



NATIONAL OPEN UNIVERSITY OF NIGERIA

**SCHOOL OF BUSINESS AND HUMAN RESOURCE
MANAGEMENT**

COURSE CODE: MBF711

COURSE TITLE: FINANCIAL MANAGEMENT I



MBF711
FINANCIAL MANAGEMENT I

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Introduction

MBF711: Financial Management I is a semester work of three credit units. It will be available to all students taking the B.Sc. programme in the School of Business and Human Resource Management.

This course of 16 units involves financial management as an aspect of management and finance which will be useful at both micro and macro organisational levels.

The course guide tells you what this course MBF711 is all about, the materials to ensure you get the best and how to achieve success in your studies. Other pieces of information contained in the course include how to make use of your time and how to tackle your tutor- marked assignments. There will also be tutorial classes. Full details concerning all these will be conveyed to you at the appropriate time.

What you will Learn in this Course

This course consists of different theories of management. These are finance and financial management, types of business financing and sources, fund flow, cash flow analysis, risk analysis, investment appraisal, cash and treasury management and debt and receivables management. All these will help you in appreciating the importance of this course in managing funds and finances in organisations.

Course Aims

This course will expose you to the theories of financial management so that they can be applied to our various businesses, enterprises and organisations.

The course will help you to value financial management as an aspect of management and finance. It is beneficial to small, medium and large scale organisations.

You will learn how to handle finances in different organisations and manage funds acquired in various organisations.

The aim will be achieved in the following ways.

- Explaining the concept of financial management.
- Identifying and discussing the theory of financial management
- Discussing the various ways of financing and explaining types like short, medium and long term business financing.
- Highlighting ,the various sources of financing in business

- Describing the fund flow, cash flow and risk analysis and its application to organisations.
- Evaluate methods of investment appraisal
- Explaining the concept of capital rationing
- Explaining cash and treasury management and debt and receivables management.

Course Objectives

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

- explain the objectives of management
- highlight the purposes and sources of finance
- fully list the objectives and scope of financial management
- state and explain short-term, medium-term and long-term business financing
- explain other sources of business financing.
- give a detailed analysis of fund flow, cash flow and risk analysis
- explain the various Investment appraisal techniques with their merits and demerits
- give the meaning, situations of and factors leading to capital rationing
- discuss sources and forms of working capital finance
- discuss the meaning of cash and treasury management, motives of holding cash balances, electronic cash management system and virtual banking
- explain the different types of credit, concept of receivables, meaning of cash discount and ratios used in control of receivables.

Course Materials

- The Course Guide
- Study Units
- Textbooks
- The Assignment File

Study Units

There are 16 units of this course which you should study carefully:

Module 1

Unit 1	Theory of Management
Unit 2	Theory of Finance

Unit 3	Theory of Financial Management
Unit 4	Short Term Business Financing
Unit 5	Medium Term Business Financing

Module 2

Unit 1	Long Term Business Financing
Unit 2	Other Sources of Business Financing
Unit 3	Fund Flow Analysis
Unit 4	Cash Flow Analysis
Unit 5	Investment Appraisal

Module 3

Unit 1	Capital Rationing
Unit 2	Working Capital Finance
Unit 3	Risk Analysis
Unit 4	Working Capital Planning
Unit 5	Cash and Treasury Management
Unit 6	Debt and Receivables Management
Unit 7	Financial Management Planning and Control

The Assignment File

There will be an assignment in each unit. The exercises are tailored to help you have a full understanding of the course. Practise these assignments carefully, it will help you assess the course critically, consequently increasing your knowledge of the course.

Tutor-Marked Assignment

In doing the tutor-marked assignments, you should apply what you have learnt in the content of the study units.

These assignments, which are four in number, are expected to be turned into your tutor for grading. They constitute 30% of the total score.

Final Examination and Grading

At the end of the course, you will write the final examination. It will attract the remaining 70%. This makes the total final score to be 100%.

Summary

MBF711: Financial Management I treated some of the objectives and the needs and benefits of financial management. Also, the course delved into how to handle finances and how to manage them no matter how small.

At the end of the course, you would have learnt how to make proper use of funds and finances of an organisation so as to achieve maximum results whether in small scale, medium scale and large scale enterprises.

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MODULE 1

Unit 1	Theory of Management
Unit 2	Theory of Finance
Unit 3	Theory of Financial Management
Unit 4	Short Term Business Financing
Unit 5	Medium Term Business Financing

UNIT 1 THEORY OF MANAGEMENT

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3.0	Main Content
3.1	Definition and Objectives of Management
3.2	Dimensions of Management
3.2.1.	Management as a Profession
3.2.2.	Management as an Organisational Position
3.2.3.	Management as a Process
3.3	Need for Management
3.4.	Management Levels
3.4.1	Top Level Managers
3.4.2	Middle Level Managers
3.4.3	Lower Level Managers
4.0	Conclusion
5.0	Summary
6.0	Tutor-Marked Assignment
7.0	References/Further Reading

1.0 INTRODUCTION

This is the first unit. In this unit, you will learn about the definition and objectives of management, need for management and the various levels of management.

2.0 OBJECTIVES

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

- define management
- explain the objectives of management
- explain the need for management
- list the management levels.

3.0 MAIN CONTENT

3.1 Definition and Objectives of Management

What is Management?

There is no universal acceptable definition of management. The word has different meanings depending on the context and purpose. The word management was derived from the Italian word “Managgaive”, meaning to train horses. It was originally used to indicate the process of managing, training or directing sporting activities, and later to operations of government and businesses.

Management is the process of getting things done thoroughly with people operating in organised group. Management has different uses which will be explained as (i) “management” as a profession, (ii) organisational positions and (iii) an organisational or administrative process.

3.2 Dimensions of Management

3.2.1 Management as a Profession

The word “profession” literally means an occupation in which special education or training is required; examples are Architecture, Law, Medicine, Accounting etc, to mention just a few. For Management to be a discipline, it must possess the following characteristics. It must:

- i. be a body of specialised knowledge or techniques
- ii. be acquired by means of formal education and experience
- iii. have a professional organisation representing and protecting the image of the discipline with an ethical code for the guidance of members’ conduct and,
- iv. be given authority to licence management practitioners who are committed to services rather than monetary incentives.

3.2.2 Management as an Organisational Position

Groups of people exist in all organisations, be it profit or non-profit making businesses and are called different names like managers, administrators, officers, chiefs, and so on.

3.2.3 Management as a Process

This view of management is to consider it as an administrative process consisting of interrelated activities or functions. In other words, management is regarded as the process of utilising the scarce resources of the organisation effectively in attaining the predetermined objectives of the organisation.

3.3 Need for Management

Management functions can be coined as a word POSDCORB, this means:

P – Planning
O – Organising
S – Staffing
D – Directing
C & O – Coordinating
R – Reporting
B – Budgeting

The need for management arises from scarcity of resources and complexity in the operations of modern organisations. For example, the period of Moses witnessed the development of organisational hierarchy when he was asked by God to choose able men in all Israel and make them heads over his people to facilitate the management and control of increasing population of Israelites (MacFaland, 1978).

3.4 Management Levels

Managers occupy various levels of authority within the organisation and have responsibility of accomplishing the tasks assigned. Management levels vary in organisation depending on the size, nature, complexity, technology, number of employees and management attitude just to mention a few.

There are three distinct but overlapping levels of management. These are the top, middle and lower levels. Each succeeding lower level represents decreasing authority and increasing number of managers.

3.4.1 Top Level Managers

These include the corporate officers that are elected by the Board of Directors. Top managers have job titles like Chairman of the Board, President, Executive Vice President, General Managers and their deputies. Top level managers are concerned primarily with major

direction of an enterprise; they are the chief policy making officers of the organisation. They spend most of their time with peers, outsiders and to a lesser extent subordinates.

Top level management functions include:

- determining company objectives
- establishing broad policies
- coordinating enterprise activities
- adapting effective means of control
- authorising new facilities and launching research and development projects
- appointing top level officers

3.4.2 Middle Level Managers

Middle level managers are above the supervisors and below the top managers; they report directly to the top level managers. They are managers, such as directors of finance, production, marketing, personnel and purchasing. Chief engineer, plant manager, etc. Middle managers are between the top and the lower level managers and are sometimes called manager of managers since the lower level managers report to them. Their principal task is to manage managers and to act as a buffer between the top managers and supervisors. Middle level managers spend most of their time on committees, mostly with each other (peers) and in their departments.

Middle Level management functions include:

- integrating the activities of the different work group
- preparing plans and programmes for departments
- taking appropriate actions to execute plans
- assisting top level managers in executing their functions
- communicating management policies
- transferring information and materials between different work environments.
- coordinating enterprise activities
- providing information that will assist top level managers in decision making.

3.4.3 Lower Level Managers

Most managers are supervisors and are sometimes called general foreman, foreman and group supervisors. This is the lowest level of management. The supervisors do not manage other managers but spend more of their time with subordinates and peers than with supervisors or

outsiders. The main tasks of the supervisors are to oversee the activities of the front line employees and ensure that they carry out their daily tasks as expected. Lower levels management functions include:

- planning work for their sections
- directing the rank and file workers to accomplish their departmental goals
- ensuring promptness and consistency for better productivity
- maintaining discipline and order

4.0 CONCLUSION

In this unit you have learned the definition of management, the three dimensions of management, the need for management and the levels of management.

5.0 SUMMARY

We have successfully defined management as the process of getting things done thoroughly and with people operating in organised groups. We also stated that management can be viewed from three dimensions viz; as a profession, organisational positions and as an organisational or administrative process. We also discussed the need for management and the various levels of management.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe management as a profession.
2. Differentiate between the three levels of management.

7.0 REFERENCES/FURTHER READING

- Yalokwu, (2002). *Fundamentals of Management*. Lagos: Peak Publishers.
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UNIT 2 THEORY OF FINANCE

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- 1.0 Introduction To Finance
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Definition of Finance
 - 3.2 Purpose of Finance
 - 3.3 Sources of Finance
 - 3.3.1 Formality
 - 3.3.2 Ownership
 - 3.3.3 Duration
 - 3.4 Factors Affecting Choice of Finance
 - 3.5 Problems Encountered in Sourcing for Funds
 - 3.6 Nexus between Management and Finance
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, you will learn about the definition and objectives of finance. You will also learn about the sources and purposes of finance.

