of perfect capital market where there are;

(a) No transaction costs;
(b) No floatation costs;
(c) No taxes on earnings; and
(d) Certainty about the future earnings of the firm.

The following points appear to form the bases of M and M's argument:

3.3 Relevance of Dividends

The following are points put forward of Dividend Payment.

3.3.1 "A Bird in Hand" Argument

The traditional view of the theory of dividends is that dividends are the singular determinant of value of a share and that the receipt of the share of profits now, in form of income rather than in future, in form of capital appreciation, enhances the value of the share. This second position is in line with bird in hand is worth more than two in the bush argument as ₦1paid now in cash is worth more than ₦1 supposedly retained as further investment. Aside from this, the payment of dividends help to resolve the uncertainty in the minds of investors about the future earnings potential of the company. Investors place greater reliance on the ability of the firm to earn profits in future and pay dividends, reduce the risk perception of the company and this increases the value of the company's shares, all things being equal.

3. 3.2 Group Preference

There are certain categories of investors who, because of their employment status or their tax position, would prefer less of current income and more of capital appreciation. On the other hand, there will be some groups who because of their economic activities would favour less of capital appreciation and more of current income. The first group might consist of highly paid workers and high marginal income tax payers who would prefer to buy shares of companies that retain much of their profits. A company should identify such group and ensure that its dividend policy is geared toward their desire. On the other hand, there exists certain institutional investors such as pension funds administrators who may be tax exempt but require constant cash inflows to meet payments to pensioners. A company that has these groups of investors should emphasize dividend payments so as to keep their loyalty. Any dividend policy that is not in line with the groups desire will only encourage shift in investors' loyalty. Similarly, inconsistency of dividend policy will attract the same action. The effect is that investors who are not happy with a particular company's dividend policy would want to sell their shares of that company (and buy those of the company that meets their desire). The action of these investors would probably create a depressing effect on the share price and jerk up its cost of capital.

Although. another group of investors might be buying these shares. the process itself may have a psychological effect on the shareholders. The above argument typifies the '**clientele or 'preferred habitat** concept.

3.3.3 Information and Cumulative Device

Payment of dividends can be used by a company to convey positive information to shareholders about the company's future profitability while a statement could also be issued. However, in order to make this statement about management's intention real, the current dividend-payout ratio might be increased. The belief of management here is that action speaks louder than words.

The payment of cash dividends is therefore meant to signal to investors that management actually knows and believes that the company's financial situation is better than what the share price is showing. If this view is correct, then, the increase in dividend-payout would be expected to create a positive impact on share price in the stock market.

3.4 Factors Affecting Dividend Policy

The theoretical aspects of dividend policy have, so far, been considered. The following will discuss the practical factors that should be taken into account when a firm is formulating a dividend policy.

(a) Legal Constraints:

The management of a company must recognise the existence of laws guiding payment of dividends. For example, a company should not pay dividend out of capital and may only pay dividends, according to Companies and Allied Matters Act (CAMA 1990. as amended) out of:

(i) Profits arising from the use of company's property:
(ii) Revenue reserves: and
(iii) Realised profit on a fixed asset sold

CAMA also specifies that dividends can only be declared on the recommendation of the directors, and *any* amount so recommended cannot be increased by the general meeting; although, it can be reduced.

(b) Future Financial Requirement

Once the legal constraints have been cleared, management should focus on its future financial needs including future investment opportunities. This should be done via budgeted sources and application of hinds statements, budgeted cash flow statements and cash budget.

(c) Liquidity

Dividends are usually paid out of cash. Therefore, the amount of dividend paid by the company is largely influenced by the available cash resources. Cash has alternative uses within the firm: management may. therefore, want to give recognition to this, perhaps more important alternatives (and also be protected against the future) and may. therefore. decide not to have high target dividend-payout.

(d) Capacity for borrowing

A firm may not be liquid, but may be in a strong position to borrow at shod notice. This ability can be by arranging a line of credit. The ability of a firm to borrow, often largely influences its ability to meet its short-term obligations as and when due, including payment of cash dividends.

(e) Access to The Capital Market

If the company is large enough and has good access to the corporate bond market, it needs not bother much about its liquidity situation for the purpose of paying cash dividends.

(f) Existence of Restrictive Covenants

Restrictions on payment of cash dividends may be entrenched in a loan agreement.

(g) Dilution of control

Payment of cash dividends, supported by subsequent raising of external finance may dilute the controlling interest of the existing shareholders, if they do not partake in the provision of such finance. These shareholders may, therefore, favour financing of investment opportunities from relatives

3.5 Stable Dividend Payment Per Share Versus Stable Payment Ratio

Another area of dividend policy which is of concern to management is which dividend payment policy to follow: stable dividend per share or stable payout ratio.

3.5.1 Stable Dividend Per Share Policy

The management of a company that follows this policy wants to be paying and maintaining an absolute noire amount of dividend per share.

For example, 80 kobo per share might be paid annually on regular basis notwithstanding that earnings are fluctuating or that the cash position is changing over time.

The share of a company that follows this policy usually attracts a premium because of preference for current regular income of certain investors, positive signaling effects and directives given to certain institutions. However, the following constraints limit the desire of firms to follow this policy.

(a) It creates a financial commitment on the part of the company to maintain that fixed figure even in the face of profitable investment opportunities.

(b) If the firm becomes illiquid. it still has to pay this fixed Nair° dividend.

(c) In a period when the level of earnings is low, the dividend payment must still be met.

(d) Where the company is compelled to pay an amount below the usual fixed amount, it may cause a psychological problem with a possible negative effect on share price.

(e) The company may be exposed to take-over bid, if it pays dividend below the usual fixed amount.

3.5.2 Stable Pay -Out Ratio

Under this policy, the company pays a fixed percentage of earnings as dividend every year. This implies a variable Naira amount every year, depending on each years level of earnings.

The only advantage to the company which follows this policy is flexibility and convenience. The company only pays an amount of dividend that is supported by earnings. The company is not likely to have any problem paying dividends provided the earnings are substantially realised. However, the following disadvantages might occur to a company that follows this policy.

a) When dividends vary in line with earnings level. investors naturally look at the company as inconsistent. This may create a negative effect on share price.

b) A fall in earnings followed by a drop in dividend is a pointer to investors, of management's thinking about the future profitability of

the company. If earnings drop but the dividend level is still maintained, investors might still have some confidence In the ability of management to weather through the storm.

c) Certain investors that require specific periodic income might rank the company very low and consequently try to dispose their shares with the attendant negative effect on share price.

d) Certain institutional investors, for example, the Pension Fund Administrators (PEAS) might need to abide with specific directives from the regulatory authority.

3.6 Cash Dividend

These are dividends recommended by the directors and approved and declared at the annual general meeting (AGM). They are subject to withholding tax and are normally paid out of cash. Declaration and payment might sometimes put pressure on the company's liquidity.

3.7 Scrip Dividend

These are dividends also recommended by the directors and approved and declared at the annual general meeting MGM). However they are paid through issue of ordinary shares of the company as against being paid by cash. They essentially constitute a transfer to the shareholders' additional shares with no further cash coming from them. The following should be noted about scrip dividends:

(a) The dividends have been declared, only they do not involve payment of cash.
(b) Acceptance of scrip dividends by the shareholders is optional.
(c) Scrip dividends are, like cash dividends, taxed.
(d) The company would be able to conserve cash and use it for other worthwhile investment opportunities.
(e) The issuance of snip dividend is a way out of a company's liquidity problems.
(f) The company might make some savings in finance charge and thus increase profitability by not borrowing to pay dividends.
(g) There would be increase in ordinary share capital base and therefore reduced gearing level.
(h) They are suitable for ordinary shareholders who are interested in capital gain.

3.8 Script Issues

Scrip issues, also known as bonus issue, involve a mere book-keeping entry, capitalizing the existing reserves of the company and simultaneously issuing ordinary shares to the shareholders to the tune of the amount capitalised. Scrip issues are the result of a financial process, the details of which have been discussed earlier in this pack. It should be noted, however, that some authors also refer to scrip issues as stock dividends.

3.9 Share Split

This is a reduction in the nominal or par value of a unit of share, the result of which proportionally increases the number of ordinary shares in issue. A company may, for example, make a share split of *2* for 1 by which the original nominal value of a share say Ni is reduced to 140.50 and the number of shares increases twofold. It should be noted that, unlike bonus issue, share split does not change the total shareholders capital. Management makes share split where it intends to achieve an appreciable decrease in the market value of a company's share. The ultimate purpose was to make the shares more marketable thereby possibly attracting more investors.

3.10 share consolidation

Share consolidation, also known as reverse share split, is a process whereby the nominal value of a share is increased; the result of which reduces the number of shares in issue. A 1 for 4 share consolidation implies that each shareholder would receive 1 new share for 4 old shares already held by him.

A nominal value of say 25k per share might be increased to Ni per share. An ordinary shareholder who currently has 2000 shares of 25k per share will now own 500 shares of Ni per share. Share consolidation is used where management believes that the share is selling at a very low price and this process would probably jerk up the price on the stock market.

The announcement of share consolidation, like share split and bonus issue. is likely to create some signaling effects as this is usually taken by investors as a company in financial problems. In the case of share consolidation. management might just want to move the share price to a higher price range within which trading can be taking place at lower transaction costs.

Notwithstanding. management should critically assess the worthiness of share consolidation operation to avoid possible fall in the company's share price.

3.11 Share Repurchase

Share repurchase, also known as share buy-back or treasury shares, is the repurchase of the shares of a company from its shareholders by the company itself, either in the open market (stock exchange) or by tender offer.

A company may want to re-acquire its own shares for the purpose of achieving its share-option plans for its top managers. It may also want to buy back its own shares for use in a share-for-share exchange scheme in acquisition. Some companies may want all their shares to. now, be privately owned; hence management might repurchase those shares owned by external shareholders. In other cases, management might just want to redeem the shares. It should be noted that share re-purchase negates the view of the traditionalists on the theory of dividends that cash dividends are the sole determinant of the value of a share.

It should be noted that share re-purchase has just been recently legalised on the Nigerian stock market.

It is only in United States that share repurchases are popular; in other countries, they are illegal and yet in some they are uncommon because of their attendant tax consequence.

