NATIONAL OPEN UNIVERSITY OF NIGERIA

SCHOOL OF MANAGEMENT

COURSE CODE: ACC 405

COURSE TITLE: **CORPORATE FINANCE**

COURSE GUIDE

ACC 405
CORPORATE FINANCE

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INTRODUCTION

The course **ACC 405: Corporate Finance** is a semester course of three credit units. It is available to all students of Bachelor of Science (BSc) in Accounting of the School of Management Sciences.

The course consists of 4 modules and 20 units among which are: Overview of Corporate Finance, Understanding Financial Statement, Investment and Financing Decisions, Dividend Decision, Corporate Strategy and Firm Value. The idea is to enable students apply complex theory to real firms, to help them understand that any decision that involves the use of money is a corporate financial decision.

The course guide tells you what the course ACC 405 is all about, the materials you will be using and how to make use of the materials to ensure adequate success. Other information that is contained in the course includes how to make use of your time and information on tutor-marked assignments and questions.

WHAT YOU WILL LEARN IN THIS COURSE

In this course you will learn about the decisions made by firms which have financial implications. It consists of 4 modules and 20 units and discusses in detail corporate financial analysis – the tools and techniques that are used on a day to day basis, how these tools and techniques are fitted together and the common principles that apply across all of them.

COURSE AIMS

In today's business environment where there is a corporate financial aspect to almost every action taken by a firm, students of Bachelor of Science degree in Accounting are meant to be well-grounded in Corporate Finance so that they will be able to cope with technicalities of investment, financing and dividend decisions.
Therefore, aim of this course is geared towards acquainting you with the policies and procedures as well as problems encountered in the course of acquisition and utilisation of funds in corporate organisations.

COURSE OBJECTIVES

To achieve the aim stated above, it is therefore expected that at the end of this course, you should be able to:

- explain the nature and concept of corporate finance
- define financial market and the corporation
- identify the problems of corporations and how to control them

- analyse financial statement and financial ratios
- discuss financial planning and control
- explain working capital management
- describe how capital structure decision can be made
- explain cost of capital and risk associated with cost of capital
- mention different types of securities
- discuss mergers and acquisitions.

WORKING THROUGH THIS COURSE

To complete this course, you are expected to read thoroughly the various study units and text books recommended. In this course, each unit consists of exercises to text your understanding from time to time. At the end of the course is a final examination.

Below, you will find a list of the component of the course, what you have to do and how you should allocate time to each unit in order to complete the course on time.

COURSE MATERIALS

Major components of the course are:

1. Course Guide
2. Study Units
3. Textbooks and References
4. Tutor- Marked Assignments

STUDY UNITS

The course has a total of 20 units in 4 modules. You are required to study each carefully before proceeding to the next.

Module 1 Overview of Corporate Finance

Unit 1 Introduction to Corporate Finance
Unit 2 Objective Function in Corporate Finance
Unit 3 Forms of Business
Unit 4 Agency Problems and Control of Corporations
Unit 5 Financial Market and the Corporation

Module 2 Understanding Financial Statement

Unit 1 Principal Financial Statement
Unit 2 Financial Ratios
Unit 3 Analysis of Financial Ratios

Unit 4 Financial Planning and Growth
Unit 5 Preparation of Estimated Income Statement and Balance Sheet

Module 3 Investment and Financing Decisions

Unit 1 Working Capital Management
Unit 2 Capital Structure Decision
Unit 3 Cost of Capital Approach
Unit 4 Risk Associated with Cost of Capital
Unit 5 Capital Budgeting

Module 4 Dividend Decision, Corporate Strategy and Firm Value

Unit 1 Type of Securities
Unit 2 Dividend Policy
Unit 3 Corporate Growth
Unit 4 Mergers and Re-Organisations
Unit 5 International Finance

Each unit is expected to take you an average of two hours to complete. Each unit starts with introduction, its objectives or what the unit expects you to have grasped at the end of the main content. Also, you will be exposed to some self –assessment exercises.

In order to follow the course sequentially and achieve your goals, it is advisable that you attempt all exercises and questions on your own before contacting your facilitator for guidance.

ASSIGNMENT FILE

As you go through each unit of this course, you will come across questions at the end. It is advisable that you do them for easy flow of the course since they are in sequence.

ASSESSMENT

As a student of Open and Distance Learning (ODL), you are expected to assess your learning ability by the extent of your understanding of the units and the entire course. This assessment prepares you for the final examination. The final examinations will come at the end of the course. You are expected to write this examination whose score together with what you made in the tutor-marked assignments (TMAs) will form the final course grade.

TMAs 30 per cent
Examination 70 per cent
Total 100 per cent

TUTOR-MARKED ASSIGNMENTS

At the end of each unit is a TMA attached. It covers the material and exercise in each unit. Also, it is normally kept in a separate file. This will form a basis for your improvement on your other assignments.

CONCLUSION

The course ACC 405 Corporate Finance is designed for students of Bachelor of Science in Accounting. It tries to expose you to the decisions made by financial officers of business organisations. On your completion of the course, you should be fully equipped with tools and techniques used in selecting projects, deciding how it can be financed, where funds could be sourced and how much cash to return to shareholders.

I wish you all the best as you go through the course.

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MODULE 1 OVERVIEW OF CORPORATE FINANCE

UNIT 1 INTRODUCTION TO CORPORATE FINANCE

CONTENTS

1.0 INTRODUCTION

This unit introduces you to the overview of corporate finance. It deals with the meaning, scope, objectives, and tools of corporate finance. Opinions abound on this concept, but they all point towards financial aspect in almost every decision a business makes. There is no hard and fast rule to the application of corporate finance technique. What you as a student need to understand is the concept and the extent to which corporate finance could influence financial decision in an organisation.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define and explain the term corporate finance
- identify and state the scope of corporate finance
- mention the goals of corporate finance
- highlight the tools of corporate finance.

3.0 MAIN CONTENT

3.1 Meaning of Corporate Finance

Business organisations in carrying out the different activities of the firm engage in transactions that mostly have financial implication. These financial transactions have to be adequately summarised to at least determine the viability of the firm in terms of profit generation. The result is to prepare financial statement that would span the business life time.

Imagine that you were to start your business. No matter what type you started, you would have to answer the following three questions in some form or another.

1. What long –term investments should you take on? That is, what lines of business will you be in, and what sorts of buildings, machinery and equipment will you need.
2. Where will you get the long–term financing to pay for your investment? Will you bring in other owners or will you borrow the money?
3. How will you manage your everyday financial activities such as collecting money from customers and paying suppliers?

These are not the only questions but they are among the most important. Corporate finance, broadly speaking, is the study of ways to answer these three questions. Therefore, corporate finance could then be defined as any decision made by a business that affect its finances. These decisions can be categorised into: *investment* decisions, *financing* decisions and *dividend* decisions.

3.2 Scope of Corporate Finance

The nature, content and extent of corporate finance are determined by the type of business activities carried out by a firm. This requirement differs just as organisations decisions differ. Decisions on what business to go into rests on the shoulders of stakeholders need.

3.3 Goals of Corporate Finance

Corporate finance is undertaken basically to remain competitive and steer clear of potential financial problems. It is a balancing act that solves the short – term problems of today but takes into account the long –term effects of those decisions. One of the objectives of corporate finance is to maintain short-term cash flow by implementing effective accounts payable procedures, securing short-term financing and

leveraging relationships with vendors without risking the future financial health of the company. Management needs to consider the long term effects of a high interest loan, and develop a list of potential alternatives to help the company avoid taking on the extra interest debt.

SELF-ASSESSMENT EXERCISE

Read the following passage: "Companies usually _a_ assets. These include both tangible assets such as _b_ and intangible assets such as _c_. In order to pay for these assets, they sell _d_ assets such as _e_. The decision regarding which assets to buy is usually termed the _f_ or _g_ decision. The decision regarding how to raise the money is usually termed the _h_ decision''. Now fill in each of the following terms in the bracket into the most appropriate space: (financing, real, Bonds, investment, executive airplanes, financial, capital budgeting, brand names).

3.4 Tools of Corporate Finance

Corporate finance involves financial and accounting decisions companies make on a day to day basis. To help ease the burden of bookkeeping, budgeting and reporting, there are a variety of corporate finance tools. Using these tools can help your corporation control its finances, which will lead to greater efficiencies.

1. **Present Value:** This is one the most important tools used in corporate finance. The rule of present value states that the value of any asset is the present value of its cash flows at discount rate. In your further studies, you will learn how to calculate the present value using those tools. But in this study, we want to emphasis that corporate finance relies on simple principle in economics known as the 'separation principle'. The concept states that investors will agree on a discount rate, even if they have different risk–aversion characteristics, provided the capital market is active in which they can invest, lend or borrow at the prevailing market rate.

2. **Financial Statement Analysis:** The figures used in corporate finance are derived from financial statement. It is good you understand the financial statement. It is good you understand the difference between operating and capital expenses and why some expenses are set off against current revenues to arrive at net income while others are capitalised on balance sheet and depreciated overtime. It is also necessary you understand the financial ratios used by analysts.

3. **Risk and Return:** In this course material, most of the discussion will be on the notion that investors and firms with higher risk should be compensated with higher expected return. This then goes to explain how risk should be measured and how high the return should be for a given level of risk.

4. **Option Pricing:** Option pricing theory is associated more with investments and financial markets rather than corporate finance. However, it is very critical in some aspect of corporate finance. In investment analysis, firms faced with option pricing theory provide useful insights into the determinants of the values of these options. In financing decisions, option pricing theory is useful in designing and valuing securities with embedded options such as warrants, convertible securities and callable bonds.

4.0 CONCLUSION

This unit has provided both an overview and a basis of what you will learn in this course material. We defined corporate finance as all decisions made by business that affect its finances; these decisions are categorised into investment, financing and dividend decisions. We also noted that corporate finance has only one objective - to maximize the value of the firm.

5.0 SUMMARY

One of the basic propositions of this unit is that it tries to broaden your mind on the 'big picture' of corporate finance in which all the decisions and tools that would be discussed about come together. Don't forget that the investment, financing and dividend decisions are under the control of the decision makers of the firm, subject to the constraints of the market place. These decisions also affect the value of the firm.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the tools of corporate finance.
2. State the goals of corporate finance.
3. What do you understand by corporate finance?

7.0 REFERENCES/FURTHER READING

Brealey, R. A. & Myers, S. C. (1988). *Principles of Corporate Finance*. USA: McGraw –Hill, Inc.

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley & Sons Inc.

UNIT 2 OBJECTIVE FUNCTION IN CORPORATE FINANCE

CONTENTS

1.0 INTRODUCTION

An objective function describes what a decision maker wants to accomplish and in doing so, a framework used in analysing the different decision rules is provided. In some cases, objective function is stated in terms of maximising some functions or variables (profits, size, value, social welfare) or minimising some functions or variables (risk, costs). This unit will take you through the models developed in corporate finance to maximise stakeholders' wealth.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state the assumptions that we need to make to justify the focus on maximising stakeholders' wealth
- explain some of the conflicts associated with these assumptions
- explain the alternatives to maximising stakeholders' wealth
- explain how we can reduce the side costs associated with stakeholders' wealth maximisation.

3.0 MAIN CONTENT

3.1 The Need for an Objective Function

Overtime, there had been this controversy over the 'right' objective function to use in corporate finance, though this may seem somehow difficult to develop. Sometimes, questions could arise, why objective function, why not have multiple objective functions that try to satisfy all

sides. In the midst of all these competing objective functions, an option came which try to explain the differences using the following reasons:

1. If an objective function is not chosen, it will be difficult to have alternative to decision rules. In corporate finance, the net present value (NPV) is the best approach to selecting projects. In this wise, NPV is the objective function of maximising stakeholders' wealth. Without an objective function, there would be several approaches for selecting projects ranging from reasonable ones to absurd ones.
2. If multiple objectives are chosen, we would be faced with numerous problems. This would then be like a man serving several masters; in trying to meets his multiple objectives, he may end up not meeting any of them. And even when multiple objective functions are prioritised, we would be faced with the same stark choices as in the case of a single objective function.

3.2 The Characteristics of the 'Right' Objective Function

The costs of choosing the wrong objective function can be dangerous. For instance, if the manager of a firm believes that the firm's sole objective is to maximise size, he will pick larger projects over smaller ones, even if they are less profitable. In the long run, the firm will pay a price and may even go out of business.

So to know whether the objective function we have chosen is the 'right one', it must have the following characteristics.

1. It must be clear and unambiguous: An ambiguous objective will lead to decision rules that vary from case to case and from decision maker to decision maker.
2. It must come with clear and timely measure that can be used to evaluate the success or failure of decisions.
3. It does not create side costs that erase firm specific benefits and leave society worse off at the end.
4. It must be consistent with maximising the firm's long-term health and value.

3.3 The Classical Objective

There is a general notion, at least among corporate finance theorists, that the objective of the firm is to maximise wealth. There is also a disagreement as to whether the maximisation is to the wealth of stockholders or the wealth of the firm. As this debate goes on, those who argue on this issue asked that if objective function maximises stockholders' wealth, can it also be translated into maximising stock price.

However, objective functions vary, in terms of the assumptions that are needed to justify them. The least restrictive of the objective is to maximise the firm value; the most restrictive is to maximise the stock price.

Organisational Structure and Classical Theory

The classical objective of maximising wealth (stockholder or firm) seem incontrovertible until the size of the corporations in which stockholders (owners) engage managers to make decision for them and borrowed money from lenders are taken into consideration. The interests of these three parties (owners, managers, lenders) are different, thereby resulting unto conflict. Managers might take decisions that are in the best interest of the organisation, while not serving stockholder interest; they may also make decisions in the stockholders' interest but against the wish of the lenders. Therefore, the overall interests of society may conflict with those of the stockholders of the firm.

Conflict /Costs of Wealth Maximisation

If only to maximise firm or stockholders' wealth is the only premise on which the objective of decision making is hinged, the side effect of it to society may far outweigh the benefits. The objective function of wealth maximisation may face a lot of obstacles when there is separation between management and ownership in corporate organisation.

This obstacle normally comes in the form of conflict of interest. This conflict of interest can in turn lead to decision rules that maximise managerial utility but not stockholders or firm wealth.

In order to maximise stockholders' wealth, decision would have to be made to exclude the wealth of other stakeholders in the firm even if such actions will reduce the wealth of the firm. Therefore, when the objective function is narrowed further to one of maximising stock price, inefficiencies in the financial markets may lead to misallocation of resources and bad decision.

Underlying Assumptions

There are assumptions that can be used to justifying the objective function of maximising wealth that are driven by the potential for side costs listed above. They can be classified into:

1. Assumption relating to the relationship between stockholders and managers: This assumption states that the stakeholders have the capacity to hire and fire managers. In turn, the managers consider wealth maximisation their primary objective in decision making even if it conflicts with their self – interest.
2. Assumption relating to the relationship between stockholders and bondholders: In order to prevent negative effect that may result

from the actions of stock holders in expropriating the wealth of bondholders, it is assumed that bondholders are fully protected. This is to ensure that firms maintain good reputations in bond markets, for they might have to return to these markets to raise more funds in future.

3. Assumption relating to the relationship between managers and financial markets: If the objective function is stated in terms of maximising stock price, we have to assume the existence of a financial market that efficiently reflects company information in price movements.
4. Assumptions relating to the relationship between firms and society: When we maximise firm or stockholders' wealth, the social costs created can either be traced or charged to the firm like any other cost item or they are trivial relative to the value created in the process of wealth maximisation.

3.4 Choosing an Alternative Objective Function

The alternatives to wealth maximisation objective function can be categorised into four groups: intermediate, profit maximisation, social welfare and revenue objective function.

1. Intermediate objective function focuses on variables that are believed to be strongly related to the firm's long-term health value but are easier to measure than wealth maximisation. Example is maximising market share which will in turn mean higher profits and value in the long run.
2. Profit maximisation objective function explains the rationale that profit can be measured more easily than value; and higher profits translate into higher value in the long run.
3. Revenue /Size Objective Function: Some organizations focus their objective function more on size than stockholders' wealth. This objective function is mainly as a result of stockholders' failure to exercise power over the management.
4. Social welfare objective functions are mostly emphasised by government owned firms. For instance, a firm that directs its effort towards maximising employment within its area of operation will make decisions accordingly even though this may be fatal for its long term health.

SELF-ASSESSMENT EXERCISE

i. What is the objective of decision making in corporate finance?
ii. State the assumptions that must be made to maximize stakeholders' wealth.
iii. What are the alternatives to maximising stakeholders' wealth?

4.0 CONCLUSION

Corporate financial theory is built around the objective function of maximising either stockholders' or firm wealth. The objective function has the stakeholders' or firm wealth. The objective function has the potential to create significant side costs in form of conflicts between stockholders and mangers; stockholders and managers; stockholders and bond holders; and firms and society.
These costs can be reduced by adopting strategies that will reduce these conflicts i.e. by increasing stockholders power over managers, protecting bond holders and developing good citizen constraint.

5.0 SUMMARY

In this unit, the objective function in corporate finance has been discussed. We have explained the various assumptions underlying maximising stakeholders' wealth, conflicts associated with these assumptions and the alternatives to maximising stakeholders' wealth.

6.0 TUTOR-MARKED ASSIGNMENT

1. There is a conflict of interest between stockholders and managers. In theory, stockholders are expected to exercise control over managers through the annual meeting or the board of directors. Why might these disciplinary measures not work?
2. Why do some corporate strategists focus on maximising market share rather than market prices?

7.0 REFERENCES/FURTHER READING

Brealey, R. A. & Myers, S. C. (1988). *Principles of Corporate Finance*. USA: McGraw – Hill, Inc.

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley and Sons Inc.

UNIT 3 FORMS OF BUSINESS

CONTENTS

1.0 INTRODUCTION

The firm is a way of organising the economic activity of different individuals. This has nothing to do with why most large firms are corporations rather than any of the other legal firms of business. A basic problem about firm is how to raise cash. The corporate form of business is the standard method for solving problems encountered in raising large amounts of cash. In this unit, we will be considering the legal forms of organising firms and also see how they go about raising large amounts of money under each form.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- define a proprietorship, a partnership and a corporation
- state the advantages of the corporate form of business organisation
- mention the goals of the corporate firm
- discuss some managerial goals.

3.0 MAIN CONTENT

3.1 The Sole Proprietorship

A sole proprietorship is a business owned by one person. Let's say you want to start a business to produce ice cream. Doing that may seem simple. First, you will announce to all who care to listen, ''Today I am going to start making ice cream." Some areas in the country requires that

you obtain a business license, afterward you can hire as many people as you need and borrow whatever money you need. At the end of the year, all the profits or losses incurred will be yours.

Here are some factors that you must put into consideration if you want to start a sole proprietorship business.

1. The sole proprietorship is the cheapest business to form. Registration may not be required and few government regulations must be satisfied depending on the type of products or services they person want to go into.
2. A sole proprietorship does not pay company income tax as all profits of the business are taxed as individual income.
3. The sole proprietorship has unlimited business debts, meaning that he will use his private money or property to settle whatever business debt incurred.
4. The life of the sole proprietorship ends at the death of its owner (sole proprietor).
5. The capital that can be raised by a sole proprietorship is limited to his personal wealth.

3.2 The Partnership

When two or more persons come together to form a business, a partnership is formed. Partnership falls into two main categories.

1. General partnership
2. Limited partnership

In general partnership, all the partners agree to provide some fraction of the work and losses. Each partner is liable for the debt of the partnership. Depending on the arrangement the partnership agreement may be oral or written.

Limited partnership permit the liability of some of the partnership to be limited to the amount of cash each has contributed to the partnership. Limited partnership requires that:

1. At least one partner be a general partner
2. The limited partner does not participate in managing the business

Here are some important things when considering partnership.

1. Partnerships are in-expensive and easy to form. Written documents are required in some arrangement in both general and limited partnership.
2. General partners have unlimited liability. The limited partner's liability is limited to the amount contributed in running the business.

3. The general partnership is terminated when a member dies or withdraws but does not apply to limited partnership. Limited partners may sell their interest in the business.
4. It is not easy for partnership to raise large amount of cash. Capital contribution is usually dependent on the ability of each partner.
5. Income from partnership is taxed as personal income to the individual partners.
6. Managerial control resides with the general partners.

3.3 The Corporation

Among the different forms of business enterprises, the corporation is by far the most important. It is a distinct legal entity. A corporation can have a name and enjoy many of the legal powers of natural persons. For instance, corporation can acquire and exchange property. It can enter into contracts and may sue and be sued. To start a corporation is more complicated than the other businesses. The incorporators must prepare articles of incorporation and a set of bylaws. The articles of incorporation must include the following:

- name of the corporation
- business purpose
- intended life of the corporation
- number of shares of stock that the corporation is authorised to issue
- nature of the rights granted to shareholders
- number of members of the initial board of directors.

The bylaws are the rules that are used by the corporation to regulate its existence. The corporation has three distinct interests - the shareholders (the owners), the directors, and the corporation officers (the top management). The shareholders control the corporation direction, policies and activities. Traditionally, the shareholders elect board of directors who in turn select top management. The top management serves as officers who manage the corporation in the interest of the shareholders.

The separation of ownership from management, gives the corporation several advantages over partnership and sole proprietorship.

1. Ownership in corporation is represented by shares or stock and can be transferred to new owners.
2. Corporation has unlimited life because there is separation of owners and management, the death or withdrawal of an owner does not affect its legal existence. It can continue even after original owners have withdrawn.
3. The shareholders' liability is limited to the amount invested in the ownership shares. However, one great disadvantage of

corporation is that federal government taxes company income. In addition, the owners also pay personal income tax on the dividend they receive. This is double taxation of shareholders when compared with sole proprietorship and partnership.

3.4 Goals of Corporate Firms

What is the primary goal of corporation? The answer is that managers in a corporation make decisions for the stockholders because the stockholders own and control the corporation. In that case, the goal of the corporation is to add value and so to give a definite answer to the corporation as an artificial being, not a natural person. It exists in the ‘‘contemplation of the law.’’ It is also important for you to identify who controls the corporation in order to consider the set –of –contract new point, which suggests that the corporate firm will attempt to maximise the shareholders’ wealth by taking actions that increase the current value per share of existing stock of the firm. In explaining that further, the theory states that firm can be seen as a set of contract i.e. the equity contract. The equity contract can be defined as the principal –agent relationship.

Where the members of the top management are the ‘agents’ while the shareholders are the ‘principal’ it assumed that the managers and the shareholders if left alone, will each attempt to act in his or her own self – interest.

3.5 Management Goals

Managerial goals are different from those of shareholders. The goals that managers will maximize if they are left to pursue their own rather than shareholders’ goal are:

1. Managers will always want to obtain certain kind of value from certain kind of expenses. For instance in purchase of things like furniture, car, office premises and funds for discretionary investment etc. these all have value to managers than just such values which come from productivity.
2. Management will always try to command sufficient resources to avoid the firm going out of business.
3. Management also helps in maximizing corporate wealth tend to lead to increased growth by providing funds for growth and limiting the extent to which new capital (equity) is raised.

SELF-ASSESSMENT EXERCISE

i. What are the three forms of business organisation?
ii. What are the distinguishing factors among the owners of both sole proprietorship and partnership business?
iii. Why is corporate firm superior to other forms of business?

4.0 CONCLUSION

We have examined the three different legal forms of business organisation – sole proprietorship, partnership and corporation. Each of them has distinct advantages and disadvantages in terms of the business, the ability to raise cash and taxes. The major interest here is that, as firm grows the advantages may far outweigh the disadvantages.

5.0 SUMMARY

This unit introduced you to some basic ideals in corporate finance. In it, we saw that:

- the goal of financial management in a profit-based business is to make decisions that add value to the equity
- the corporate form of organisation is superior to other forms when it comes to raising money and transferring ownership but it has the significant disadvantage of double taxation.