2.0 OBJECTIVES

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

- define finance
- explain the objectives of finance
- list the purposes of finance
- list the different sources of finance.

3.0 MAIN CONTENT

3.1 What is Finance?

Finance literally means the provision or sourcing for funds for an organisation by the sale of shares, bonds, stocks or taking loan from other parties.

Finance, according to Akintoye (2008), is basically raising or attracting monetary resources for business ventures. Finance, which is also

referred to as capital, is the key to a business venture. The business environment manages 4 'MS' named as follows.

M ¹	-	Men	-	Managed by Human Resources Manager
M ²	-	Materials	-	Managed by the Production Manager/Purchasing Officer
M ³	-	Machine	-	Managed by the Engineer
M ⁴	-	Money	-	Managed by the Finance Manager

Money is central to every business activity and without it, nothing can be achieved.

- Men are rewarded by money
- Materials are purchased with money
- Machines are acquired using money

“Money answers all things” in the business process.

3.2 Purpose of Finance

A firm needs finance for:

- 1) Capital Investment e.g. purchase of land, building of factories, purchase of vehicles, etc. i.e. to acquire long term assets.
- 2) Working Capital Investment – finance is also needed for day to day running of the business environment. To pay clerks who open the office as salaries, to pay cleaners as wages, to pay for electricity, raw materials, rent, etc.

Working capital costs can be classified into:

- cost of materials
- cost of labour
- cost of overhead/expenses

3.3 Sources of Finance

Sources of finance can be categorised into three.

3.3.1 According to Formality

- (a) **Formal** - Official sources with applications, collateral securities, documentations, legality, etc, e.g. bank loan

- (b) **Informal** - Unofficial source with fewer formalities. No need for application, no collateral, less documentation, no legality, no delays, etc, e.g. owner's personal savings, loans from friends, loans from family, etc.

3.3.2 According to Ownership

- (a) **Internal** - Finance from internal owners. This can be ,by owners' savings e.g. equity, retained profit, personal savings, provision set aside from profits, paid debts, taxation, dividends, etc.
- (b) **External** - Finance from outside the business environment, by third parties who are not necessarily part of the business e.g. banks, friends etc.

3.3.3 According to Duration

- (a) **Short Term** - Funds which maturity is between 1 day and 12 calendar months (one year) e.g. bank overdraft.
- (b) **Medium Term** - Funds which maturity is greater than 12 calendar months and up to 5 years. For example. Hire purchases etc.
- (c) **Long Term** - Funds which maturity is above 5 years e.g. equity, preference shares, debentures.

3.4 Factors Affecting Choice of Finance

1. Duration of the project – what is the timing of the need for finance?
2. Pattern of cash flow – how long will the projects last before cash is generated?
3. Risk – what are the risks involved in the sources and even in the project? Can one take a loan at 20% to finance a project with a promise of 25% return with an expectation of only 50% assurance of that return? When expectation is less than 100%, you reduce the expectation by element of probability i.e. 50% of 25% returns only = 12.5%
4. Cost of finance

3.5 Problems Encountered in Sourcing for Funds

1. Rapid Expansion – rapid expansion may lead to consistent insufficient fund.
2. Consistent operational loss – this could lead to insolvency.
3. Inflation – this may erode the purchasing power of funds.
4. Seasonal business.
5. Inadequate collateral securities for formal sources.
6. Unwillingness to take risk by risk averters.

3.6 Nexus between Finance and Management

We have in unit one summarised the management functions into POSDCORB:

- **Planning** - there is the need to plan finances; otherwise it may be unavailable, too expensive, wrongly timed, etc.
- **Originating** -the use of funds must be organised, otherwise you could waste all your resources by unorganised spending.
- **Staffing** - adequate staff should be put in place to manage funds, the work of a finance manager, accountant, cashier, treasurer should be well defined and handled by professional staff, and otherwise you can loose all your life savings in the hands of quacks.
- **Directing** - there is the need to monitor the use of money in the hands of those who keep it and direct them on its use, otherwise, pilfering and misspending may result.
- **Coordinating** - there is the need to coordinate finances from different units of the business environment, otherwise if workers are allowed to deal with cash coming to their hands in the organisation, liquidity and bankruptcy may result as an average man is said to be selfish.
- **Reporting** - financial reporting is essential as a feedback from managers of fund to owners – stewardship.
- **Budgeting** - a forecast, looking into future financial activities and planning for such leads to prudent and judicious spending. Money not budgeted for most of the times is wasted. A man earning money without a decisive project always gamble with such and runs into financial difficulties

The above points therefore, clearly demonstrate the relevance of management to finance and they give rise to financial management.

4.0 CONCLUSION

In this unit, you have learned the definition of finance, the three main sources of finance, and the purposes of finance. You are now aware of the problems encountered in sourcing for funds and how to solve them.

5.0 SUMMARY

We have successfully defined finance as a means of sourcing for funds for an organisation by sale of shares, bonds, stocks or taking loans from other parties. We also stated that sources of finance can be categorised into three which are formality, ownership and duration.

We also discussed the problem usually encountered in sourcing for funds.

6.0 TUTOR-MARKED ASSIGNMENT

1. What do you understand by finance?
2. Differentiate between finance and management?

7.0 REFERENCES/FURTHER READING

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UNIT 3 THEORY OF FINANCIAL MANAGEMENT

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 - 3.2 Goals of the Firm
 - 3.2.1 Profit Maximisation
 - 3.2.2 Maximisation of Shareholders Wealth
 - 3.2.3 Other Relevant Objectives
 - 3.2.4 Social Programmes
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Production by definition is the changing of raw-materials to usable forms called finished goods. Four (4) essential factors are joined together to form a complete process - these are land, labour, capital and entrepreneur. Among these factors, we submit that capital (money/fund) is pivotal. Little wonder that the Bible made it clear to us that “money answereth all things”.

In basic principles of finance, it is clear that as an entrepreneur or a shareholder of firms, you may not necessarily use only your money to do business, but other external funds. However, one point is very clear, whether yours or others, capital is essential to the birth and survival of any venture. Financial management principle is based on the fact that there is a **project**.

Financial Management therefore, is an essential element of project analysis. It is important to mention that an organised financial decision is very important otherwise we may fall into the mistakes of our forefathers many centuries past, where monies were borrowed to marry many wives or for burial ceremonies at the expense of good projects like education of children etc. It can therefore be conveniently advised that it is better to plan what you want to do before searching for money to do it. Do not wait till funds come before planning what to do with it. Hence financial management function involves five (5) basic steps.

- Step 1 Investment Decision** - plan what you want to invest in. What exactly do you want to do? Where exactly are you going? What are your dreams/visions and aspirations?
- Step 2 Financial Decision** - Having planned what you want to do, where you want to be, etc, the next step is to decide the best type of funds, or capital structure to meet up. It is important to understand the nature, size, life span, preparation period/gestation, the scope and other essential factors of the project you want to venture in, so as to plan for adequate financing. A mistake here can lead to a 'mismatch' i.e. financing wrong project with a right capital/fund, or financing right project with a wrong capital, e.g. sourcing for short term capital to finance a medium or long term project.
- Step 3 Profit Decision** - as in normal theory of firms in economics, businesses are set up to make profit and as much as possible maximise returns, enhancing shareholders wealth/value; except in public projects where social objective (provision of social benefits for the populace) is the main purpose. All private projects and investments are for commercial reasons, making and maximising returns to owners. As a result, it is important to plan the extent of the need to make up costs to arrive at selling prices of goods and services, what margin will be sufficient to take care of other overheads, government taxes, shareholders expectations, growth and aspirations and yet remain competitive in the market with adequate market share?
- Step 4 Dividends and Retention Decision**
- The firm's dividend policy is very crucial, subject to different kinds of shareholders, their beliefs and value judgment. Determination of dividend pay-out ratio in the light of the objective of maximising shareholders wealth and ploughing back part of earnings for expansion and enhancing future values is essential and should be carefully handled.
- Step 5 Liquidity Decision**
- A company with all the long term assets needed but without working capital may not survive. It is therefore essential to determine what portion of the firms'

earnings/capital to be kept in liquid form i.e. short term asset-mix to meet day-to-day current obligations. Keeping excess funds in liquid form may amount to capital tied down which may increase operating costs, while keeping too little may lead to illiquidity with its associated costs/implications.

Financial Management therefore has to do with the study about the process of procuring financial resources and making judicious use of them with a view to maximising the value of the firm or the value of the owners i.e. equity shareholders in a company.

2.0 OBJECTIVES

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

- define the scope of financial management
- explain the goals of the firm
- explain the financial objectives of a firm

3.0 MAIN CONTENT

3.1 Definition of Financial Management

Management is concerned with decision making and smooth running of an enterprise. Financial Management involves acquisition of assets needed for the operation of a firm and financing such asset acquisitions through dealings in the financial market. It is also concerned with the issue of what to do with the profits being made in the firm-plough it back into the business or return it to the shareholders. The success or failure of any firm is mainly linked with the quality of financial decisions. The focus of financial management is on efficient and judicious use of resources to attain desired objectives of the firm.

Investment decisions entail ensuring that various tangible assets needed by the firm are available at the right time. These assets include office accommodation, plant, machinery, factories, farmland etc. Plans or budget are normally made to ensure that these items are acquired when needed.

Procuring funds for the acquisition of needed assets often poses variety of problems for business organisations. Dividend policy decision is a hybrid of two other financial management activities. It involves that profits are either retained for reinvestment purpose to aid the growth of the firm or they are declared as dividends to shareholders or both.

3.2 Goals of the Firm

There is little agreement in the literature about what the objectives of firms are or what they ought to be. Firms are known to pursue diverse objectives at the same time, but a few central ones stand out as major. These include profit maximisation, wealth maximisation and ensuring generation of a good public image as a corporate citizen of the community.

3.2.1 Profit Maximisation

The model at perfectly competitive market postulates that private firms should behave primarily with the profit maximisation motive. To maximise profit, the firm must maximise output of a given set of scarce inputs or expressed equivalently, minimise the cost of producing a given output. The goal of profit maximisation emanated from the argument that the shareholders are the owners of the firm which therefore should be operated for their benefit by trusted managers.