4.0 CONCLUSION

The dividend policy decision of a company is a critical factor in the financial management of that company. Some schools of thought believe there is a strong relationship between dividend payments and the value of the firm. These are the traditionalists. However, M & M believe that the patterns of dividend payments do not affect the value of the firm. Theoretical reasons were advanced in support of each position. Notwithstanding the theoretical propositions on theory of dividends, there are practical factors to be considered in determining the dividend policy of a firm. These include legal constraints, future financial requirements, liquidity, capacity for borrowing and so on.

Another aspect of the dividend policy of the firm is whether a firm should pay a fixed naira dividend-payout ratio, applied to annual profits. Although the latter policy might have its own virtue, the stable fixed naira payment per share is recommended because it generates investor’s confidence in the ability of the management to profitably manage the company for an indefinite future period.

5.0 SUMMARY

There are other considerations in dividend decisions that are worth mentioning. These are the scrip dividends, scrip issues, share split, share consolidation and share repurchase. Decisions regarding all these financial operations are normally made by management against the backdrop of the need to maximize shareholders wealth which is the principal financial objective of strategic financial management.

6.0 TUTOR - MARKED ASSIGNMENT

7.0 REFERENCES/FURTHER READING

ICAN STUDY PACK

REVISION QUESTIONS

1. According to M & M (original version) theory what is “home-made" dividends?

2. State the main legal restriction on payment of dividends.

3. Interns of definition, what is the main difference between stable dividend payment and stable pay-out ratio?

4. In the theory of finance, which of the following statements is correct?
   (i) Dividends are paid out of profits
   (ii) Dividends are paid out of cash.
   (iii) (i), (ii) or both.

5. Give another term for scrip Issue.

UNIT 3 THE NEW ISSUES MARKET

CONTENTS

1.0 INTRODUCTION

As earlier discussed, companies finance their long-term investments with a mix of internally generated funds and funds raised externally through public issues. right issues and private placement of debts or equities. Also, the financial markets. in general, have been discussed. It is necessary to discuss how financial managers of companies raise these funds in the capital markets. The main focus in this chapter will be the primary or new issues market with emphasis on the methods that are used and the procedure in raising these funds.

These funds are provided by the 'surplus' sector of the economy mainly Individuals and certain financial institutions such as insurance companies, pension funds, unit trusts and microfinance banks. Since companies, which mainly occupy the 'deficit sector, do not have direct link with the savers, some financial institutions called financial intermediaries provide this very Important link. These financial institutions include the commercial banks, the microfinance banks, insurance companies, pension funds and unit trusts. They help to channel the savings of the surplus sector to the deficit sector. Other prominent institutions are the Issuing Houses (investment Bankers) with whom companies initially establish their link, the stock broking firms (to the issue), the Registrars, the Reporting Accountants and the Solicitors to the company. Each of these institutions plays one role or the other in the sale and purchase of securities relating to new issues. There are, of course, the regulatory authorities - the Nigerian Stock Exchange (NSF) or simply ¯The Exchange" and the Securities and Exchange Commission. 'SEC' that ensure among other functions orderliness and transparency in the market and protection of the investing public.

2.0 OBJECTIVES

After studying this chapter, readers should be able to:

- understand the nature of new issues market
- Describe the methods of raising finance in the market
- Itemize, serially, the steps involved in the procedure for making public issue of debt/equity; and
- Appreciate the significance of pricing to the public Issue of debt/equity
- List the components of share issue costs;
- Itemize. Serially, the steps involved in the procedure for malting 'private placement' of debt/equity: and
- Explain rights issues and effects of suds issues on shareholders' wealth
- Explain bonus Issues and effects of such issues on shareholder's wealth.

3.1 The New Issues Market

This market, also called "the primary market" is a market for new issues of securities, principally shares and at times debentures. Funds which are raised in this market are primarily long-term funds through the issuance of long-term fixed Nariable-interest corporate securities and shares. These securities are bought by investing public who put down their funds in exchange for these securities. The buyer of these securities

are known generally as investors. They may be lenders when they have contractual agreement with the issuing company for the receipt of periodic interest and repayment of their capital. They may also be part-owners of the issuing company when no such contractual agreement exists.

3.2 Methods of Making New Issues

There are five methods of making new issues in the primary market. These are offer for subscription, offer for sale, stock exchange introduction, rights offer and private placement.

3.2.1 Offer for Subscription

These are issues of shares or debentures made directly by the company to the public. The proceeds of issue go directly to the company to finance its fixed assets, other expansion programmes and working capital as stated in the prospectus. The company normally goes through an Issuing House which advises on such things as pricing and timing of the issue. This method may be used by companies coming to the market for the first time or already quoted companies. Underwriting is usually necessary under this method.

3.2 .1 Offer for Sale

This is an offer of existing securities, to the public. There are two known forms this type of offer may take. Firstly, it might occur where the issuing company initially sells the shares to an Issuing house which in turn sells the shares to the investing public at a slightly higher price. Secondly, it might occur where the shares were already owned by government and it decides to 'privatize' these holdings. In both cases, the proceeds go to the vendor and not the company. Most of the Federal Government parastestals that were sold under the privatization programme fall into the second category. Underwriting is, usually, not necessary in this case.

3.2.3 Stock Exchange Introduction

Under this method, the company already had a wide spread of shareholders and is only seeking quotation on the stock exchange. Some Nigerian companies got listed on the stock exchange via Introduction. They had already satisfied the listing requirements of the "The Exchange" regarding the number and spread of shareholders.

3.2.4 Rights Offer

This is an offer to the existing shareholders of the company, usually at a price lower than the current market price. Details of this offer will be discussed later in this chapter.

3.2.5 Private Placement

Under this method, securities are sold to a select group of investors through special direct invitation to prospective Investors who can only subscribe to such offer Shares issued under this method would not be listed on the stock market, so subsequent trading in these shares on the exchange should not take place.

3.2.6 Offer by Tender

This is a variation of an existing method - offer for subscription. Under this method shares are offered to the public and prospective buyers are required to give the price they are willing to pay. The company would have a reserved price - the price below which the company will not sell. Offers can only be made at prices above this price. The price at which the Issues are eventually made will be highest price which will absorb all the shares. This price is called the striking price. Prospective buyers who quoted higher than the striking price would be required to pay the striking price. This is the price at which all the shares would be sold al. This method of issue is suitable for companies going to the market for the first time, that is, making Initial Public Offer (I PO). This is because pricing may be difficult and it is, therefore. necessary to allow the public to fix the price.

3.3 Procedures for New Public Issues of Debt /Shares

The steps which may slightly vary among Issuing Houses are:

a) The company appoints an Issuing House, intimating it of its intention to raise funds via the capital market:

b) The Issuing House advises the company on method of issue, pricing, timing and so on:

c) The Issuing House appoints the experts - Accountants. Solicitors and so on:

c) The Issuing House obtains necessary documents from the company and prepares the time-table for the issue:

e) Files application with the Stock Exchange and SEC:

f) Prepare Issue documents, that is, the draft prospectus, application forms and so on:

g) Arranges stakeholders meeting to ratify the issue documents and review the situation;

h) The company holds the completion Board Meeting to approve all documents relating to the issue:

i) Documents are filed with the Corporate Affairs Commission (CAC);

j) The company advertises the issue in National dailies and sends out the prospectus to the stockbrokers and receiving banks:

k) Application lists are opened for a minimum of 21 working days (or 28 days for rights issue), extension could be requested for if need be:

l) Application lists close. Receiving banks and stockbrokers submit returns to the registrar;

m) The Issuing House and the company agree on the basis of allotment and send the provisional allotment schedule to SEC for approval;

n) The allotment committee of SEC holds a meeting to approve the issue:

o) After approval. Issuing House gives instruction to the Registrar to Issue shares/stock certificates to Investors in line with final allotment lists:

p) Where an Investor has opted for his shares to go through its Central Security Clearing System ((SCSI account, his records would be electronically updated;

q) In the event of over-subscriptlon, the shares would be allotted to shareholders in an amount not exceeding 25% of excess proceeds. subject to increase In share capital and approval at an Annual General Meeting (AGM). Such *excess* monies received shall be held as deposit for shares pending allotment:

r) Issuing House gives instructions to the Registrar to release shares/stock proceeds to the company and returns to investors surplus monies in respect of unallotted requests:

s) Issuing House gives instruction to the stockbrokers (to the issue) to prepare Certificates of Compliance and sends same to the Nigerian Stock Exchange: and

t) The NSE admits the shares/stocks to the official list and trading commences immediately thereafter.

3.4 Pricing of Issues to the Public

Pricing of direct issues to the public is a critical decision. The price must be such that the maximum amount of cash per share is raised on one hand and on the other hand the company avoids the risk of under subscription. If the price is unduly high, nobody will buy the shares. If it is unusually low enough cash might not be raised. As a matter of fact the company must avoid putting a price which is at a discount to the current market price. If existing shareholders could not partake enough in the new issue as to maintain their original proportional position they would stiffer a drop in their wealth. It would be similar to a situation where they do not take up their rights.

There are two ways to reduce the problems in pricing of issues:

(a) The share can be underwritten: and
(b) The shares can be issued via a tender offer.

3.5 Shares Issues in a Financial Market Melton

Should new shares be issued when the prices of shares in general or that of the company are depressed? One school of thought says that it would not be fair to the existing shareholders if new shares are sold in a depressed market as outsiders would benefit by buying 'cheap shares at the expense of the existing shareholders. It is claimed that new Issues are unlike rights issue, where the shares still go to the existing shareholders. Another school of thought, however, disagrees by arguing that If the stock market Is truly efficient, the present market price of a share will reflect the opinion of the generality of all investors on the value of the share at the time. There is no reason therefore to believe that, because shore prices have recently fallen, they have greater chance of:

(a) Increasing in value: or
(b) Decreasing further in value: or
(c) Remaining unchanged,

3.6 Underwriting

This is a contract whereby, in consideration for a fee, an Issuing House undertakes to take up shares that are not bought in the new issue market. This ensures that the issue is a success. If the issue is unsuccessful either because of downturn in the market or because it is overpriced. the underwriter, not the company, bears the loss.

3.6.1 Underwriting Commission

This is the commission payable by the company to the main underwriter. This commission is normally fixed by the underwriters themselves, based on the number of shares they are underwriting, the offer price and, of course, the estimated risk of the shares being undersubscribed by the investing public.