6.0 TUTOR-MARKED ASSIGNMENT

1. Differentiate between a general and a limited partnership.
2. What are the primary advantages and disadvantages of sole proprietorship and partnership?
3. Can you recall some managerial goals?
4. What is the "set –of- contracts" theory all about?

7.0 REFERENCES/FURTHER READING

Ross, S. A, Wasterfield, R.W. & Jaffe, J. (2005). *Corporate Finance Topics*. USA: McGraw – Hill coy. Inc.

Ross, S. A, Wasterfield, R.W. & Jordan, B. D. (2006). *Fundamentals of Corporate Finance*. USA: Mc Grade Hill, Inc.

UNIT 4 AGENCY PROBLEMS AND CONTROL OF CORPORATIONS

CONTENTS

1.0 INTRODUCTION

In the previous unit, we have seen that managers act in the best interests of the shareholders by taking action that increases the value of the stock. We have also seen that in large corporations, ownership can be among many members (shareholders). In this unit, you will be learning if management really acts in the best interest of the shareholders or if management pursues its own goal at the expense of the shareholders.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain what an agency relationship is
- state what agency problems are and how they arise
- enumerate the incentives available for managers in large corporations to motivate them to maximise share value.

3.0 MAIN CONTENT

3.1 Agency Relationship

The relationship between shareholders and management is called agency relationship. Such a relationship exists whenever someone (principal) hires another (the agent) to represent his interests. For instance, you might hire someone (an agent) to sell your car while you are away at school. In this relationship, there is a possibility of conflict of interest between the principal and the agent. Such a conflict is called agency problem.

Assuming you hire someone to sell your car, and agree to pay him a certain sum (flat fee) on the sale of that car. The agent's incentive in this scenario is to make the sale, not necessarily to get you the best price. But if you offer a commission of, say, 10 percent of the sales' price instead of that fee, then this problem might not exist. This example illustrates that the way in which an agent is compensated is one factor that affect agency problems.

The term agency costs refer to the costs of the conflict of interest between shareholders and management. These costs can be direct or indirect. An indirect cost is a loss of opportunity. For example, management and shareholders' interests may differ. Imagine where the owners of the firm may wish to make an investment because stock value will rise, but management may not because there is the possibility that things will turn out badly and management will lose their jobs. If management fails to carry out the investment plan; then, the shareholders may lose a valuable opportunity.

Direct agency costs come in two ways. First is a corporate expenditure, which benefits management but costs the shareholders. An instance is the purchase of a luxurious and corporate jet that is not needed. The second type of direct agency cost is an expense that arises from the need to monitor management actions e.g. paying auditors to assess the accuracy of a financial statement.

In the above illustrations, it is obvious that management may tend to over-emphasis organisational survival to protect job security. Also, it may dislike outside interference, so independence and corporate self – sufficiency may be important goals.

3.2 Managerial Compensation

Management will frequently be given some significant economic incentive to increase share value for two reasons. Firstly, managerial compensation especially at the top level is usually tied to value. For instance, managers are given the option to buy stock at a bargain price. The more the stock is worth; the more valuable is this option.
The second incentive managers have relates to job prospects. Better performers within the firm will tend to get promoted. In fact those managers who are successful in pursuing stockholders' interests command higher salaries.

3.3 Control of the Firm

Control of the firm ultimately lies with shareholders. They elect the board of directors, who, in turn, hire and fire management. A

mechanism used by unhappy shareholders to replace existing management is called a proxy fight. A proxy is the authority to vote someone else's stock. A proxy fight develops when a group solicits proxies in order to replace existing board and thereby replacing management.

Another way that management can be replaced is by takeover. Those firms that are poorly managed are more attractive as acquisitions than well –managed firms because a greater profit potential exists. Thus, avoiding a takeover by another firm gives management another incentive to act in the shareholders' interests.

SELF-ASSESSMENT EXERCISE

i. Who are the agent and principal in a large corporation?
ii. An attempt by group decision to replace board of directors thereby replacing management is known as _____
iii. Identify the two types of agency costs?
iv. The relationship between owners and management of a corporation is known as _____

4.0 CONCLUSION

We have seen in this unit that there is a lot of evidence that shows that shareholders control the firm and that shareholders' wealth maximisation is the relevant goal of the firm.
There are also times when management goals are pursued at the expense of the shareholders'.

5.0 SUMMARY

In this unit, attempts have been made to explain what agency relationship is, agency problem (agency costs) and how they come about. And finally the incentives that accrue to managers in large corporations.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is an agency relationship?
2. What are agency problems?
3. What incentives do managers in large corporations have to maximise share value?
4. How are firms controlled?

7.0 REFERENCES/FURTHER READING

Ross, S. A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill, Inc.

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley & Sons Inc.

UNIT 5 FINANCIAL MARKET AND THE CORPORATIONS

CONTENTS

1.0 INTRODUCTION

You have learnt that the advantages of the corporate form of organisation is that ownership can be transferred more quickly and easily than the other forms and that money can also be raised more readily. These advantages are to a large extent what enhanced the existence of financial market. In this unit, we will be looking at how cash flows to and from the corporation and the functions of financial market.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- state what a dealer market is
- explain what you understand by financial market
- differentiate between primary and secondary market
- differentiate between a dealer and an auction market.

3.0 MAIN CONTENT

3.1 Cash Flows to and from the Firm

Suppose we start a firm selling shares or stock and borrowing money to raise cash:

a. cash flows to the firm from the financial market
b. the firm invests the cash in current and fixed assets
c. these assets generate some cash
d. some of which goes to pay corporate taxes

e. after taxes are paid, some of this cash flow is re-invested in the firm
f. the rest goes back to the financial markets as cash paid to creditors and shareholders.

A financial market like any market is a way of bringing buyers and sellers together. In financial markets, it is debt and equity securities that are bought and sold. Financial market differs in details however. The most important differences concern the types of securities that are traded, how trading is conducted, and who the buyers and sellers are.

3.2 Functions of Financial Market

Financial market functions as both primary and secondary markets for debt and equity securities. Primary market refers to the original sale of securities by governments and corporations. The secondary markets are those in which these securities are bought and sold after the original sale. Equities are of course, issued solely by corporations. Debt securities are issued by both governments and corporations.

3.2.1 Primary Market

In a primary market transaction, the corporation is the seller, and this is to raise money for the corporation. Corporation under this market engages in two types of transaction: public offerings and private placements. A public offering, as the name suggests involves selling securities to the general public, whereas a private placement is a negotiated sale involving a specific buyer.

By law, public offerings of debt and equity must be registered with the Securities and Exchange Commission (SEC). Registration requires the firm to disclose a great deal of information before selling any securities. The accounting, legal and selling costs of public offerings can be considerable. In order to avoid the expense of public offerings, debt and equity are sold privately to large financial institutions such as life insurance companies or mutual funds. Such private placement need not to be registered with SEC and do not require the involvement of underwriters (investment banks that specialise in selling securities to the public).

3.2.2 Secondary Market

This market involves one owner or creditor selling to another. It is therefore the secondary markets that provide the means for transferring ownership of corporate securities. Corporations are directly involved in primary market transaction (when it sells securities to raise cash), the

secondary markets are still critical to large production. The reason is that investors are willing to purchase securities in a primary market transaction when they know that those securities can be resold if desired.

Dealer versus Auction Markets

Auction markets and dealer markets are the two kinds of secondary markets. Dealer markets in stocks and long –term debt are called over – the –counter exchange. The expression over the counter refers to days of old when securities are literally bought and sold at counters in offices around the country. Today, a significant fraction of the market for stocks and almost all of the market for long – term debt have no central location; the many dealers are connected electronically.

Auction markets differ from dealer markets in two ways. First, an auction market or exchange has a physical location (like Ahmadu Bello Way). Second, in a dealer market, most of the buying and selling are done by the dealer. The primary purpose of an auction market on the other hand, is to match those who wish to sell with those who wish to buy. Dealers play a limited role.

SELF-ASSESSMENT EXERCISE

i. What is a financial market?
ii. Financial market can be divided into two, what are they?
iii. Which agency by law is required to register public offerings of debt and equity?

4.0 CONCLUSION

In this unit you have learnt that the advantages of corporate form of business are enhanced by the existence of financial markets. Financial markets functions as both primary and secondary markets for corporate securities and can be organised as either dealer or auction markets.

5.0 SUMMARY

In this unit, we can summarise by saying that the advantages of the corporate form are enhanced by the existence of financial markets. Financial markets function as both primary and secondary markets for corporate securities and can be organised as either dealer or auction markets.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is a dealer market? How do dealer and auction markets differ?
2. Differentiate between primary and secondary markets.
3. What are the various ways corporation can invest cash borrowed from the financial market?

7.0 REFERENCES/FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley & Sons Inc.

Ross, S.A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw –Hill Inc.

MODULE 2 UNDERSTANDING FINANCIAL STATEMENTS

UNIT 1 PRINCIPAL FINANCIAL STATEMENTS

CONTENTS

1.0 INTRODUCTION

The information that is used in valuation and corporate finance comes from financial statements. An understanding of the basic financial statements is very important and a necessary first step to take. The three basic financial statements are the income statement, the balance sheet and the statement of cash flows.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- discuss how the financial statements – income statement, balance sheet, and statement of cash flows are constructed
- enumerate the general accounting principles
- explain how the accounting principles influence the preparation of financial statement.

3.0 MAIN CONTENT

3.1 Income Statement

An income statement provides information about a firm's operating activities over a specific period of time. It measures the revenues and expenses of the firm i.e. net income of a company equals its revenues minus expenses. Revenues arise from selling goods and services, and expenses measure the costs associated with generating these revenues.
An example of an income statement format

XYZ PLC

INCOME STATEMENT FOR THE PERIOD ENDED xxx----------

Revenues (Turnover)		xx
-	Cost of Goods sold	(xx)
-	Gross Profit	xxx
-	Depreciation	xx
-	Selling Expenses	xx
-	Administrative Expenses	xx
-	Earning before Interest and Taxes (EBII)	xx
-	Interest Expenses	xx
-	Taxes	xxxx
=	Net Income before Extraordinary Items	xxx
+	Gains (Losses) from Discontinued Operations	xx
+	Extraordinary Gains (Losses)	xx
=	Net Income after Extraordinary Items	xxx
-	Preferred Dividends	xx
=	Profit to Ordinary Shareholders	xxx

Generally Accepted Accounting Principles are Principles that govern the construction of financial statement and help determine accounting rules. Income can be generated from a number of different sources; generally accepted accounting principles require that income statement be classified into four sections:

- income from continuing operations
- income from discontinued operations
- extraordinary gains or losses
- adjustments for changes in accounting principle.

A typical income statement starts with revenues and adjustments for the cost of the goods sold, depreciation of assets used to produce revenues, and any selling or administrative expenses to arrive at an operating profit. The operating profit, when reduced by interest expenses, yields the taxable income, which when reduced by taxes yields net income.

Accrual versus Cash–Based Income Statement

Firms most times expend resources to acquire materials or manufacture goods in one period but do not sell the goods until the following period. Alternatively, they often provide services in one period but do not get paid for these services until the following period.

In accrual–based accounting, the revenue from selling a good or service is recognised in the period in which the good is sold or the service is performed. A corresponding effort is made on the expense side to match expenses to revenues.

Under cash–based system of accounting, revenues are recognised when payment is received while expenses are recorded when paid. As there is no matching of revenues and expenses, GAAP requires that firms use accrual–based accounting system in income statement.

3.2 Balance Sheet

Unlike the income statement which measures flows over a period of time, the balance sheet provides a summary of what the firm owns in terms of assets and what it owes to both its lenders and its equity investors. The balance sheet is built around equality.

Assets = Liabilities + Shareholders' Equity. Assets and Liabilities are broken down into current and non-current portions.

Assets	**Liabilities**
Current Assets:	Current Liabilities:
Cash and Marketable Securities	Accounts Payable (Creditors)
Accounts Receivable (Debtors)	Short Term Borrowing
Stocks	Other Current Liabilities
Other Current Assets	Long-Term Debt
Investments	Other non-Current Liabilities
Property Plant and Equipment (Fixed Assets)	Shareholders' Equity:
Intangible Assets	Preference Shares
	Ordinary Shares
	Retained Earning
	Treasury Stock

From the above, you can see that the balance sheet is a snap shot of the firm. It is a better way of organising and summarising what a firm owns (its assets), what a firm owes (its liabilities, and the difference between the two the firm's equity) at a given point in time.

Assets: The Left–Hand Side

Assets are classified as either current or fixed. A fixed asset is one that has a relatively long life. Fixed assets can be either tangible (such as truck, machines, building, land) or intangible (such as trade mark, good will, copy right). A current asset will convert to cash within 12 months. For example stock would normally be purchased and sold within a year and is thus classified as current asset. Also cash itself is a current asset. Debtors (money owed to the firm by its customers) are also current assets.

Liabilities and Owners' Equity: The firms' liabilities are the first thing listed on the right hand side of the balance sheet. These are also classified as either current or long-term liabilities. Current liabilities, like current assets have a life of less than one year (meaning they must be paid or settled within one year) and they are listed before long-term liabilities. Creditors (money the firm owes to its suppliers) are one example of a current liability.

A debt that is not due within one year is classified as a long–term liability. A loan that the firm will pay off in five years is referred to as long–term debt. Firms borrow in the long term from a variety of sources. Lastly, by definition, the difference between the total value of the assets (current and fixed) and the total shareholders' equity, also called ordinary shares is the total value of liabilities. As shown below, if the firm were to sell all of its assets and use the money to pay off its debts, then whatever residual value remained would belong to shareholders.

Total Value of Assets Total Value of Liabilities and Shareholders' Equity

Current Assets	Current Liabilities
1. Cash, 2. Stock	1. Creditors
3. Debtors	2. Overdraft

Fixed Assets	Long – Term Debt
1. Tangible Fixed Assets	
2. Intangible Fixed Assets	Shareholder's Equity

Generally accepted accounting principles in almost all countries require the valuation of fixed assets at historical costs, adjusted for any

depreciation changes on these assets. Because of this fact, fixed asset is strongly influenced by both its depreciable life and the depreciation method used. For stock, GAAP allows for three basic approaches to be used in valuation of stock first–in first–out (FIFO), last–in first–out (LIFO), and weighted average.

For an obligation to be recognised as a liability it must meet three requirements – it must be expected to lead to a future cash outflow or the loss of a future cash inflow at a specified date.

3.3 Concept of Cash Flows

The statement of cash flows is based on a reformulation of the basic equation relating assets to liabilities.

Assets = Liabilities + Shareholders' Equity
By cash flow, we simply mean the difference between the number of naira that came in and the number that went out. For example, if you are the owner of a business, you may be very interested in how much cash you actually took out of your business in a given year.

How this is determined is one of the things to discuss next. We will discuss how to calculate cash flow from Nigerian corporation and point out how the result differs from standard financial statement called the statement of cash flows. The statement of cash flow is a different issue and should not be confused with what is discussed in this unit.

The accounting statement of cash flow will be discussed in Unit 5 of this same module.

From the balance sheet equation stated above, it is apt to say that cash flow from the firm's asset must equal the sum of the cash flow to creditors and the cash flow to shareholders (owners).

Cash flow from assets = cash flow to creditors + cash flow to shareholders

3.3.1 Cash Flow from Assets

Cash flow from assets involves three components: Operating cash flow, capital spending, and change in net working capital.

3.3.1.1 Operating Cash Flow

This refers to the cash flow from the firm's day to day activities of producing and selling. Expenses associated with firm financing of its assets are not included because they are not operating expenses.
To calculate operating cash flow (OCF), it is revenues minus costs, but we don't want to include depreciation because it's not a cash outflow, not also included is interest because it is a financing expenses but we do want to include taxes, because taxes are paid in cash. The result is calculated thus:

Table 2.1: ABC Nig.

2005 Operating Cash Flow	(000)
Earnings before interest and taxes	694
Add Depreciation	65
Less Operating Cash Flow	212
Grand Total:	**547**

The importance of operating cash flow is that it tells us on a very basic level whether or not a firm's cash inflows from its business operations are sufficient to cover its everyday cash outflows.

3.3.1.2 Capital Spending

Net capital spending is just money spent on fixed assets less money received from sale of fixed assets. At the end of 2004, net fixed assets of ABC Nig were N1,644.000 during the year, ABC wrote off depreciation N65,000 worth of fixed assets on the income statement so, if the firm didn't purchase any new fixed assets, net fixed assets would have been N1,644,000- N65,000 =N1,579,000. The 2005 balance sheet shows N1, 709,000 in net fixed assets. Therefore the net capital spending could be calculated thus:

Table 2.2: ABC Nig.

2005 Capital Spending	'000
Ending net fixed assets	N1, 709
- Beginning net fixed assets	N1, 644
+ Depreciation	N65
Net Capital Spending	N130

3.3.1.3 Change in Net Working Capital

In addition to firm investing in fixed assets, a firm will also invest in current assets. For example, ABC Nig incurred N1, 403,000 in 2005 as spending on current assets. At the end of 2004, current assets were N1,

112,000, so during the year, ABC Nig invested N1, 403, 00-1,112,000 =N291,000 in current assets. As the firm changes its investment in current assets, its current liabilities will usually change as well. To determine the change in net working capital, the easiest approach is just to take the difference between the beginning and ending net working capital figures. Net working capital at the end of 2005 was N1, 403,000 -389,000 (current liabilities) =N1, 014,000 similarly at the end of 2004, net working capital was N1, 112,000 –N428, 000 (current liabilities) = N584, 000. So, given these figures, we have.

Table 2.3: ABC Nig

Change in Net Working Capital

	'000
Ending NWC	N1, 014
-Beginning NWC	N684
Change in NWC	N330

Note: NWC = Net Working Capital

Given the figures we have come up with, we can then calculate the cash flow from assets. The total cash flow from assets it given by operating cash flow less the amount invested in fixed assets and net working capital. So, for ABC Nig, we have:

Table 2:4 ABC Nig.

2005 Cash Flow from Assets

	'000
Operating cash flow	N547
-Net Capital Spending	N130
-Change in Net Working Capital	N330
Cash Flow from Assets	N87

Remember, from the equation given earlier, cash flow from assets equals the sum of cash flow to creditors and cash flow to shareholders. We will consider that next.

3.2.2 Cash Flow to Creditors and Shareholders

The cash flow to creditors and shareholders' represent the net payment to creditors and owners during the year. Their calculation is similar to that of cash flow from asset. Cash flow to creditors is interest paid less net new borrowing; cash flow to shareholders is dividend paid less net new equity raised.

3.3.2.1 Cash Flow to Creditors

Suppose ABC Nig. paid N70, 000 interest to creditors. Long-term debts rose by N454, 000 –N408, 000 =N46, 000. So, ABC Nig. paid Out N70,

000 in interest, but it borrowed an additional N46, 000. Net Cash Flow to creditors is thus:

Table 2.5: ABC Nig.

2005 Cash Flow to Creditors	
Interest paid	N70, 000
-Net new borrowing	N46, 000
	N24, 000

3.3.2.2 Cash Flow to Shareholders

Supposing that dividends paid to shareholders amounted to N103, 000, to get new equity raised, we need to look at the ordinary share and paid –in surplus account. This account tells us how much stock the company has sold. During the year, this account rose by N40, 000, so N40, 000 is net new equity raised. Given this, we have:

Table 2.6: ABC Nig.

2005 Cash Flow to Shareholders	
	'000
Dividend Paid	N103
-Net new equity raised	N40
Cash flow to stockholders	N63

The last thing we need to do is to verify that the cash flow identify holds, to be sure that we did not make any mistakes. From the previous section, we know that cash flow from asset is N87, 000. Cash flow to creditors and shareholders is N24, 000 + N63, 000 =N87, 000.

SELF-ASSESSMENT EXERCISE

i. List the three major financial statements.
ii. Which financial statement provides a summary of what the firm owns in terms of assets and what it owes to both its lenders and equity holders?
iii. Assets and liabilities are broken down into what and what.
iv. Payment to owners of business at the end of the business operation where a gain is made is known as what?
v. What principle governs the construction of financial statements?

4.0 CONCLUSION

This unit has introduced you to some of the basics of financial statements; income statement, balance sheet and cash flow. In it we saw that the book values on an accounting balance sheet can be very

different from market values. The aim of financial management is to maximise the market value of the stock not its book value.

5.0 SUMMARY

Financial statements remain the primary source of information for most investors and analyst. This unit attempts to explain the basis of financial statement and the generally accepted accounting principles that underlie their construction. As long as there is recognition that financial statements are means to an end- which is the understanding and valuing the firm – it is useful.

6.0 TUTOR-MARKED ASSIGNMENT

1. Under what conditions will switching from cash-based to an accrual–based accounting statements increase or decrease income? State the reason(s).
2. In company accounting net income and operating cash flow, name two items you typically find in net incomes that are not in operating cash flow.
3. Suppose a company's cash flow from asset was negative for a particular period. Is this necessarily a good sign or a bad sign?

7.0 REFERENCES /FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley & Sons Inc.

Ross, S. A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

UNIT 2 FINANCIAL RATIOS

CONTENTS

1.0 INTRODUCTION

Financial ratios are powerful tools of financial analysis. We shall, in this unit, examine ratio analysis in detail and apply it in the analysis of the income statement and balance sheets, the fundamental financial statements. We shall at the end bring out possible problems/limitations in the use of financial ratios for financial analysis.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain the nature and classification of financial ratios used in financial statement analysis
- compute ratios from financial statements – the income statement and balance sheet
- state relationship between the computed ratios and its influence on decision making.

3.0 MAIN CONTENT

3.1 Nature of Financial Ratios

In Unit 1, we defined financial ratio as an index that relates two accounting numbers which is obtained by dividing one number by the other. It is a relationship between two accounting figures expressed mathematically. In finance, ratios are used to point out relationships that are not obvious from the raw accounting data. When ratios are

calculated, we can get comparison that may prove more useful than the raw numbers by themselves.

3.2 Standards of Financial Ratios Comparison

When we compute ratio from financial statements, we have to compare them using certain criteria to achieve useful interpretation. A single ratio in itself does not indicate favourable or unfavourable condition. It has to be compared with some standards before comments can be made.

The standards of comparison as suggested by Panday, (1998) and many other experts in finance are:

- Past Ratios: Past ratios are ratios calculated from the past financial statements of the same firm.
- Projected Ratios: These are ratios computed using projected or pro forma, financial statement of the same firm.
- Competitors Ratios: These are ratios of some selected firms, especially the most progressive and successful competitors of similar level of operations at the same point in time.
- Industry Ratios: These are ratios of the industry to which the firm belongs.

3.3 Classification of Ratios

Financial ratios have been classified in variety of ways. Many find the following broad bases of many classifications employed in current literature.

a. Primary Criterion

This mode of classification suggest two types

i. Primary ratios, which are mainly the ratios on investments and
ii. Secondary ratios, which are all other ratios that may be computed for the purpose of analysis.

This approach to classification will essentially vary among firms, and they will select only such that are relevant to their needs.

b. Ratios Tagged to Needs of Interest Groups

Under this approach, ratios are classified based on the needs of the interest groups. The major interest groups identified for this purpose are: management, owners, and lenders.

i. Management View Point: Management will be interested in the ratios that will enhance management and operational control. These ratios are cost of goods sold and gross margin ratios, profit

ratios, operating expenses ratios, contribution ratios and working capital ratios.

ii. Owners View Point: The ratios owners are interested in include; net profit to equity share capital ratios, earnings per share, etc.

iii. Lenders' Evaluation**:** Lenders are mostly interest in the liquidity position and going concern of the firms. The ratios include: Current ratio, quick ratio, solvency ratios, profitability ratio etc.