3.2.2 Maximisation of Shareholders Wealth

This is stressed due to some practical problems that arise in the use of the pure profit maximisation criterion. For operational use, profit maximisation does not take account of risk, the time value of money and it is ambiguous. For these reasons, wealth maximisation has replaced profit maximisation as the operational criterion for financial management decisions. By measuring benefits in terms of cash flows, we would avoid much of the ambiguity of profits. By discounting those cash flows over time using concepts of interest compounding we can take account of both risk and time value of money. It is important to note that maximisation of shareholders' wealth is as explained an extension of profit maximisation to a scenario that is uncertain and multi period in nature. Where the time period is short and the degree of uncertainty is not great, wealth maximisation and profit-maximisation almost amount to essentially the same thing.

You may start wondering at this point on how exactly wealth maximisation is determined. In the final analysis, wealth maximisation is tantamount to maximisation of the price of a firm's shares in the capital market (Stock Exchange). The price of the shares is determined by the firm's present earnings and expected future earnings which in turn is determined by its overall cash outflow and can be inflows from investment projects. We can conclude that wealth maximisation is equivalent to stock price maximisation. Hence, what managers do to maximise the shareholders wealth is to take decisions that positively enhance the firm's stock price.

The following factors will affect a firm's stock price:

- a) Estimated earnings per share
- b) Risks attached to projected earnings
- c) Timing of the earnings stream
- d) The various combinations of securities used in financing the firm
- e) Cost of capital
- f) Dividend policy

It has been found that the shareholders benefit more when share prices appreciate in the market. This way there is a lock-in of capital gain when they sell their shares to other investors.

3.2.3 Other Relevant Objectives

These ensure that whatever goals are pursued would bring out results that do not differ substantially from the profit maximisation objective. The question of management of many firms, being separate from owners (shareholders) has made writers to suggest pursuit of goals that management favours. These would include the followings:

- i) Improving employers' welfare
- ii) Creating a good community relationship
- iii) Improving welfare of the management team by increasing emoluments and the pre-requisites and devoting money to even recreational facilities like golf or tennis.

We may not be able to rule out the possibility of management pursuing other objectives apart from profit maximisation conceding the reason of management independence from shareholders. Many firms do tie management compensation to the company performance and there are indications that this motivates managers to operate in a manner consistent with stock maximisation.

3.2.4 Social Programmes

Business organisations with normal or super normal profit can and do engage in community welfare programmes. These social services increase costs, however in highly competitive industry; there would be a minimisation of such efforts. It is conceivable also that those who have companies shares would prefer those of companies that increase values of shareholders' wealth than those of social "do-gooders" who reduce shareholders' wealth.

So, social cost-increasing action may have to be put on mandatory rather than on voluntary basis, at least initially. This is to ensure that the

burden of such actions falls uniformly across business organisations. For this reason, and the deficiencies of the invisible-hand philosophy that we saw earlier, government legislation and regulations are introduced for:

- i) minimum wage rules
- ii) industrial training fund laws
- iii) regulation on standard and qualities of industrial output
- iv) workmen safety regulations
- v) environmental pollution regulations, etc

There are other regulations to ensure that the social responsibility of business organisation becomes constraints. Firms would normally strive to maximise shareholders' wealth subject to the constraint.

4.0 CONCLUSION

In this unit, we have learned the definition of financial management, the scope of financial management and the goals of the firm with respect to profit maximisation, maximisation of shareholders wealth, other relevant objectives and social programmes.

5.0 SUMMARY

Finance is the life blood of a business. Financial management involves acquisition of assets needed for the operation of a firm and financing such asset acquisitions through dealings in the financial market.

6.0 TUTOR-MARKED ASSIGNMENT

- 1. Define financial management.
- 2. State the types of decisions in financial management
- iii. List the major goals of the firm.

7.0 REFERENCES/FURTHER READING

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UNIT 4 SHORT TERM BUSINESS FINANCING

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 - 3.1 Definition of Short Term Business Financing
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- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In previous units, we identified five broad decision areas in financial management namely:

- 1. investment decision
- 2. financing decision
- 3. profit decision
- 4. dividend and Retention decision
- 5. liquidity decision

In this unit, we will focus our attention on the financing of short term businesses with a view to exposing you to the different sources for short term investments.

2.0 OBJECTIVES

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

- define short term business financing
- explain the types of short term business financing
- explain the essence of short term business financing to an organisation.

3.0 MAIN CONTENT

3.1 Definition of Short Term Business Financing

Short term financing has to do with using funds with maturity/repayment period of between One (1) day and twelve (12) calendar months. Short term methods of finance are suitable for funding

projects of short term nature and can also be attributed to shortages in working capital. They should not as a matter of policy be used to finance long term investments to avoid a mismatch (Akintoye 2008). It is prudent to have some current assets financed by long term capital on a roll-over basis to create assets; otherwise the company will have a negative working capital.

3.2 Types of Short Term Business Financing

The main sources of short term financing are the followings:

- i. Bank credit/bank overdraft
- ii. Commercial papers
- iii. Trade credits
- iv. Debt factoring
- v. Invoice discounting
- vi. Bill discounting
- vii. Accruals
- viii. Acceptance credits/bankers acceptances
- ix. Accommodation finance

3.2.1 Bank Credit/Bank Overdraft

Commercial Banks sometimes allow their customers to overdraw their accounts up to certain limits; overdraft interest is charged on the day-to-day overdrawn position. The bigger customers may be charged “Prime Rates” (a little above the bank’s base rate) while smaller customers may be required to pay a premium over and above the prime rate.

Bank overdrafts are usually available for up to 12 calendar months (1 year), but can be rolled over on a mutual agreement. The main cost of bank overdraft is the interest charge.

3.2.2 Commercial Paper

This is an instrument used by big companies to raise short term funds from the money market. It is usually issued on behalf of the company by a bank as the issuing house. The issuing house does not guarantee the notes but assists in finding investors to buy them.

The investors are therefore effectively lending directly to the company issuing the notes not the issuing house. The issuing house charges a commission for the intermediate service.

Commercial papers usually carry a stated coupon rate, and the maturity date of between 30 and 270 days.

The costs of commercial papers are made up of the following two components:

- i. The coupon rate e.g. 12% per annum
- ii. An issuing house commission e.g. 0.5% flat on the amount raised.

Costs of various alternative funds are always considered before a choice is made.

3.2.3 Trade Credits

Buying today and paying tomorrow is a credit. The credit from suppliers is a major source of business finance, especially to small companies. This source of finance could be very expensive where cash discounts are offered and such an offer is not taken.

The effective cost of not taking a discount can be calculated as follows:

$$\text{Cost} = \frac{\% \text{ Age discount}}{100 - \% \text{ Age discount}} \times \frac{365}{\text{Maximum payment period less Maximum discount period}}$$

It can be rolled over and therefore will become a continuous source of finance. The other intrinsic costs associated with trade credits are:

- i. pressures from suppliers
- ii. reduction in credit rating and loss of goodwill if payment is delayed beyond maturity date.

3.2.4 Factoring

Factoring means the act of selling the company's debt for cash. Factoring involves raising funds on the security of the company's debt so that the cash is received earlier than if the company waited for the debtors to pay. This is only easy for a company that is well known and debtors who are well known to be of high integrity.

3.2.4.1 Types of Factoring

There are two main types of factoring.

(a) Service Factoring

Service factoring has to do with the factor buying from the company its debt. In effect, the company passes to the factor all the work of the

company's debt collection and debtors' account. Payment to the company by the factor for the debt is made on an average settlement date based on the maturity date of the debt. The charge for this service is usually based on debt turnover.

Disadvantages of Service Factoring

1. The debtor is always aware of the existence of the factor since all invoices and statements will be sent out by the factor and payments made to the factor.
2. Payment is made by the factor to the company on the average date of which the debts fall due for settlement.

Key:

- Client sells goods to debtor
- Client sells debt to factor
- Factor makes payment to client
- Debtor makes payment to factor

b. Service and Finance Factoring

This type of factoring involves not only the provision of accounting facilities but also of immediate finance, since the factor buying the debt makes an immediate payment to the company of up to 90% of the face value of the debt in addition to paying the service charge, the company must also pay the finance charge to the factor.

Steps:

- Client sells goods to debtor
- Client sells debts to factor
- Factor makes payment to the company up to 90% of the face value of debts
- Debtor makes payment to factor

3.2.5 Invoice Discounting

In spite of the fact that by accepting a company, a factor will thoroughly investigate the company's affairs in order to satisfy himself that the business is properly managed. There is still a fear that the use of a factor indicates financial instability. Consequently, many potential users of debt factoring have refrained from using the facilities available, this reluctance has given rise to a method of confidential invoice factoring which has become known as invoice discounting.

Under this method, debts are sold to the factor who makes an immediate payment of an agreed percentage of the face value of the debt sold. No accounting (sales) service is supplied by the factor, rather only finance is supplied for which interest is charged. In effect, a factor buys the debt and appoints the company as agent to collect those debts.

- Client sells goods to debtor
- Client sells debts to factor
- Factor makes immediate payment to the company up to 80% of the face value of debts.
- Client collects debts as agent for factor
- Client repays advance from factor

3.2.6 Bills Discounting

A bill of exchange is normally prepared by the supplier of goods (creditor) for endorsement / acceptance by the customer (debtor). This is common with export sales. The supplier (seller) can obtain immediate cash after the goods have been dispatched by discounting the bill with the bank/discount house.

3.2.7 Accruals

Deferment of tax payments and wages is the common example in this method. Tax laws provide that tax liabilities should be due for payment after one year. Also employees would work for a period of one month before receiving their pay. These form interest-free sources of short term finance. The cost of postponing tax payment is normally a penalty or a fine, while the cost of postponing wage payments will be to dampen employee's morale. Employees may respond with absenteeism, reduced efficiency or seek employment elsewhere. A firm must use this source of finance carefully and only as a last resort.

3.2.8 Acceptance Credit/Bankers Acceptance

This source of finance is similar to bills of exchange. The only difference is that it is a bank which undertakes to liquidate the debt of maturity in case of a default. Such bill becomes readily discountable in the money market because it has been accepted by a bank. The evaluation carried out by the provider of the fund (discount house) will normally cover the credit worthiness and reputation of the bank providing the guaranteed acceptance. Banker's acceptances (Acceptance Credits) are issued for period varying between 2 months and 12 months.