There may also be sub-underwriting commission where the underwriting is sub-contracted by the main underwriter to a sub-underwriter. The **sub-underwriting commission** is the commission payable to the sub-underwriter Also, there is **overriding commission. This is** the difference between the commission received by the main underwriter and the one paid to the sub-underwriter

3.7 Cost of New Issues

The following are the components of the cost of new issues:

(a) Listing fees: payable to the Stock Exchange and based on the amount to be raised.
(b) Share valuation fees: payable to SEC and computed as a percentage of the nominal value of the shares that would be issued.
(c) Issuing House fee: normally negotiated with the company and based on a percentage of the total amount to be raised.
(d) Fees payable to the stockbrokers to the issue.
(e) Receiving banks and stockbrokers commission.
(f) Solicitors fees.
(g) Reporting Accountants' fees.

3.8 Procedures for "Private Placement" In Debt/ Equity Issues

The following are the steps involved in the private placement of debts or equities.

(a) Appointment of an Issuing House;
(b) Appointment of experts:
(c) Preparation of time-table covering all the envisaged activities to be undertaken:
(d) Review of all documents and information that have to be sent to SEC for approval:
(e) Submission of documents in respect of valuation, sale and timing of the issue to SEC:
(f) Preparation of the Placement Memorandum:
(g) Dispatch of the Placement Memorandum to individuals, corporate bodies and financial institutions who must have had prior knowledge of the pending issue:
(h) Application forms sent along with the Placement Memorandum:
(i) Receipt of completed application forms and monies from the prospective private investors:
(j) Monies received are put into a special account known as the Issue Proceeds Account:
(k) Returns and monies collected are analysed and provisional allotment schedules prepared:
(l) Copies of the provisional allotment schedules are sent to SEC:
(m) SEC fixes the allotment meeting dale:
(n) Allotment meeting takes place and final allotment is agreed:
(o) A cheque is raised releasing the monies, less all unpaid fees, to the company:
(p) Surplus funds are returned to the subscribers: and
(q) Preparation of shares/ stock certificates and dispatch of same to subscribers.

3.9 Right Issues

Rights issues, also known as 'preemptive rights or 'privileged Subscription' are offers to the existing shareholders to subscribe cash for additional shares in the proportion of their existing holdings at a price which is appreciably below the current market price. The issues are normally conveyed to the shareholders through the issuance of a right circular. The circular would specify the terms of the offer. These include:

(a) The number of rights needed to subscribe for additional share(s):
(b) The subscription price: and
(c) The expiry date for the exercise of the right.

In addition, options would be given to a shareholder to exercise the right and take up the shares in full or sell all the rights to someone else or sell enough rights that will give him enough cash to subscribe for the balance or lastly to do nothing.

ILLUSTRATION

A company presently has in issue 1 million ₦1 equity shores. It plans to make a 1 for 4 rights Issue at a subscription price of ₦3.60. Assume that the shares Just before the rights issue were selling on the stock market at ₦4.

Required:

a. Calculate the theoretical ex-rights price and the value of the right.
b. advise a shareholder who has 2000 shares in the company on what to do on receipt of a rights circular and on the effete of his action on his wealth.

SUGGESTED SOLUTION

	Number of shares	price ₦	Value ₦
Original interest	4	4.00	16.00
	1	5.60	3.60
Enlarged Interest	5		19.60

Theoretical ex-rights price $= \frac{₦19.60}{5}$

= ₦3.02 per share

If after the issue, the shares are quoted at the theoretical ex-rights price there will be a fall in value of the company's share of 8k per share, but to counter this adverse effect shareholders would subscribe for new shares at a price of N3.60 which would then be worth N3.92. a gain of 32k (8k per old share, that is, 32k/4). the effect of the rights Issue is. therefore. to create a no gain, no loss situation.

Value of the right

This is the gain a Shareholder is expected to make if he exercises his right- It is expressed as follows:

Theoretical ex-rights mice - Subscription (rights) price

₦3.92 - ₦3.60 = ₦0.32 or 32k

In terms of old shares this is equal to 32k/4 = 8k

Note that this is exactly equal to the difference between the cum-rights price and the theoretical ex-rights price.

c. Holder of 2000 shares

He has four options open to him

(i) Take up the rights in full

Value of interests before the rights issue = ₦8.000
i.e. 2000 shares x ₦4.
Value Of interests after the rights issue

No of Shares after the rights = $2000 + \left(\frac{1}{4} x \frac{2000}{1}\right) = 2500$

Value = 2500 x ₦3.92 = ₦9.800

Less: Cash Utilized in subscribing for the rights

Value = 500 x ₦3.60 (₦1.800)
₦8.000

There is no effect on the shareholders wealth.

(ii) Sell all the rights

	₦
Value of Interests before the right issue =	8,000
Value of interests after the rights issue	
(2,000 x N3,92)	7,840
+ (500 x N0.32)	160
	8,000

No effect on his wealth

(iii) Sell enough to provide cash for subscription

Proportion to sell = $\frac{\text{subscription price}}{\text{Theoretical ex−Reights price}}$

= $\frac{\text{N3.60}}{\text{N3.92}}$

= 91.8%

Value of interest before the rights issue N8.000
Value of Interest after the rights issue
Proceeds of sale of rights 459 @ N0.32 = 146.88
Amount subscribed 41 @ N3.60 = (147.60)
Value of Interest = 2041 @ *N*3-92 N8.000.72
No effect on wealth

(iv) Do nothing

		N
Value of interests before rights issue	=	8.000
Value of interests after rights issue		

= 2,000 x N3.92		7.840
Fall in wealth	=	(160)

If he does nothing, the shareholder would suffer a Boss in his wealth.

So far, it has been assumed that the actual ex-rights price will be equal to the theoretical ex-rights price. However, this may not be so for the following reasons:

(a) General factors affecting the market as a whole may cause actual market price to fall short of or below the theoretical ex-rights price.

(b) Many shareholders off-loading their rights thereby creating excess supply on the market. The possible outcome is the actual price falling below the theoretical ex-rights price.

(c) Investors may not have faith in the management's ability to utilize the rights' funds efficiently and therefore maintain the same dividend rate on the enlarged capital base. This is, also likely to cause the actual price falling below the expected market price.

(d) Investors May, on the other hand, have maximum confidence that the use to which the tights funds are put is going to add value to the business: in this case the actual price may rise above the theoretical ex-rights price.

3.9.1 Pricing of Rights Issue

Pricing of rights issue is not as critical as pricing of new issues of shares to the investing public as a whole. From the point of view of investors, it would have been seen, from the above, that as long as a shareholder takes up his rights or sells them, his wealth would not be affected by the issue of rights by the company. Based on this reasoning, which was confirmed by various calculations, it can be said that a shareholders wealth will not be equally affected by the subscription price of a rights issue. However, from the standpoint of companies, two points stand out.

(a) A subscription price at a discount to the current market price exerts pressure on a shareholder to take up his rights or sell them. This has the effect of making the issue a success as regards the shares being fully taken up and the amount required by the company fully recovered.

(b) A subscription price at an appreciable discount below the current market price will ensure that a fall in actual market price, following the date of announcement but before the date of the rights issue, does not cause the actual market price to fall below the subscription price. If this happens, investors would prefer buying the shares in the open market than subscribing for the rights. The natural result is the failure of the rights issue.

3.9.2 Factors to consider when making Rights Issues

The following factors are relevant:

(a) Relatively cheap in terms of issue costs when compared with raising of equity finance.

(b) Pricing of rights issues is not critical, as indicated above.

(c) Failure rate is low. This is an assurance that a company will be able to obtain the funds it required.

(d) Rights issues, creates a forced investment or forced sale environment, which may make the shares unpopular with its attendant adverse effect on share price, In order not to lose out by doing nothing. Investors must either take up their rights or sell them. Notwithstanding that a partial sale is possible. Investors must still do something.

3.10 Bonus Issues

Bonus issue was defined earlier *and compared* with scrip dividend/ cash dividend. Its significance or otherwise *as a* method of raising additional equity finance will now be discussed. Bonus issues *as* a source of additional finance appear to be the most important to the company among the three main sources - bonus issues, rights issues and public issues.

In bonus *Issues,* reserves are merely capitalized and 'tree ordinary shares are issued (for the amount so capitalized) to existing shareholders In the proportion of their present holdings, for example, on a 1 for *2* basis.

3.10.1 The Objective of Making Bonus Issues

The objective of making a bonus Issue is to:

a) Increase the issued share capital to an amount which is more in line with its true value, based on book value of the company’s net

assets: and

b) Erase the misunderstandings created when dividends on ordinary shares are expressed as a percentage of issued capital whereas these dividends, were from profits earned by effective equity capital - that is, capital employed.

ILLUSTRATION

XV Plc has the following capital structure

	₦000
4 million ordinary shares of 50k each	2.000
Revenue reserves	3.000
Profit and loss balance	1,000
	6,000

XY Plc deckles to make a bonus (scrip) issue on a 1 for 2 basis by capitalizing part of its revenue reserves.

Required:

Using the above information, state and explain the effect of the issue in *each* case, on

(a) The market price of the oNnpanys shares.
(b) The ordinary shareholder's interests.
(c) The preference shareholders' interests.
(d) The creditors.

Show relevant calculations to support your answer

SUGGESTED SOLUTION

Workings:

Balance sheet after the bonus issue	₦'000
6 million ordinary shares of 50k each	3,000
Revenue reserves	2,000
Profit and loss balance	1,000
	6,000

From the re-drafted balance sheet, the net assets total value has not changed at N6m. However net assets value per share has dropped from

$$\frac{₦6,000,000}{4,000,000} \text{ to } \frac{₦6,000,000}{6,000,000}$$

₦1.50 to ₦1.00

i) Effect on Market Price

The market price is expected to fall to Ail following the bonus issue. However the actual market price may not fall up to this point because of the favourable impression bonus issues supposedly create in the minds of investors.

ii) Effect on Ordinary Shareholders' interest

Bonus issues do not have any real economic effects on shareholders' interest. A shareholder with say 10.000 ordinary shares will have his or her interest valued at ₦15.000 (10.000 x ₦1.50) before the bonus issue. After the bonus issue his or her interest will still be valued at ₦15.000 (15.000 x ₦1). However, if Naira dividend per share is maintained into the future, shareholders would obviously benefit as they would receive more cash dividends in future. Also reduction in market price at times enhances trading of the share which may perhaps put the share in higher price range.