(c) Fundamental Classification Basis

Ratios under this classification are grouped according to a basic function relevant to financial analysis. Five of such groups have been generally recognised, they are:

i. Liquidity Ratios: These are ratios that measures firm's ability to meet its maturing short term obligations. Examples include the current ratio and quick ratio.

ii. Leverage Ratios**:** These are ratio that measures the extent to which a firm has been financed by debt and its ability to meet interest and other fixed charges obligations. Examples include debt to total asset; times interest earned, and fixed charges coverage ratios.

iii. Activity Ratios**:** These are ratios that measure the effectiveness with which a firm is using its resources: Examples include, inventory turnover, average collection period, fixed asset turnover and total asset turnover.

iv. Profitability Ratios: These ratios measure the efficiency of the activities of a firm and its ability to generate profit. Examples includes, profit (net or gross) margin, return on investment, net profit to network, etc.

v. Investment Ratios: These ratios measured the ability of a firm to create market values in excess of investment costs. Examples are price earnings ratios, and market /book value ratios.

The fundamental classification is the most extensively used mode of presenting financial statement analysis. We shall adopt fundamental classification in our subsequent discussions of financial analysis.

3.4 The Norms for Evaluation of Financial Ratios

You may be wondering how to control activities through ratios. The answer is not difficult to seek. Ratios that have been identified for control of activities measure relationships between key elements at any point in time. Such a measure is then compared with some ‘‘norm’’ and the cause for deviations investigated. An action plan is then prepared and implemented to remove the caused. The following appears to be the ways for evaluating the figures:

i. **Time Series Analysis:** The easiest way to evaluate the performance of a firm is to compare its current period ratio with the past ratio. When financial ratios of a firm over a period of time are compared it is known as time series (or trend) analysis. This comparison gives an indication of the direction of change and reflects whether the financial performance has improved, degenerated or remained constant overtime. The analyst should not simply determine the change, but more importantly, he should understand why ratios have changed.

ii. **Pro Forma Analysis:** This is the use of future ratios as standard of comparison. Future ratio can be developed from the projected or pro forma, financial statements. The comparison of current or past ratios with the future ratios would reveal the firm's relative strengths and weaknesses in the past and the future. If the future ratios indicate weak financial positions, correction should be initiated.

iii. **Cross–Sectional Analysis:** Another way of comparison is to compare ratios of one firm with some selected firms in the same industry at the same point in time. This kind of comparison is called cross –sectional analysis. In most cases, it is more useful to compare the firm's ratio with those of a few carefully selected competitors who have similar operations. This could indicate the relative financial position and performance of the firm.

iv. **Industry Analysis:** Computed ratio of a firm can be compared with average ratios of the industry of which the firm is a member to determine its financial condition and performance. This kind of analysis is called industry analysis. This types of analysis help us to ascertain the financial standing and capability of the firm vis–a–vis other firms in the industry. Industry ratios are important standards in view of the fact that each industry has its characteristics which influence the financial and operational relationships.

3.5 Computation of Financial Ratios and Purpose

We shall under this part, undertake the computation of ratios describe under fundamental clarification in 3.1(c). We shall state the formulae for computation and their main purposes.

3.5.1 Liquidity Ratios

Liquidity is the term used to describe the extent to which a business can meet its short – term obligations as and when due. Insolvency is a state of being unable to pay debt as they fall due. This situation could lead to bankruptcy and collapse of a firm. Investors are unwilling to put their monies into, or lend money to firms that are insolvent; traders are

unwilling to sell goods on credit to firms that are always having liquidity problems.

Assessment of a firm's liquidity position is done using the following ratios:

i. **Current Ratio:** This ratio compares all current assets with current liabilities and indicates a firm's ability to meet its short term obligation with it current assets.

$$\frac{\text{Current Assets}}{\text{Current Liabilities}}$$

As a convention, a current ratio of 2:1 is considered satisfactory. Too high a ratio will suggest too much fund tied up a current asset, and low a ratio could be an indication of danger of not being able to pay creditor when they come to ask for quick payment.

ii. **Quick or Acid Test Ratio:** This ratio is a more conservative measure of liquidity. It excludes inventory (stocks) from the current assets in the determination of liquidity. The ratio emphases more on assets that can easily be converted into cash at a reasonable time without lost of value. Quick ratio is given by:

$$\frac{\text{Current Assets – Inventory (Stocks)}}{\text{Current liabilities}}$$

Generally, a quick ratio of 1:1 is considered to represent a satisfactory current financial condition of a firm.

iii. **Cash Ratio:** This ratio takes more stringent view on liquidity. It examines only cash and its equivalent (i.e. marketable security) in relation to current liabilities. It is a measure of most liquid asset of a firm as it considers only cash and marketable securities in the current assets as the numerators. Cash ratio is given by.

$$\frac{\text{Cash + Marketable securities}}{\text{Current liabilities}}$$

3.5.2 Profitability Ratios

Profit is the difference between revenues and expenses over a period of time (usually one year). Profitability ratios are used to measure the operating efficiency of a firm. All stakeholders of a firm are interested in the profitability of the enterprises. Profitability is measured by the following ratios:

i. **Gross Profit Margin:** This ratio shows the profits relative to sales after the direct production costs are deducted. It can be used as an indicator of the efficiency of the production operation and the relationship between selling price and production costs.

Gross Profit Margin (GPM) is given by:

$$\frac{\text{Sales – Cost of Goods Sold}}{\text{Sales}} \times 100$$

Or $\frac{\text{Gross Profit}}{\text{Sales}} \times 100$

Generally, the higher the ratio the more the efficiency of a firms' operation could be.

ii. Mark Ups on Cost: This is another ratio used to analyse the trading profitability of a firm. It shows the profits relative to direct costs of production.

Mark –ups on cost is given by

$$\frac{\text{Gross Profit}}{\text{Cost of Goods Sold}} \times 100$$

This ratio expresses gross profit in different ways. A fall of the two ratios (i.e. gross profit and mark ups on cost) below expectation may be due to some of the following: reduction in selling, poor buying, and poor stock control.

iii. Profit Margin: This ratio helps in measuring the relationship between sales and operating profits. It measures the profit made on sales after all the running expenses have been deducted from the gross profit. If the percentage of this ratio has fallen, while gross profit margin remained constant, then sales have fallen. Profit margin is given by:

$$\frac{\text{Operating Income}}{\text{Sales}} \times 100$$

If the profit margin is inadequate, a firm cannot achieve satisfactory returns to its investors, because it is an indicator of the ability of a firm to withstand adverse conditions such as fall in prices, rise in costs and declines in sales.

iv. Net Profit Margin: This ratio is obtained when operating expenses interest and taxes are subtracted from the gross profit.

Net profit Margin is given by

$$\frac{\text{Profit after Tax}}{\text{Sales}} \times 100$$

Net profits Margin establishes a relationship between net profit and sales, and indicates management's efficiency in manufacturing, administering and selling the products. It is a measure of a firm's ability to turn each Naira sales into net profit.

v. Basic Earnings Power: This ratio measures the returns achieved by a firm in relation to its assets. Basic Earning Power is given by:

$$\frac{\text{Earnings before Interest and tax}}{\text{Total Assets}} \times 100$$

This ratio links the profits generated to the book value of the assets. If a firm is using its assets efficiently, this ratio will be high.

vi. Return on Investment: This ratio measures the overall effectiveness of a firm in generating profits with available assets. Return on Investment (ROI) is given by:

$$\frac{\text{Net Profit after Taxes}}{\text{Total Assets}} \times 100$$

As this ratio measures the earning power of the invested capital, the higher the ratio the better for the firm.

3.5.3 Leverage Ratios

Leverage ratios measure the relationship between the funds provided by the owners (shareholders) of a firm and funds provided by the creditors of the firm. They also measure the ability of the firm to service the charges accruing from the use of outsiders' funds (creditors). Leverage is measured through the following ratios:

i. Debt-to–Equity: This ratio assesses the extent to which firm is using borrowed funds, it is computed by dividing the total debt of a firm (including current liabilities) in the event of shrinking asset values or outright losses. Preference stocks are sometimes included as debt rather than equity when leverage ratios are calculated.

$$\frac{\text{Total Debt}}{\text{Shareholders' equity}} \times 100$$

Generally, creditors would like this ratio to be low, because the lower the ratio, the higher the level of the firm's financing that is being provided by shareholders, and the larger cushion (margin of protection) in the event of shrinking asset values or outright losses.

ii. Debt – to- Total Assets: This ratio measures the amount of the total funds provided by creditors in relation to the total assets of the firm. Debt – to- total asset is given by

$$\frac{\text{Total Debt}}{\text{Total Assets}} \times 100$$

Generally, creditors would also prefer low ratio for all debt's ratios, because the lower the ratio, the greater the cushion against the creditor's losses in the event of liquidation.

iii. **Long Term Debt – to Total Capitalisation:** This ratio measures the relative weight of long–term capital to the capital structure (long–term financing) of the firm. Long–term debt–to-total capitalisation is given by:

$$\frac{\text{Long–term debt}}{\text{Total capitalisation}} \times 100$$

Total capitalisation means capital employed (long-term debt + equity). This ratio measures the extent to which a firm is financed by long–term loans, the lower the ratio the lower the financial risk of the firm. This ratio is also called gearing ratio.

iv. **Times Interest Earned:** This ratio measures how satisfactorily a firm will meet its interest payment. Times interest earned is given by.

$$\frac{\text{Earnings before Interest and Tax}}{\text{Interest Charges}}$$

As this ratio serves as one measure of firm's ability to meet its interest payments and thus avoid bankruptcy, the higher the ratio the greater the likelihood that the firm could cover (i.e. settle) its interest payments without difficulty. It also sheds some light on the firm's capacity to take on new debt.

v. Fixed charge coverage: This ratio is similar to interest earned ratio but it is more inclusive in that it recognises that many firms lease assets and incur long–term obligations under lease contracts for the payment of lease premium. This ratio is given by.

$$\frac{\text{Earnings before interest and tax + lease obligation}}{\text{Interest charge + Lease obligation}}$$

Nowadays, leasing is becoming widespread in financing businesses; this ratio is preferable to the time interest earned ratio for making financial analyses.

vi. **Return on Investment:** This ratio measures the overall effectiveness of a firm in generating profits with available assets. Return on Investment (ROI) is given by:

$$\frac{\text{Net Profit after Taxes}}{\text{Total Assets}} \times 100$$

As this ratio measures the earning power of the invested capital, the higher the ratio the better for the firm.

3. Leverage Ratios

Leverage ratios measure the relationship between the funds provided by the owners (shareholders) of a firm and funds provided by the creditors of the firm. They also measure the ability of the firm to service the

charges accruing from the use of outsiders' funds (creditors) by its shareholders equity.

i. **Debt-to-Equity:** This ratio measures the amount of the total funds provided by creditors in relation to the firm's financing provided by the shareholders.

Debt to equity is given by

$$\frac{\text{Total Debt}}{\text{Shareholders' equity}} \times 100$$

Generally, creditors would like this ratio to be low, because the lower the ratio, the higher the level of the firm's financing that is being provided by shareholders, and the larger cushion (margin of protection) in the event of shrinking asset values or outright losses. Preference stocks are sometimes included as debt rather than equity when leverage ratios are calculated.

ii. **Debt – to-Total Assets:** This ratio measures the amount of the total funds provided by creditors in relation to the total assets of the firm. Debt–to–total asset is given by

$$\frac{\text{Total Debt}}{\text{Total Assets}} \times 100$$

Generally creditors would also prefer low ratio for all debt's ratios, because the lower the ratio, the greater the cushion against the creditors' losses in the event of liquidation.

2.5.4 Investment Ratios

The financial statements of public liabilities companies are used by investors and their advisers to make analysis for investment decision like buying more shares or holding on or selling out. Calculating ratio assists shareholders when analysing a potential investment in the stock of an enterprise. The following are investment ratios:

i. **Earnings per Share:** This is the ratio that is used to determine the return accruing to each share. It is calculated by dividing the profit after taxes by the total number of common stocks outstanding. Earnings per share (EPS) ratio is given by:

$$\text{EPS} = \frac{\text{Profit after taxes}}{\text{Number of common stocks outstanding}}$$

This ratio simply reveals the profitability of a firm on per share basis, it does not reflect how much is paid as dividend and how much is retained in the business. But as a profitability index, it is a valuable and widely used ratio.

ii. Price – Earnings Ratio: This is a measure of confidence a shareholder can place in the profit growth of a firm. A high price-earnings ratio indicates strong shareholders' confidence in the firm and its future, and a lower ratio indicates lower confidence. Price –Earnings (PE) ratio is given by:

$$\text{PE ratio} = \frac{\text{Market Price per Share}}{\text{Earnings per Share}}$$

Price earnings ratio is widely used by security analysts to value the firm's performance as expected by investors. It indicates investors' expectations about the firm's performance. Management is also interested in this market appraisal of the firms' performance and will like to find the cause of P/E ratio declines.

iii. Earning Yield: This ratio is the reciprocal of P/E ratio: Therefore, all the analysis made under P/E ratio could be applied in earning yield. The ratio seeks to find the percentage of EPS in relation to market price per share. Earnings yield is given by:

$$\frac{\text{Earnings per share}}{\text{Market price per share}} \times 100$$

iv. Dividends per Share: This ratio indicates earnings given to shareholders per each share as dividend. Although all net profits belong to the shareholders, not all will be distributed to them as cash dividend. Dividends per share (DPS) are given by:

$$\text{DPS} = \frac{\text{Earning paid to shareholders (dividends)}}{\text{Number of ordinary shares outstanding}}$$

A large number of present and potential investor may be more interested in DPS, rather than EPS, because DPS is what actually accrue to them as cash returns for their investment.

v. Dividend–Payout Ratio: This ratio reveals the percentage of the dividend in relation to the percentage retained to expand the growth of the firm. Dividend payout ratio (or simply payout ratio) is DPS (or total dividends) divided by the EPS (or profit after tax). Dividend payout ratio is given by:

$$\frac{\text{Dividend per share}}{\text{Earnings per share}} \times 100$$

This ratio has strong bearing on what accrues to the shareholders as cash dividend since it contains some information for potential investors.

vi. Dividend Yield: This ratio shows the percentage of income from shares (dividends) in relation to the market value of the share. Dividend yield is given by:

Dividend per share x 100
Market price per share

Since dividend yield is used to evaluate the shareholders' return in relation to the market value of the investment (share), the result should be compared with returns from other types of investment for taking the right decision.

vii. Markets Value – to – Book: Value (MV/BV) Ratio: This is measure of the ratio of market value of the share to the book value of the share. Market value –to- Book value (MV/BV) ratio is given by:

Market price per share
Book value per share

Note that book value per share is equity divided by the number of shares outstanding. The higher this ratio, the healthier is the performance of the share in the market place.

viii. Tobin's q: This is a measure of the impacts of inflation to replacement costs of the assets of a firm. With rising price (i.e. inflation) book values understates replacement cost. One may want to consider the ratio of the market value of a firm's equity and debt to the current replacement cost of its assets. This ratio is popularly known as Tobin's q and is given by:

$$q = \frac{\text{Market value of assets (debt + equity)}}{\text{Estimated replacement cost of assets}}$$

Tobin argues that firms have an incentive to invest when q is greater than 1 (i.e., when capital equipment is worth more than its replacement costs), and that they will stop investing only, when q is less than 1 (i.e., when equipment is worth less than its replacement cost). When q is less than 1 it may be cheaper to acquire assets through merger rather than buying new assets.

2.5.5 Activity Ratios

Activity ratios are overall performance ratios that are employed to evaluated effectiveness of the firm's use of its resources. Overall performance is measured by the following ratios:

i. **Return on Capital Employed (ROCE):** This ratio relates the profit earned to the amount of long term capital invested in the business and measures the efficiency of management in the use of the firm's resources. Capital employed is total assets less current liabilities or equity plus long term liabilities. Return on Capital Employed (ROCE) ratio is given by

Earnings before Interests and Tax x 100
Capital Employed

ii. **Receivables Turnover Ratio (in number of times):** This ratio measures the quality of the receivables of the firm and the efficiency in its collection. It is usually expressed in number of times and given by

Annual net credit sales
Receivables

iii. **Average Collection Period / Debtors Collection Period**. This ratio assesses the speed with which a firm collects amount owing from customers. It is the ratio used to determine average period receivables are collected after sales. The ratio is given by:

Receivables x 360
Net sales

The lower the collection period the more effective is the control of credit. Very high collection period is an indication of bad credit control system that needs to be corrected and improved. This could be either through incentive for prompt payments or effective sanctions for slow payers.

iv. **Average Payable Period / Creditors Payment Period:** This ratio assesses the level of insolvency of a firm. It indicates the average number of days taken by a firm in payment of its credits. The ratio is given by:

Account Payable x 360
Annual credit sale

Low credit payment period ratio is an indication that the firm makes credit payments promptly and that the credit system is efficient. High ratios indicate the opposite.

v. **Inventory (for stock) Turnover ratio:** This ratio indicates the level of efficiency and effectiveness in the management of firm's inventory and its liquidity. It is usually expressed in number of times. The ratio is given by:

Cost of sales
Average inventory

Average inventory is computed by dividing by two (2) the sum of opening and closing inventories.

Generally, a high inventory turnover means an efficient management of the firm's inventory and liquidity. However, high turnover might sometimes be an indication of maintenance of too low a level of

inventory and occurrence of frequent stock out. Low inventory turnover is often a sign of excessive, slow moving or obsolete items in inventory.

vi. **Current Asset Turnover:** This ratio measures the number of times current assets has been converted into sales. It is given by:

$$\frac{\text{Sales}}{\text{Total current assets}}$$

A high the ratio means an effective revenue generation by a firm.

vii. **Fixed Asset Turnover:** This ratio reveals the efficiency in the employment of fixed assets in the generation of revenue. A high ratio is good for the firm. It is given as:

$$\frac{\text{Sales}}{\text{Net Fixed assets}}$$

Other variations of activity ratios abound which could extend to ratios as: sales per employee, total asset turn over etc.

3.6 Limitations of Financial Ratios

The followings are some of the limitations of financial ratios.

i. Comparison of ratios among firms may be misleading as different firms operate under different social and economic conditions. Firms differ in their sizes or the nature of the business carried on and in their accounting methods.
ii. Inflation has a significant effect on the validity of this historical cost account and tends to render ratio analysis useless unless provision is made for adjustment for inflation especially in trend analysis.
iii. Ratios are not a standard formula for judging the performance of a business. Many ratios are in common use and express standard relationships but are only a guide since management cannot be reduced to formula.
iv. Ratios are not a substitute for judgment. Management is produced with answers to its problems by ratios. In this connection a meaningful figure for comparison may be crucial. Unfortunately in some areas absolute standards have been adopted.
v. Difficulties in selection of profit figures, different bases of stock valuation, depreciation charges and in valuating fixed assets, provide a serious threat to the usefulness of ratio.
vi. External analysis of profit figures, different balance sheet can be misleading because the picture at that particular time may not be representative of the year as a whole.

SELF-ASSESSMENT EXERCISE

i. The ratios measuring management's overall effectiveness as shown by the returns generated on sales and investment are:
   a. Leverage ratios
   b. Profitability ratios
   c. Activity ratio
   d. Liquidity ratio

ii. Inventory turnover is defined as ……divided by average inventory.
   a. Cost of goods sold
   b. Accounts receivable
   c. Gross profit
   d. Net operating income

iii. The primary purpose of the current ratios is to measure a firm's
   a. Use of debt
   b. Profitability
   c. Effectiveness
   d. Liquidity
   e. None of these

iv. Because inventories are less liquid than other current assets, the quick ratio is regarded as being a more stringent test of liquidity than the current ratio. True /false.

v. Other things being constant, (assuming an initial current ratio greater than 1.00) which of the following will not affect the current ratio?
   a. Fixed assets are sold for cash
   b. Long –term debt is issued to pay off current indebtedness
   c. Accounts receivables are collected
   d. Cash is used to pay off accounts payable
   e. A bank loan is obtained

vi. The averages collection period is found by dividing……..with …….and then dividing average sales per day into accounts ……..The average collection period is the length of time that a firm must wait after making a sale before it receives……

4.0 CONCLUSION

In this unit, you have learnt, in detail, nature of financial ratios, its classifications and ways they should be computed. Criteria for financial

ratio assessment ware also discussed. We have tried to explain that financial ratios are used to assess the performance through computation of specific ratios from balance sheet and income statement of a firm and comparing them with standards to provide further information regarding specific aspect of the firm's operation. We also state that financial ratios should be used with care because of some inherent limitations.

5.0 SUMMARY

In this unit we treated financial ratios. We treated in detail classification of ratios; norms for evaluation of computed ratios and illustrative example were given and discussed. This unit provides adequate background on the use of financial ratios, when used within its limitations, in the evaluation and prediction of the performance of an enterprise.

6.0 TUTOR –MARKED ASSIGNMENT

1. Explain three major classifications of ratios and the significance of each to financial analysis.
2. What are the major limitations of ratio analysis?

7.0 REFERENCES /FURTHER READING

Kurfi, A. K. (2003). *Principles of Financial Management*. Kano: Benchmark Publishers Limited.

Okwuosa, I. (2005). *Advanced Financial Accounting Manual*. Lagos: Arnold Consulting Ltd.

Olowe, R. A. (1997). *Financial Management: Concepts, Analysis and Capital Investments*. Lagos: Briefly Jones Nig Limited.

UNIT 3 ANALYSIS OF FINANCIAL RATIOS

CONTENTS

1.0 INTRODUCTION

In Unit 2, we discussed in details the models (formulas) for the computation of ratios for financial analysis. We shall now attempt to compute these ratios using examples of financial statement. The computed ratios will, therefore be analysed and the relationship explained.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- compute financial ratios from financial statements
- explain and establish relationship between the computed ratios
- state the importance of ratio in decision making.

3.0 MAIN CONTENT

3.1 Computations of Financial Ratios

To achieve our aim at this point, we shall use the example below to compute identified ratios in Unit 2.

SELF-ASSESSMENT EXERCISE

The Balance sheet, trading /profit and loss account of Nauzo Business Company Ltd as a 31st December 2008 is as follow:

QUICK BUSINESS COMPANY LTD
BALANCE SHEET AS AT 31st DECEMBER 2008

	2008		**2007**	
	N'000	**N'000**	**N'000**	**N'000**
Fixed Assets (less Depreciation):				
Land and Building		166		120
Motor vehicles		80		80
Plant and machinery		480		320
		726		520
Current assets:				
Stock	180		140	
Work in Progress	134		92	
Debtors (less doubtful debts)	220		160	
Bank	40		60	
	574		452	
Less: Current Liabilities:				
Creditors	90		120	
Dividends payable	60		40	
Taxation	36		24	
Bank overdraft	104		52	
	290		236	
Networking capital		284		216
Net asset		1,010		736
Financed by:				
Issued/paid capital	600		400	
Reserves	166		100	
Profit and loss	84		36	
		850		536
10% Debenture		160		200
		1,010		736

QUICK BUSINESS COMPANY LTD
TRADING AND PROFIT ACCOUNT FOR THE YEAR ENDED 31st DECEMBER, 2008

	2008		**2007**	
	N'000	**N'000**	**N'000**	**N'000**
Sales		3680		2888
Land cost of sales:				
Opening stock	232		180	
Purchases	2904		2218	
	3136		2398	
Closing stock	314	2822	232	2166
Gross profit		858		722
Less expenses		694		606
Net profit		164		116
Provision for tax	36		24	
Transfer to reserves	20		16	
Proposed dividend	60	116	40	80
		48		36

Additional Information:

1. The market price per share is as follows 2008 #1.50; 2007#1.45
2. Expenses include debenture interest as follows:
   2008 N16, 000
   2007 N20, 000

Required:

Define the following accounting ratio, compute and comment on the ratios of quick business company limited.

i. Gross profit and net profit margin
ii. Return on capital employed (ROCE)
iii. Return on Equity (ROE)
iv. Quick Assets ratio (Acid Test)
v. Capital Gearing
vi. Sales to debtors
vii. Debt ratio
viii. Total assets turnover
ix. Earning yield
x. Stock turnover.