3.2.9 Accommodation Finance

In this method, two bills of exchange are drawn. The first is on the principal debtor and fully accepted by him. The second is on the bank (based on the strength of the first bill) and fully accepted by the bank. The first bill has an early maturity. The client company takes the second bill and discounts it in the money market.

On maturity, the bank (in possession of the first bill) collects the debt book, thus providing enough funds to settle the other finance house with whom the second bill was discounted. Obviously the client company incurs two costs.

In this regard, a bank that participates effectively in the discounting market can derive double income as it charges commissions for its acceptance and also receives discount for the discounting service.

3.2.10 Franchising

Franchising is a method of expanding a business on less capital than otherwise needed. For suitable business, it is an alternative to raising extra capital for growth. Under a franchising arrangement, a franchisee pays a franchisor for the right to operate a local business under the franchisor's trade name. The franchisor must bear certain costs (possibly for architect's work, establishment costs, legal costs, marketing costs and the cost of other support services) and will charge the franchisee an initial franchise fee to cover set-up costs relying on the subsequent regular payments by the franchisee for operating profit. These regular payments will be a percentage of the franchisee's turnover.

The advantages of franchisee to the franchisor are as follows.

- i. The capital outlay needed to expand the business is reduced substantially.
- ii. The image of the business is improved because the franchisee will be motivated to achieve good results and will have the authority to take whatever action they deemed fit to improve results.

The advantage of a franchisor to the franchisee is that he obtains ownership of a business for an agreed number of years (including stock and premises, although premises might be lent from the franchisor) together with the backing of a large organisation's marketing effort and experience.

4.0 CONCLUSION

Short term methods of finance are suitable for funding shortages in working capital. They should not be used to finance long term investments otherwise, there would be a mismatch.

5.0 SUMMARY

Short term business financing has to do with funding investments. It also helps to source for fund through bank credits, commercial papers, trade credits, debt financing, invoice discounting, bill discounting, accruals, and acceptance credits etc.

6.0 TUTOR-MARKED ASSIGNMENT

1. Why would an enterprise prefer short term financing to long term financing?
2. Distinguish between bills discounting and bankers acceptance.

7.0 REFERENCES/FURTHER READING

- Akintoye, I.R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.
- Akinsulire, O. (2002). *Financial Management*, (Second Edition). Lagos: Eltoda Ventures Ltd.

UNIT 5 MEDIUM TERM BUSINESS FINANCING

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Medium Term Sources
 - 3.2 Bank Term
 - 3.3 Mortgage
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

There are several sources of financing businesses. In this unit, our focus is on medium term business financing.

2.0 OBJECTIVES

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

- define medium term business financing
- explain the sources of medium term funds
- explain the essence of medium term business financing to an organisation.

3.0 MAIN CONTENT

3.1 Medium Term Sources

These are sources for funding larger and credit worthy companies. These funds are repayable within 1-5 years or sometimes 1-10 years.

3.2 Bank Term Loans

This is similar to bank overdraft except that it is available for a longer period. Also, it carries a higher interest charge because of the longer period covered. The collateral security required for bank term loan is often higher than the bank overdraft, and banks would also carry out a more stringent evaluation of the company and the project for which the fund is required. In short, the degree of control over bank term loan is higher than bank overdraft.

3.3 Venture Capital

Venture Capital represents funds invested in a new enterprise. There are several stages. Seed money is needed to develop a product or service – and a business plan. Although, usually these needs are small (several hundred thousand naira or less) and funded by the entrepreneur, or his/her family, or friends. On rare occasions, venture capitalists can provide such financing. The next stage is start-up or first-round financing. This financing is used to fund further research and development and to formulate initial marketing and production plans.

Typically, second round financing is used to get production and selling efforts launched. Although this could occur with first round financing, it often falls in the second round. Third-round and perhaps subsequent round financings are used when a company is producing and selling products or services but where cash flow break even is yet to occur.

3.4 Project Finance

This is a self-liquidating facility with the following characteristics.

- The financial standing of the borrower is not important
- The proceeds from project should be sufficient to repay the capital together with the interest.
- The project/property financed will serve as security.

3.5 Equipment Leasing

This is a financial arrangement to finance the purchase of an asset through a finance company or a leasing company or a bank. There are two types of lease, namely finance lease and operating lease.

3.5.1 Finance Lease

This is where the risk and benefit of ownership have been substantially transferred to the leasee.

3.5.2 Operating Lease

This is the lease where the risk and benefit of ownership remain with the lessor.

3.6 Sale and Leaseback

This is a situation where an asset previously owned by a company is disposed off and immediately repossessed through a leasing control.

3.7 Hire Purchase

This is an arrangement under which the hirer, in return for the use of an asset, undertakes to make periodic payments to the owner of the asset. He is expected to assume ownership of the asset after the payment of the last installment.

3.8 Mortgage

An alternative to sale and lease-back is mortgaging. It may be possible for a company to arrange to borrow money by means of a mortgage on freehold property. The most likely institutions that are prepared to lend on the platform mentioned are insurance companies, investment companies, and pension funds. Building societies are reluctant to lend to companies and there are limitations on the amount they can lend in any year to corporate borrowers. They may be more willing to grant mortgages to the proprietors of small incorporated businesses. Repayments of principal plus interest may be spread over a long period of time. The rate charged is somewhat in excess of base interest rate.

4.0 CONCLUSION

Medium term business financing helps in funding larger companies and investors as this will enable investors to finance their investments.

5.0 SUMMARY

The above mentioned sources of finance to the medium term business financing are also available to the large scale businesses. A business enterprise is at liberty to select any of the sources that is believed to have overall long-run benefit and has the potential of enhancing the objective of the business to finance its projects.

6.0 TUTOR-MARKED ASSIGNMENT

List and explain three sources of medium term business financing.

7.0 REFERENCES/FURTHER READING

Akintoye, I.R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Akinsulire, O. (2002). *Financial Management*, (Second Edition). Lagos: Eltoda Ventures Ltd.

MODULE 2

Unit 1	Long Term Business Financing
Unit 2	Other Sources of Business Financing
Unit 3	Fund Flow Analysis
Unit 4	Cash Flow Analysis
Unit 5	Investment Appraisal

UNIT 1 LONG TERM BUSINESS FINANCING

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3.3.1	Raising of Equity Capital
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7.0	References/Further Reading

1.0 INTRODUCTION

The previous two units have discussed short and medium term business financing. In this unit, we focus our attention on long term business financing.

2.0 OBJECTIVES

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

- define long term business financing
- state the sources of long term business financing
- explain the importance of long term business financing to an organisation.

3.0 MAIN CONTENT

3.1 Definition of Long Term Business Financing

Long term business financing involves funding larger and functional companies. The company can either be private or public and it is usually available for a period of 10 years or longer.

3.2 Long Term Sources

The main sources of long term funds are:

1. equity capital
2. debenture stock capital
3. preference share capital

3.3 Equity Capital/Ordinary Share Capital

The traditional form of capital is equity capital. The holders of this capital are the owners of the business. They therefore have a general primitive right to anything of value that the company may wish to distribute as well as the ultimate control of the company's affairs. They bear a huge portion of the entire risks associated with the company; hence they expect a higher rate of return than most other providers of finance. Other features are that they expect and are entitled to a share of the profits of the company in the form of dividends, subject to the recommendation of the directors and after all prior claims have been met.

The ordinary shareholders have voting powers of right attached to their investments. They cannot redeem or reclaim their investment except by selling their shares or in the event of liquidation.

Ordinary shares could take the form of preferred, deferred or founders' ordinary shares. Preferred ordinary share usually receive a fixed rate of dividend, before the other ordinary shareholders. They may also be entitled to a further share of profit after their fixed entitlements (dividend). Deferred ordinary shares are usually residual recipients after all claims including preferred ordinary shareholders have been settled. Deferred shares could be given to the sellers (owners) of a company acquired by another company. These serve as deferred payment for the purchase of the company held back until enough profits emerge. These types of deferred ordinary shares are called founders' shares.

3.3.1 Raising Of Equity Capital

The methods of raising equity funds or putting a company in a position for raising equity finance in future which are particularly available to quoted companies include the followings.

1. **Placing of Shares:** In this method, the shares are offered to a specific group of investors usually insurance companies, pension funds or any other institutional investors.
2. **Offer for sale:** In this method, the shares are offered to the public including the existing shareholders through the agency of an issuing house. This is the method being used by the Technical Committee on Privatisation and Commercialisation (TCPC) now known as Bureau of Public Enterprises (BPE) to sell Federal Government's shares in the privatised enterprises. At the end of an offer for sale, the nominal share capital of the company remains unaltered and the proceeds of sales to the vendor (existing shareholders) and not the company. Offer for sale is not a fresh issue of shares, but sale of existing shares by existing shareholders.
3. **Offer for subscription:** In this method, fresh issues are offered to the public by the company itself through the agency of an issuing house. The idea here is to raise supplementary capital for the company. The proceeds of issue go to the company and the number of shares outstanding at the end of the exercise will increase.
4. **Stock Exchange Introduction:** This is not a method of raising new capital, but of getting permission to "deal" i.e. introducing the shares of the company to the market. The company, after quotation, will have access to finance in the capital market in the future.
5. **Offer for sale by Tender:** Here, the company offers the shares for sale at a minimum price level. Applications are then requested for the sale of the shares at prices determined by the various investors. The final price will be the price that will clear all available shares; this is called the striking price. The stock exchange will ensure that all shares are finally taken up at the same price.
6. **Right Issues:** In this method, additional finance is obtained from the existing shareholders. This method avoids issuing costs if finance is to be obtained from the public. It confirms the financial

stability of the company and the price at which the shareholders buy the rights is usually below the market price of the company after the right issue.

3.4 Debenture Stock

These are loans of a long term nature. These could be secured or unsecured. Debenture represents the document which acknowledges the indebtedness to the company. In practice, the term “debentures” may be restricted to secured loans. The main features are the followings.