(iii) Effect on Preference Shareholders' interest

A bonus issue provides real benefit which can only come out of the equity of the company

(iv) Creditors

Bonus issue gives some benefit to the extent that distributable profits are now capitalised.

3.11 Reserves as Free Source of Funds

It is often claimed that reserves constitute a free source of funds. However this is not so, as they have opportunity costs. Reserves represent funds that should have been distributed as cash dividends which when received can be invested in other assets. The cost of shares is the cost similar to that of the original shares of the same company.

3.12 Factors to Consider When Using Reserves to Finance Company's Long -Term Investments

The following factors are relevant:

a) Effect on slit shareholder’s wealth
b) Absence of Issue costs.
c) Profits are risky
d) Absence of dilution of control

40 CONCLUSION

The new issues market is a market for is tie of nee shares and debentures. It is a long-term financial market where shares / debentures are newly sold and bought. A company goes to this market to enable it finance fixed assets and to some extent working capital.

The methods of raising funds by companies comprise mainly offer for subscription and offer for sale. Others are rights offer, offer by tender, private placements and introduction. Stock exchange introduction is not really a method of raising funds as no cash is coming to the company or its shareholders.

The procedure for raising funds -no debt/equity must be known *and* properly followed. The engagement of the Issuing House by the company is very important. The method of issue to use, the pricing and timing of issues are better bandied by professionals. A well experienced and well known Issuing

5.0 SUMMARY

Rights issues are very important sources of finance for the company. They are Issues to existing shareholders who should either take up their rights in full or sell them so that their wealth is maintained. A 'do nothing' course of action might lead to a fall in value of an investor's wealth.

Bonus issues are Issues also to existing shareholders but free of charge. Here reserves which already belong to the shareholders are only being capitalized. Thus, the issue might not have any economic effect on their interests.

6.0 TUTOR - MARKED ASSIGNMENT

7.0 REFERENCES/ FURTHER READING

ICAN STUDY PACK

REVISION QUESTIONS

1) State one main difference between offer for sale and offer for subscription.

2) A method of raising capital whereby offers are made by the company to a select group is called_____
3) State one way in which the problem of pricing new Issues In the

primary market can be reduced.

4) Give another name for rights issue (or offer)

5) In relation to the acceptance of the offer by existing shareholders, what is the main difference between bonus issue and rights issue?

MODULE 4

Unit 1 Working Capital Management
Unit 2 Corporate Restructuring Merger and Acquisition/Take Over

UNIT 1 WORKING CAPITAL MANAGEMENT

CONTENTS

1.0 INTRODUCTION

The earlier chapters have been devoted to the treatment of the management of fixed assets and long term financing.

In this part, discussions will be focused on working capital management. There are two concepts of working capital - Gross and Net.

Gross working capital refers to current assets while the net working capital refers to the difference between current assets and current liabilities. However, the following discussions will emphasize the net current assets which is also known as net working capital as it is more appropriate than the gross working capital.

What are current assets and current liabilities?

Current assets are those assets that can be easily converted into cash within *a* short period of time (say one year) and Include: cash, short-term securities, debtors (accounts receivable), bills receivable and stock (inventory), Current liabilities on the other hand are those claims of outsiders which are payable within a short period of time (say one year) and include: creditors (accounts payable), bills payable and outstanding expenses.

Net working capital indicates the liquidity position of the firm and as such current assets should be sufficiently in excess of current liabilities.

In most cases, analysts always prefer a company to maintain the level of current assets at twice the level of current liabilities, hence the *2:1* ratio rule.
A weak liquidity position will pose a threat to the solvency of a company and will make it unsafe and unsound. **A** negative working capital means a negative liquidity and may prove to be harmful to the reputation of a firm while excessive liquidity is also bad. Therefore, prompt and timely action should be taken by management at all time to improve and correct the in-balances in the liquidity position of the firm.

Investment in working capital (current assets) should just be adequate because excessive investment impairs profitability while inadequate investment can threaten solvency as the firm may not be able to meet current obligation. However, there is no precise way to determine the exact amount of working capital for firms since the data and problem of each company are different.

1.1 Financing Working Capital

As there is no precise way to determine the exact working capital need of a firm, there is also no specific rule as to how current assets should be financed. Since every company has a minimum amount of permanent working capital, a portion of the working capital should be financed with permanent sources of funds, such as equity, share capital, debentures, long-term debt, preference share capital or retained earnings and the balance by short term sources.

In this respect, it is the constraints of the individual company that should determine the capital mix of their investment in current assets and not the rule of thumb since working capital involve cost of funds, they should be put to productive use.

1.2 Need for Working Capital

There is hardly any business firm which does not require working capital. Hence, the need for working capital to run the day-to-day business activities of a firm, cannot be over-emphasized.

In order for a firm to achieve the wealth maximization objective, it would have to earn sufficient return from its operations. To be able to earn a steady amount of profit. a firm would have to invest enough funds in working capital to generate sales. Current assets are needed because sales do not convert into cash instantaneously; there is always an operating cycle involved in the conversion of sales into cash.

What then is operating cycle? Pandey (2003) defines operating cycle as

the time duration required to convert sales, after the conversion of resources into inventories (stocks), into cash. He further divided the operating cycle into three phases: thus:

(a) Acquisition of resources such as raw materials, labour and overheads

(b) Manufacturing of products. This includes conversion of raw Materials Into work In progress and finished goods.

(c) Sales of the finished product either for cash or on credit (which creates accounts receivable).

The length of the operating cycle of a manufacturing firm is the sum of the Inventory conversion period and debtors conversion period. This is also referred to as "gross operating cycles'.

The inventory conversion period is the total time needed for production and sales. It includes: raw material conversion period, work-in-progress conversion period and finished goods conversion period. The debtors conversion period is the time required to collect the outstanding debts from customers. However, a company may acquire goods or services on credit thereby postponing payment. The period during which payment is postponed is known as payable deferral period. It is the length of time the firm is able to defer payments on various purchases The difference between the (gross) operating cycle and payable deferral period is known as net operating cycle or cash conversion cycle. The following formulae can be used for calculating the length of each operating cycle.

Raw Material Conversion Period

$$\frac{\text{Raw Material Inventory}}{\text{Raw Material Consumption}} \text{ x } \frac{365}{1} \text{ days}$$

Work-In Progress Conversion Period

$$\frac{\text{Work} - \text{In} - \text{progress}}{\text{Cost of Production}} \text{ x } \frac{365}{1} \text{ days}$$

Finished Goods Conversion Period

$$\frac{\text{Finished Goods Inventory}}{\text{Cost Of Goods Sold}} \text{ x } \frac{365}{1} \text{ days}$$

Debtors Conversion Period

$$\frac{\text{Debtors (Accounts Receivable)}}{\text{Credit Sales}} \text{ x } \frac{365}{1} \text{ days}$$

Payables Deferral Period

$$\frac{\text{Creditors (Accounts Payable)}}{\text{Credit Purchases}} \text{ x } \frac{365}{1} \text{ days}$$

2.0 OBJECTIVES

After studying this chaplet readers should be able to:

- Explain the concepts of gross and net 'working capital;
- Understand why working capital is required and how it is financed
- Calculate the 'operating cycle' and 'cash cycle' of a company;
- state and explain the factor influencing the working capital requirements;
- Know and itemise the dangers of excessive working capital; and
- Explain the ways in which working capital is financed and the approaches to determining the mix of working capital.

3.1 Working Capital Requirement

There are no set rules or formulae to determine the working capital requirements of firms. Several factors, each having a different importance, influence working capital needs of firms. Therefore, an analysis of relevant factors should be made in order to determine total investment in working capital. The factors are described as follows:

(a) Nature of Business: The nature of the business of a firm determines its working capital requirements. Some companies require small working capital while others are working capital intensive: for example, retail businesses and construction firms need to invest substantially in working capital and nominal amount in fixed assets. On the other hand, public utilities have a very limited need for working capital and have to invest abundantly in fixed assets.

(b) Sales and Demand Conditions: The working capital needs of a firm are related to its sales. In addition, the availability of fund, type of the products and sales environment has a bearing on the extent of working capital requirement. The class of customers, the price and quality of the product. the location of the business as well as the climate are some of the factors that determine the

level of demand. Some products also have a high degree of seasonal changes, for example, household consumptions.

A growing firm may need to invest funds in fixed assets in order to sustain its growing production and sales. This will in turn increase investment in current assets to support the enlarged scale of operation. It is. therefore, of importance that proper planning be done by such firms to finance their increasing needs for working capital. In addition, firms dealing in seasonal products should ensure that their financial plan or arrangement is flexible enough to take care of some abrupt seasonal fluctuations.

(c) Technology and manufacturing Policy: The production process has a lot of impact on the working capital requirement of a firm. An extended manufacturing time span means a larger tie-up of funds in inventories. Thus. If there are alternative technologies of manufacturing a product, the technological process with the shortest manufacturing cycle may be chosen because the longer the manufacturing cycle (time lag of production from the input of raw materials to finished goods) the larger will be the firms working capital requirements.

(d) Credit Policy: The credit policy of the firm affects the working capital by influencing the level of debtors. Even though, the credit terms to be granted to customers may depend upon I he norms of the industry to which the firm belongs, the firm has the flexibility of shaping its credit policy within the constraint of the industry norms and practices.

In order to ensure that funds are not tied up unnecessarily in debtors, the firm should follow a rationalized credit policy based on the relevant factors. The firm should adopt a liberal credit policy since a high collection period may lead to a tie-up of large funds in book debts while a slack collection procedure can increase the chance of bad debts.

(e) Availability of Credit: The working capital requirements of a firm are also affected by the credit terms allowed by its suppliers. A firm will need less working capital if liberal credit terms are available to it. The availability of credit from banks also Influences the working capital requirements of the firm. A firm which can get bank credit easily on favourable terms will operate with less working capital than a firm without such a facility.

(f) Operating Efficiency: The operating efficiency of the firm relates

to the optimum utilisation of resources at minimum costs- A firm may be able to efficiently control its operating costs and utilising current assets. With operating efficiency (better utilisation of resources i.e. material, labour and overheads) the use of working capital is improved and the pace of cash conversion cycle is *accelerated.* Thereby improving profitability and reducing pressure on the working capital.

(g) **Price Level Changes:** Price level changes is an important factor in decision making. The increasing shifts in price level make functions of the financial manager difficult. Therefore, a good financial manager should be able to anticipate the effects of price level changes on working capital requirements of the firm and make adequate provision for it.