Solution

Gross Profit Margin

2008 = 858000 (3,680- 2,822) = 23.3%
3680000

2007 = 722000 (2,888-2166) =25%
2888000

Net Profit Margin

2008 = 164000 =4.5%
3680000

2007 = 116000 =4.0%
2888000

ii. Return on Capital Employed (ROCE)

This ratio relates profit only to long term funds made up of equity shares capital, reserves and profits) preferences capital and debenture or loan stock.

ROCE = Net profit before interest on long term loan
Total long term funds

2008 = 164000+16000 =180000 =17.8%
1010000 1010,000

2007 = 116000+20000 =180000 =18.5%
736000 736000

This ratio is used in determining rate of returns on capital employed with a view to ensure efficient use of resources

iii. Return on Equity

This is the ratio of net profit after tax to the total equity funds and it shows the efficiency with which the equity funds are employed.

2008 = 164000 -3600 = 128000 =15.1%
850000 850000

2007 = 116000-24000 = 92000 =17.2%
536000 536000

iv. Quick Asset Ratio (Acid Test)

This is the ratio of current assets less inventories to current liabilities. The ratio indicates the capacity of the company to generate sufficient cash to discharge is short – term liabilities as they fall due.

= Current Assets - Stock
Current Liabilities

2008 = 574000- 180000 -134000 =260,000 =0.91
290000 290,000

2007 =452,000 -140,000 – 92000 =220000 =0.93:1
236,000 236000

v. Capital Gearing

This ratio measures total long term loans to equity funds. It gives a measure of the proportion of the long term capital that is funded by loan or debenture.

2008 = 160000:850000 = 0.2:1
2007 = 200000:536000 = 0.37:1

This indicates that a large proportion of the capital is provided by the equity shareholders

vi. Sales to Debtors

The ratio measure the effectiveness of debt collection function

$$2008 = \frac{3650000}{220000} = 16.7 \text{ times}$$

$$2007 = \frac{2888000}{160,000} = 18 \text{ times}$$

This connotes that the company is effective and efficient in cash collection.

vii. Debt Ratio

The ratio measures the proportion of the company's total assets which are paid for by both long-term and short-term debts.

$$\text{Debt ratio} = \frac{\text{Current Liabilities + Long-Term Loans}}{\text{Total Assets}}$$

$$2008 = \frac{290,000+ 160000}{726000+574000} = \frac{450000}{1300000} = 34.6\%$$

viii. Total Assets to Turnover

This is the ratio that relates the assets employed to total sales

$$\text{The computation is} = \frac{\text{Total Assets}}{\text{Sales}}$$

2008 = (726+574): 3680 = 13000:3680 = 1:2.83
2007 = (520+452):2888 = 972:2888 = 1:2.97

Comment:

The ratio indicates how the company has efficiently used it assets to generate its income.

ix. Earnings Yields

Earning yield is the ratio of the earnings per share to the market value of shares. Earnings per share is arrived at by dividing the net profit after tax by the number of shares.

$$\text{Computation: earnings yield} = \frac{\text{Earnings per Share}}{\text{Market Value of Share}}$$

Earnings per share = Net Profit after Tax / No of Shares

2008 = (164000 – 36000) / 600000 x 1/1.5%

= 0.21 / 1.5% = 14%

2007 = (116000 -24000) / 400000 x 1/1.45%

0.23% x 1/1.45 / 1.45

= 15.86%

Comment: This ratio is used to determine possible returns on investment in the company's share at the existing market.

Stock Turnover

Stock turnover relates the cost of sales to the average stock computation

2008 = 2822000/2 / (232000+314000) = 2822000 / 273000 =10.33 times

2007 = 2166000/2 / (180000+232000) = 2166000 / 206000 =10.51 times

Comment: The stock turnover ratio gives the number of times the average stock holding of the company could be utilised in meeting the supply of its products for sales.

4.0 CONCLUSION

In this unit, Computations of financial ratios has been demonstrated using specimen financial statement. It should be noted that no one single question would provide figures for computation of all identified ratios. Hence only ratios that have values for their variables could be determined should be computed for examination and practical purposes. This is because companies vary in characteristics as such content of financial statement /reports differ.

5.0 SUMMARY

Unit 2 discussed the theory and models for computation of ratios. This unit provide illustrative example on the computations and analysis of the ratios. It is expected that with this adequate illustration on the computation of ratios, you should be able to apply it to guide decision making.

6.0 TUTOR – MARKED ASSIGNMENT

The profit and loss account and balance sheet of Abubakar Nigeria Plc as at 31st December, 2007 and 2008 are as follows:

	2008	**2007**
	N'000	**N'000**
Turnover	2713285	3089973
Cost of sales	(1907419)	(1954626)
Gross profit	805866	1135347
Operating expenses	(664,738)	(553645)
Trading profit	141128	581702
Exceptional items	176157	(5848)
Other income	72859	37085
Interest charges	(105976)	(80273)
Profit on ordinary activities before tax	284168	532666
Tax on ordinary activities	(69938)	(191265)
Profit on ordinary activities after tax	214230	34191
Debenture redemption	-	(10000)
Dividend proposed	(132875)	(199313)
Retain profit for the year	81355	132088
Reserve at the beginning of the year	464434	332364
Transfer from redemption reserve	40000	-
Transfer to general reserve	58789	464434

Balance Sheet as at 31st December

	2008	**2007**
	N'000	**N'000**
Fixed Assets	260,739	248609
Long term investment	160	160
	260899	248769
Current Assets		
Stocks	1456182	138073
Debtors	579876	310322
Bank and cash balances	525574	79059
	2561632	2489454
Creditor: (Due within one year)	1479217	(1557347)
Creditor(Due after one year)	(10795)	(8700)
Provision for liabilities and charges	(258 701)	(179713)
	1073818	992463
Capital and reserves		
Called up share capital @ 50k each	332188	332188
Reserves	174630	660275
	1973818	992463
Market price of shares	45k share	60k/share

You met the Managing Director and Financial Controller of Abubakar Nigeria Plc to discuss the figures, and they explained that the reduction in trading profit was due to various adverse economic, infrastructural and socio – political factors prevalent in 2008.

You are required to:

1. Compute the following ratios for 2007 and 2008:
   - i. Gross profit margin
   - ii. Return on capital employed
   - ii. Net profit margin
   - iv. Current ratio
   - v. Liquid ratio
   - vi. Debtors collection period
   - vii. Proprietary ratio
   - viii. Earnings per share
   - ix. Dividend per share
   - x. Price earnings ratio
2. Based on the ratio computed in (a) above comment on the company's profitability and liquidity position.
3. Indicate the measures the company should take to improve the collection of debts and cash flow under the central and accounting information you would require for this purpose.

7.0 REFERENCES/FURTHER READING

Okwuosa, I. (2005). *Advanced Financial Accounting Manual.* Lagos: Arnold Consulting Ltd.

Olowe, R. A. (1997). *Financial Management: Concepts, Analysis and Capital Investments.* Lagos: Briefly Jones Nig Limited.

Omolehinwa, A. (2001). *Work Out Corporate Finance.* (2nd ed.). Lagos: Panaf Publishing Inc.

UNIT 4 FINANCIAL PLANNING AND GROWTH

CONTENTS

1.0 INTRODUCTION

Lack of effective planning is normally cited as reason for financial distress and failure. In this unit, you will see that long-term planning is a means of systematically thinking about the future and anticipating possible problems before they arrive. Planning is a process that at best helps the firm avoids stumbling into the future backwards. Financial planning establishes guidelines for the major elements of a firm's financial and investment policies without examining the different components of the policies in detail.

2.0 OBJECTIVES

At the end of this unit, you should able to:

- explain the two dimensions of the financial planning process
- highlight the role of financial planning
- enumerate the basic components of a financial plan
- discuss the relative importance of external financing and growth to firms.

3.0 MAIN CONTENT

3.1 What is Financial Planning

Financial planning shows the way in which financial goals are to be achieved by a financial manager. We have discussed earlier in the previous unit that, the appropriate goal is, increasing the market value of the owners' equity. Of course, if a firm is successful in doing this, then growth will usually result. Growth could be said to be a desirable consequence of good decision making but not an end unto itself. Growth

will be discussed because rates of growth are commonly used in the planning process. As we will see, growth is a convenient means of summarising various aspects of a firm's financial and investment policies.

3.1.2 Dimensions of Financial Planning

In planning, for the future, the long run and the short run are mostly used. The short-run plan normally span for the period of 12 months while the long run spans two – ten years. This time period is called the planning horizon and it is the first dimension of the planning process.
In another scenario, when making financial planning, all the investments and projects a firm is willing to undertake are summed up. In other words, all the smaller investment proposals of each operational unit are added up and treated as one big project. This process is called aggregation. The level of aggregation is the second dimension of the planning process that needs to be determined.

Once the planning horizon and level of aggregation are established, a financial plan requires inputs in the form of alternative sets of assumptions. An organisation can prepare three alternative business plans for the next three to ten years using:

a. A worst case scenario
b. A normal case scenario
c. A best case scenario

3.2 What Can Planning Accomplish?

Because we know that a company will spend a lot of time examining the different scenarios that will become the basis for the company's financial plan, it seems reasonable to ask what the roles of financial planning are.

i. **Examining Interactions:** The financial plan must make simple the linkages between investment proposals for the different operating activities of the firm and the financing choices available to the firm. For example, if an organisation is planning to undertake new projects, where will the financing be obtained to pay for this activity?
ii. **Exploring Options:** Financial plans enable a firm to look at other opportunities that can be explored. Both investment and financing options can be explored and their impact on the firm's shareholders can be evaluated. And from there, a firm can answer questions concerning its future lines of business and financing arrangement as it throws on its face.

iii. **Avoiding Surprises:** Financial planning should identify what may happen to the firm if different events take place. In particular, it should address what actions the firm will take if things go seriously wrong. Thus, one of the purposes of financial planning is to avoid surprises and develop contingency plans. Thus, a lack of planning for sales growth can be a problem for even the biggest companies.

iv. **Ensuring Feasibility and Internal Consistency:** Some of the goals of a firm may be increase in market share, return on equity, financing leverage and so on. Sometimes, it may be somewhat difficult to determine the links between different goals and different aspects of a firm's business. Financial plan does not only make these links simple but it unifies the structure of reconciling differing goals and objectives. In other words, financial planning is a way of verifying that the goals and plans made with regard to specific areas of firms.

The most important benefit of planning process is that it forces management to think about goals and to establish priorities. The future in actual sense is really unknown what we can do is to establish the direction we want to pursue our goals and take some guesses at the likely problems in the course of pursuing these goals. If we do a good job, then we won't be caught off guard when the future rolls around.

3.3 External Financing and Growth

There is an interrelationship between external financing and growth. All things being equal, the higher the rate of growth of sales or assets, the greater will be the need for external financing. In this unit, we will look at the firm's financial policy as given and then examine the relationship the financial policy and the firm's ability to finance new investments and thereby grow.

Again, we want to emphasis that we are focusing on growth not because growth is an appropriate goal but because is simply a convenient way of examining the interactions between investment and financing decisions.

The Internal Growth Rate

Before discussing on the external financing and growth, we should bear it in mind that there is a first growth rate, which is the maximum growth rate that can be achieved with no external financing of any kind. This is called internal growth rate because this is the rate the firm can maintain with internal financing, what this means is that the required increase in asset is equal to the addition to retained earnings and external financing is zero.

External Financing Needed (EFN) and Growth

One major thing to know is that there exist a relationship between EFN and growth in several instances, it was found out that organisations experience rapid growth rates with increase in debt equity ratio (EFN). And a decline in external financing will drastically reduce growth rate. Research has also shown that a firm runs a cash surplus or deficit is dependent on growth rate.

The Sustainable Growth Rate

We have established or discussed earlier that if a firm wishes to grow more rapidly, then external financing must be arranged. The second growth rate of interest is the maximum growth rate a firm can achieve with no external equity financing while it maintains a constant debt – equity ratio. This rate is known as sustainable growth rate because it is the maximum rate of growth a firm can maintain without increasing its financial leverage.

Determinants of Growth

Overtime, it has been observed that one remarkable ratio in determining firm's sustainable growth is return on equity (ROE). It therefore becomes important that factors use in determining ROE is also important determinate to growth rate.

$$\text{ROE (Return in Equity)} = \frac{\text{Profit margin x Total asset}}{\text{Turnover x Equity multiplier}}$$

If we examine our expression for the sustainable growth rate, we see that anything that increases ROE top bigger and the bottom smaller. Increasing the plow black ratio will have the same effect.

Putting it all together, what we have is that a firm's ability to sustain growth depends explicitly on the following four factors:

1. **Profit Margin:** An increase in profit margin will increase the firm's ability to generate funds internally and thereby increase its sustainable growth.
2. **Dividend Policy:** A decrease in the percentage of net income paid out as dividends will increase the retention ratio. This will increase internally generated equity and thus increases sustainable growth.
3. **Financial Policy:** An increase in the debt–equity ratio increases the firm's financial leverage. Because this makes additional debt financing available, it increases the sustainable growth rate.
4. **Total Asset Turnover:** An increase in the firm's total asset turnover increases the sales generated for each naira in assets. This decreases the firm's need for new assets as sales grow and thereby increases the sustainable growth rate. Notice that

increasing total asset turnover is the same thing as decreasing capital intensity.

4.0 CONCLUSION

Financial planning is not just a mechanical activity; otherwise, it will focus on wrong things. In actual sense, plans are formulated in terms of growth target. It is true that financial planning models may not ask the right questions because it relies on accounting relationships rather than on financing relationships. However, it must be very clear to note that financial planning is an interactive process i.e. plans are created, examined and modified.

5.0 SUMMARY

In this unit, we have discussed that financial planning forces the firm to think about the future, also we discussed features of planning process, what financial planning can accomplish and the relationship between growth and financing needs.

SELF-ASSESSMENT EXERCISE

i. What are the determinants of growth?
ii. What are the two dimensions of the financial planning process?

6.0 TUTOR-MARKED ASSIGNMENT

1. What is financial planning?
2. Why should firm draw up financial plan?
3. What are the basic components of a financial plan?
4. How is a firm's sustainable growth related to its accounting return on equity (ROE)?

7.0 REFERENCES/FURTHER READING

Ross, S.A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

Damodaran, A. (1997). *Corporate Finance: Theory and Practice.* USA: John Willey and Sons Inc.

UNIT 5 PREPARATION OF ESTIMATED INCOME STATEMENT AND BALANCE SHEET

CONTENTS

1.0 INTRODUCTION

In creating financial projections, we will refer to the financial statements created as pro forma financial statements. You may read about pro forma statements in the financial press. It is important to know that pro forma statements are statements based on projections and they do not represent actual financial results. As with the cash budget, the sales estimate is a key element in the preparation of financial forecasts. Another key element is the prior year's financial statements. Along with these two key elements, you will need a long list of assumptions to support your financial statements projections. A very simple method of preparing an income statement projection is to base all items as a percentage of sales. This would involve using the prior year's income statement and calculate what each item is as a percentage of total sales. You would then use these calculated percentages to estimate your future expense figures. As we work through the pro forma statements, we will use **Ikwenoc Enterprise** as our sample organisation.

The income statement and balance sheet for Ikwenoc Enterprise are as follows:

Ikwenoc Enterprise Income Statement
For the year ended 31st December, 2009

	N	N
Sales		50,000
Cost of Goods Sold:		
Direct labour	17,000	
Direct materials	7,000	
Overhead	3,000	
Total cost of Goods Sold		27,000

Gross Margin	23,000
Operating expenses	19,500
Operating income	3,500
Interest expenses	2,080
Net Income before tax	1,420
Tax Expense	568
Net Expense	852
Dividends	426
Transfer to Retained Earnings	426

Ikwenoc Enterprise Balance Sheet
As at 31st December, 2009

	N
Debtors	1,500
Fixed Assets	7,000
Total Assets	9,000
Creditors	2,500
Shares	1,000
Retained Earnings	5,500
Total Liabilities and Equity	9,000

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain why sales estimates are crucial for preparing pro forma financial statement
- highlight approaches to preparing pro forma income statement
- state the role of judgmental approach in preparing pro forma balance sheet

3.0 MAIN CONTENT

3.1 Pro forma Income Statement

If we use the simple approach of basing all projections on a percentage of sales, the first step in our forecast would be to convert the income statement above to the percentage of sales. The next step would be to obtain the sales forecast information in order that you can determine your sales figure for the coming year. With these two steps completed; you can then prepare your pro forma statement for the next year. Converting the above income statement to a percentage of sales gives you the following percentages and forecasted amounts for 2010 based on 12% increase in sales:

2010		
Sales	100%	56,000
Cost of Goods Sold:		
Direct Labour	34%	19,040
Direct Materials	14%	7,840
Overhead	6%	3,360
Total Cost of Goods Sold	54%	30,240
Gross Margin	46%	25,760
Operating Expenses	39%	21,840
Operating Income	7%	3,920
Interest Expense	4.16%	2,330
Net Income before Tax	2.84%	1,590
Tax Expense	1.14%	636
Net Income	1.70%	954
Dividends	0.85%	477
Transfer to Retained	0.85%	477

Earnings

This is a very straight forward method and is often used in organisations with some modifications. One of the key problems with this method, though, is that it assumes that all costs vary with sales and therefore ignores any fixed component of your expenses. Organisations will normally identify those costs that are fixed and estimate the rate of change for these costs based on indicators such as inflation or expected rate increases. For example, if your plant rent is known to increase by 2% in the coming year, then your estimate for rent would be the current year rent expense plus an additional 2% and you would not calculate rent based on a percentage of sales.

It should also be noted that percentage of sales is not appropriate for certain specific expenses such as:

- Amortisation /depreciation: This should be calculated from the current balances for capital assets plus the projected expenditures for the forecast year. Projected expenditures should be consistent with sales forecasts, as you need this capital to handle sales production.
- Interest income and expense: These items should be calculated on forecast future borrowing /investments.
- Dividends paid: This should be based on outstanding shares and projected dividend payout rates.

3.2 Pro forma Balance Sheet

In preparing a pro forma balance sheet, there are several items for which using a percentage of sales are not appropriate, for example:

- Cash
- Capital assets
- Borrowings both short and long term
- Common and Preferred stock
- Retained earning

A better approach to prepare a balance sheet forecast is to use what is referred to as a judgmental approach. What this involves is assessing how to best estimate each item on the balance sheet using a combination of methods for estimating. In preparing the balance sheet, there will need to be a 'plug' amount. This is an amount required to balance the balance sheet using the basic accounting equation, that is, assets = liabilities + shareholders equity.

If more assets are required to balance your statement then the plug figure is excess cash. If more liabilities are needed, then the plug figure is called external financing. We will extend our example of Ikwenoc to preparing a pro forma sheet for 2002 using the following assumptions:

- no capital investments will be made in 2002
- the amortisation of capital assets for 2002 is projected to be 500
- a new issue of shares will produce net proceeds of N1,000 in 2002
- sales will increase by 12% in 2002 bringing a corresponding increase in accounts receivable
- net income in 2002 is forecast to be N954
- the dividend payout rate is estimated to be 5% of net income.

The process for solving this problem is:

a. Calculate the values of the assets and liabilities where you have the data to do it.
b. Determine the value of the line of credit (LOC) based upon the balance sheet equation.

The calculations are as follows:
Debtors = 1.12 x 1,500 = 1,680
Fixed Assets = 2001 balance + capital expenditure in 2002 – amortization in2002 = 7,500 + 0- 500 = 7,500
Shares = shares at 2001 + net proceeds of new shares = 1,000 = 2,000
Dividend = net income x dividend rate = 954 x 0.5 = 477
Retained Earnings for 2002 = retained earnings for 2011
+ net income for 2002 – dividend = 5,500 +954 (net income)

- 477 (dividend) = 5,977

At this point we complete the blanks for the 2002 column as follows:

PRO FORMA BALANCE SHEET

	2001	2002
Debtors	1,500	1,680
Fixed Assets	7,500	7,000
Total Assets	9,000	8,680
Creditors	2,500	?
Shares	1,000	2,000
Retained Earnings	5,500	5,977
Total liabilities and Equities	9,000	?

Applying balance sheet equation LOC = Total Assets – shares – retained earnings = 8, 680 – 2,000 – 5,977 = 703

We then add liabilities to equity = 703 + 2,000 + 5,9777 = 8,680, which equals the assets total.

We can then go back to completed the missing number in the balance sheet to achieve the finished result below.

PRO FORMA BALANCE SHEET

	2001	2002
Debtors	1,500	1,680
Fixed Assets	7,500	7,000
Total Assets	9,000	8,680
Creditors	2,500	703
Shares	1,000	2,000
Retained Earnings	5,000	5,977
Total Liabilities and Equities	9,000	8,680

It is important to note that judgment needs to be used throughout the preparation of your financial forecast. Historical data and ratios are not always an indication of what the future hold. Therefore, when preparing financial forecast, you should assess the impact of expected future events on the historical results before simply applying the historical rates.

SELF-ASSESSMENT EXERCISE

i. Under the judgmental approach for developing a pro forma balance sheet, the 'plug' figure required to bring the statement into balance may be called the ?
ii. The most common cash disbursement are?

4.0 CONCLUSION

In this unit, we have discussed that the percentage of sales method is a simplistic approach to preparing pro forma income statement. It is used in a modified manner where the historic percentage of sales is the default estimation if better information is not available. While a judgmental approach is used for the preparation of pro forma balance sheet each line item on the balance sheet is assessed individually rather than a blanket approach applied to all items.

5.0 SUMMARY

We have in this unit given an insight to how financial statement projections can be created. We have also explained how estimates could be used in the preparation of income statement and balance sheet. We concluded that the simplistic method is the best approach for preparing pro forma income statement while judgment approach is best used for preparing pro forma balance sheet.

6.0 TUTOR-MARKED ASSIGNMENT

Use the following information to complete the balance sheet and sales information in the table that follows for medium industries using the following data:

Debt ratio:	65%
Quick ratio:	1.1x
Total assets turnover:	2.5x
Receivables turnover:	8.333
Gross profit margin on sales:	30%
Inventory turnover:	5x

Medium Industries
Balance Sheet
As at 31st December 2004

Cash	_____	Creditors	_____
Debtors	_____	Long Term debt	N300, 000
Stock	_____	Shares	_____
Fixed Assets	_____	Retained Earnings	N225, 000
Total Assets N1, 000,000		Total Liabilities and Equity	
Sales	_____	Cost of Goods Sold	

7.0 REFERENCE/FURTHER READING

Ross, S.A, *et al*. (1993) *Fundamentals of Corporate Finance*. Irvin.

MODULE 3 INVESTMENT AND FINANCING DECISION

UNIT 1 WORKING CAPITAL MANAGEMENT

CONTENTS

1.0 INTRODUCTION

Working capital is the money used to make goods and attract sales. The less the working capital used to attract sales, the higher is likely to be the return on investment.

In this unit, effort will not only be made on looking at just what working capital means, but also on the optimal amount of working capital that a firm should maintain, the optimal cash balance of a firm, the determinants of optimal inventory balance and the determinants of a firm's credit policy.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain what working capital means
- discuss the basic trade-offs on working capital

- state the benefits and costs of holding cash
- mention the benefits and costs of holding inventory
- highlight the determinants of a firm's credit policy.