- They are not entitled to voting rights
- They are fixed interest securities entitled to annual interest payments
- The interest elements are tax deductible
- They could be redeemable, irredeemable or convertible
- The principal amounts are usually secured on the assets of the company and could have:
 - a. floating charge or
 - b. fixed charge or
 - c. a combination of (a) and (b)

A floating charge covers all the assets as they exist from time to time excluding assets subjected to fixed charge. A floating charge does not prevent the company from buying and selling assets in the normal course of its business.

A fixed charge is one or more specific assets, if the company fails to pay interest, or the principal, or attempts to dispose of an asset charged, then a receiver may be appointed to take possession of the asset and sell it for the benefits of the debenture holders.

Debentures could be redeemable or irredeemable. The date for redemption is usually written in form of a range (e.g. 2001-2010). The date will be agreed upon at the time of negotiating the loan.

Some debentures are irredeemable. In this case, no date is set for redemption but the borrower can redeem the debt whenever he wishes and force the debenture holders to settle.

A borrower may redeem a debenture earlier than the due date because of any of the following reasons:

1. To take advantage of falling interest rates.
2. To make use of surplus fund.

3. To release assets covered by a fixed charge for usage as a collateral.

Debenture stocks could also be convertible. In this case, the holder has an option to convert the debenture within a given time period into equity stock at a specific price. If this option is not exercised then the debenture will continue its normal term to redemption.

3.5 Preference Stock

Preference stock is usually a more expensive source of finance than debenture stock. This is because debentures are less risky and usually have tax shield (benefits). Other features of preference shares are that they are not entitled to any voting rights normally, and their interest in the company is represented by dividend payment and principal repayment.

Preference shares could be preferred or deferred, cumulative, participating or redeemable. Cumulative preference shares would have their dividend income accumulated and paid at future dates if the company has liquidity problems.

Participating preference shareholders are entitled to a fixed dividend income per year (this may be cumulative) plus a further share of many other profits. In some cases, this further share could be after the ordinary shareholders have been paid a certain dividend. Preferred and deferred preference stock have characteristics similar to preferred and deferred ordinary shares.

3.6 Advantages and Disadvantages of Convertible Loan Stock

- (a) From the point of view of a borrower, convertible loan stock has the following advantages:
 - (i) Provided the company has good prospects, it will be possible to offer convertible loan stock at a lower interest rate than debentures.
 - (ii) If the company is just starting up or is developing a new product, so that returns will initially be small, convertible loan stock provides cheap fixed interest funding and the conversion date can be planned to coincide with the growing availability of profits sufficient to pay acceptable dividends.
 - (iii) When money is in short supply, the incentive of a future share in profits may encourage lenders who would not otherwise invest in the company.

- (b) From the point of view of the lender, by taking convertible loan stock, he ensures a fixed income in the early years while he wants to see whether the business is successful. If it prospers and the price of the ordinary shares rises then he can take advantage of both favourable conversion terms and also the opportunity of participating in the available profits. If the business is not successful, then he will accept redemption of his loan stock, or will be able to sell it at a price which at least reflects its fixed interest earning power.

3.7 Factors Affecting a Company's Choice of Finance

- (b) **Length of the Project.** The general rule in financing is that the maturity of the finance should match the length of the project it is to be used. Therefore, a long term investment requires long term finance and a short term investment requires short term finance. If short term finance is used for a long term project then the company would be in a vulnerable position if that finance is withdrawn. If a long term finance is raised when a company only requires it for a short term period, it may then have idle cash around.
- (c) **Pattern of Cash flow.** This generally means how long the investment period lasts before cash flow commences. A long period, during which a company has to spend money without generating any revenue, will present problems in terms of liquidity. This will be alleviated by using financing which pattern of repayment fits the project cash flow. The best source of finance in terms of liquidity is equity since the annual dividend can be small or zero and can be varied according to circumstances.
- (d) **Level of Risk.** A project with a high level of risk will probably require some form of equity finance, the use of debt with the burden of interest and capital repayment. However, the outcome of the project would substantially increase the risk of insolvency.
- (e) **The Cost of Finance.** Clearly a company should see to minimise the cost of finance it raises. This is important because the cost of finance would affect the weighted average cost of capital (WACC) and by extension the value of the company.
- (f) **Debt Capacity.** The ability to use debt finance for a new project can be valuable in terms of the tax savings on debt's interest. An important feature of the project, which in fact determines debt capacity, is the type of asset involved and their values as security for loan.

- (g) **Control.** Existing shareholders will only maintain their level of control over an organisation if retained earnings or right issues are used for finance. Any other external finance, will to a certain extent, involve loss of control. Even debt finance, where voting control is not affected, the creditor may take charges on asset or enforce restrictions on a company in other aspects.
- (h) **The Need for Future Finance.** Many projects do not just need capital initially but require additional finance for future expansion. The use of convertibles may be attractive in these situations.

4.0 CONCLUSION

Companies, whether public or private, obtain long term funds from variety of sources such as new issues of equity shares, preference shares, shares, loan stocks or bonds, retained profit, etc.

5.0 SUMMARY

Long term business financing aids investors through equity financing, loan stock and bonds in order to finance their business.

Equity finance is not a single source of finance but a group of alternative ways of raising risk-bearing funds.

Other sources of long term business financing include share warrants, return on securities, government grants etc.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the term debentures and list their features.
2. Explain at least one of the sources of long term business financing.

7.0 REFERENCES /FURTHER READING

- Akintoye, I.R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.
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- Omolehinwa, A. (2006). *Strategic Financial Management*, (Second Edition.) Lagos: Cleo International.

UNIT 2 OTHER SOURCES OF BUSINESS FINANCING

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- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Other Sources of Finance
 - 3.2 Management Buy-Outs
 - 3.3 Management Buy-Ins
 - 3.4 Leveraged Buy-Outs
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

This unit will focus on the other sources of business financing. It will also emphasise other sources of finance having explained the short, medium and long term business financing.

2.0 OBJECTIVE

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

- explain other sources of business financing.

3.0 MAIN CONTENT

3.1 Other Sources of Finance

These include management buy-outs, management buy-ins and leveraged buy-outs.

3.2 Management Buy-Outs

A management buyout (MBO) is the purchase of all or part of a business from its owners by its managers e.g. Pfizer Limited now known as Neimeth Nigeria Limited. For example, the directors of a subsidiary company in a group might buy the company from the holding company, with the intention of running it as proprietors of a separate business entity.

3.3 Management Buy–Ins

Buy-in is the term used when a team of outside managers, as opposed to managers who are already running the business, mount a takeover bid and then run the business themselves.

A management buy-in might occur when a business venture is running into trouble and outside managers see an opportunity to take over the business and restore its profitability.

3.4 Leveraged Buy-Outs

Going private can be a straight transaction, where the investor group simply buys out the public stock–holders, or it can be a Leveraged Buy-Out (LBO), where there are third and sometimes fourth party investors. As the name implies, a leveraged buy-out represents an ownership transfer consummated primarily with debt. Sometimes called asset-based financing, the debt is secured by the assets of the enterprise involved. While some leveraged buy-outs involve the purchase of a division of a company or some other sub units, frequently, the sale is to the management of the division being sold, the company having decided that the division no longer fits strategic objectives. Another distinctive feature is that leveraged buy-outs are based on cash purchases, as opposed to stock purchases. Finally, the business unit involved invariably becomes a privately held company as opposed to a publicly held company.

4.0 CONCLUSION

In this unit, the discussion perhaps has indicated that other sources of business financing also provide funds for investors to invest in their businesses.

5.0 SUMMARY

In this unit, we discussed other sources of business financing and provided explanations on the followings:

- Management Buy-outs
- Management Buy-ins
- Leveraged Buy-outs.

6.0 TUTOR-MARKED ASSIGNMENT

List and explain other sources of business financing.

7.0 REFERENCES/FURTHER READING

Akintoye, I.R. (2008). *Investment Decisions, Concept, Analysis & Management*, (3rd Edition). Lagos: Glorious Hope Publishers.

Akinsulire, O. (2002). *Financial Management*, (2nd Edition). Lagos: Eltoda Ventures Ltd.

UNIT 3 FUNDS FLOW ANALYSIS

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1.0 INTRODUCTION

The Profit and Loss Account and Balance Sheet statements are the most common and important accounting statements of a business organisation, but they do not contain wide range of information sufficiently enough, for the end user to make assessment of the organisation. In view of the importance of capital inflows and outflows, the funds flow statement was devised which often involve large amounts of money that should be reported to the stakeholders. In a funds flow analysis, the details of financial resources available and the ways in which such resources were used during a particular accounting period are given in a statement form called 'Funds Flow Statement'.

2.0 OBJECTIVES

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

- explain the meaning of 'Fund' and 'Flow'
- identify funds flow
- describe important sources and application of funds
- explain the benefits and drawbacks of funds flow analysis.

3.0 MAIN CONTENT

3.1 Meaning of ‘Fund’ and ‘Flow’

The term ‘fund’ can be defined and interpreted differently by scholars as all the financial resources of a company or on the other hand as ‘cash’.

However, the most acceptable meaning of ‘fund’ is called ‘working capital’.

The ‘flow’ of fund refers to the transfer of economy values from one assets equity to another. When ‘fund’ means working capital, flow of fund will then be referred to as the movement of fund which causes a change in the working capital of the organisation.

3.2 Identification of Flow of Funds

A flow of funds takes place only if a current account is involved. To identify a flow, identify the two accounts involved as ‘current’ and ‘non-current’ and apply the general value:

- Transactions which involve only current accounts do not result in a flow.
- Transactions which involve only non-current accounts do not result in a flow.
- Transactions which involve one current account and one non-current account results in a flow of funds.

3.3 Changes in Working Capital Position

The primary purpose of the statement is to explain the net change in working capital, as arrived at in the funds flow statement. In this statement, all current assets and current liabilities are individually listed against each account; the figure pertaining to the account at the beginning and at the end of the accounting period is shown. The net change in its position is also shown. The changes taking place with respect to each account should add up to equal the net change in working capital, as shown by the funds flow statement.

The basic rules in preparation of the fund flow statement are as follows:

- An increase in an asset over the year is an application of fund.
- A decrease in an asset over the year is a source of fund.
- A decrease in a liability over the year is an application of fund.
- An increase in a liability over the year is a source of fund.