A firm will require to maintain higher amount of working capital during rising price levels as same levels of current assets will need increased investments. However, companies which can Immediately revise their product prices with rising price levels will not face a severe working capital problem.

Thus, effect of rising prices will be different for different companies: some will lace no working capital problem while working capital problems of others may be aggravated.

3.2 Issues in Working Capital Management

Working capital management refers to the administration of all aspects of current assets namely cash, marketable securities, accounts receivable (debtors) and Inventories and current liabilities (accounts payable, bills payable, bank overdraft etc). The financial manager must determine levels of composition of current assets. Be must see that right sources are tapped to finance current assets and that current liabilities are paid in time. Therefore, as the largest portion of the financial managers valuable time Is devoted to working capital problems, it is necessary to manage working capital in the best possible way to get the maximum benefit.

As it is not possible to estimate working capital needs accurately, the firm must decide about the levels of current assets to be carried. Given a firm's technology and Production Policy' sales and demand conditions, operating efficient"; etc its current assets holdings will depend upon its working capital policy which may be either conservative or aggressive. Both policies involves a risk-return trade-offs. A conservative policy means lower return and risk while an aggressive policy produces higher return and risk.

Since liquidity and profitability has been Identified as the two important aims of the working capital management, a firm should maintain a balance between the two, liquidity in this context refers to the firm's continuous ability to meet maturing obligations while profitability refers to the firm's ability to increase the shareholders wealth.

Meanwhile, to ensure solvency, the firm should be very liquid but there is a cost associated with maintaining a sound liquidity position as considerable amount of the firms will be tied up in current assets. To the extent that this Investment is idle, the firm's profitability will suffer.

On the other hand, to have higher profitability, the firm may sacrifice solvency and maintain a relatively low level of current assets. When this happens, the firm's profitability will improve as less funds are tied up in Idle current assets, but the solvency of the firm would be threatened thereby exposing the firm to greater risk of cash shortage and stock out.

Danger of excessive working capital include:

(a) Unnecessary accumulation of inventories
(b) Indication of defective credit policy and slack collection period,
(c) Management inefficiency
(d) Tendencies of accumulating inventories tend to make speculative profits grow:

Dangers of Inadequate working Capital include:

(a) It stagnates growth as it becomes difficult for the firm to undertake profitable projects for non-availability of working capital funds.
(b) It becomes difficult to Implement operating plans and achieve the firms profit target.
(c) Operating inefficiencies creep in when it becomes difficult even to meet day-to-day commitments.
(d) Fixed assets are not efficiently utilized for the lack of working capital funds, thus, the firm's profitability would deteriorate.
(e) Shortage of working capital funds render the firm unable to avail attractive credit opportunities.
(f) The firm loses its reputation when it is not in a position to honour its short term obligation.

3.3 Financing Current Assets (Working Capital)

There are three major types of financing working capital. These are: long-term financing, short-term financing and spontaneous financing.

(1) Long-Term financing: These include ordinary share capital. preference share capital, debentures, long term borrowing, retained earnings, etc.

(2) Short-Term Financing: This is obtained for a period of less than one year. It is mostly arranged from banks and other financial institution in the money market. It may also be arranged through public deposits, commercial paper, factoring of receivables etc.

(3) **Spontaneous Financing:** This type of short-term funds is automatically sourced internally in the course of business and Include trade credit and outstanding expenses. A firm is expected to utilize these sources of finance to the fullest before embarking on the other sources, that is long-term and short term financing.

In order to determine the mix of short-term and long-term sources in financing current assets a firm usually follows the following approaches which are normally referred to as: matching approach, conservative approach and aggressive approach.

a) Machine Approach (Sometimes Called Hedging Approach): In this approach, the firm uses long-term financing to finance fixed assets and permanent current assets while short-term finance is used to finance temporary or variable current assets.

(b) Conservative Approach: The financing policy of the firm is said to be conservative when it depends more on long-term funds for its financing needs by financing its permanent assets and also a part of temporary current assets with long-term financing. In this respect, the firm has less risk of facing the problem of shortage of funds but would be less profitable in terms of cost and flexibility in payment.

(c) Aggressive Approach: This policy is said to be followed by the firm when it uses more short-term financing than warranted by the matching approach. Under this policy the firm finances a part of its permanent current assets with short-term financing which makes the firm to be more risky.

The discussions above on the three approaches tends towards firms adopting a balanced approach that is, financing permanent current assets by long-term sources and temporary current assets by short-term sources of finance.

Overall, a firm should maintain a balance between liquidity and

illiquidity by maintaining a sound working capital position. Both excessive as well as inadequate working capital positions are dangerous. Excessive working capital means idle funds which earn no profits while shortage of working capital not only impairs the firm's profitability but also results in production, interruption and Inefficiencies.
In addition to maintaining a balance between liquidity and illiquidity, consideration of assets and financing mixes are also crucial to the working capital management.

4.0 CONCLUSION

The working capital of a company is also known as its current assets. The components are stock (inventory), debtors (accounts receivable), bills receivable and cash. The company's current liabilities consist of claims of outsiders to the company that have one year or less to go. Examples are creditors (accounts payable), bills payable and outstanding expenses. When current liabilities figure is deducted from the figure of current assets, the result is known as net working capital.

Working capital is required for a company's survival in the short-run. It is a reflection of the liquidity position of the company. It shows the extent to which a company is able to meet its day-to-day financial obligations and take advantage of opportunities. A company must maintain a balanced relationship between the components of its working capital. To this end it should, at any point in time, know its 'operating cycle' and 'cash cycle'. For a manufacturing company the operating cycle is the period of time it takes a company to convert the acquisition of raw materials to cash that is from the day the raw materials were bought to the day cash is received from debtors. When the amount of time taken to pay creditor is removed, there is then what is termed the 'cash cycle'.

In addition to knowing its operating and cash cycles, a company should be able to determine its working capital requirements. The (actors to consider in determining such requirements include the nature of the business, the sales and demand conditions, the technology and manufacturing policy, the credit policy and so on.

5.0 SUMMARY

A company must try to maintain an optimum balance of its working capital position. It might maintain an aggressive or conservative working capital policy. Whatever policy that is adopted involves a tradeoff between risk and return, that is, between liquidity and profitability.

The financing of working capital is also an important corporate decision. Financing may be long-term, short-term or spontaneous. There are

approaches usually adopted in order to determine the mix of these sources of finance. These are the matching approach, the conservative approach and the aggressive approach.

6.0 TUTOR -MARKED ASSIGNMENT

7. 0 REFERENCES/FURTHER READING

ICAN STUDY PACK

REVISION QUESTIONS

1. What is working capital?

2. What is spontaneous financing?

3. How is the operating cycle of a manufacturing company determined?

4. What is the importance of working capital to the financial manager?

5. What is overtrading?

UNIT 2 CORPORATE RESTRUCTURING MERGERS AND ACQUISITIONS/TAKE-Over

CONTENTS

1.0 INTRODUCTION

Corporate restructuring occurs when a company carries out a fundamental change in the structure of its operations or its financial position its Investments in the assets of the company and the way and manner those investments are financed. This may arise from either a change in the economic environment in which it operates or in the objectives it earlier set for itself.

One way by which such a change can come is through mergers and acquisitions 1/[1]16..Al.

It should be noted that any form of restructuring that is carried out by the company should seek to add value, thereby maximizing

shareholders' wealth.

2.0 OBJECTIVES

After studying this chaplets readers should be able to:

- explain the concepts of "mergers" and "acquisitions" (M & M):
- explain the term synergy as it related to M & A:
- State and explain the motives for going Into merge arrangement
- State and explain the three main types of merges
- understand the process of evaluating a whole company:
- Explain the concepts of Strategic acquisition and financial acquisitions
- Evaluate the Impact of strategic acquisitions on the shareholders of each of the two companies Involved in a merger
- Explain the methods of financing mergers
- Know the term 'hostile takeover
- State and explain the possible defenses against hostile takeovers:
- State and explain anti-takeover devices
- Know the factors In assessing the success of mergers; and
- Itemise the legal conditions precedent The schemes or mergers.

3.0 MAIN CONTENT

3.1 Meaning of "Mergers" And "Acquisitions"

One method a company follows in achieving growth, apart from internal investment in fixed assets, is to buy business organisation as a whole. This is done through a merger or acquisition. Although, used interchangeably, there is a slight difference between the two. A 'merger occurs when two separate companies in together to form a single one. Here the two companies go into liquidation and an entirely new one is formed to acquire their shares. Alternatively the life of one company is, in law, terminated (still in physical existence as a division or branch) and the other one remains.

An acquisition or takeover occurs when one company buys shares in another company substantial enough to acquire a controlling interest. The former is called the bidding company while the latter is called the target company.

3.2 Synergy

Synergy refers to the effects (synergistic effects) of combining resources

instead of using them independently. Any merger should create (synergy) In order to add value. The concept, usually expressed as 2 + 2 = 5 states that combination of inputs produces a greater output than the sum or the separate individual output.

3.3 Motives for Merger

The following factors have been advanced **as** reasons for mergers:

(a) Access to the market
Merger may create greater access to the market for the bidding company thereby, continually increasing sales.

(b) Access to source of supply
The target company may be the supplier of a critical raw material for the bidding company. The latter may want to protect or control this source to ensure continued supply.

(c) Reduction/Elimination of Competition
When the two companies compete in the same market for their output, a merger may bring a larger market share which may enable the enlarged company to raise prices without a cut in sales volume.

(d) Operating Economies
These are advantages to be gained from operating on a large scale. They come in form of lower prices being paid for raw materials, lower set -up costs from large production runs and so on.

(e) Setter management
The assets of the target company may either he underutilized or untapped because of poor management this will create an opportunity for the bidding company to inject better and skilled managers to enable the target company's potentials lobe discovered and fully utilized.

(f) Diversification
Here, the bidding company merges with another company in a totally different activity in order to make up for a fall in its traditional core business or to reduce the risk wising from cyclical savings in returns. By doing this it is believed that the two companies' returns would not be perfectly correlated.

(g) Signaling effect

A merger announcement may be a positive signal that the company's future potential is big, in the extent that the company's share is undervalued (that is actual market price is less than its intrisic value) information about an impending merger may jerk up the market price.