3.0 MAIN CONTENT

3.1 Meaning of Working Capital

Working capital is the difference between a firm's current assets and current liabilities. The current assets of a firm are those that are in the form of cash in the short term. Working capital is a managerial accounting strategy focusing on maintaining efficient levels of both current assets and current liabilities in respect to each other. Working capital management ensures a company has sufficient cash flow in order to meet its short-term debt obligations and operating expenses.

Implementing an effective working capital management system is an excellent way for many companies to improve their earnings. The two main aspects of working capital management are ratio analysis and management of individual components of working capital.

The current assets of a firm generally include:

a. Cash and marketable securities: These are the most liquid assets a firm possesses such as government bonds.
b. Stock: Stocks or inventory of a firm can readily be converted into cash.
c. Debtors: When a firm sells goods on credit, it creates accounts receivable; as it receives payment on these credit sales, debtors are converted into cash.

The current liabilities of a firm include those that are expected to come due within the year and they are:

a. Creditors: When a firm buys goods or services on credit, it creates creditors (accounts payable) which fall due in the short term.
b. Accrued wages, salaries and taxes: In the normal course of doing business, firms accrue wages and salaries to their employees and taxes to the government.
c. Current portion of long – term debt: Any long term debt (bonds, bank debt) that is expected to be due within the year is classified as current liability. It is not the same with creditors because it is usually financed with new long–term debt.

3.2 Basic Trade-offs on Working Capital

In most corporate organisations, the decision on how much working capital to hold involves a tradeoff – having a large net working capital (i.e. current assets that significantly exceed current liabilities) may reduce the liquidity risk faced by the firm, but it can have a negative effect on cash flows. Therefore the net effect on value should be used to determine the optimal amount to be held in working capital.

Changes will greatly depend on the following:

i. **Magnitude of working capital investment needed for operations:** The effects of working capital changes on cash flows are likely to be larger, at least relative to over all cash flows and value, for firms that have to maintain large investments in working capital relative to operating cash flows and sales. For instance, a car dealer is likely to experience much larger changes in cash flows as a consequence of increases or decreases in his or her inventory than with a service business.

ii. **Make up of a working capital:** Not all working capital items are created in terms of their effects on cash flows. Increases in marketable securities, for instance, have a less negative impact on cash flows because they earn a positive return while they are held.

iii. **The liquidity effect and operating effect:** The traditional view of working capital as a measure of liquidity risk suggests that increasing working capital will generally reduce the liquidity risk faced by the firm, whereas decreasing working capital will generally increase the liquidity risk. The effects of working capital changes on liquidity risk depend on a number of factors such as:

a. *Access to financing:* A firm with a ready access to external financing is much less exposed to liquidity risk than a firm that does not have any access, because it can tap these external sources if it needs to cover liabilities coming due.

b. *State of the economy*: Other factors remaining constant, firms experience changes in liquidity risk as a result of working capital changes when the economy is in recession than when it is doing well.

c. *Uncertainty about future cash flows*: Firms often plan on using cash flows from operations to meet current liabilities that become due. To the extent that these cash flows are predictable and stable.

Maintaining high working capital has its potential effect on revenues and future growth. Although increasing stock will tie up more cash, it will also enable a firm to increase sales.

iv. **An optimal level of working capital:** For a trade-off between the negative effects on cash flows of increasing working capital and the positive effects of reducing liquidity risk and potentially increasing revenues and operating cash flows; it can be argued that working capital should be increased if, and only if, the benefits exceed the costs. Initially, increases in working capital lead to increases in firm value, because the marginal benefits exceed the costs. At some level of working capital investment, the firm value should be maximised. This is the optimal level for working capital investment.

3.3 Managing Cash and Cash Equipment

Every business has to maintain a cash balance to meet needs that can be managed only with cash. The convenience and liquidity associated with keeping cash also carries a clear cost if cash does not earn a return for the business. Some businesses hold cash equivalents such as treasury bills, which provide almost all of the convenience of cash but also earn a return for the holder.

Motivations for Holding Cash

There are three motives for holding cash as suggested by Keynes:

1. A transactional motive, to meet the needs of the day to day running of a business.
2. A precautionary motive, to meet unexpected contingencies that may arise.
3. A speculative motive, to take advantage of profit–making opportunities that may arise. On each of these motives, firms differ significantly in terms of their needs.

3.4 Managing Inventory (Stock)

Most firms build up and maintain inventories in the course of doing business. For manufacturing firms, the inventories may be of raw materials, intermediate goods and finished products. Marketable securities form the inventories of financial service firms.

Motivation for Holding Inventory

The motivation for holding inventory varies depending on the type of inventory. As said earlier, a manufacturing firm may have inventories at different stages in the production process.

a. Inventories of raw materials are held to ensure that the production process is not stymied by a shortage of these materials.
b. Inventories of intermediate goods (semi–finished goods) arise in the process of production.

c. Inventories of finished goods arise because of the time involved in the production process and the need to meet customer demand promptly.
d. The time it takes to fill an order from a customer: If orders are not filled quickly and at low cost, the firm will need to maintain a higher finished goods inventory.
e. The diversity of product line: Firms that sell a wide variety of goods generally need to invest more in finished goods inventory than firms that do single or few lines of goods.
f. The strength of the competition: When competitors offer close or perfect substitutes at similar prices, the firm is much more likely to suffer from lost sales if it does not have sufficient inventory.

3.5 Managing Current Liabilities

Currents assets are financed partially using current liabilities and short term financing. Trade credit arises as a result of purchase of goods and services. Trade credit reduces working capital investment and provides buffer against adverse effects of growth. It saves the firm resources and reduces the interest forgone in working capital investments. This is not without a cost. There is often a discount on the price the firm forgoes when it uses trade credit.

3.6 Determinants of a Firm's Credit Policy

The decision of whether or not to offer credit and how much to liberalise credit can be evaluated by looking at the overall costs and benefits to the firm. The decision to offer credit will generally have to be followed by additional decisions depending on which customers will be offered credit and on what terms. In making these decisions, firms generally rely on credit analysis which is intended to evaluate the credit worthiness of individual customers. The question of whether or not to do a credit analysis will depend on the size of the credit. Because an administrative cost is associated with it, it might not pay to do a credit analysis if the credit being offered is small or if the risk of default is very low.

SELF-ASSESSMENT EXERCISE

i. State the three reasons for holding cash.
ii. State the examples of current assets you know.
iii. Give an example of cash equivalent.
v. What do firms use in financing current assets apart from long – term liabilities?

4.0 CONCLUSION

In this unit, we have discussed a very crucial aspect of financial management the management and financing of working capital needs. In our discussion, we have realised that different industries adopt different approaches in working capital management.

5.0 SUMMARY

In this unit, we have discussed about the meaning of working capital, trade off on working capital, how current assets and current liabilities can be managed and what determines a firm's credit policy.

6.0 TUTOR-MARKED ASSIGNMENT

1. What do you understand by working capital management?
2. State the determinants for firm's credit policy.
3. How can current liabilities be managed?
4. What are the reasons for holding cash?

7.0 REFERENCES / FURTHER READING

Damodaram, A. (1997). *Corporate Finance: Theory and Practice.* USA: John Wiley and Sons Inc.

Ross, S.A. et al. (2006). *Fundamentals of Corporate Finance.* USA: McGraw – Hill Inc.

UNIT 2 CAPITAL STRUCTURE DECISION

CONTENTS

1.0 INTRODUCTION

Capital structure is referred to as the ratio of different kinds of securities raised by a firm as long–term finance. The capital structure involves two decisions:

a. Types of securities to be issued are equity shares, preference shares and long term borrowings (debentures).
b. Relative ratio of securities can be determined by process of capital gearing. On this basis, the companies are divided into two:
i. Highly geared companies: Those companies whose proportion of equity capital dominates total capitalisation.
ii. Low-geared companies: Those companies whose proportion of equity capital dominates total capitalisation.

Every business enterprise, whether big, medium or small, needs capital to carry on its operations smoothly and to achieve its targets. However, the actual capital should be neither more or less than the amount which is needed and gainfully employed. This is called capital structure of a business enterprise. Capital structure of a business enterprise is related to the long–term financial requirements of the business enterprise. It is determined by the long–term debt and equity capital used by the business enterprise. As a matter of fact, the capital structure of a business enterprise should be ideal, i.e. according to the requirement of the business enterprise.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state the meaning of capital structure
- enumerate the factors that determine capital structure

- evaluate a company's capital structure
- explain the benefit of capital structure.

3.0 MAIN CONTENT

3.1 Determinants of Capital Structure

The following are the factors which determine the capital structure of a business enterprise:

a. **Cost of Fixed Assets:** The fixed capital of a business enterprise is invested in fixed assets. The fixed assets are not fixed in value; in fact, their value may record an increase or decrease in the course of time. They are fixed in the sense that without them the business cannot be carried on. Further, they remain in business for a longer time. Hence, while making an assessment of the capital requirement, the cost of fixed assets should also be kept in mind.

b. **Size of the Business Enterprise:** The capital structure of a business enterprise is also influenced by the size. Big-sized business enterprise requires much more capital compared with a small–sized business enterprise.

c. **Nature of the Business Organisation:** The capital structure of a business enterprise is also influenced by the nature of business organisation. It may be manufacturing, financing, trading or public utility type.

d. **Retaining Control of the Business Enterprise:** The capital of the business enterprise is also influenced by the intention of the promoters to have effective control. This is also a very important factor in deciding the amount of money, before issuing debentures and preference shares which hardly enjoy any voting rights.

e. **Legal Requirements:** One has to comply with the issue of the law in regard to the issue of different types of securities. For instance, in India, banks are not allowed by the Banking Companies Act to issue any type of securities except shares.

f. **Period of Finance:** Period of finance i.e. short, medium or long-term is also another factor which determines the capital structure of a business enterprise. For example, short-term finances are raised through borrowings as compared to long–term finance which is raised through issues of shares, stocks etc.

g. **Purpose of Financing:** The purpose of financing should also be kept in mind in determining the capital structure of a business enterprise. The funds may be required either for better expenditure or for some productive purposes. Funds for productive purposes may be raised through borrowings.

h. Requirements of the Potential Investors: The capital structure of a business enterprise is also affected by the requirement of the potential investors. Different classes of investors go for different types of securities. Investors who are interested in the stability and safety and regularity of income prefer debentures and preference shares.

3.2 Evaluating a Company's Capital Structure

For stock investors that favour companies with good fundamentals, a ''strong'' balance sheet is an important consideration for investing in a company's stock.

The strength of a company's balance sheet can be evaluated through three broad investment-quality measurements: working capital adequacy, asset performance and capital structure. In this unit, we will look at evaluating balancing sheet strength based on the composition of a company's capital structure.

A company's capitalisation (not to be confused with market capitalisation) describes the composition of a company's permanent or long–term capital, which consists of a combination of debt and equity. A high proportion of equity capital, as opposed to debt capital, in a company's capital structure is an indication of financial fitness.

Clarifying Capital Structure Related Terminology
The equity part of the debt – equity relationship is the easiest to define. In a company's capital structure, equity consists of a company's ordinary and preferred shares, plus retained earnings, which are summed up in the shareholders' equity account on a balance sheet.

This invested capital and debt, generally of the long term variety, comprises a company's capitalisation, i.e. a permanent type of funding to support a company's growth and related assets.

A discussion of debt is less straight forward. Investment literature often equates a company's debt with its liabilities – it is the latter that forms the debt component of a company's capitalisation –but that's not the end of the debt story.

Among financial analysts and investment research services, there is no universal agreement as to what constitutes a debt liability. For many analysts, the debt component in a company's capitalisation is simply a balance sheet's long–term debt. This definition is too simplistic. Investors should stick to a stricter interpretation of debt where the debt component of a company's capitalisation should consist of the

following: short–term borrowings (notes payable), operating leases and redeemable preference shares. Using a comprehensive total debt figure is a prudent analytical tool for stock investors. It is worth noting here that both international and U.S. financial accounting standards boards are proposing rule changes that would treat operating leases and pensions 'projected–benefits'' as balance sheet liabilities.

The proposed new rules certainly alert investors to the true nature of these off – balance sheet obligations that have all the earmarks of debt.

3.3 Ways of Raising Financing

Firms have historically raised funds from a variety of sources – debt, equity and hybrid securities – but their dependence on these sources differs from country to country and period of time in question. In Nigeria for instance, firms have generally raised external financing through debt issues rather than equity issues and have primarily raised funds internally from operations.

Every year, the dependence on internal financing to meet funding needs is clear. Furthermore, when external financing is used, it is more likely to be new debt rather than new equity or preference shares. Not only can firms choose among debt, equity or some hybrid of the two, but they can also choose how to raise the funds. Private companies generally have fewer choices than public firms – they can raise funds either internally, from operations or externally, from venture capitalists and the owner's own resources. In this section, we will examine the options available to private firms to raise funds.

Internal versus External Equity Financing
Internal equity refers to the earnings (and cash flows) of a firm that are plowed back into the firm instead of being paid out as dividends. Using the reasonable presumption that the earnings of a firm belong to its stockholders, it can be argued that any portion of these earnings that is not paid out as dividends is still equity being reinvested in the firm.

External equity, on the other hand, refers to funds raised by issuing common stock, warrants, contingent value rights or other equity instrument in financial markets.

A firm may prefer internal to external financing for a number of reasons. For private firms, external equity is difficult to access and even when it is available, the tradeoff is a loss of control and flexibility. For publicly traded firms, external equity may be easier to tap into, but it is still costly in terms of transaction cost and potential price impact. Internal equity on the other hand, can be used to finance operations without

incurring large transactions costs or loss of flexibility. There are some cautions to the use of internal equity for funding projects. Firms have to know that internal equity has the same cost as external equity before factoring in the transactions cost differences. Thus, the cost of equity, computed using the capital asset, applies as much as to internal as it does to external equity. This implies that the projects taken with the internal equity should pass and earn a return on equity for investor that is greater than the cost of equity.

Secondly, internal equity is clearly limited to the cash flows generated by the firm for its stock holders. Even if the firm does not pay dividends, the cash flows may not be sufficient to fund the firm's project. Depending entirely on equity can therefore result in project delays or their possible loss to competitors.

Thirdly, managers should not make the mistake of thinking that just because they use internal equity for financing projects that the stock price does not matter. In reality, stockholders in firms whose stock prices have dropped are much less likely to trust their managers to reinvest their cash flows for them than are stockholders in firms with rising stock prices.

4.0 CONCLUSION

We have discussed that firms have a number of options when it comes to financing. In this unit, we have differentiated between debt and equity, pointing out that any financing approach that results in fixed cash flows has prior claims in the case of default. That also within the broad category of debt, firms have to make a number of ranging long versus short-term debt decisions.

5.0 SUMMARY

A company's reasonable, proportional use of debt and equity to support its assets is a key indicator of balance sheet strength. A healthy capital structure that reflects a low level of debt and a corresponding high level of equity is a very positive sign of investment quality. We also examine that there is a limit to which a firm can use debt financing to generate tax shields because firms do not use great amount of debt but they pay substantial taxes.

SELF-ASSESSMENT EXERCISE

What are the important factors in making capital structure decisions?

6.0 TUTOR-MARKED ASSIGNMENT

1. Why should financial managers choose the capital structure that maximises the value of the firm?
2. What is an optimal capital structure?

7.0 REFERENCES / FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice.* USA: John Wiley & Sons Inc.

Richard, L. (2006). *Investopedia News and Articles*. USA: Coupon Mountain.

Ross, S.A. et al. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

UNIT 3 COST OF CAPITAL

CONTENTS

1.0 INTRODUCTION

Assume you are the managing director of a large company, and you are faced with the decision of whether to go ahead with the plan of building another factory. The plan will cost the company N50 million and it is expected to save N12 million after taxes over the next six years.

To address this issue, you would determine the relevant cash flows, discount them, and if the net present value is positive, take on the project, if the NPV is negative you would not go on with the project. But what should be used as the discount rate? The correct discount rate depends on the riskiness of the project to build another factory. The new project will only have a positive NPV, if the return exceeds what the financial markets offer on investments of similar risk. We called this minimum required return of the project.

Therefore, to make the right decision as the managing director, you must examine what the capital market has to offer and use this information to arrive at an estimate of the project's cost of capital.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain what cost of capital means
- differentiate between cost of equity and cost of capital
- describe how the components of cost of capital can be estimated or calculated.

3.0 MAIN CONTENT

3.1 Meaning of Cost of Capital

The cost of capital is the weighted average of the costs of the different components of financing including debt, equity and hybrid securities used by a firm to fund its financial requirement. This section explores the estimation of the cost of capital in more detail.

The weighted average cost of capital (WACC) is defined as the weighted average of the costs of the different components of financing used by a firm:

WACC = Ke (E/CE + D+PS) +Kd (E+D+PS) +Ks (PS/(E+D+ PS)
Where:
WACC = Weighted Average Cost of Capital
Ke = Cost of Equity
Kd =After – tax cost of debt
Ks = Cost of preference shares
E/(D+ E+ PS) = Market value proportion of equity in funding mix
D/(E+D+PS) = Market value proportion of debt in funding mix
PS/(E+D+PS) = Market value proportion of preference shares in funding mix.

The cost of capital is also used in capital budgeting and valuation. It is used in conjunction with or in comparison to returns of cash flows to all investors in the firms, not just the equity investors.

The cost of equity should reflect the riskiness of an equity investment in a company. The cost of debt should reflect the default risk of the firm – the higher the default risk, the greater the cost of debt. Debt interest is tax deductable. The cost of preference shares should reflect the preference dividend and the absence of tax deductibility.

3.2 The Role of Cost of Capital in Investment Analysis and Valuation

The cost of capital is a term used in the field of financial investment to refer to the cost of a company's funds (both debt and equity), or from an investor's return on a portfolio of all the company's existing securities. It is used to evaluate new investors expect for providing capital to the company, thus setting a benchmark that a new project has to meet.

In extending the principle, we can estimate the value of the entire firm by discounting the aggregate cash flows over time at the firm's cost of capital. The firm's aggregate cash flows can be estimated as cash flows

left after provisions for operating expenses, taxes, and any capital investment needs to create future growth in both fixed assets and working capital needs.

Cash Flows to Equity
The cash flow to equity investors is the cash flow left after provisions for taxes, preference dividends, cash flows to debt holders (interest payments, principal payments and new debt) net capital expenditures and working capital needs.

Cash Flows to Firm
The cash flow to the firm is the cash flow left over after taxes, net capital expenditures, and working capital needs, but before debt payments or preference dividends.

Cash flow left over after taxes, net capital expenditures, and working capital expenditures, and working capital needs, but before debt payments or preference dividends.

Cash flow to firm = EBIT (I- t) – (Capital expenditures – depreciation) - charge in working capital

The value of the firm can then be written as

$$\text{Value of firm} = \sum_{t=1}^{t=00} \frac{\text{CF to Firm}}{(1 + \text{WACC})^t}$$

The value of the firm is therefore a function of its cash flows and its cost of capital. In the specific case where the cash flows to the firm are unaffected by the debt equity mix, and the cost of capital is reduced, the value of the firm will increase. If the objective in choosing the financing mix for the firm is the maximisation of firm value, this can be accomplished, in this case, by minimising the cost of capital.

SELF-ASSESSMENT EXERCISE

i. What do you understand by cost of capital?
ii. What are the components of cost of capital?

3.3 Some Preliminary Issues

For an investment to be worthwhile, the expected return on capital must be greater than the cost of capital. The cost of capital is the rate of return that capital could be expected to earn in an alternative investment of equivalent risk. It is reasonable to use the company's average cost of capital as a basis for the evaluation. If a company's securities typically include both debt and equity, one must calculate both the cost of debt

and the cost of equity to determine a company's cost of capital. However, a rate of return larger than the cost of capital is usually required.

A. Cost of Equity: The cost of equity is more challenging to calculate as equity does not pay a set return to its investors. Similar to the cost of debt, the cost of equity is broadly defined as the risk weighted projected return required by investors, where the return is largely unknown. The cost of equity is therefore inferred by comparing the investment to other investments (comparable) with similar risk profiles to determine the ''market'' cost of equity. It is commonly equated using the CAPM formula (below), although articles such as Stutz (1995) question the validity of using a local CAPM versus an international CAMP. Also, considering whether markets are fully integrated or segmented (If fully integrated, there would be no need for a local CAPM).

Once cost of debt and cost of equity have been determined, their blend, the weighted – average cost of capital (WACC), can be calculated. This WACC can then be used as a discount rate for a project's projected cash flows.

B. Cost of Debt: The cost of debt is relatively simple to calculate, as it is composed of the rate of interest paid. In practice, the interest rate paid by the company can be modeled as the risk – free rate plus a risk component (risk premium), which itself incorporates a probable rate of default (and amount of recovery given default). For companies with similar risk or credit ratings, the interest rate is largely exogenous (not linked to the company's activities).

This can be computed by taking the rate on a risk free bond whose duration matches the term structure of the corporate debt, then, adding a default premium. This default premium will rise as the amount of debt increases (since, all other things being equal, the risk rises as the amount of debt rises). Since in most cases debt expense is a deductible expense, the cost of debt is computed as an after tax cost to make it comparable with the cost of equity (earnings are after – tax as well). Thus, for profitable firms, debt is discounted by the tax rate. The formula can be written as (Rf + credit risk rate) (I- T), where T is the corporate tax rate and Rf is the risk free rate.

Cost of Equity = Risk free rate of return + Premium expected for risk
Cost of Equity = Risk free rate of return + Beta x (Market rate of return – risk free rate of return) where Beta = sensitivity to movements in the relevant market:
Es = Rf + Bs (Rm – Rf)

Where:
Es = The expected return for a security
Rf = The expected risk free return in that market
Bs = The sensitivity to market risk for the security
Rm = The historical return of the stock market /equity market
(Rm – Rf) The risk premium of market assets over risk free assets
The risk free rate is taken from the lowest yielding bonds in the particular market, such as government bonds.
Expected Return
The expected return can be calculated with the ‘‘dividend capitalisation made’’, which is.

$$Kes = \frac{\text{Dividend payment /share + Growth rate}}{\text{Price market}}$$

Weighted Average Cost of Capital (WACC)
The weighted average cost of capital is used in finance to measure a firm’s cost of capital. The total capital for a firm is the value of its equity (for a firm without outstanding warrants and options, this is the same as the company’s market capitalisation) plus the cost of its debt (the cost of debt should be continually updated as the cost of debt changes as a result of interest rate changes). Notice that the ‘equity’ in the debt to equity ratio is the market value of all equity, not the shareholders’ equity on the balance sheet. To calculate the firm’s weighted cost of capital, we must first calculate the costs of the individual financing sources: cost of debt, cost of preference shares and cost of equity.

4.0 CONCLUSION

This unit has discussed the cost of capital as the weighted average of the costs of the different components of financing, with the weights based on the market values of each component. The cost of debt is the market rate at which firm can borrow less adjustment for any tax advantages of borrowing. The cost of preference shares on the other hand is the cost of capital can be used to examine the quality of a firm’s investment decisions, for they can be compared to the returns made on equity and capital respectively.

5.0 SUMMARY

We have discussed what cost of capital means, the different components that make up cost of capital, how cost of capital can be used in valuation and how cost of capital can be calculated.

6.0 TUTOR-MARKED ASSIGNMENT

What do you think will happen to the cost of debt, the cost of equity and cost of capital as interest rates in the economy go up?

7.0 REFERENCES/FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley & Sons Inc.

Richard, L. (2006). *Investopedia News and Articles.* USA: Coupon Mountain.