3.4 Sources of Funds

The funds inflow into the organisation will come from the following sources:

- Funds raised from shares, debentures, and long term loan; long term funds injected into the business during the year by way of issuing new shares or debentures and by raising long term loans. If any premium is collected, that also forms part of funds raised from the above said sources of finance.
- Sale of fixed assets and long term investment; any amount generated from sale of fixed assets or long term investments is a source of funds.

3.5 Application of Funds

The use of funds in an organisation takes place in the following forms:

- Repayment of preference capital or debentures or long term debt.
- Purchases of fixed assets or long term investment.
- Distribution of dividends and payment of taxes.
- Loss from operations.

3.6 Funds Flow and Income Statement.

The funds flow statement and income statement have different functions and their main differences are summarised below.

FUNDS FLOW STATEMENT		INCOME STATEMENT	
1.	Its main objective is to ascertain the fund generated from operation. It reveals the source of funds and their applications.	1.	Its main objective is to ascertain earned income by the company out of business operation at the end of a particular period
2.	It is prepared based on the financial statement of two consecutive years.	2.	It is prepared on the basis of nominal accounts of a particular accounting period.
3.	It can be prepared when the Management wants it.	3.	It is prepared only at the end of an accounting period covered by it.
4.	It provides a complete record of transactions including cash.	4.	It is prepared on the basis of accounting and fails to prevent the factual history of firm's cash transactions.
5.	It cannot be easily manipulated by management	5.	The determination of periodic income is necessarily based on number of estimates, judgment and allocation and is subject to manipulation of management.

3.7 Funds Flow Statements and Balance Sheet

The distinctions between a funds flow statement and a balance sheet are as follows:

Funds Flow Statement		Balance Sheet	
1.	It is prepared to know the total sources of income and their uses in a year.	1.	It is prepared to know the financial position of company on a particular date.
2.	It is prepared with the help of the balance of two consecutive years	2.	It is prepared on the basis of the balance sheet different accounts in the ledger.
3.	It is dynamic as it reveals the change in the value of fixed assets and their effects on flow of funds.	3.	It shows the assets and liabilities as on a particular date, as such it is a static statement.

3.8 Benefits of Funds Flow Analysis

- Determines financial consequences of operations
- Fills financial blind spot
- Utilises working capital
- Aids in securing new finances
- Helps in allocation of financial resources
- Helps in deciding the urgency of a problem
- Helps in evaluation of operational issues.

3.9 Drawbacks of Funds Flow Analysis

- **Historical nature.** The funds flow statement is historical in nature like any other financial statement. It does not estimate the sources and application of funds for the near future.
- **Structural Changes are not disclosed.** The funds flow statement does not disclose any new or original items which affect the financial position of the business.
- **Not relevant.** A study or changes in cash is more relevant than a study of changes in funds for the purpose of managerial decision making.
- **Not foolproof.** The funds flow statement is prepared from the data provided in the balance sheet and profit and loss account. Hence, the debts on financial statements will be carried over to funds flow statement also.

4.0 CONCLUSION

Funds flow analysis refers to movement of funds which in turn changes working capital of the organisation and highlights inefficiency in funds management. The funds flow statement lists out the sources from which working capital has been derived during the accounting period and the ways in which working capital has been used up.

5.0 SUMMARY

In this unit, you have learnt the meaning of ‘fund’ and ‘flow’ and then funds flow analysis. You are now conversant with flow of funds, sources of funds, application of funds, drawbacks of funds and fund flow analysis.

6.0 TUTOR-MARKED ASSIGNMENT

1. Funds flow statements and income statements are more often than not similar. Discuss.
2. Why is fund flow statement necessary?

7.0 REFERENCES /FURTHER READING

Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore, R. M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 4 CASH FLOW ANALYSIS

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- 1.0 Introduction
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1.0 INTRODUCTION

Cash flow statement provides information about the cash receipt and payments of a firm for a given period. It provides important information that complements the profit and loss account and balance sheet. The information about the cash flow of a firm is useful in providing users of financial statements with a basis to assess the ability of the enterprise to generate cash and cash equivalents and the needs of the enterprise to utilise the cash flow.

2.0 OBJECTIVES

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

- describe Accounting Standard SAS 18
- explain Revised – Cash flow statements
- distinguish between direct and indirect methods in the determination of cash flows from operating activities

- differentiate between funds flow statements and cash flow statements
- explain the uses and limitations of cash flow analysis.

3.0 MAIN CONTENT

3.1 SAS 18 - Revised Cash Flow Statements

1. Cash flow statement provides information about the cash receipt and payments
2. of an enterprise for a given period.
3. The statement of cash flow is required to be reported by Accounting Standard
4. 18 issued by the NADB.

3.2 Meaning of Technical Terms

- Cash comprises cash on hand and demand deposit with banks.
- Cash equivalents: are short term highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Example of cash equivalents are treasury bills, commercial papers, etc.
- Cash flows: are inflows and outflows of cash and cash equivalents. It means the movement of cash into the organisation and movement of cash out of the organisation.

3.2.1 Classification of Cash flow

The cash flow statement relating to a particular period is classified into the following three main categories of cash inflows and cash outflows:

- a) Cash flows from operating activities
- b) Cash flows from investing activities, and
- c) Cash flows from financing activities.

3.3 Data Required in the Preparation of a Cash flow Statement

The following basic pieces of information are required in the preparation of a cash flow statement.

1. **Balance sheet.** Balance sheets at the beginning and at the end of the accounting period indicate the changes that have taken place in assets liabilities and capital.

2. **Profit and Loss Account.** The profit and loss account of the current period enables us to determine the amount of cash provided by or used in operations during the accounting period after making adjustments for non-cash, current assets and current liabilities.
3. **Additional Data.** In addition to the above statement, additional data are collected to determine how cash has been provided or used e.g. sale or purchase of assets for cash.

3.3.1 Procedures for Preparation of a Cash Flow Statement

The procedures used for the preparation of a cash flow statement are as follows:

- Calculation of net increase or decrease in cash and cash equivalent accounts.
- Calculation of the net cash provided or used by operating activities.
- Calculation of the net cash provided or used by investing and financing activities. Preparation of a cash flow statement ensures that the aggregate of net cash flows from operating, investing and financing activities is equal to net increase or decrease in cash or cash equivalents in a separate schedule to the cash flow statement.

3.4 Reporting of Cash flows from Operating Activities

The purpose of determining the net cash from operating activities is to understand the real constituent of the paper profit/loss reported in the profit and loss account which may be more of a notional figure than real. The actual cash figure in a business is important as it is even possible to convert losses to profits if cash is available when such cash does not directly belong to the business. The prayer of an investor is “God, whether mine or someone else’s cash, let me have cash for my operations”. In order to calculate the net cash flows in operating activities, it is necessary to replace revenues and expenses with actual receipts and payments in cash. This is done by eliminating the non-cash revenues and non-cash expenses from the given earned revenues and incurred expenses. There are two methods of converting net profit into net cash flows from operating activities (a) direct method (b) indirect method.

3.4.1 Direct Method

Under the direct method, cash receipts from operating revenues and cash payments from operating expenses are arranged and presented in the cash flow statement. The difference between cash receipts and cash payments is the net cash flows from operating activities. It is in effect cash based profit and loss account. Under direct method, items like depreciation, amortisation of intangible assets, preliminary expenses, debenture discount, etc. are ignored from cash flow statement since the direct method includes only cash transactions and non-cash items are omitted. Likewise, no adjustment is made for loss or gain on the sale of fixed assets and investments.

3.4.2 Indirect Method

In this method, the net profit (loss) is used as the base and converts it to net cash provided or used in operating activities. This method adjusts net profit for items that affected net profit but did not affect cash. Non-cash and non-operating charges in the profit and loss account are added back to the net profit while non-cash and non-operating credits are deducted to calculate operating profit before working capital changes. It is a partial conversion of accrual basis profit to cash basis profit. Necessary adjustments are made for increase or decrease in current assets and current liabilities to obtain net cash from operating activities.

3.4.3 Other Disclosure Requirements

If significant cash and cash equivalent balances held by the enterprises are not available for use by it, it should be disclosed in the cash flow statement.

Any additional information to understanding the financial position and liquidity position of an enterprise should be disclosed. Reconciliation of cash and cash equivalents given in its cash-flow statement with equivalent items should be reported in the balance sheet. An enterprise should disclose the policy which it adopts in determining the composition of cash and cash equivalents.

The effect of any change in the policy for determining components of cash and cash equivalents should be reported in accordance with SAS 18. 'Net profit or loss for the period, prior period items, and changes in accounting policies should also be reported.

3.5 Funds Flow and Cash flow Statements

Both funds flow and cash flow statements are used in the analysis of past transactions of a business firm. The differences between the two statements are given below.

Funds Flow Statement		Cash Flow Statement	
1.	It is based on accrual accounting system.	1.	While preparing this statement, all transactions affecting the cash and cash equivalents are taken into consideration.
2.	It analyses the sources and application of funds of long term nature and net increase or decrease in long term funds which will be reflected on the working capital of the firm.	2.	It considers only the increase or decrease on current assets and current liabilities in calculating the cash flow from operations.
3.	It is more useful in long range planning.	3.	It is more useful for identifying and correcting the current liquidity problem of the firm.
4.	It is a broader concept, it takes both long term funds and short term funds into account in its analysis.	4.	It only deals with one of the current assets on asset side of the balance sheet.

3.6 Cash flow Statement and Cash Budget

The cash flow statement shows the cash inflow and cash outflows relating to a firm's operating, investing and financing activities and the increase or decrease in cash and cash equivalents for the reporting period under analysis.

A cash budget is different from a cash flow statement. The cash budget is prepared for the forthcoming period as a planning exercise.

3.7 Uses and Limitations of Cash flow Statements

The presentation of financial information in cash flow statement will be useful in the following ways:

- Helps in efficient cash management
- Helps in internal financial management
- Discloses the movement of cash
- Discloses success or failure of cash planning
- Helps to determine the likely cash flow supplement to funds flow statement
- Better tool of analysis

Limitations

The cash flow analysis is criticised for the following reasons:

- Misleading Inter-industry comparison
- Misleading inter firm comparison
- Misleading comparison over a period of time
- Influenced by changes in management policies
- Cannot be equated with income statement
- Not a replacement of other statements.