(h) Stronger asset base

A company in a *high* risk industry with high level of earnings in relation to its net assets, may want to mitigate its risk by acquiring another company with a lot of assets.

(i) Enhance quality of earning

Similarly a company may improve its risk complexion by acquiring another company with more stable earnings.

(j) Improved liquidity

The acquiring company's liquidity might improve if the target company has substantial 'free cash flow that is, cash tying Wieland not intended to be used as dividends) because of lack of profitable investments.

(k) Lower Cost

This occurs, if management believes that it is cheaper to achieve growth via monger.

(l) Tax

This is a deliberate strategy to acquire tax losses that may be used as tax relief, with a view to paying lower tax.

3.4 Economic Justification of Merger

All the above factors must be assessed in the light of the following two major alternative economic conditions, to justify mergers:

(a) The additional cash *nova* discounted at a rate that adequately reflects the risk of these cash flows, must have positive net positive value or

(b) The reduction in the risk level attaching to the bidding company existing cash flows is such as to reduce its previous required rate of return.

ILLUSTRATION

Big Plc runs an existing business whose net cash Inflows in the next six years are expected to be N2m per annum. Thelon of risk attached to

these cash flows is assessed by investors in general to attract 12 per cent per annum. The market's perception of Small plc is such that Ws requited rate of return is 13% per mega. Big plc plans to acquire the whole canary share capital of Small Plc. The company predicts annual net cash inflows of the enlarged company to be N3nt Ear each of the next six years. The company's required rate of return is impacted to fall to 10 per cent per annum. Should Big plc acquire Small plc? If the answer is 'yea- what is the maximum price and minimum price that should be paid by Rig plc for Small plc? In reality, how much will be paid.

SUOCESTED SOLUTION

Workings:

Pre-Merger Present value of Mg Plc's cash flows	=	₦2m x 4.111 = ₦8,222,000
Pre-merger Present Value of Small Plc's cash flows	=	₦1m x 3.998 = ₦3,998,000
Post Merger present value of Enlarged rig Plc cash flow	=	₦3m x 4.355 = ₦13,065,000

The cash flows elate companies are discounted at 12%, 13% and 10% costs of capital respectively using their related annuity factors.

Based on the above calculations. Big plc should go ahead with the merger. Additional cash Sows of ₦4.843.000 (₦13.065.000 + ₦8,222,000). Also, investor's perception of the risk of the nagged Mg plc has reduced as Mown in the reduced discount rate of 10% per annum after the merger.

The maximum price rig plc should pay for Small plc is N4.843.000. The minimum price is ₦3.998.000. This is the price below which the shareholders of Small plc will not go. The actual price will be negotiated between ₦3,998,000 and ₦4,843,000.

Note:

(a) Part of the ₦4,843,000 con be men to enlarged Big Plc's cash flows being discounted at lower cost of capital because of lower risk perception of the enlarged company.

(b) It is possible that the ₦4.843.000 surpasses gm actual current market value of Small plc for the following reasons:

(i) The Small plc expected cash flows might be less than ₦1m: the enlarged company might be able to produce more expected cash flows than the sum of the expected cash flows of the individual companies.

(ii) The risk attaching to the evened company might be less than the overall risk level of the separate parts,

3.5 Types of Mergers

There are three main types **of merger, these** are;

a) Horizontal merger

This involves combination of two companies engaged in similar activities. This type of merger usually results in removal of duplicate facilities and filling of the supply gap to meet increased demand for the companies' products.

(b) Vertical Merger

This occurs where bidding company decides to integrate forward to take advantage of the sales outlet of the target company or integrate backward to have access to the source of raw materials of the target company.

(c) Conglomerate Merger

This is a combination of two companies that are totally different in activities. This type of merger is normally undertaken for diversification

3.6 Valuation of a Company

An important preliminary exercise to any merger or takeover is the valuation of the company to be acquired. The valuation of a company is different from the valuation of a single share in that in addition to the purchase of future cash flows, the buyer is also in a position to control the level of these cash flows. The basis of valuation can be cash flows, earnings or assets or some mixture of the three. Valuation is an exercise that would not give a precise outcome. Within the above three bases there are a number of recognized methods all of which can result in different outcomes. The Final price to be put on a company will depend on the negotiations and astute bargaining by both parties. The methods in themselves can only give the parameters minimum and maximum price) within which negotiations can take place.

3.6.1 Methods of Valuation

The following methods are usually recognized:

(a) Present value of future cash flows
This is the discounted cash flow (DCF) techniques. Here the buyer is buying the difference in present value terms, between the post merger combined estimated cash flows and its own pre-merger estimated cash flows.

(b) Market Price
Where the company is quoted, the bidder would pay a price that hovers around its market value. Where changes are expected in future, which it is believed would greatly affect the future cash flows or financial plans of the company, then the buyer should be prepared to pay a premium above the market value of the company.

(c) Earnings
There are two methods that use the earnings approach - the yield and the price-earning ratio.

(i) Yield method
This method capitalizes the maintainable earnings (using the most recent earnings) of the company at a pie-determined rate of return (yield) which investors would expect from an investment similar to the one under consideration (Investors opportunity cost of capital). The steps involved are:

- Examine some past periods' earnings;
- Estimate the maintainable earnings after making appropriate adjustments to the most recent earnings;
- Determine an agreed expected rate of return on funds that could be put in the next best alternative investment (investors opportunity cost of capital);
- Capitalize the maintainable profits at the rate established above.

ILLUSTRATION

Assume a company maintainable profits after tax figure is ₦1.25m and the expected rate of return in such companies is 16%. Then a possible purchase price would be arrived at as follows: ₦1.250.000/0.16 which is equal to ₦7.812.500.

This is an easy method of valuation. However the problem is that past

earnings are used in establishing the average maintainable earnings. Although the estimates (based on actual past data) could be useful in round table negotiation, it is doubtful if they could help in arriving at accurate maintainable future profits.

(ii) Price earnings ratio for multiple) method

This approach is a very important and the most common approach to establishing the value of a particular merger. It is a popular stock market ratio, hence, it is well suited for establishing the value of a company the funding of which comes front the capital markets. Financing is an integral part of investment whether organic (internal) or inorganic (external via M & A). The price earnings ratio is usually taken as the multiple of earnings of a company which investors are prepared to pay (stock market P/E ratio) taking account future earnings and growth potentials. It is normally expressed as: price per share divided by earnings per share. That is $\frac{\text{MV}}{\text{EPS}}$

(d) Assets values

This approach is viewed as alternative to earnings method, here the bidder is buying a set of assets and not future earnings. The bidder would need to efficiently manage the assets in order to achieve future earnings. The importance of continuity of management is worth noting here. The assumption in the earnings approach is that the old managers will remain to continue to maintain the present level of earnings. If they will not stay after the merger, it is expected that another approach should be considered: hence the assets value approach.

ILLUSTRATION

You are the finance manager of Abbey Plc which has just reported reasonable profits, available to the ordinary shareholders to the tune of ₦1.25m. The company has declared a dividend of 15 Kobo per ordinary share of ₦1.00. The company is presently facing liquidity problems, even with the good profits which maintain the previous pattern of overall growth, but with cyclical swings.

Abbey Plc has gotten a proposal from Joe Plc suggesting that the two companies should merge. Joe Plc is a relatively new company (incorporated five years ego) which has achieved a fantastic but stable growth in profits and *whose* products serve as raw materials for the operations of Abbey Plc. The most recent profits of Joe Plc were □ l.875m, after tax and interest with an ordinary dividend of 10kobo per □ 1share. The rational underlying the merger proposal, according to Joe Plc. Is that their company has also been having liquidity problems

and that by merging both of them could solve these common problems. Joe's initial proposal did not give details but Just suggests that facts-finding Discussions should be started and that to make these discussions consequential they should assume that the profits or each of the two companies will increase by 10 percent next year and that for the purpose of this merger, the price - earnings ratio would be 10 for Abbey Plc and 15 for Joe Plc, The top management has summoned a meeting to discuss the issue and has directed you to analyse the implications of the suggestion of Joe Plc and to itemize the financial factors Which you would consider as regards this analysis.

An extract of the most recent balance sheets of Joe Plc and Abbey Plc are shown below.

Balance Sheets extract as at Slat December, 2008

	Joe Plc N'000	Abbey Plc N'000
Net assets 15.0012	15,000	12,500
Financed by:		
Share Capital		
Ordinary shares of N1 each	3,750	2,000
10% Preference shares		
Reserves	7,500	10,000
12% Debenture stock	3,750	-
	15,000	12,500

SUGGESTED SOLUTION

Workings
Earning Per sharer

Joe Plc =

Abbey Plc =
P/E ratio - Joe Plc = 15

Abbey Plc = 10

Market Price - Joe Plc = ₦7.50 (i.e. ₦0.50 x15)

Abbey Plc = ₦ 625(i.e. ₦0.625 x 10)

Market Value - Joe Plc = ₦28.125.000 (₦7.50 x 3,750.000)

Abbey Plc = ₦12.500.000 (₦6.25 x 2,000,000)

Valuation is not an exact exercise, so the implications of the suggestions of Joe Plc will be analyzed along the following lines.

(a) The value of Abbey Plc via the earnings (P/E ratio) interestingly coincide with its net assets value ₦12.5m as against ₦12m adjusted net assets. On the other hand there is a wide gap between the value of Joe Plc (via P/E ratio): ₦ 28.125m and its adjusted net assets of ₦11.250m. The earnings valuation is exactly 2.5 times the assets valuation.

(b) The relative big difference in the above valuation could only be explained if it can be proved that the earnings growth prospects of Joe Plc are much better than those of Abbey Plc. Alternatively Joe Plc should convince Abbey Plc that its assets (Joe Plc%) are substantially worth more than what the book values portend.

(c) The information given says that Joe Plc has a fantastic past growth record of profits over the last five years. This is historical. Present values relate to the future and not the past.

(d) Joe Plc suggested P/E ratio of 15 for itself and 10 for Abbey Plc. These figures might have been erroneously based on past growth performance as the information gives a future growth potential of 10% for both companies. Unless it can proved that the differential in past growth patterns will continues into the future. Abbey Plc has relatively been unduly penalised with respect to P/E ratio.

(e) Abbey Plc should immediately start negotiating with the directors of Ice Plc for possible improvement in the terms of the merger.