Ross, S.A. et al. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

UNIT 4 RISK ASSOCIATED WITH COST OF CAPITAL

CONTENTS

1.0 INTRODUCTION

Before a company accepts money from investors or shareholders, it must first determine if the projected returns are large enough to pay back the investors as well as turn a profit for the company. In order for companies to secure additional capital, they must first prove that there is a return on capital. In this unit, we will be dwelling on the risk associated with cost of capital.

The cost of capital comprises of three major key risk components: (1) risk free rate of return, (2) business risk premium, and (3) financial risk premium. There are other risks that could be associated with business - liquidity risk, exchange-rate risk, country-specific risk.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state the different types risks
- explain which risk is associated with the cost of capital of a given project.

3.0 MAIN CONTENT

3.1 Risk Free Rate of Return

The risk free rate of return is an investment completely free of risk (e.g. treasury bill). This is a short-term debt and risk free because of its

simplicity. It is backed by government with a maturity of less than one year. Treasury bills (notes) are sold in denominations of N1,000 up to a maximum purchase of N5,000,000 and commonly have maturities of one month (four weeks), three months(13 weeks) or six months (26 weeks).

Treasury bills are issued through a competitive bidding process at a discount from par, which means that rather than paying fixed interest like conventional bonds, the appreciation of the bond provides the return to the holder.

For instance, let's say you buy a 13-week treasury bill of N10, 000. You will not receive regular payment as you would with a coupon bond, rather, the appreciation and therefore the discounted value you originally paid which is N9800 is your return.

In this case, the treasury bills pays a 2% interest rate (N200/N9, 800) = 2 % over a three month period.

3.2 Business Risk Premium

A business risk premium is a reason to increase the rate of return due to the uncertainty of the future. For example, potential investors would heavily factor in the business risk premium with the major U.S. automakers since the auto industry as a whole is influx. The risk premium is the excess return above the risk-free rate that investors require as compensation for the higher uncertainty associated with risky assets. The five main risks that comprise the risk premium are business risk, financial risk, liquidity risk, exchange-rate risk and country-specific risk. These five risk factors all have the potential to harm returns and therefore, require that investors are adequately compensated for taking them.

This is the risk associated with the uncertainty of a company's future cash flows, which are affected by the operations of the company and the environment in which it operates. It is the variation in cash flow from one period to another that causes greater uncertainty and leads to the need for greater compensation for investors. For example, companies that have a long history of stable cash flow require less compensation for business risk than companies whose cash flows vary from one quarter to the next, such as technology companies. The more volatile a company's cash flow, the more it must compensate investors.

3.3 Financial Risk Premium

The financial risk premium is another factor in the cost of capital since a company's current debt levels and interest payment to debt holders will play a role in their attempts at profitability. This is the risk associated with the uncertainty of a company's ability to manage the financing of its operations. Essentially, financial risk is the company's ability to pay off its debt obligations. The more obligations a company has, the greater the financial risk and the more compensation are needed for investors. Companies that are financed with equity face no financial risk because they have no debt and, therefore, no debt obligations. Companies take on debt to increase their financial leverage; using outside money to finance operations is attractive because of its low cost. The greater the financial leverage, the greater the chance that the company will be unable to pay off its debts, leading to financial harm to investors. The higher the financial leverage, the more compensation is required for investors in the company.

3.4 Liquidity Risk

This is the risk associated with the uncertainty of exiting an investment, both in terms of timeliness and cost. The ability to exit an investment quickly and with minimal cost greatly depends on the type of security being held. For example, it is very easy to sell off blue chip stock because millions of shares are traded each day and there is a minimal bid-ask spread. On the other hand, small cap stocks tend to trade only in the thousands of shares and have bid-ask spreads that can be as high as 2%. The greater the time it takes to exit a position and/or the higher the cost of selling out of the position, the more compensation investors will require.

3.5 Exchange-Rate Risk

This is the risk associated with investments denominated in a currency other than the domestic currency of the investor. For example, an American holding an investment denominated in Canadian dollars is subject to exchange-rate risk. The greater the historical amount of variation between the two currencies, the greater the amount of compensation required by investors. Investments between currencies that are pegged to one another have little to no exchange-rate risk, while currencies that tend to fluctuate a lot require more compensation.

3.6 Country-Specific Risk

This is the risk associated with the political and economic uncertainty of the foreign country in which an investment is made. These risks include

major policy changes, overthrow of governments, economic collapses and war. Countries such as the United States and Canada are seen as having very low country-specific risk because of their relatively stable nature. Other countries, such as Russia, are thought to pose a greater risk to investors. The higher the country-specific risk, the greater the compensation investors will require.

4.0 CONCLUSION

This unit has discussed to an extent the various market security risks that are associated with cost of capital. Some of the risks discussed will be able to help the learner understand the precaution a person should take before investing in a project.

5.0 SUMMARY

This unit has explored the subject of capital market history. Such history is useful because it tells us what to expect in the way of returns from risky assets. We summed up our study of market history with two keys lessons:

- Risky assets, on average, earn a risk premium. There is a reward for bearing risk.
- The greater the potential reward from a risky investment, the greater is the risk.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are the reasons why firms find themselves with idle cash?
2. What are the various risk associated with cost of capital you know?
3. Discuss any three market security risks you know.

7.0 REFERENCES/FURTHER READING

Damodaram, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley and Sons Inc.

Ross, S.A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

UNIT 5 CAPITAL BUDGETING

CONTENTS

1.0 INTRODUCTION

When firms consider projects, often they also have to consider the opportunities that these projects may create in the future in terms of opening up of new markets or expanding existing ones; thus, options are embedded in these projects. When firms consider financing choices, they have to examine the consequences of such choices for their flexibility, which can be viewed as the option to take on projects. When firms are valued, the products patents they own which are options on these products have to be valued as well.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- state what are the options embedded in capital budgeting
- explain how these options can be valued using option pricing models
- identify how these values can be used in conjunction with traditional capital budgeting analysis.

3.0 MAIN CONTENT

3.1 Caveats on Applying Option Pricing Models

The opinion pricing models described in the preceding chapter can be used to value any asset that has the characteristics of an option, with some caveats. In this section, we apply option pricing theory in a variety of contexts. In many of the cases described below, the options being valued are not on financially traded assets (such as stocks or

commodities) but are real options (such as those on projects or natural or natural resources reserves). We begin by offering a few caveats on the application of option pricing models to these cases and suggest some adjustment that might need to be made to these models.

Real Option: A real option is an option on a non–traded asset, such as an investment project or a gold mine.

The Underlying Asset is not traded

Option pricing theory, as presented in both the binomial and the Black–Scholes model, is built on the premise that a replicating portfolio can be created using the underlying asset and riskless lending and borrowing. Although this is a perfectly justifiable assumption in the context of listed options on traded and arbitrage is therefore not traded, the values from option pricing models have to be interpreted with caution.

The Price of the Asset Follows a Continuous Process

As we mentioned earlier, the Black–Scholes option pricing model is derived under the assumption that the underlying asset's process is continuous (i.e., there are no price jumps). If this assumption is violated, as it with most real options, the model will underestimate the value of deep out – of –the – money options and lower variance estimates for at – the – money or in- the – money options. Another solution is to use an option pricing model that explicitly allows for price jumps, although the inputs to these models are often difficult to estimate.

The Variance is known and does not Change over the Life of the Options

Option pricing models assume that the variance is known and does not change over the option lifetime: this assumption is not unreasonable when option pricing theory is applied to long – term real options. However, problems arise with this assumption, for the variance is unlikely to remain constant over extended periods of time and may in fact be difficult to estimate in the first place. Again, modified versions of the option pricing model exist that allow for changing variances, but they require that the process by which variance changes be modeled explicitly.

Exercise is Instantaneous

The option pricing models are based on the premises that the exercise of an option is instantaneous. This assumption may be difficult to justify with real options. The exercise may require building a plant or constructing an oil rig, for example, actions that do not occur in an instant. The fact that exercise takes time also implies that the true life of a real option is often less than the stated life. Thus, although a firm may own the rights to an oil reserve for the next 10 years, the fact that it takes

several years to extract the oil reduces the life of the natural resource option the firm owns.

3.1.1 The Option to Delay a Project

Projects are typically analysed based on their expected cash flows and discount rates at the time of the analysis. The net present value computed on that basis is a measure of its value and acceptability at that time. Expected cash flows and discount rates change over time, however, as does the net present value. Thus, a project that has a negative present value now may have a positive net present value in the future. In an environment in which a project can be taken by only one firm (because of legal restrictions or other barriers to entry to competitors), however, the changes in the project's value over time give it the characteristics of a call option.

In the abstract, assume that a project requires an initial investment of X (in real dollars) and that the present value of expected cash inflows computed right now is *PV*. The net present value of this project is the difference between the two:

$$NPV = PV - X$$

Now assume that the firm has exclusive rights to this project for the next n years and that the present values of the cash inflows may change over that time because of changes in either the cash flows or the discount rate. Thus, the project may have a negative net present value right now, but it may still be a good project if the firm waits. Defining V as the present value of the cash flows, we can summarise the firm's decision rule on this project as follow:

If $V > X$ Project has positive net present value

$V < X$ Project has negative net present value

3.1.2 The Option to Expand a Project

In some cases, firms take projects in order to take on other projects or to enter other markets in the future. In such cases, it can be argued that the initial projects are options allowing the firm to take other projects, and the firm should therefore be willing to pay a price for such options. A firm may accept a negative net present values on future projects.

To examine this option using the same framework developed earlier, assume that the present value of the expected cash flows from entering the market or taking the new project is V, and that the total investment needed to enter this market or take this project is X. Furthermore, assume that the firm has a fixed time horizon, at the end of which it has to make the final decision on whether or not to take advantage of this

opportunity. Finally, assume that the firm cannot move forward on this opportunity if it does not take the initial project. This scenario implies the option payoffs. As you can see, at the expiration of the fixed time horizon, the firm will enter the new market or take in the new project if the present value of the expected cash flows at that point in time exceeds the cost of entering the market.

3.1.3 The Option to Abandon a Project

The final option to consider here is the option to abandon a project when its cash flows do not measure up to expectations. In our discussion, we noted that having the option to abandon will generally increase the value of a project and make it more acceptable. To illustrate the option to abandon, assume that V is the remaining value on a project if it continues to the end of its life, and L is the liquidation or abandonment value for the same project at the same point in time. If the project has a life of n years, the value – if it is higher, the project should be continued; if it is lower, the holder of the abandonment option could consider abandoning the project.

Payoff from owning an abandonment option = O if $V > L$;
$=L$ if $V \leq L$

To illustrate, assume that a firm is considering taking a 10- year project that requires an initial investment of N100 million in a real estate partnership, and where the present value of expected cash flows is N110 million. Although the net present value of N10 million is small, assume that the firm has the option to abandon this project anytime (by selling its share back to the other partners) in the next 10 years; if abandoned, the net salvage value of the project is N50 million. The variance in the present value of the cash flows from being in the partnership is 0.06.

The value of the abandonment option can be estimated by determining the characteristics of the put option:

Value of the underlying asset (s) =PV of cash flows from project
=N110 million
Strike price (k) = Salvage value from abandonment =N50 million
Variance in underlying asset's value =0.06
Time to expiration = Life of the project = 10 years
Dividend yield = 1/Life of the project = 1/10 (we are assuming that the project's present value will drop by roughly 1/n each year into the project)

Assume that the 10 – year riskless rate is 7%. The value of the put option can be estimated as follows:

Call Value = 110 exp (0.10) (10) (0.8455)-50 exp (-0.07) (10) (0.5961) =N19.41 million Put Value =N19.41-110 exp (-.10) (10) +N3.77 million

The value of this abandonment option has to be added on to the net present value of the project of N10 million, yielding a total net present value with the abandonment option of N13.57 million. Note however, that abandonment becomes a more and more attractive option as the remaining project life decreases, since the present value of the remaining cash flows will decrease.

Practical Considerations

In the above analysis, we assumed, rather unrealistically, that the abandonment value was clearly specified up front and that it did not change during the life of the project. This may be true in some very specific cases, in which an abandonment option is built into the contract. More often, however, the firm has the option to abandon, and the salvage value from doing so can be estimated up front. Furthermore, the abandonment value may change over the life of the project, making it difficult to apply traditional option pricing techniques. Finally, it is entirely possible that abandoning a project may not bring in a liquidation value but may create costs instead. A manufacturing firm may have to pay severance to its workers, for instance. In such situation, it would not make sense to abandon, unless the cash flows on the project are even more negative.

Implications

The fact that the option to abandon has value provides a rationale for firms to build the flexibility to scale back or terminate projects if they do not measure up to expectations. Firms can do this in a number of ways. The first, and most direct way, is to build-in the option contractually with those parties that are involved in the project. Thus, contracts with suppliers may be written on an annual basis rather than long term, and employees may be hired on a temporary basis rather than permanently. The physical plant used for a project may be leased on a short-term basis rather than bought, and the financial investment may be made in stages rather than as an initial lump sum. Building in this flexibility carries a cost, but the gains may be much larger, especially in volatile businesses.

4.0 CONCLUSION

In this unit, we considered three options embedded in investment project: the option to delay a project, the option to expand a project and the option to abandon a project. In all these cases, the underlying asset was the project and the options added value to the project. We then posed the argument that equity could be viewed as a call option on the

firm and that equity would have value even when the firm value was less than the outstanding claims on it.

5.0 SUMMARY

We have discussed in details how decision made by firm in choosing projects can in turn create opportunities in the future in terms of opening up new markets or expanding existing ones.

6.0 TUTOR-MARKED ASSIGNMENT

1. In a normal option, it does not usually pay to exercise early. Why, in the case of a project option, might this not hold true?
2. Why is it so important that the firm have rights to the project in order to apply the option pricing approach to valuing the option to delay?

7.0 REFERENCES /FURTHER READING

Damodaram, A. (1997). *Corporate Finance: Theory and Practice.* USA: John Wiley and Sons Inc.

Ross, S.A. *et al*. (2006). *Fundamentals of Corporate Finance.* USA: McGraw – Hill Inc.

MODULE 4 DIVIDEND DECISION, CORPORATE STRATEGY AND FIRM VALUE

UNIT 1 TYPES OF SECURITIES

CONTENT

1.0 INTRODUCTION

Once you have your priorities in order, understand your personal and financial goals, and write a thoughtful investment plan; then, you are ready to learn about securities markets, both physical and electronic, where financial or real assets are traded. What are the different types of securities markets in which you might invest? Who can help you achieve your goals? What are these individuals' motivations and how are they paid? How do you buy and sell securities and what kind of help do you need? How do you choose someone to help you in the investment process? These and many other questions regarding securities markets will be addressed in this unit.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- enumerate the different types of securities markets
- state the basic characteristics of brokers and investment advisors
- explain how to buy and sell securities
- describe how to choose a broker or an investment advisor

- explain how to select and use benchmarks.

3.0 MAIN CONTENT

3.1 Meaning of Financial Security

A financial security is a type of financial instrument that is negotiable and has a recognised financial worth. Usually referred to simply as securities, the financial security can take on several forms. Generally, a financial security will have the potential to generate some additional return above face value for either the holder or the issuer of the security. One common example of a financial security is a debt security. Primarily securities of this type include bonds, debentures, and banknotes. A bond issue normally provides a fixed return above the purchase price or face value of the instrument. Debentures are written acknowledgments of debt owed and can be used by the lender to designate an asset. Banknotes are essentially promissory notes that can be called at any time and as such also represent a negotiable asset.

Equity securities are a second classification of financial securities. Within this category, the financial security may be stock of some type. This would include common stocks, preferred stocks and various other classes of stocks. All types of stock represent a financial asset that may be sold or used as collateral if necessary.

A financial security may be issued by a number of different entities. Federal government agencies or even local municipal governments may choose to issue bonds as a means of financing an upcoming civic improvement project. Commercial companies often issue shares of stock to be purchased and sold on the open market. Even banking organisations that operate on an international basis may issue some form of financial security. While this is not always the case, a financial security issued by a government entity is likely to carry an interest rate that is lower than any security issued by a commercial company.

In most cases, the purpose of issuing a financial security is to generate new capital. This is accomplished by attracting people who wish to invest in the security, due to the potential for generating new capital in form of interest. Some types of financial securities can guarantee a return over time, such as with a bond issue. Other examples of the financial security, such as a stock issue, carry a greater degree of risk. However, a financial security with a greater risk usually also carries a higher potential to generate additional returns.

3.2 Types of Securities Markets

Securities markets are the markets in which securities, or financial assets, are traded. There are two different types of securities markets. The first type is known as the primary market: this is used for trading newly issued securities. The second type of securities market is known as the secondary market: it is used for trading securities that have already been issued. Primary market and secondary market are generally used for trading equity securities.

3.3 Types of Securities and your Rights as a Shareholder

Securities issued by any company are classified into three main classes: Bonds, preferred stock and common stock. We can understand the priority of each type of stock by considering what happens when the company goes bankrupt.

Usually when we talk of stock we talk about common stock only. As a common shareholder you receive the lowest priority when a company goes bankrupt. During insolvency proceedings, it is the creditors who first get claims on the company's assets to settle their outstanding debts, then the bondholders followed by preferred shareholders and finally the common shareholders.

Bond
A bond is a debt investment in which an investor loans money to an entity (corporate or governmental) that borrows the funds for a defined period of time at a fixed interest rate. Bonds are used by companies, municipalities, states and foreign governments to finance a variety of projects and activities.

Preferred Stock
This a class of ownership in a corporation that has a higher claim on the assets and earnings than common stock. Preferred stock generally has a dividend that must be paid out before dividends to common stockholders, and the shares usually do not have voting rights.

The precise details as to the structure of preferred stock are specific to each corporation. However, the best way to think of preferred stock is as a financial instrument that has characteristics of both debt (fixed dividends) and equity (potential appreciation). It is also known as "preferred shares."

Common Stock
This is a security stock that represents ownership in a corporation. Holders of common stock exercise control by electing board of directors

and voting on corporate policy. In the event of liquidation, common shareholders have rights to a company's assets only after bondholders, preferred shareholders and other debt holders have been paid in full.

Rights as a Common Shareholder

1. **Voting power:** This includes electing directors and proposals when fundamental changes like mergers and acquisitions or liquidation takes place. Voting takes place at company's annual meeting.
2. **Increased share value:** Common shareholders have claim on a portion of assets of the company and they are owners of that portion and as these assets generate profit they can reinvest in additional assets. Thus, getting returns in the form of increased share value.
3. **Right to transfer ownership:** Right to transfer ownership means that the shareholders can trade the stock on an exchange.
4. **Claim on dividends:** This means common shareholder has claim on the profits of a company. A company has two options with profits: either to reinvest back into the firm or pay out in the form of dividends. Although the percentage to be given is decided by the board of directors but as a common shareholder you are entitled to receive from the profits.

To conclude this unit, note that shareholder privileges and rights vary from state to state and country to country, so it is important to check with your local authorities and public watchdogs.

4.0 CONCLUSION

The issues and challenges that regulators will confront in the future stem from the inevitable integration of world capital markets. The need for capital to generate business returns and, in a larger sense, to grow and develop economies, along with advances in information technology and the growing pools of institutional and professionally managed funds, will spur the integration of world capital markets and the flow of capital from one jurisdiction to another. The competition for the best returns, from the point of view of investors, or for the cheapest funds, from the point of view of funds users will motivate the search for means to lower transactions costs and the time it takes to execute orders. Competition will likewise motivate regulatory authorities to examine, streamline, and modify regulations to lower opportunity costs due to compliance delays and restrictions that limit financial innovation and engineering. Regulators will be challenged to remove restrictions to financial innovation and the development of seamless markets, products, and processes. The flip-side challenge is the protection of investors from potentially greater risks. Inasmuch as a component of risk is uncertainty,

another challenge then is the provision of more information, particularly cross-border information when the financial products involve cross-border transactions. The development of innovative financial products should be encouraged. Derivatives may be used as hedges against risk by market players. Regulations will, however, have to keep up with these instruments and their markets.

5.0 SUMMARY

Firms have a number of options when it comes to financing, both in terms of the type of financing that they use and the way in which they raise the financing. In this unit, we discussed the difference between debt and equity**,** at a generic level, by pointing out that any financing approach that results in fixed cash flows and has prior claims in case of default, fixed maturity, and no voting rights is debt, whereas a financing approach that provides for residual cash flows and has low or no priority in claims in the case of default, infinite life, and a lion's share of the control is equity. Within the broad category of equity, there a number of choices that a firm can make besides the traditional mechanism of common stock for publicly traded firms and owner's equity for private firms. Private firms can access and use venture capital, whereas publicly traded firms can issue warrants and contingent value rights to raise equity. Overall, the financing choices for firms are expanding, both in terms of the vehicles available for financing and the markets that can be tapped for this financing.

6.0 TUTOR-MARKED ASSIGNMENT

1. Firms generally can borrow money by using bank debt or issuing bonds. Why might a firm choose one method over the other?
2. Debt will always be cheaper than preferred stock because of the tax advantage that it confers on the firm. What is the source of the tax advantage? Is this statement true?
3. Convertible bonds are often issued by small, high growth companies to raise debt. Why?

7.0 REFERENCES/FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Willey and Sons Inc.

Ross, S. A. *et al.* (2006). *Fundamentals of Corporate Finance.* USA: McGraw – Hill Inc.

UNIT 2 DIVIDEND POLICY

CONTENTS

1.0 INTRODUCTION

In this unit, we would provide a frame work that considers how cash generated from projects should be returned to shareholders and the form this cash should take.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- mention when a firm should be pressured to increase its payout to stockholders and how such a firm should defend it.
- state when a firm be pressured to reduce its payouts to stockholders and what are the consequences of excessive dividends
- identify which types of firms have the most flexibility in setting dividend policy
- describe how firms should measure their dividend policies against comparable firms.

3.0 MAIN CONTENT

3.1 Trade-offs

A firm has to walk a tightrope when it established its dividend policy. On the one hand, paying too much in dividends creates several problems: the firm may find itself short of funds for new investments and may have to incur the cost associated with new security issues or capital rationing, and the investors receiving the dividends may face a much larger tax liability. On the other hand, paying too little in dividends can also create problems. For one, the firm will find itself with a cash balance that increases over time, which can lead to investments in ‘’bad’’ projects, especially when the interests of management in the firm are different from those of the stockholders. In addition, playing too little in dividends may transfer wealth from stockholders, especially if bond prices are set on the assumption that the firm will maintain a reasonable dividend payout.

3.2 Determinants of Dividend Policy

Concerning the tradeoff noted above, we would argue that a firm’s dividend policy should be determined by the following:

1. **Investment Opportunities:** Other things remaining equal, a firm with more investment opportunities should pay a lower fraction of its earnings as dividends than should a stable firm. As a practical measure, the quality of a firm’s projects (can be measured by comparing its returns on equity (or capital) to its cost of equity (or capital).
2. **Stability in Earnings:** Firms with unstable earnings tend to pay out a much lower fraction of their earnings as dividends because they are concerned about their ability to maintain these dividends. Conversely, firms with stable and predictable earnings typically pay out a much larger proportion of their earnings as dividends.
3. **Degree of Financial Leverage:** Higher financial leverage may reduce dividends for two other reasons, as well. First, as firms borrow more, they are much more likely to face covenants on dividend policy, restricting not only the naira dividends but create a commitment to making interest payments. This reduces the free cash flow available to managers. Because increasing dividends accomplishes the same goal, it can be argued that high financial leverage and high dividends are all tentative approaches to keeping managers disciplined.
4. **Signaling Incentives:** Increases in dividends generally operate as positive signals of future cash flows, resulting in increases in value, whereas to the firm (by increasing their dependence on

external financing) and to its stockholders (by creating a tax liability), it can be argued that alternative signals may be available to the firm which convey the same information at much less cost.

5. **Stockholder Characteristics:** A firm whose stockholders like dividends will generally pay a much higher proportion of its earnings as dividends than will one without such stockholders.