Despite the above limitations, cash flow statement is a very useful tool of financial analysis. It discloses the volume and speed at which cash flows in various segments of the business and the amount of capital tied-up in a particular segment.

4.0 CONCLUSION

In this unit, we discussed cash flow analysis, provisions of statement of accounting standard No 18 on revised cash flow statements, distinction between funds flow and cash flow statements and finally, the uses and limitations of cash flow analysis.

5.0 SUMMARY

Cash flow statement provides information about cash receipts and payments of an enterprise for a given period. As per SAS 18, the cash flows are classified into three main categories viz cash flows from operating activities, cash flow from investing activities and cash flow from financing activities. The accounting standard has suggested two methods viz direct method and indirect method in the determination of cash flow from operating activities. As regards cash flow from investing activities and cash flow from financing activities, the treatment and presentation are the same under both direct and indirect method.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is cash flow statement?
2. State the uses and limitations of cash flow analysis.

7.0 REFERENCES/FURTHER READING

Akintoye, I.R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore, R. M. (2007). *Financial Management*, (Sixth Ed). Taxman Publishers.

UNIT 5 INVESTMENT APPRAISAL

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1.0 INTRODUCTION

The finance manager has various tools and techniques by means of which he assists the management in taking a proper capital investment decisions. For purposes of investment approval or appraisal, the cash flow is the incremental cash receipts less the incremental cash expenditures solely attributable to the investment in question.

2.0 OBJECTIVES

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

- describe investment appraisal techniques
- explain payback period reciprocal
- describe profitability index in capital investment appraisal.

3.0 MAIN CONTENT

3.1 Investment Appraisal Techniques

The techniques available for appraisal of investment proposal are classified as follows:

Traditional Techniques

- a) Payback period method
- b) Accounting rate of return method

Discounted Cash flow Techniques

- a) Net present value method
- b) Internal rate of return method
- c) Profitability index method
- d) Discounted payback period method
- e) Terminal value method

3.2 Payback Period Method

The payback period is usually expressed in years which it takes the cash inflows from a capital investment project to equal the cash outflow. The method recognises the recovery of original capital invested in a project. At payback period, the cash inflows from a project will be equal to the project's cash outflows. Payback is commonly used as a first screening method; it is a rough measure of liquidity and rate of profitability. The basic element of this method is a calculation of recovery time, by accumulation of the cash inflows year by year until the cash inflows equal the amount of the original investment. The length of time this process takes gives the 'payback period' for the project.

3.2.1 Bailout Payback Period

In the payback period method, we observe that the project with the lowest payback period can be accepted. But if it is necessary to scrap the project even before its payback period after considering the salvage value, then we have to take the cash inflow and salvage value together in determination of bailout decision.

Merit

- It is simple to apply, easy to understand and of particular importance to business which lacks the appropriate skills necessary for more sophisticated techniques.
- This method gives an indication to the prospective investors specifying when their funds are likely to be repaid.
- It does not involve assumptions about future interest rates.

Demerit

- It does not indicate whether an investment should be accepted or rejected.
- The method ignores cash generation beyond the payback period.
- This method makes no attempt to measure a percentage return on the capital invested and is often used in conjunction with other methods.

3.2.2 Payback Period Reciprocal

An alternative way of expressing the payback period is as the “payback period reciprocal” which is expressed as:

$$\text{Payback Period Reciprocal} = \frac{1}{\text{Payback period}} \times P_o$$

The higher the payback period reciprocal, the more worthwhile the project becomes.

3.3 Accounting Rate of Return Method

The accounting rate of return is also known as ‘return on investment’ or ‘return on capital employed’ method employing the normal accounting technique to measure the increase in profit expected to result from an investment by expressing the net accounting profit arising from the investment as a percentage of that capital investment. The method does not take into consideration all the years involved in the life of the project. In this method, most often, the following formula is applied to arrive at the accounting rate of return.

$$\text{Accounting rate} = \frac{\text{Average Annual Profit after Tax}}{\text{Average or Initial Investment}} \times 100$$

$$\text{Average Investment} = \frac{\text{Initial Investment} + \text{Salvage value}}{2}$$

Merits

- It is easy to calculate. It is not concerned with cash flows but rather based upon profits which are reported in annual accounts and sent to shareholders.
- Unlike payback period method, it takes into consideration all the years involved in the life of a project. If high profits are required, this is certainly a way of achieving them.

Demerits

- It does not take into account the value of money.
- It fails to measure properly the rates of return on a project even if the cash flows are even over the project life.
- It uses straight line method of depreciation. Once a change in method of depreciation takes place, the method will not be easy to use and will not work practically.
- It is biased against short term project in the same way that payback is biased against long term one.

3.4 Discounted Cash Flow Techniques

3.4.1 Net Present Value Method

The objective of the firm is to create wealth by using existing and future resources to produce goods and services. To create wealth, cash inflow must exceed the present value of all anticipated cash outflow. Net present value is obtained by discounting all cash outflow and inflow attributable to a capital investment project by a chosen percentage. The exercise involved in calculating the present value is known as 'discounting' and the factors by which we have multiplied the cash flows are known as the 'discount factors'. The discount factor is given by the following expression.

$$\frac{1}{(1 + r)^n}$$

Where, r = Rate of interest p.a.

N = number of years over which we are discounting.

One of the main disadvantages of both payback and accounting rates of return methods is that they ignore the fact that money has time value. The discounting techniques convert cash inflows and outflows for different years into their respective values at the same point of time, allows for the time value of money. This method is particularly useful for the selection of mutually exclusive projects i.e. acceptance of one project amount to rejection of the other project.

Merit

- It is based on the assumption that cash flow and hence dividends, determine shareholders' wealth.
- Cash flows are subjective than profits.
- It recognises the time value of money.
- It considers the total benefits arising out of proposals over its life-time.

- This method of project selection is instrumental in achieving the financial objective, i.e. the maximisation of the shareholders' wealth.

Demerits

- It is difficult to calculate as well as understand as compared to accounting rate of return method or payback method.
- Calculation of the desired rates of return presents various problems.

3.4.2 Internal Rate of Return Method

Internal Rate of Return (IRR) is a percentage discount rate used in capital investment appraisal which brings the cost of a project and its future cash inflows into equality. The IRR is also defined as the rate at which the net present value is zero. The list of profitability of a project is the relationship between the IRR (%) of the project and the minimum acceptable rate of return (%). The IRR can be stated in form of a ratio as shown below:

$$\frac{\text{Cash Inflows}}{\text{Cash Outflows}} = 1$$

PV of cash inflows = PV of cash outflows = zero

If the cash inflows are not uniform, then IRR will have to be calculated by trial and error method. To have an approximate idea about such discounting rate, it will be better to find out the 'factor'. The factor reflects the same relationship of investment and cash inflows as in the case of payback calculations:

$$F = 1/C$$

Where F = Factor to be located

I = Original investment

C = Average cash inflow per year

IRR is also called 'Cut off rate' for accepting the investment proposals.

Merits

- It considers the time value of money.
- It takes into account the total cash inflow and cash outflows.
- It is easier to understand.

Demerits

- It does not use the concept of desired rate of return.
- It involves tedious calculations, based on trial and error method.
- It produces multiple rates which can be confusing.
- Projects selected based on higher IRR may not be profitable.
- Single discount rate ignores the varying future interest rate.

3.4.3 Profitability Index Method

It is a method of assessing capital expenditure opportunities in the profitability index. The profitability index (PI) is the present value of anticipated future cash inflows divided by the initial outlay.

The only difference between the net present value method and profitability index method is that when using the NPV technique, the initial outlay is deducted from the present value of anticipated cash inflows, whereas with the profitability index approach, the initial outlay is used as a divisor. In general terms, a project is acceptable if its profitability index value is greater than 1. When more than one project proposal is evaluated, for selection of one among them, the project with higher profitability index will be selected. Mathematically, PI (profitability index) can be expressed as follows:

$$\text{Profitability Index (PI)} = \frac{\text{Present Value of Cash Inflow}}{\text{Present Value of Cash Outlay}}$$

This method is also called 'Cost benefit ratio' or 'desirability ratio' method.

Limitations

Profitability Index cannot be used in capital rationing problems where projects are indivisible. Sometimes the project with lower profitability index may have to be selected if it generates cash flows in the earlier years, which can be used for setting up of another project to increase the overall NPV.

3.4.4 Discounted Payback Period Method

In this method, the cash flows involved in a project are discounted back to present value. The cash inflows are then directly compared to the original investment in order to identify the period taken to pay back the original investment in present values terms. The method is a variation of payback period method; it is calculated in much the same way as the payback except that the cash flows accumulated are the base year value

cash flows which have been discounted at the discount rate used in NPV method.

Unlike the ordinary payback method, it ensures the achievement of at least the minimum required return, as long as nothing untoward happens after the payback period.

3.4.5 Terminal Value Method

Under this method, it is assumed that each cash flow is reinstated in the project at a predetermined rate of interest. It is also assumed that each cash inflow is reinvested elsewhere immediately until the termination of the project. If the present value of the sum total of the compounded re-invested cash flow is greater than the present value of the outflow, the proposed project is accepted, otherwise not.

Merits

- It has the advantage of the cash inflows being reinvested once they are received.
- It is mathematically easier to compute as compared to IRR.
- It is easier to understand.
- It is better suited to cash budgeting requirement.

However, the major problem of this method lies in projecting the future rates of interest at which the cash inflows will be reinvested.

4.0 CONCLUSION

In this unit, the discussion has been on investment appraisal and the techniques for investment appraisal has been listed and explained.

5.0 SUMMARY

For purposes of investment appraisal, the cash flow is the incremental cash receipt less the incremental cash expenditures solely attributable to the investment in question. A capital investment decision involves a huge cash outlay and it should be appraised and capital investment decision is to be made carefully with a view to maximising the wealth of the concerned.