(f) One point which can immediately be raised is the fact that their company has a lower level of financial leverage and if they have to borrow in the immediate future to solve their liquidity problems it is their assets that will be used as collateral for more loan capital.

(g) Abbey Plc should make a counter proposal. It could negotiate for better terms than those proposed by Joe Plc. which are really a preliminary offer: an initial asking price which appears to favour Joe Plc.

(h) The initial valuation placed on the two companies (via the P/E ratios) which is ₦28.125m and ₦12.5m suggests, roughly, a ratio of 70% to 30%. This will serve as the basis of their relative shareholdings in the enlarged company.

(i) Abbey Plc might base its counter proposal on assets values, that is the respective contribution of each company to the assets of the new enlarged company. There may still be a revaluation of the assets, but based on the adjusted net assets Values as they are now, the interests in the new company should roughly be in the neighborhood of 50:50 (i.e. ₦12.5m as against ₦11.25m)

(j) Although Joe Plc may not accept this new arrangement. Abbey Plc should be quick in telling Jae Plc that it (Joe Plc) now has liquidity problems despite its past growth record.

(k) Obviously, there is a wide gap between the two proposals (70:30 Versus 50:50). There is a lot of room for negotiation. A comprised position might be 60:40 in favour of Joe Plc. with Joe Plc taking over Abbey Plc and issuing its shams in exchange for its assets. As a matter of fact, based on the most recent earnings, the earnings contribution to the new enla rged company is in the ratio of 60:40 for Joe Plc and Abbey Plc respectively.

(l) The analysis of the earnings per share before and after the merger for the two groups of shareholders on the basis of 60:40 will be carried out as follows:

(i) At present. Joe Plc has 3,750,000 ordinary Shares and Abbey Plc has 2,000,000 ordinary shares. Based on a 60:40 ratio and assuming Abbey Plc is merging into Joe Plc. Joe Plc needs to issue 2,500,000 ordinary shams of its own to the shareholders of Abbey Pit. The enlarged Joe Plc will now have 6.250.000 ordinary shares.

(ii) The combined earnings for the enlarged Joe Plc, allowing for 10% growth will be ₦3.437.500 [₦1,250.000 + 1,875,000) x 1.10]. The post-merger earnings per share will be ₦0.55 that is

- The shareholders of Joe Plc would be unaffected by the merger based on earnings per share. (EPS before the merger is ₦0.50 per share and allowing for 10% growth, it will be ₦0.55 per share).
- This shareholders of Abbey Plc would receive 2.500.000 ordinary shares. This means for every 4 of their old shares, they would receives new shares in Joe Plc their 4 cad shares, would earn ₦2.75 (i.e. 4 x ₦0.30.625 x 1.10). After the merger, their 5 shares would earn ₦2.75 (i.e. 5 x ₦0.55). There is also no change in their position: based on 60:40 showing ratio.

(m) The two companies would have to astutely negotiate to see which

company will be able to improve its position at the cost of the other.

(n) The financial factors that would be considered in the final negotiation include:
  (i) Details of Joe Plc previous year's growth
  (ii) The probability that each company will earn 10% profits growth
  (iii) The liquidity position willow Plc
  (iv) The likelihood of borrowing after the merger
  (v) The effect the merger would have on future profitability of enlarged Joe Plc; and
  (vi) The quality of the two companies' assets.

Note: The above illustration exemplifies a typical valuation problem which usually displays the following characteristics:

(a) Lack of exactitude
(b) The use of two major approaches - earnings approach and assets approach
(c) Determination of minimum and maximum prices: and
(d) Determination of final price, only, through negotiations.

3.7 Strategic Acquisition versus Financial Acquisition

A strategic acquisition: is one where the acquiring company is buying the target company in order to achieve its strategic objectives. A company may want guaranteed supply of a critical raw material which is in short supply and therefore acquire the supplying company. The whole objective is to save costs.

Financial Acquisition: Is one that has the objective of buying a collection of assets, disposing some of these assets, reducing costs and running what is left of the business as efficiently as possible. Here, the company is run on stand -alone basis and not part of the overall strategy of the business.

3.7. I Acquisition as a Strategic Investment

This involves share-for-share exchange as against paying cash as consideration. Here, a "ratio of exchange" which reflects the relative importance of the two companies with respect to some variables must lie determined. Two such variables that will be explained here are:

(a) Earning per share

(b) Market value per Mare Earning per Share Effect

Earning per share

Here the impact of any acquisition on time earnings per share (E.RS.) of the enlarged company is examined.

ILLUSTRATION

Company x plc is no to buy company Y Plc. The financial information on the propose4 purchase is shown bellow:

COMPANY

	X Plc	Y Plc
Current earnings	₦ 10,000,000	₦4.500.000
Number of shares in issue	2,000,000	1.500.000
Earning Per share	₦ 5.00	₦ 3.00
Price per share	₦40.00	₦15.00
Price earning ratio	8	5

Company Y Plc has accepted the offer of ₦20.00 per share, to be received in shares of company X Plc.

Determine the financial effect of this acquisition on the shareholders of both company X Plc and company Y Plc regarding their earnings per share.

SUCCESTED SOLUTION

The exchange ratio is ₦20140 which is one share of company X for 2 shares of company Y. or 0.5 of X for 1 of Y.
Total number of ordinary shams of company X to be issued to shareholders of company Y = 750.000
Combined post acquisition number of shares = 2.750.000
Combined post - acquisition earnings = ₦14-500.000 assuming no change in level of earnings of both companies.

POST MERCIER
Earning per share of enlarged company X Plc = ₦5.27

The merger improves the EPS of company X from ₦5 to ₦5.27. However old company Y's shareholders suffer, drop in their EPS from ₦3 to ₦2.64 that is ₦5.27/2.

Note that for each share of old company Y. a shareholder holds ½ of

New company X's share.

Note 1: Dilution in earning per share

A *waxy* important point to note is that as Song as the price earning (WE ratio teat ad by the target company shareholders is greater than the P/E ratio of the bidding company, them will be dilution in EPS of the bidding company's share. Assume, for Illustration, that the agreed offer price is ₦27. The P/E ratio of company Y will now be 9, that is, ₦27/3 as against the original P/E ratio of 6.67 (₦ 20/3).

The ratio of exchange is ₦27/₦40 which translates to 0.675 of every share of company X for I share of company Y. the number of company X shares to be issued will now be 1.015,500. Tidal number of shares for the post-merger enlarged company X will be 3.015.500 and its post-merger EPS will be ₦4.81 that is ₦14,500,000/3,015,500). Company Y had a P/E ratio of 6.67 (i.e. ₦20/₦ 3) and a P/E ratio of 9 (₦27/3). The impact of P/E ratio of 6.67 (less than company x P/E ratio or 8) is to increase the post-merger EPS of company X share and the impact of P/E ratio of 9 (greater than company X P/E ratio of 6) is to reduce the post-merger EPS of the enlarged company. Thus the initial post-Merger EPS for the enlarged company can increase or decrease: the extent of which will depend on:

(a) The relative amount of their pre-merger earnings; and
(b) The proportion of their pre-merger P/E ratios.

Note: 2: Earning Growth

It should be noted that the possible initial dilution in earnings per share could be eliminated if earnings are expected to grow. How soon this elimination will occur will depend on the rant of future growth rate in earnings. The longer it takes to eliminate dilution, the less attractive is an acquisition.

Market Value War Share effect

The main concern here is the ratio of exchange based on market price. This is determined as follows:

market price of the bidding company's share	x	Number of shares offered to the target company's shareholder per one share of their company.

Market Price of the Target Company's share

Assuming in the ease of company X and company Y, in illustration 26.4

company X offer three-eights of its share to each of the shareholders of company Y, then the ratio of exchange =

The ordinary shares of the two companies will exchange for 1 to 1. based on market price. If there is relative stability in the market price of the enlarged company at ₦40, the position of the shareholders of both companies are not better than their pre-merger positions with respect to market wage. The bidding company must offer a price higher than the current market price, for the target company's shareholders to be induced by a T. for 1 exchange. Probably the bidding company would offer 0.40 of the value of its shale i.e. ₦16 a share.

3.8 Performing the Price -Earnings Magic

A company is not expected to pay a higher market price where there is no expectation of synergy, better management or existence of under pricing. However, where the bidding company has a higher P/E ratio and this figure is expected to be maintained after the merger the company's shareholders could still be better off: even when a higher price is paid.

ILLUSTRATION

Assuming the same information in illustration 26-4 on the merger of company X Plc and company Y Plc except that company X is now offering 0.40 of its shale for each share of company Y. or ₦16 (that is ₦0.40 X ₦40).

SUGGESTED SOLUTION

The exchange ratio is

Share off Mc are being offered ₦16 for each share of X Plc they own- They no doubt gain from the acquisition based on market price because their share was formerly priced at ₦15.

The number of shares that X Plc will now issue = 800.000 (0.40 x 2,000,000). The post - merger situation will be as follows:

The Enlarged X Plc	
Total Earnings	₦14,500.000
Number of shares in issue	₦ 2,800,000
Earning per share	₦ 5.18
Price earning ratio	
Market price	₦ 41.44

The shareholders of both companies have gained from the acquisition.

The reason is the difference in the two company's price earning ratios.

If the market is fooled by this artificial growth it means a company can apparently continue to create value for its shareholder via only acquisitions of companies with tower price - earnings ratios

However, if the capital market are efficient it might not be possible for a company that cannot exhibit real growth potential to maintain the same level of price-earning ratio.

In an efficient market with *no* expectations of synergy the expected post-merger P/E ratio would somehow near the weighted average of the two companies pre-merger P/E ratios, in this case, the bidding company would not be able to increase shareholders wealth through mere acquisition of companies with lower P/E ratios

3.9 Financing of Mergers

The following methods are the ones normally used by the acquiring company. The method chosen must be attractive to the target company's shareholders and be acceptable to the acquiring company.

(a) Cash

The attraction of cash is that it can be used without incurring any cost. However its receipt may attract immediate capital gains tax. From the acquiring company's standpoint. liquidity may be low and cash is raised by public issue of securities or by borrowing at a relatively great cost.

(b) Ordinary shares in the acquiring company

Ordinary shares may be attractive if they are still interested in equity investments. However, disposal may create a problem for those who are not keen in holding shares anymore. From the acquiring company's point of view, cash may be raised in the capital markets or borrowed in order to pay for the acquisition. Notwithstanding, issue of shares has an opportunity cast for the shareholders of the bidding company as the shares could well have been issued for cash.