3.3 Framework for Analysing Dividend Policy

In applying a rational framework for analysing dividend policy, a firm will attempt to answer two questions:

1. How much cash is available to be paid out as dividends, after meeting capital expenditure and working capital needs to sustain future growth, and how much of this cash is paid out to stockholders?
2. How good are the projects that are available to the firm?

In general, firms that have good projects will have much more leeway on dividend policy, since stockholders will expect that the cash accumulated in the firm will be reinvested in these projects and eventually earn high returns. By contrast, firms that do not have good projects will find themselves under pressure to pay out all of the cash that is available as dividends.

3.3.1 How Much can a Firm Pay Out or Return to Shareholders

To estimate how much cash a firm can afford to return to its stockholders, we begin with the net income – the accounting measure of the stockholders earnings during the period – and convert it to a cash flow as follows. First, any capital expenditures are subtracted from the net income, because they represent a cash outflow. Depreciation, on the other hand, is added back because it is a non-cash charge. The difference between capital expenditures and depreciation is referred to as net capital expenditures and is usually a function of the growth characteristics of the firm. High –growth firms tend to have net capital expenditures relative to earnings, whereas low–growth firms tend to have high net capital expenditure (because depreciation is offset by capital expenditures). Second, increases in working capital drain a firm's cash flows while decreases in working capital increase the cash flows available to equity investors.

3.3.2 What Kind of Projects do the Firms Have?

The alternative to returning cash to stockholders is reinvesting the funds in the firm. Consequently, a firm's investment opportunities provide another dimension for analysing dividend policy. Other things remaining equal, a firm with better projects typically has more flexibility in setting dividend poly and defending it with the stockholders.

3.3.3 Poor Projects and Low Pay Out

In this section, we examine the consequences of paying out much less in dividends than a firm has available in cash flows, while facing poor investment opportunities. We also discuss stockholder reaction and management response to the dividend policy.

Consequence of Low Payout
When a firm pays out less than it can afford to in dividends, it accumulates cash. If a firm does not have good projects (now or in the future) in which to invest this cash, it faces several possibilities. In the most benign case, the cash accumulates in the firm and is invested in financial assets. Assuming that these financial assets are fairly priced, these investments are zero net present value projects and should not negatively affect value. However, the firm may find itself the target of an acquisition financed in part by its large holding of liquid assets.

As the cash in the firm accumulates, the managers may be tempted to take on projects that do not meet their hurdle rate requirements, either to reduce the likelihood of lower value of the firm. Another possibility, and one fraught with even more danger for the firm, is that management may decide to use the cash to finance an acquisition and that such an acquisition will result in a transfer of wealth to the stockholders of the acquired firm. Although managers will argue that such acquisitions make sense from a strategic and synergistic viewpoint, history is replete with cases of firms that used large cash balances, acquired over years of paying low dividends while generating high free cash flows to equity, to finance takeovers that detract from stockholders' value.

Stockholders' Reaction
Given the range of possible outcomes described above, it is not surprising that the stockholders of firms that pay insufficient dividends and do not have ''good'' projects put pressure on managers to return more of the cash back to them. In fact, this is the scenario that originally led to the development of the ''free cash flow'' hypothesis. Managers cannot be trusted with large cash in that they can spend at their discretion. Consequently, it is argued, firms should borrow more and create the commitment to making interest and principal payments,

thereby forcing managers to be more disciplined in their investment choices. An alternative to taking on debt is to force firms to disgorge more of these cash flows as dividends.

Management's Defense
Not surprisingly, managers of firms who pay out less in dividends than they can afford argue that this policy is in the best long–term interests of the firm. They maintain that although the current project returns may be poor, future projects will be both more plentiful and lucrative (in terms of returns). This argument may work initially when presented, but it will become progressively more difficult to sustain if the firm continues to post poor returns on its projects. Managers may also argue that the cash accumulation is needed to meet demands arising from future contingencies. For instance, cyclical firms will often argue that large cash balances are needed to support them over the next recession.

3.3.4 Good Projects and Low Pay Out

Although the outcomes for stockholders in firms with poor projects and low dividends payout ratios range from neutral to terrible, the results may be more positive for firms that have a better selection of projects and whose incumbent management has had a history of earning high returns for the stockholders.

Consequences of Low Payout
The immediate consequence of paying out less in dividends than is available in free cash flow to equity is the same for these firms as it is for firms with poor project choice: the cash balance of the firm increases to reflect the cash surplus. The long – term effects of cash accumulation are generally much less negative for these firms, however, for the following reasons:

1. The presence of projects that earn returns greater than the hurdle rate increases the likelihood that the cash will be productively invested in the long term.
2. The high returns earned on internal projects reduce both the pressure and the incentive to invest the cash in poor projects or in acquisitions.
3. Firms that earn high returns on their projects are much less likely to be targets of takeovers, reducing the need to reduce the cash balance quickly.

To summarise, firms that have a history of taking good projects and that expect to continue to have a ready supply of such projects may be able to sustain a policy of retaining cash rather than paying out dividends. In fact, they can actually create value in the long term by using this cash productively.

Stockholders' Reaction
Stockholders are much less likely to feel a threat to their wealth in firms that have historically shown good judgment in picking projects. Consequently, they are more likely to acquiesce when managers in those firms withhold cash rather than pay it out. This suggests that, although the free cash – flow hypothesis has a solid basis for arguing that managers cannot be trusted with large cash balances, it does not apply equally across all firms. The managers of some firms earn the trust of their stockholders because of their capacity to deliver extraordinary returns on both their projects and their stock over long periods of time. This discussion helps resolve the tradeoff firms face between satisfying their long-term investment financing and paying dividends to shareholders. Stockholders pressure for dividends or stock repurchases is greatest in firms whose projects yield marginal or poor return, and least in firms whose projects have high returns.

Management Responses
Managers in firms that have posted stellar records in project and stock returns clearly have a much easier time convincing stockholders of the desirability of withholding cash rather than paying it out. The strongest argument for doing this is that the cash will be used productively in the future and earn above market returns for the stockholders. Not all stockholders will buy this argument; however, some will argue that future projects may be less attractive than past projects, especially when the industry in which the firm is operating is maturing. Thus far, we have assumed that good returns on projects and good returns on stocks go hand in hand.

3.3.5 Poor Projects and High Pay Out

In many ways, the most troublesome combination of circumstances occurs when firms pay out much more in dividends than they can afford while posting less–than–stellar returns on their projects. These firms have problems that cannot be solved adequately without addressing the investment problem.

Consequences of High Payout
When a firm pays out more in dividends than it has available in free cash flows to equity, it is creating a cash deficit. The deficit has to be funded by drawing on the firm's cash balance, issuing stock to cover shortfall, or borrowing money to fund its dividends. If the firm uses the first approach, it will reduce equity and raise its debt ratio.

The second approach allows the firm to neutralise the drop in equity created by the excess dividends with new stock issues; the downside is the issuance cost of the stock.

The third approach forces the firm to increase its debt while reducing equity, accentuating the increase in the debt ratio. Because the free flows to equity are after capital expenditures, it can be argued that this firm's real problem is not that it pays out too much in dividends, but that it invests too much in bad projects. Cutting back on these projects would therefore increase the free cash flow to equity and eliminate the cash shortfall created by paying too much in dividends.

Stockholders' Reaction
The stockholders of a firm that pays much more in dividends than it has available in free cash flow to equity are faced with a quandary: On the one hand, they may want the firm to reduce its dividends to eliminate the need for additional borrowing or equity issues each year. On the other hand, the firm's record in picking projects does not evoke much trust that the management is using funds wisely, and it is entirely possible that the funds saved by not paying the dividends will be used on other poor projects as well. Consequently, these firms will first have to address their investment problems and then cut back on dividends.

It is therefore entirely possible, especially if the firm is underleveraged to begin with, that the stockholders will not push for lower dividends but will try to get managers to improve project choice instead. It is also possible that they will push the firm to eliminate enough poor projects so that the free cash flow to equity covers the expected dividend payment.

Management Response
The managers of firms with poor projects and dividends that exceed free cash flows to equity may contest the notion that they have investment problems rather than dividend problems. They may also disagree that the most efficient way of dealing with the problem is to eliminate some of the capital expenditures. In general, their arguments will mirror those used by any firm with a poor investment track record: the method used to analyse project returns was not representative; it was an industry wide problem that will pass; or the projects have long gestation periods.

Overall, it is unlikely that these managers will convince the stockholders of these good intentions on future projects. Consequently, there will be a strong push toward cutbacks in capital expenditures, especially if the firm is borrowing money to finance the dividends and does not have much excess debt capacity.

3.3.6 Good Projects and High Pay Out

The costs of trying to maintain unsustainable dividends are most evident in firms that have a selection of good projects to choose from. The cash

that is paid out as dividends could well have been used to invest in some of these projects, lending to a much higher return for stockholders and higher stock prices for the firm.

Consequences of High Payout

When a firm pays out more in dividends than it has available in free cash flow to equity, it is creating a cash shortfall. If this firm also has good projects available currently that are not being taken because of capital rationing constraints, it can be argued that the firm is paying a hefty price for its dividend policy. Even if the projects are passed up for other reasons. It can be argued that the cash this firm is paying out as dividends would earn much better returns for it if left to accumulate in the firm.

Dividend payments also create a cash deflect that now has to be met by issuing new stock that carries a potentially large issuance cost, which reduces firm value. On the other hand, if the firm issues new debt, it might become overleveraged, and this may reduce value.

Stockholder Reaction

Rationally, the stockholders' best option in this case is to insist that the firm pay out less in dividends and take on better projects. This may not happen, however, if the firm has paid high dividends for an extended period of time and has acquired stockholders who value high dividends even more than they value the firm's long –term health. Even so, stockholders may be much more amenable to cutting dividends and reinvesting the cash in the firm that has a ready supply of good projects at hand.

Management Response

The managers of firms that have good projects, while paying out too much in dividends, have to figure out a way to cut dividends and at the same time differentiate themselves from those firms that are cutting dividends owing to declining earnings. The initial suspicion with which markets view dividend cuts can be overcome in part by providing markets information on project quality at the time of the dividend cut. If the dividends have been paid for a long time, however, the firm may have acquired stockholders who like the high dividends and may not be particularly interested in the projects that the firm has available. If this is the case, the initial reaction to the dividend cut, no matter how carefully packaged, will be negative. However, as disgruntled stockholders sell their holdings, the firm will acquire new stockholders who may be more willing to accept the lower dividends and higher investment policy.

4.0 CONCLUSION

In this unit, we expanded on many of the concepts introduced in the previous one and developed a general framework for analysing dividend policy. Here, we emphasised the link between investment, financing, and dividend policy by noting that firms with a history of talking on good projects and the potential for more good projects in the future acquire much more control over their dividend policy. In particular, they can pay much less in dividends than they have available in cash flows and hold on to the surplus cash, because stockholders trust them to invest the cash wisely. In contrast, stockholders in firms with a history of poor project choice may be much less sanguine about retention of cash, because of the fear that the cash will be invested in poor projects.
Some firms set dividends based on the actions of comparable firms. We did an analysis based on a narrow definition of comparable firms (firms in the same line of business) and one based on a broader definition. The determinants of dividend policy were examined in the entire population.

5.0 SUMMARY

Some firms set dividends based on the actions of comparable firms (firms in the same line of business and one based on broader definition). The determinants of dividend policy were examined in the entire population. In this unit, we have developed a framework designed to answer the question of how much cash should be returned to stockholders. Although dividends may be the most widely used approach to returning cash to stockholders, alternatives are available to most firms.

6.0 TUTOR-MARKED ASSIGNMENT

Assume that you are a stockholder in a firm that has had a good history of project choice but has also accumulated a substantial amount of cash. What are some actions that would lead to reassess your willingness to allow the firm to retain cash moving forward?

7.0 REFERENCES /FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley and Sons Inc.

Ross, S. A. *et al*. (2006*). Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

UNIT 3 CORPORATE GROWTH

CONTENTS

1.0 INTRODUCTION

Most firms, of course, desire growth in order to prosper, not just to survive. Organisational growth, however, means different things to different organisations. Indeed, there are many parameters a company can select to measure its growth. The most meaningful yardstick is one that shows progress with respect to an organisation's stated goals. The ultimate goal of most companies is profit, so net profit, revenue, and other financial data are often utilised as "bottom line" indications of growth. Other business owners, meanwhile, may use sales figures, number of employees, physical expansion, or other criteria to judge organisational growth.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- explain the meaning of organisational growth
- list ways in which organisations achieve growth
- highlight the problems encountered with organisational growth
- enumerate the steps to effective organisational growth.

3.0 MAIN CONTENT

3.1 Meaning of Organisational Growth

Growth is something for which most companies, large or small, strive. Small firms want to get big, big firms want to get bigger According to Philip B. Crosby:

"Indeed, companies have to grow if for no other reason than to accommodate the increased expenses that develop over the years. Inflation also raises the cost of everything, and retaliatory price increases are not always possible. Salaries rise as employees gain seniority. The cost of benefits rises because of their very structure, and it is difficult to take any back, particularly if the enterprise is profitable. Therefore cost eliminations and profit improvement must be conducted on a continuing basis, and the revenues of the organization must continue to increase in order to broaden the base."

Growth is something for which most companies strive, regardless of their size. Small firms want to get big, big firms want to get bigger. Indeed, companies have to grow at least a bit every year in order to accommodate the increased expenses that develop over time. With the passage of time, salaries increase and the costs of employment benefits rise as well. Even if no other company expenses rise, these two cost areas almost always increase over time. It is not always possible to pass along these increased costs to customers and clients in the form of higher prices. Consequently, growth must occur if the business wishes to keep up.

Organisational growth has the potential to provide small businesses with a myriad of benefits, including things like greater efficiencies from economies of scale, increased power, a greater ability to withstand market fluctuations, an increased survival rate, greater profits, and increased prestige for organisational members. Many small firms desire growth because it is seen generally as a sign of success and progress. Organisational growth is in fact, used as one indicator of effectiveness for small businesses and is a fundamental concern of many practicing managers.

Organisational growth, however, means different things to different organisations. There are many parameters a company may use to measure its growth. Since the ultimate goal of most companies is profitability, most companies will measure their growth in terms of net profit, revenue, and other financial data. Other business owners may use one of the following criteria for assessing their growth: sales, number of employees, physical expansion, success of a product line, or increased market share. Ultimately, success and growth will be gauged by how well a firm does relative to the goals it has set for itself.

3.2 Ways in which Organisations achieve Growth

Many academic models have been created that depict possible growth stages/directions of a company. Six of the most commonly used

methods for creating organisational growth within a small business are discussed below.

1. **Joint Venture/Alliance**: This strategy is particularly effective for smaller firms with limited resources. Such partnerships can help small business secure the resources they need to grapple with rapid changes in demand, supply, competition, and other factors. Forming joint ventures or alliances gives all companies involved the flexibility to move on to different projects upon completion of the first, or restructure agreements to continue working together. Subcontracting, which allows firms to concentrate on those aspects of their business that they do best, is sometimes defined as a type of alliance arrangement (albeit one in which the parties involved generally wield differing levels of power). Joint ventures and other business alliances can inject partners with new ideas, access to new technologies, new approaches, and new markets, all of which can help the involved businesses to grow. Indeed, establishing joint ventures with overseas firms has been hailed as one of the most potentially rewarding ways for companies to expand their operations. Finally, some firms realise growth by acquiring other companies.
2. **Licensing**: A firm may wish to expand and grow by licensing its most advanced technology. This course of action is often recommended to firms with their own proprietary technologies because competitors will likely copy whatever a company develops at some point. Licensing is one method that can be used to maximise the benefit that a firm can gain from its technology. It is also a way to gain the resource to fund future research and development efforts.
3. **Sell Off Old Winners**: Some organisations engaged in a concerted effort to divest themselves of mature "cash cow" operations to focus on new and innovative lines of products or services. This option may sound contradictory, but analysts note that businesses can command top prices for such tried and true assets. An addendum to this line of thinking is the divestment of older technology or products. Emerging markets in Latin America and Eastern Europe, for instance, have been favourite places for companies to sell products or technology that no longer attract high levels of interest in the United States. These markets may not yet be able to afford large quantities of state-of-the-art goods, but they can still benefit from older models.
4. **New Markets**: Some businesses are able to secure significant organisational growth by tapping into new markets. Creating additional demand for a firm's product or service, especially in a market where competition has yet to fully developed, can spur phenomenal growth for a small company, although the

competitive vacuum will generally close very quickly in these instances. In the last ten years, many small firms have turned to an online marketing presence as a tool for reaching beyond their traditional markets. For those who do not yet market and sell online, this is one area that may be explored.

5. **New Product Development**: Creation of new products or services is a primary method by which companies grow. Indeed, new product development is the linchpin of most organisations' growth strategies.
6. **Outside Financing**: Many small companies turn to outside financing sources to fund their expansion. Smaller private firms search for capital from banks, private investors, government agencies, or venture capital firms.

3.3 Problems Encountered with Organisational Growth

Organizational growth has obvious upsides. It spurs job creation. It creates a stimulating and exciting environment within a firm. It creates opportunities for the business founder and others in the company to become wealthy. Organisational growth also has downsides. When growth is too rapid, chaos can prevail. In such a situation a company may see increased sales but a drop in profits. A business may outgrow the skills of its leader, its employees, and its advisers. All those involved are likely to become stressed out trying to keep up with the demands of expansion.

Small business owners seeking to guide their organisations through periods of growth—whether that growth is dramatic or incremental—must plan to deal with both the upsides and downsides of growth. When a firm is small in size, the entrepreneur who founded it and usually serves as its primary strategic and operational leaders can often easily direct and monitor the various aspects of daily business. In such an environment, the business owner and founder understand the personalities within the firm, the relationships that each has with others in the company, as well as with suppliers and customers. Organisational growth, however, brings with it an inevitable dilution of that "hands-on" capability, while the complexity of various organisational tasks simultaneously increases. As small organisations grow, so to do the complexities of managing the organisation. There are ways of reducing the complexity by delegating responsibility and installing better data systems but there is no way of avoiding it altogether.

Most entrepreneurs who are fortunate enough to experience growth soon discover that success as a business owner doesn't mean you have arrived and can now sleep at night. Expanding a company doesn't just mean grappling with the same problems on a larger scale. It means

understanding, adjusting to, and managing a whole new set of challenges. It often means building and managing a very different sort of business. Organisational growth almost always produces a company that's much more complex—one that needs a much more sophisticated management team, and one that may well need a new infrastructure.

Organisational growth, then, may well require as much planning, effort, and work as did starting a company in the first place. Small business owners face a dizzying array of organisational elements that have to be revised during a period of growth. Maintaining effective methods of communications with and between employees and departments, for example, become ever more important as the firm grows. Similarly, good human resource management practices—from hiring to training to empowerment—have to be implemented and maintained. Establishing and improving standard practices is often a key element of organisational growth as well. Indeed, a small business that undergoes a significant burst of growth will find its operations transformed in many number of ways. And often, it will be the owner's advance planning and management skills that will determine whether that growth is sustained, or whether internal constraints ruin that growth prematurely.

3.3 Steps to Effective Organisational Growth

I believe that any person that wants to grow professionally and any leader that wants to grow his organisation need also to be working on his personal development first and foremost. But organisational growth is quite different from personal growth. With personal growth you only have one person to be concerned about: you. With an organisation you must be concerned with several others, the number depend on how big your organization is. While most executives look at organisational growth as the big decisions, it really happens in the small day to day decisions. Growth is a step by step process and it rarely happens overnight. Therefore, in order to be committed to organisational growth, the small day to day stuff needs to be analysed, taken into consideration, and developed to create a growth oriented atmosphere.

John Maxwell gives us ten questions to ask concerning organisational growth**:**

1. Has the organisation made a specific commitment to grow and develop people?
2. Is the organisation willing to spend money to develop employees' growth?
3. Is the organisation willing to make changes to keep itself and its people growing?

4. Does the organisation support leaders willing to make the difficult decisions necessary for people's personal growth and the growth of the organisation?
5. Does the organisation place and emphasis on production rather than position or title?
6. Does the organisation provide growth opportunities for its people?
7. Do organisational leaders have vision and share it with their people?
8. Does the organisation think big?
9. Does the organisation promote from within?
10. Are there other leaders in the organisation willing to pay the price of personal sacrifice to insure their growth and the growth of others?

Is your organisation committed to the growth and development of its employees?

If there is no effort on internal employee development and growth, how in the world can a business leader expect the company to grow? Employees are the greatest asset any business has. Without them the product or service you sell won't get sold. Without them the strategies that make things happen smoothly won't happen at all. If nobody is given time to grow then the business won't have opportunity to grow. With that said, you can learn a lot about certain employees who are given, yet do not accept, growth opportunities. Keep too many of these employees around and the business won't grow either.

Does your company spend money to develop its employees?

No, salaries don't count! Growth does cost, but the lack of growth costs even more. You must be willing to invest in your employees' growth. Let them attend seminars of their choices once per year, or at the very least go to a yearly seminar together. Encourage them to read and buy the books they need to develop and hone their skills. Honestly, employees have costs too, so if you want to benefit from their own growth, be willing to shell out some bucks for it yourself.

Is your company willing to make changes to keep things growing?

Just because it's always been done that way is not a valid reason to continue to do it that way. Growth requires change and if you want your people to grow you must be willing to accept the changes that occur as a natural part of that. Some changes won't be easy, but they will all be for the better.

Do you support leaders that make tough decisions?

Organisational growth will often require some difficult decisions to be made. A company committed to growth needs to be committed to the

leaders that make the decisions that cause growth. Not all of those decisions will turn out to be the right ones, but if you come down on the leader that makes a wrong decision for the right reason, they'll be less willing to try and make the right decision the next time. And that may ultimately be the very decision the company needs to move ahead.

Does your company emphasis production rather than position or title?
Position and title are meaningless if there is no production. It doesn't matter how high or low anybody is on the food chain, the goal of a business is production for profit. If positions matter then that's all anybody will want. If production matters more then everybody will be satisfied so long as production is good.

Does the organisation provide growth opportunities for its people?
If your employees see an opportunity for growth, does that get squashed or encouraged? Are you too afraid of losing man hours to allow for employee growth opportunities? Don't be. Encourage growth and look for ways to provide additional opportunities that the team may not have found themselves.

Do you share the company's vision with everyone?
People want to feel good about the company they work for. One of the easiest ways to achieve that is to make sure that the company's goals and visions are not only made available, but shared with the employees. I have my company's five year plan posted on the wall. The employees can review that at any time and walk away with a sense of purpose and hopefully delight in what they do and what company they work for.

Does the organisation think big?
Most businesses never really reach their potential because the people at the top are not thinking big enough. If you think small, you'll stay small. If you think big you'll find a way to grow big.

Does the organisation promote from within?
Nobody likes the feeling of being stuck in a dead end job. They want to feel like their role in the company has a purpose and meaning. One of the best ways to provide that is to ensure that the team realises that they have the opportunity to advance both in professional knowledge, tasks, and position. Always be looking for what interests your team members the most and try to move them into the roles where they are most productive.

Are leaders in your company willing to sacrifice for the growth of the company and others?
True leaders sacrifice. They do it for their families, their companies, and fellow co-workers. If you want to know true leaders in your organisation, find those that sacrifice something for a team member. Building a better company means finding people willing to put their own interests on hold for a time in order to advance the interests of those around them.

Developing a company means much more than just having a plan and going with it. It means having a team that is both willing to grow and given the opportunity to grow. How much you grow your company is determined by how willing you are to do what it takes to make growth happen.