(c) Loan than Stocks of the bidder

From the view point of the bidder, loan stocks would not dilute control as lenders don't usually have voting rights. From the viewpoint of shareholders of the target company, they would be entitled to fixed income and fixed capital repayments: therefore, less risk. The disadvantages however are that the bidding company would have fixed commitment as to interest and capital repayment default of which may

lead to liquidation and the shareholders of the target company would need to make complete change in their investment culture, habits and attitudes towards risk and return.

3.10 Takeovers, Tender Offers and Defences

The discussions on mergers so far, have focused on areas which involve negotiations between managements and directors of the two companies. In some cases, as identified below this may not be so and the merger may be 'unfriendly.

(a) Takeovers

This is the acquisition of one company (the target) by another company (the bidder) in such a way as to constitute an unfriendly or hostile merger. Here many attempts to buy into the company are revisited by the directors of the target company for the following reasons:

(a) The price being offered might be regarded as too low
(b) It might be thought that the whole activity has no economic basis.
(c) Protection of their self -interest.

(b) Tender Offer

Hostile takeovers are characterized by the making of tender offers. A tender offer is an offer made by a company to the present shareholders of another company at a specified price which is usually higher than the current market price. The objective is to eventually obtain a controlling interest in the target company. The offer is made directly to the shareholders who are prepared to relinquish their interests: the price is appreciably higher that the current market price to encourage shareholders to surrender their shares. A tender offer allows the acquirer to sideline the management of the target company, render offers are normally communicated to the shareholders either through publication in the financial newspapers or through direct mailing to them. There is also in existence the second-tier tender offer, to take the first-tier would be at a higher price and with consideration wholly in cash. The second-tier. offers to take the balance at a price lower than the first-tier offer price and consideration in a mix of cash and securities.

(c) Defences against hostile takeovers

The target company, through its management, may use the following defensive tactics:

i) Management appeal management tries to convince shareholders to reject the offer on the ground of low price.

ii) Cash dividends and share split payment of cash dividend or issue of a share split.

iii) Legal action: at times management takes legal action with a view to frustrating the bidder

iv) White knight: Management may seek a White knight where every other step fails. A white knight is a 'friendly bidder who is Asked by the target company to buy shares from the hostile bidder and for launch a friendly counter hid with a view to frustrating the hostile bidder

3.10.1 Anti Take Over Device (Repellants)

These are more formal devices that are put in 'Mace before the actual takeover attempt. Their objective is to make an undesirable takeover more difficult. Such devices include:

(a) Borrowing heavily and using the proceeds to pay a large one-off cash dividend to shareholders. This action, of course, might further borrowing, possibly for financing the acquisition.

(b) 'Poisoning' the takeover attempt by a device known as **'poison pill"**. It is used by the target company to make itself less attractive to the potential bidder

One way of doing this is for the company to issue rights usually. convertible preference shares to its shareholders.

This type of issue might not be of interest to the potential bidder as the issue would contain discouraging terms. The objective of this action is to compel the potential bidder into talking directly to the board of directors after it might have acquired sufficient number of shares in the target company.

(c) Spread the terms of the company's board such that not many directors would stand for re-election each year. Thus there would be need for more votes to be able to elect many directors that favour a takeover.

(d) Malting resolutions for merger approvals to require more than a simple majority, say two thirds majority.

(e) Requiring that a 'fair price' which is fixed in advance be paid to minority shareholders. Where a 'fair price' is not agreed, the company could insist that only a two -thirds or three fourths majority must approve the price offered.

(f) Providing for only say two -thirds or three-fourths majority for any amendments (including previously approved anti-takeover provisions) to the Articles of Association.

(g) Entering into highly involving management contracts with top managers which amid cause commitments to payment of high compensation if the company is taken over (**golden parachute**).

(h) Entering into an agreement with an outside group that has substantial interests in the company, not to increase their shareholding for a period of many years. This is called standstill agreement.

(i) Buying back the shares held, by threatening party at a premium over the market price. This offer which is not extended however to other shareholders is known as "**greenmail"**. The objective is to encourage the party to abandon the threat.

3.10.2 Effects of anti -takeover devices on shareholders wealth

Two reasons have been advanced for putting barriers in the way of corporate control by prospective bidden.

(a) To protect management jobs; and
(b) To protect shareholders interests.

While it could be said that management could be well protected by these devices, it is debatable when the interests of shareholders could actually be protected. While many of these devices might not significantly increase the share price, the 'greenmail' definitely has the effect of reducing the shareholders wealth. Also, standstill agreement could have negative effects on share price.

3.11 Success of Mergers

The success of any merger can be assessed from three perspectives:

(a) The views of managers of merged companies taken from practical interviews with them:

(b) The size of the accounting profits of the merged companies

compared with the profits before the merger: and

(c) Market values of the shares of the merged companies before and after the merger.

Evidence from the mature capital markets for corporate control in U.K and USA showed that mergers, according to the managers in the first category, did not bring any benefits. The reasons for failure were ascribed to managements attitudes towards poor management practices in the target company and lack of knowledge of the bidders of the target company and its industry among others. Evidence from the second perspective showed that average profitability after the merger was significantly lower than the pre-merger profitability. Evidence of impact on market values showed that shareholders of the target company realized good increases in wealth compared with their pre-merger position. The premium paid by the bidder was given as the reason for this. The impact on market values of the shares of the shareholders in the acquiring company was not clear.

However, for any merger or takeover to be justified, the expected synergy and/or improved management must result in an increase in shareholders' wealth which is in excess of the premium paid for the takeover. In Nigeria the market for corporate control has not been very active. The only mergers that hit the headlines were the government policy - driven bank mergers of 2005. The only visible effect that was seen *was* the increase in the capital base of each of the then twenty-live banks and their ability to withstand the current financial meltdown. May be some of them would have gone under by now, if they had not merged.

Tests similar to those of the mature markets cannot be carried out here becau.se in the first instance these mergers were not value driven.

Moreover there is dearth of information in the Nigeria Capital Markets for corporate control.

3.12 Regulations of Mergers in Nigeria

Mergers in Nigeria are guided by the provisions of the Companies and Allied Matters Act (CAMA 1990 as amended). The details of all these legal provisions are beyond the scope of this pack.

However, according to the Act (CAMA) the conditions for a scheme of mergers to be effective and binding include the following:

(a) The special resolutions to be proposed at the court ordered meetings must be duly passed.

(b) Securities and Exchange Commission (SEC) must approve the terms and conditions of the scheme as agreed by the majority of the shareholders of both companies.

(c) The scheme must have been approved by a majority representing three - fourths in value of the shareholders of each of the two companies voting either in person or by proxy, at their separate meetings convened by o d r of the court.

(d) The court must sanction the scheme and confirm the cancellation of the target company, the merger of its assets and liabilities and undertakings, with those of the bidding company as provided in the scheme: and the dissolution of the target company without winding up.

(e) Delivery of the office copy of the Court Order to the Registrar – General of the Corporate Affairs Commission (CAC)

3.13 Qualitative Factors in Mergers and Acquisitions

The qualitative factors in mergers and acquisitions would include the following:

(a) **Legal:** There should be confirmation that the companies coming together have no legal problems

(b) **Product:** There should be potential for product improvement or superiority.

(c) **Management** bidders management's lack of knowledge of the target company or its industry may cause merger to fail.

(d) Managements capabilities should be properly evaluated.

(e) **Culture:** Discussions on the culture of each company should be started as early as possible. Differences in culture have caused mergers to fail.

(f) Management attitudes towards the merger exercise as whole.

(g) Lack of proper post-merger integration. There should be an integration plan.

4.0 CONCLUSIONS

Mergers and acquisitions (M&A) are a way of expanding and growing a business by purchasing another company in its entirety. M&A have the objective of maximizing shareholders wealth through creation of what is known as 'synergy, the motives for mergers are many and they include access to source of supply, access to more market opportunities, reduction in competition, operating economies, better management, diversification, market signal, strong asset base and so on. For any merger to be economically justified, the following factors must exist:

a) Discounted additional cash flows must be positive; and
b) There should be reduction in post merger risk level.

There are three main types of mergers - the "horizontal", the "vertical" and "conglomerate" mergers.

A very important starting step for any M & A activity is to value the target company. The two major valuation approaches are the earnings approach and the assets approach.

There are variations of these two approaches. Another very important method of valuing a company is the discounted cash flow (DCF) method. This method is not frequently used because of its complexities in terms of estimating future cash flows and determining the appropriate discount rate.

The valuation process is not an exact exercise. The final value arrived at, is usually a function of astute negotiation between the parties involved.

An acquisition must be undertaken so as to achieve the strategic objective of the company. In strategic acquisitions, the consideration is invariably the shares of the acquiring company. A very critical factor in using this form of consideration is the determination of the "ratio of exchange". Other forms of consideration are cash and loan stocks.

5.0 SUMMARY

Anti-takeover devices, nicknamed repellant, take the form of heavy borrowing, ¯poison resolutions requirements, management contracts, 'standstill' agreements and 'greenmail'. The success of mergers should be measured mainly in terms of the effects on shareholders wealth. Aside from the financial factors, other factors (qualitative) are also important to the success of any merger.

6.0 TUTOR - MARKED ASSIGNMENT

(a) Outline the ways in which a merger differs from a takeover
(b) Describe six justifications for Mergers and Acquisitions
(c) Outline the business and financial reasons for company mergers.

7.0 REFERENCES/FURTHER READINGS

ICAN STUDY PACK

REVISION QUESTIONS

1. The economies obtained from a merger as a result of the performance of the combined firms being greater than the addition of their separate performances are referred to as _____

2. A merger whereby two companies in the same industry are involved is known as _____

3. What is the lean given to the irrational behaviour of the bidding company's management whereby excessive premium is paid for the target company's benefits?

Use the following Information to answer questions 4 & 5

Major Plc has an existing butts which is expected to bring in net cash inflow of ₦2m for each of the next 5 years. The market expects 15% per annum rate of return. Major Plc intends to acquire Minor Plc. The predicted annual net cash inflows for the enlarged Major Plc amount to ₦3in for the next 5 years. The required rate of return is expected to be 12% per annum.

4. Calculate the value of the enlarged Major Plc.
5. What is the maximum price Major Plc is expected to pay for Minor Plc?