4.0 CONCLUSION

Organisational growth has the potential to provide small businesses with a lot of benefits, including things like greater efficiencies from economies of scale, increased power, a greater ability to withstand market fluctuations, an increased survival rate, greater profits, and increased prestige for organisational members. However, organisational growth is what every organisation wishes to achieve and this unit has discussed to an extent how that can be achieved.

5.0 SUMMARY

In this unit, we have been able to explain organisational growth using, its meaning, how it can be achieved, problems faced when trying to achieve growth and the various steps that can be taken when trying to achieve growth.

6.0 TUTOR-MARKED ASSIGNMENT

1. List the various steps to organisational growth.
2. How can organisational growth be achieved?
3. What challenge can be faced in trying to achieve organisational growth?

7.0 REFERENCES/FURTHER READING

John Maxwell. *Developing the Leaders around You.*

Lipton, M. (2003).*Guiding Growth: How Vision Keeps Companies on Course*. Harvard Business School Press.

Philip B. Crosby. *The Eternally Successful Organisation.*

Roberts, J. (2004). *The Modern Firm: Organisational Design for Performance and Growth*. Oxford University Press.

UNIT 4 MERGERS AND ACQUISITIONS

CONTENTS

1.0 INTRODUCTION

Firms merge with or acquire other firms for a number of reasons. In the 1960s and 1970s, firms such as Gulf and Western, and ITT built themselves into conglomerates by acquiring firms in other lines of business. In the 1980s, firms such as Time, Beatrice, and RJR Nabisco were acquired by other firms, their own management or wealthy raiders who saw potential value from restructuring or breaking up these firms. Through time, firms have also acquired or merged with other firms to gain the benefits of synergy, either in the form of higher growth, as in Disney's acquisition of Capital Cities, or lower costs.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- discuss how widely used is synergy as a motive for acquisitions
- state the different forms of synergies can take how it should be valued
- explain if diversification is a good motive for acquisition
- highlight the empirical evidence the motives for acquisitions.

3.0 MAIN CONTENT

3.1 Classification of Acquisitions

There are a number of ways in which one firm can acquire another. In a merger, the boards of directors of two firms agree to combine and seek stockholders' approval for the combination. In most cases, at least 50 per cent of the shareholders of the target and the bidding firms have to

agree to the merger. In a purchase of assets, one firm acquires the assets of another, although a formal vote by the shareholders of the firm being acquired is still needed. In a tender offer, one firm offers to buy the outstanding stock of the other firm at a specific price and communicates this offer in advertisements and mailings to stockholders. By this it bypasses the incumbent management and board of directors of the firm. Consequently, tender offers are used to carry out hostile takeovers.

Tender Offer
This is an offer to buy the existing shares of a company at a specified price, with the intent of taking over the company.

Another difference between mergers and tender offers is that, in a merger, the acquired firm often ceases to exist as a separate entity after the acquisition. In a tender offer, the acquired firm will continue to exist as long as there are minority stockholders who refuse to tender. From a practical standpoint, however, most tender offers eventually become mergers, if the acquiring firm is successful in gaining control of the target firm.

3.2 Motives Behind Acquisitions

A number of motives have been proposed for acquisitions. The simplest rationale is undervaluation – that firms that are undervalued by financial markets, relative to their true value, will be targeted for acquisition by those who recognise this anomaly. Another rationale, used widely to explain the significant premium paid in most acquisitions is synergy, which refers to the potential additional value from combining two firms, either from operational or financial resources. Yet another explanation is based on the desire for corporate control; in which poorly managed firms are taken over and restructured by the new owners, who lay claim to the additional value. Finally, it has been suggested that managerial self–interest and hubris are the primary, though unstated, reasons for many takeovers.

Synergy
This is the increase in value from combining two firms into one entity; that is, it is the difference in value between the combined firm and the sum of the individual firm values.

3.3 Historical Perspective of Mergers and Acquisitions

Merger and takeover activity in the United States has occurred in waves, with different motives behind each wave. The first wave occurred in the early part of this century, when companies like U.S. Steel and Standard Oil were created by acquiring firms within an industry with the explicit

objective of dominating these industries and creating monopolies. The second wave coincided with the bull market of the 1920s, at which time firms again embarked on acquisitions as a way of extending their reach into new markets and expanding market share. During this period, firms like General Foods and Allied Chemical came into being. The third wave occurred in the 1960s and 1970s, when firms such as Gulf and Western focused on acquiring firms primarily with the intent of restricting the firms. In some cases, the acquisitions were financed heavily with debt and were initiated by the managers of the firms being acquired. This wave reached its zenith with the acquisition of RJR Nabisco, but waited toward the end of the decade, as deals became pricier and it became more difficult to find willing lenders.

Interestingly, merger activity seems to increase in years in which the stock market does well, which is counter to what one would expect if the primary motive for acquisitions were undervaluation. Mergers involved oil companies, whereas the focus shifted to food and tobacco companies in the latter half of the decade and shifted again to media and financial service firms in the early 1990s.

3.4 Empirical Evidence on Value Effects of Takeovers

Substantial empirical evidence exists concerning the effects of takeovers on the value of both the target and bidder firms. The evidence indicates that the stockholders of target firms are the clear winners in takeovers – they earn significant excess returns not only around the announcement of the acquisitions but also in the weeks leading up to it. Jensen and Ruback (1983) reviewed 13 studies that look at abnormal returns around holders in successful tender offers and 20 per cent to target stockholders in successful mergers. Jarrell, Brickley and Netter (1988) reviewed the results of 663 tender offers made in the 1970s, and 30 per cent between 1980 and 1985. Many of the studies report a run –up in the stock price prior to the takeover announcement; this finding suggests either a very perceptive financial market or leaked information above prospective deals.

Some attempts at takeovers fail, either because the bidding firm withdraws the offer or the target firm fights it off. Bradley, Desai, and Kim (1983) analysed the effects of takeover failures on target firms are taken over within 60 days of the first takeover failing, earning significant abnormal returns (50 to 66 Per cent).

The effect of takeover announcements on bidder firm stock prices is not as clear cut. Jensen and Ruback report abnormal returns of 4 per cent for bidding firm stockholders around tender offers and no abnormal returns around mergers. Jarrell, Brickley, and Netter, in their examination of

tender offers from 1962 to 1985, note a decline in abnormal returns to bidding firm stockholders from 4.4 per cent in the 1960s to 2 per cent in the 1970s to -1 per cent in the 1980s. Other studies around the announcement of takeovers; thus, shareholders may be skeptical about the perceived value of the takeover in a significant number of cases.

When an attempt at a takeover fails, Bradley, Desai, and Kim (1983) report negative abnormal returns of 5 per cent to bidding firm stockholders around the announcement of the failure. When the existence of a rival bidder is figured in, the studies indicate significant negative abnormal returns (of approximately eight per cent) for bidder firm stockholders who lose out a rival bidder within 180 trading days of the announcement and no abnormal returns when no rival bidder exists.

4.0 CONCLUSION

Valuing a firm for a takeover is not an easy task. In addition to all the complexities associated with standard valuation, other roadblocks have to be negotiated before arriving at a final answer. The first is the effect of synergy, assuming it exists and can be described in sufficient detail to be built into the valuation. The second is the impact on value of management changes in the firm: the potential increase in value is much larger for badly managed firms. The third is the effect on value of additional leverage that may be taken on, to finance a takeover.

5.0 SUMMARY

The entire question of valuation in takeovers is framed by the strong biases in the process to justify decisions that have already been made. The use of multiples and comparable firms provides plenty of opportunity for biases to enter the process. Finally analysts doing a valuation for a takeover do not have the luxury of drawing on the law of large numbers to bail them out, unlike portfolio managers, who can choose to create portfolios of undervalued firms and hope that, on average, they come out ahead.

6.0 TUTOR-MARKED ASSIGNMENT

1. In a merger of two firms – one with excess cash/poor projects, and the other with great projects/cash shortages – which firm will get the larger share of the benefits? Give reason(s) for your answer.
2. Which of the three types of mergers is most likely to spark government intervention or regulation, and why?

7.0 REFERENCES /FURTHER READING

Damodaram, A. (1997). *Corporate Finance: Theory and Practice*. USA: John Wiley and Sons Inc.

Ross, S. A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.

UNIT 5 INTERNATIONAL FINANCE

CONTENTS

1.0 INTRODUCTION

The principles of corporate finance do not change just because a project is a 'foreign project', or because the financing of such project is in a different currency. A good project is always one greater than the hurdle rate. Using debt makes sense only if the firm has excess debt capacity, and dividends should be paid only if there are surplus cash flows. Certain issues relating to investment, financing, and dividend decisions are however specific to non-domestic projects.

2.0 OBJECTIVES

At the end of this unit, you should be able to:

- list the determinants of changes in currency rates
- explain how these determinants can be used in forecasting expected cash flows in another currency analyse the difference between investment in foreign projects done in local or foreign currency
- highlight risks associated with non-domestic projects.

3.0 MAIN CONTENT

3.1 Why Currency Rates More?

One source of risk unique to international projects is exchange-rate risk. A company may find its cash flows depleted by movements in exchange rates over time.

Exchange Rate Risk
This is the uncertainty created in expected cash flows in a domestic currency, as a result of unanticipated changes in currency rates.

Sport Rates and Forward Rates
Before we examine the theories on why exchange rates move over time, it is important that we define a few terms. The sport rate for a currency is the current rate at which that currency can be converted into another one. For example, a spot rate of $0.65 per deutsche mark (DM) indicates that one deutsche mark can be converted into $0.65 in the marketplace today. In the case of most currencies today, these spot rates are set by financial markets and are determined by demand and supply Thus, they are floating rates. The spot rates for some currencies, however, are set by the governments; these rates are known as fixed rates. If governments err in setting these rates, as they sometimes do, they must either lower or raise these rates to realistic levels, thereby producing currency devaluations and revaluations.

Spot Rate
This is the current rate at which one currency can be converted into another one.

Floating and Fixed Exchange Rates
Floating exchanges rates are set by demand and supply, whereas fixed exchange rates are set by governments.

Frequently, firms or individuals enter into contracts to exchange currencies at a future date at rates that are set at the time of the contracts. These contracts are called forward contracts; the key distinctions are that futures contracts are standardised in terms of units and delivery dates, and that the parties to the contract are forced to settle their differences each day, rather than waiting for the final expiration date. Because they are traded on exchanges, the futures' price is determined by demand and supply, but should be closely related to the forwards' price.

Forward Contact (Price)
This is a contract to buy or sell a currency at a fixed price (called the forward price) sometime in the future.

Finally, exchange rates can be stated in terms of either the number of units of domestic currency that can be received for a unit of the foreign currency, or vice versa. For instance, the exchange rate between dollars and deutsche marks can be stated either in U.S. terms ($0.65 per DM) or European terms (1.54 DM per $) or Nigerian terms (N160 per $1).

3.2 Exchange-Rate Risk

It should be clear from the preceding section that exchange rates do move over time and that some of the changes are unanticipated and has nothing to do with fundamentals.

Consequently, these questions arise:

- what are the types of risk to which a firm may be exposed as a result of changing exchange rates?
- to what other types of risk may a firm be exposed, as a consequence of its international operations?
- should firms try to manage or minimise these risks?

Decomposing Exchange-Rate Risk

When a firm owns assets or has projects that create cash flows in a foreign currency, changes in exchange rates can affect the values of these assets and projects. Exchange-rate risk is viewed and measured very differently by accountants and financial economists: accounting rules are designed to measure the effect of exchange rate changes on current income and the book values of assets and liabilities on the balance sheet, whereas economists are much more interested in the effects of exchange rate changes on future cash flows and the resultant effect on the value of the firm.

Translation Exposure

From an accounting standpoint, the risk of changing exchange rates is captured in what is called translation exposure, which is the effect of these foreign operations from the foreign to the domestic currency. Two issues need to be addressed. The first relates to whether all financial statement items that are in a foreign currency should be translated at either the current exchange rate or the rate that prevailed at the time of the transaction. The second is whether the profit or loss that is created when the exchange rate adjustment is made should be treated as a profit or loss in the current period or deferred until a future period.

Translation exposure therefore, is the effect of changing exchange rates on the current income statement and balance sheet of a company.

The accounting standards in the United States apply different rules for translation, depending on whether the foreign entity is a self – contained unit, in which case the **functional currency** is the foreign currency, or a direct extension of the parent company, in which case the functional currency is the U.S dollar. For the first group, FASB 52 requires that all of an entity's assets and liabilities be converted into the parent's currency at the prevailing exchange rate. The increase or decrease in equity that occurs as a consequence of this translation is captured as an

unrealised foreign exchange gain or loss and will not affect the income statement until the underlying assets and liabilities are sold or liquidated. For the second group, only the monetary assets and liabilities have to be converted, based on the prevailing exchange rate, and the net income is adjusted for unrealised translations gains or losses.
Functional currency: This is the currency in which all assets are denominated and income is measured.

Translation exposure matters from the narrow standpoint of affecting reported earnings and balances sheet values. The more important question, however, is whether investors view these translation changes as important in determining firm value or whether they view them as risk that will average out across companies and across time. The answers to these questions are mixed. In fact, several studies suggest that earnings effects caused by exchange rate changes do not influence the stock prices of firms. These findings add credence to the belief that investors view translation risk as diversifiable and do not demand a premium for it.

Economic Exposure
While translation exposure is focused on the effects of exchange rate changes on financial statements, economic exposure attempts to look deeper at the effects of such changes on firm value. These changes, in turn, can be broken down into two types. Transactions exposure looks at the effects of exchange rate changes on transactions and projects already entered into and that are denominated in a foreign currency. Operating exposure measures the effects of exchange rate changes on expected future cash flows and discount rates and, thus, on total value.

Economic exposure therefore, is the effect of changes in exchange rates on the value of a firm.

Shapiro (1990) presents a time pattern for economic exposure, in which he notes that firms are exposed to exchange rate changes at every stage in the process, from developing new products for sale abroad to entering into contracts to sell these products to waiting for payment on these products. To illustrate, a weakening of the U.S. dollar will increase the competition among firms that depend on export markets and increase their expected growth rates and value, while hurting those firms that need imports as inputs to their production process.

Political and Regulatory Risk
Firms that operate in politically stable domestic markets often fear overseas expansion, because of the increased political risk that may be associated with operating in a politically less stable environment. The political risk can take many forms, ranging from bloody revolutions

(e.g., the existing government is overthrown) to more limited changes (e.g., the basic laws and regulations are rewritten as a consequence of a political shift). The effects on the firm can also extend from expropriation, whereby the firm's assets are seized with no compensation, to a reduction in expected cash flows as a result of changing laws.

It is argued that the difference between the more stable economies, such as the United States, and less stable ones, such as some of the emerging markets like Brazil and Indonesia, is merely one of degree. Although the existence of political risk cannot be disputed, the measurement of political risk is still extremely subjective.
Another risk firms face when they venture out of their domestic markets is the risk of operating in unfamiliar terrain, with different regulations and cultures. If ignored, these differences can end up costing the firm.

Managing Exchange Rate and Other Risks
As the preceding section illustrates, exchange rate changes affect not only current income but also the value of the firm. In addition, a firm may be exposed to political and regulatory risks as it takes on projects in other countries. The follow up questions then become:

- should firms try to manage or minimise their exposure to exchange rate, political, and other risks?
- if they decide to do so, what products are available to help them hedge these risks?

Any time a firm enters into a transaction that exposes it to cash flows in a foreign currency, it is exposed to exchange-rate risk. If the firm ventures into other countries, it creates additional political and regulatory risks for itself. The manager can leave the firm exposed to these risks, or the manager can hedge the risks, using a variety of financial instruments. This choice cannot be made without considering the following factors.

1. **Stockholder Composition:** For stockholders to be able to diversify away the foreign-exchange risk that flows through to firms, they must be internationally diversified. Thus, an investor who holds Siemens and GE in the same portfolio may not be affected much by movements in the $/ DM exchange rate, because of offsetting change effects on his or her investments. If a firm's stockholders fit this profile, hedging exchange-rate risk becomes much less of a priority. If, on the other hand, the stockholders in a firm are not internationally diversified, a much better argument can be made for diversifying exchange-rate risk.

2. **Diversification across Countries:** Some companies accomplish a diversification of a different kind, because they have economic exposures in many currencies. To illustrate, Citibank, with operations in more than 90 countries, is less likely to be concerned about hedging the exchange rate risk than, say, Wal-Mart, whose only international investments are in Mexico.
3. **Cost of Hedging Risk:** Hedging foreign exchange risk exposure is cheaper in some currencies than in others and for shorter periods than for longer ones. Other things remaining equal, the greater the cost of hedging risk, the less likely firms will be to hedge. In terms of the types of exposure described above, firms are much more inclined to hedge translation and other short – term exchange rate risk exposure, because of the low cost of hedging. They are less inclined to hedge long-term exchange rate risk exposure and political risk, because the hedges are more difficult and much more expensive to acquire.

In summary, firms with limited foreign operations primarily domestic investors and short –term transactions exposures are likely to gain the most by hedging. Firms with far-flung foreign operations, internationally diversified investors, and long –term exchange rate risk exposures or political risk exposure should be much more cautious about hedging that risk.

In closing, it is worth pointing out that firms will always be exposed to the expected changes in exchange rates; it is only the unexpected component of the changes that is being hedged away. To illustrate, if the Home Depot opens a store in Mexico, and the expected annual inflation rate is 40 per cent higher in Mexico than in the United States, the firm should expect the peso to depreciate about 40 per cent a year. The actual exchange rate change may be very different for a number of reasons, however; among other factors, there may be political upheaval, and the actual inflation rate differential may turn out to be much higher or lower than the anticipated 40 per cent. It is this component of the exchange rate change that can be hedged using forward, futures, or options contracts.

3.3 Investment Analysis of Foreign Projects

Regardless of whether the project is domestic or foreign, the decision of whether or not to take a new project remains grounded in the expected cash flows and hurdle rates for that project. That said, there are unique issues that are associated with analysing projects with cash flows in currencies other than the firm's domestic currency and that are based in a different country.

Estimating Cash Flows

In the earlier chapters on capital budgeting, we considered several examples of project analyses in which we estimated the cash flows in non – domestic currencies for projects following many of the same steps, but the analyst has to answer two key questions during the estimation process. The first relates to the currency in which the analysis is to be done; the cash flows can be estimated in either the domestic or the foreign currency. If the cash flows are to be estimated in the domestic currency, the exchange rate has to be forecast for future years and used to convert the expected cash flows. The second question relates to how the cash flows should be adjusted to reflect political risk and other constraints that are associated with operations in a different country. For instance, some countries have strict restrictions on cash withdrawals from projects taken within their jurisdiction; such restrictions have to be built into the cash –flow estimates on the project.

Exchange rate Forecasts

From a purely mechanical standpoint, the only additional input needed for the estimation of cash flows of foreign projects is the expected exchange rate. In making these estimates, firms should draw heavily on the purchasing power and interest rate parity theorems, where we noted the relationship among exchange rate changes over time, differences in inflation, and differences in interest rates. Three basic approaches can be used to obtain these exchange rate estimates for future periods:

1. If forward or futures contracts are traded, and forward (or futures) rates are available for the life of the project, the forward rates can be used as predictors of the expected spot rates. This is, by far, the most straightforward approach, because it requires no estimation on the part of the firm. The key problem, however, is that even when futures contracts are traded, they are available for shorter time periods, say, up to two or three years, whereas typical projects have much longer lifetimes.
2. When futures rates are not available for longer time horizons, the international fisher effect can be used to estimate expected spot rates in the future. This, of course, requires the existence of long –term bond markets in both economies, where interest rates can be observed and used in the estimation.
3. When long-term interest rates are not available in one of the two countries, the final option is to draw on purchasing power parity. This requires estimating expected inflation rates in both countries for long periods and then using these rates to arrive at expected spot rates. Consequently, it is inherently more time consuming and noisy than the first two approaches.

Some firms use forecasting services to obtain exchange rate forecasts. Several studies have compared the forecasts from these services to those obtained from the parity theorems; they conclude that there is no evidence that the services outperform simple mechanical forecasts, especially in the long term.

A simple solution to this estimation problem may be to estimate all cash flows in the foreign currency, but, as we will see in the next section, the expected change in exchange rates will then have to be reflected in the discount rate.

3.4 Valuation

The final issue we will examine in this chapter is the effect of a firm's international operations on its value. Because valuation can be considered an extension of capital budgeting, many of the same principles apply. The expected cash flows to a firm's foreign operations be forecast first and then converted using expected exchange rates. Because the total cash flows from foreign operations can be viewed as the cash flows from a portfolio of foreign projects, one advantage analysts have while doing valuation, as opposed to a single capital budgeting project, is that forecast errors in exchange rates may average out, especially if the firm has projects in a large number of countries. The discount rate used to obtain the present value can be adjusted for diversification benefits (which will push it down) and for exchange rate and political risk (which will push it up), taking into account the magnitude of the foreign operations relative to firm value.

Taking Boeing as an illustration, its valuation was based on estimated cash flows in dollar terms and a dollar discount rate. In reality, more than 50 per cent of Boeing's revenues in future years will come from sales overseas, which will expose Boeing to exchange rate and also political risks in foreign countries and provide international diversification benefits. The expected growth rate in Boeing's earnings and the discount rates used should reflect these effects. As exchange rates move from period to period, the actual earnings reflect may deviate from the expected earnings, even if all the other assumptions hold; these privations should partially average out over the long time horizon that is used in valuation.

If stockholders are well diversified internationally, they will not demand an extra premium for this risk, and discount rates will not need to be adjusted. Alternatively, if stockholders are not well diversified, and they perceive the exchange-rate risk as a market risk, the discount rate can be adjusted upward to reflect the additional exchange-rate risk. In the case of Boeing, we would argue that the first view is the more realistic one,

for it has always depended on overseas sales and is substantially held by institutions.

There is some evidence that there is still a ‘‘home bias’’ in the portfolios held by individuals, whereby domestic holdings in portfolios exceed what they should be, given that a truly diversified investor will hold investments from around the world, in proportion to their market value. As long as this home bias exists, a risk premium will probably be associated with overseas expansion and the exchange-rate risk that accrues to firms.

4.0 CONCLUSION

As the international operations of firms expand, it is worth remembering that the principles of corporate finance continue to hold. In this chapter, we made the following points.

Exchange rates will move over time, partly because of shifts in fundamentals, such as interest rates and inflation rates, and partly because of other factors, such as speculation, and central bank intervention.

When exchange rates move, firms that are exposed to cash flows in foreign currencies will be affected, creating additional variability in the cash flows. Although firms can hedge some or all of this variability, they should do so only if the cost of hedging is low and their stockholders are not internationally diversified.

When it comes to hedging exchange-rate risk, firms have a variety of choices, ranging from traded securities, such as futures and options, to lending and borrowing in the money market.

In analysing foreign projects, firms have to forecast exchange rates and convert future cash flows into the domestic currency. The net present value can then be computed using a discount rate that may have an added premium for the political and other risks associated with the foreign investment.

When firms venture out of their own borders, they expand their choices in terms of financing and may alter their optimal debt ratios, partly because of the effect foreign investments have on tax rates and partly because of the effects on cash flow variability of international diversification.

5.0 SUMMARY

We have been able to examine certain issues relating to investment, financing, and dividend decisions and how they are specific to non-domestic projects.

6.0 TUTOR-MARKED ASSIGNMENT

1. Under what conditions might a firm get better issuing foreign bonds?
2. Some currencies like naira have depreciated dramatically over the last few years against the U.S. dollar. What would you attribute this depreciation?

7.0 REFERENCES /FURTHER READING

Damodaran, A. (1997). *Corporate Finance: Theory and Practice.* USA: John Wiley and Sons Inc.

Ross, S.A. *et al*. (2006). *Fundamentals of Corporate Finance*. USA: McGraw – Hill Inc.