6.0 TUTOR-MARKED ASSIGNMENT

1. List the investment appraisal techniques.
2. What are the merits of terminal value method?

7.0 REFERENCES/FURTHER READING

Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore, R. M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

MODULE 3

Unit 1	Capital Rationing
Unit 2	Working Capital Finance
Unit 3	Risk Analysis
Unit 4	Working Capital Planning
Unit 5	Cash and Treasury Management
Unit 6	Debt and Receivables Management

UNIT 1 CAPITAL RATIONING

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3.3.1	Situation I
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1.0 INTRODUCTION

Capital rationing is a process of planning capital expenditure which is to be made to maximise the long term profitability of the organisation. The capital budgeting decision means decisions as to whether or not money should be invested in long term projects such as installing a machinery or creating additional capacities to manufacture a part which at present may be purchased from outside.

2.0 OBJECTIVES

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

- define capital rationing
- list the factors leading to capital rationing
- describe the situations of capital rationing.

3.0 MAIN CONTENT

3.1 Capital Rationing

Capital rationing is a situation where a constraint or budget ceiling is placed on the total size of capital expenditure during a particular period. Often, firms draw up their capital budget under the assumption that the availability of financial resources is limited. Capital rationing refers to the selection of the investment proposals in a situation of constraint on availability of capital funds, to maximise the wealth of the company by selecting those projects which will maximise overall NPV of the company. Capital rationing refers to a situation where a company cannot undertake all positive NPV projects it has identified because of shortage of capital. In terms of financing investment projects, the following questions are to be answered:

- 1) What would be the requirement of funds for capital investment decisions in the forthcoming planning period?
- 2) How much quantum of funds will be available for capital investment?
- 3) How to assign the available funds to the acceptable proposals which require more funds than are available?

The answers to the first and second questions are given with reference to the investment appraisal decision made by the top management. The third question is answered with specific reference to the appraisal of investment decisions from the angle of capital rationing.

3.2 Factors Leading to Capital Rationing

Two different types of capital rationing situation can be identified, distinguished by the source of the capital expenditure constraint.

3.2.1 External Factors

Capital rationing may arise due to external factors like imperfections of capital market or deficiencies in market information. . Due to these imperfections, the firm may not get necessary amount of capital funds to carry out all the profitable projects.

3.2.2 Internal Factors

Capital rationing is also caused by internal factors which are as follows:

- Reluctance to take resort to financing by external equities in order to avoid assumptions of further risk.

- Reluctance to broaden the equity share for fear of losing control.
- Reluctance to accept some viable projects because of its inability to manage the firm in the scale of operation resulting from inclusion of all the viable projects.

The level of capital budget will tend to depend on the quality of investment proposals submitted to top management; in addition it will also tend to depend on the following factors.

- Top management philosophy towards capital spending.
- The outlook of future investment opportunities that may be unavailable if extensive current commitments are undertaken.
- The funds provided by current operations.
- The feasibility of acquiring additional capital through borrowing or share issues.

Under capital rationing, the management has to determine not only the profitable investment opportunities but also decide to obtain the combination of the profitable projects which yields highest NPV within the available funds by ranking them according to their relative profitabilities.

3.3 Situation of Capital Rationing

Capital rationing decision can be situated under the following situations.

3.3.1 Situation 1

Projects are divisible and constraint is a single period one.

The following are the steps to be adopted for solving the problem under this situation.

- a) calculate the profitability index of each project
- b) rank the projects on the basis of the profitability index, calculated in (a) above
- c) choose the optimal combination of the projects.

3.3.2 Situation II

Projects are indivisible and constraint is a single period one.

The following are the steps to be followed for solving the problem under this situation.

- a) construct a table showing the feasible combinations of the project (which aggregate of initial outlay does not exceed the fund available for investment)
- b) choose the combination which aggregate NPV is maximum and consider it as the optimal project mix.

4.0 CONCLUSION

Capital budgeting is a long term planning exercise in the selection of projects which generate cash flow over a number of years in future. Capital rationing refers to situation where a company cannot undertake all positive NPV projects it has identified because of shortage of capital.

5.0 SUMMARY

Capital rationing refers to the selection of the investment proposals in a situation of constraint on availability of funds, to maximise the wealth by maximising the NPV of its project, selected for implementation.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is capital rationing?
2. What are the factors leading to capital rationing?

7.0 REFERENCES /FURTHER READING

- Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.
- Kishore, R.M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 2 WORKING CAPITAL FINANCE

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1.0 INTRODUCTION

Having discussed working capital planning in the previous unit, we are discussing working capital finance in this unit. We will explain the sources of working capital finance and focus on security for short term financing.

2.0 OBJECTIVES

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

- describe spontaneous and negotiated sources of finance
- list the forms of working capital finance available from banks
- list other sources of working capital finance
- explain the modes of providing security for short term financing.

3.0 MAIN CONTENT

3.1 Sources of Working Capital Finance

Working capital finance can be classified into the followings.

Spontaneous Finance

Finance which naturally arises in the course of business is called spontaneous financing. Trade creditors, credit from employee, etc. are few examples of spontaneous financing.

Negotiated Finance

Financing which has to be negotiated with lenders like commercial banks, financial institutions, and the general public is called negotiated finance. This kind of financing may be short term in nature or long term. Between spontaneous and negotiated sources of finance, the negotiated finance is more expensive and inconvenient to raise. Spontaneous source of finance reduces the amount of negotiated financing.

3.2 Trade Credit

Trade credit is a spontaneous source of finance which is normally extended to business organisations depending on the custom of the trade and competition prevailing in the industry and the relationship of the suppliers and buyers. The dependence on this source of working capital finance is higher due to negligible finances. Trade credit is generated when a company acquires supplies or materials and does not pay for them immediately. If a buyer is able to get the credit without any legal evidence or instrument, it is termed as open account trade credit and appears in the balance sheet of the buyer as sundry creditors.

3.2.1 Terms in Trade Credit

The trade credit is extended generally on the following terms and conditions:

Maximum Credit Limit

It is a term which determines the extent to which a customer is eligible for trade credit. This is determined by factors like credit worthiness of the buyer, past record with regards to payment, nature of business, etc.

Credit Period

It is the period of time for which trade credit is made available to the company by the supplier.

Cash Discount

It is a reduction in debt allowed by creditors to their debtor, to encourage them to pay before the expiration of the credit period.

Starting Date

It is the date that the credit goods are dispatched, the date the goods are received, the invoice date or some other dates.

3.2.2 Cost of Taking Credit

A firm has to evaluate the implicit costs involved in using trade credit and compare the cost with the explicit cost of negotiated sources. The costs incurred in taking credit are:

- increase in price of goods
- loss of goodwill
- costs of administration and accounting

3.2.3 Management of Trade Credit

A firm should exploit the possibilities of trade credit to the full extent, because it is an important source of financing working capital needs in the firm. A lack of trade credit policy may result in a much higher than the explicit cost of a negotiated source thus resulting in eroded profitability. To facilitate management decision making, the following financial ratios can be of great use:

- trade credit to total current asset ratio
- trade credit to total current liabilities ratio
- trade credit to sales ratio
- percentage change in trade credit to percentage change in sales ratio

3.3 Bills Discounting

This is recognised as an important short term financial instrument and it is widely used for short term financing.

In this process, the supplier draws a bill of exchange with directives to the buyer to pay a certain amount of money after a certain period and gets its acceptance from the buyer or drawee of the bill.

3.3.1 Meaning of Bills of Exchange

A bill of exchange is a negotiable instrument. Once accepted by the drawee, it creates an obligation between the drawee and the holder.

3.3.2 Discounting of Trade Bills

Bills discounting is the oldest and simplest form of securitisation. Bills arising out of trade transactions are sold to a financial intermediary at a discount, thus releasing funds immediately to the company. The drawer discounts the bill and sends the proceeds to the seller. In the book of the buyers' bank, the bill will remain as bill discounted.

3.4 Factoring

Factoring is a method of financing whereby a firm sells its trade debts at a discount to a financial institution. In other words, factoring is a continuous arrangement between a financial institution (namely the factor) which sells goods and services to trade customers on credit and a firm (namely the client).

3.4.1 Factoring Mechanism

In the normal course of business, transactions of credit sales generate the factoring business. A general view of factoring mechanism explaining the steps taken by different parties and flow of information between them is outlined below:

- a) seller of goods or services
- b) factor
- c) buyer of goods and services.

3.4.2 Functions of a Factor

Depending on the type of factoring, the main functions of a factor are:

- collection of receivables
- sales ledger management
- financing of trade debts
- credit investigation and undertaking of credit

3.4.3 Types of Factoring

The various types of factoring are:

- notified factoring
- non-notified or confidential factoring
- factoring with recourse / without recourse
- credit factoring (or invoice discounting)
- Debt administration factoring
- Bank participation factoring
- International factoring

3.4.4 Benefits of Factoring

The benefits of factoring are:

- factoring performs basic functions like administration of seller's sales ledger, credit control, etc. This would save the administration costs.
- the factors, by providing payment on the purchase of receivables, contrasts the length of operating cycle period and reduce the working capital needs. This would save the interest on capital.
- as there is reduction on bank borrowing, factoring transaction will result in a desirable improvement on the current ratio after factoring is done.
- the seller is relieved of the problem of collecting the debts.

3.4.5 Factoring and Bills Discounting

Factoring		Bills Discounting	
1.	It is called 'invoice factoring'	1.	It is called 'invoice discounting'
2.	The parties are client, factor and debtor	2.	The parties are drawer, drawees and payee
3.	It is broad in scope	3.	It is narrow in scope
4.	Grace time is not given	4.	Grace time is three days

3.5 Working Capital Finance from Banks

Some financial institutions that engage in supply of working capital credit have a scheme and a method for assessing the working capital requirements. The bank credit will generally be on the following forms:

- Cash Credit
- Bill Discounting
- Bills Acceptance
- Line of Credit
- Letter of Credit

3.6 Other Sources of Working Capital Finance

Other sources of working capital finance that are available are listed below:

- Intercompany Loans and Deposits
- Commercial Paper (CP)
- Funds Generated from Operations
- Retained Profit

- Depreciation Provision
- Amortisation Provisions
- Deferred Tax Payments
- Accrued Expenses
- Deposits and Advances
- Public Deposit

3.7 Security for Short term Financing

In the normal course of business, the short term loans will be provided by the banks against some specific assets offered to the lender as security for repayment.

The two types of current assets offered for financing working capital requirements are:

- account receivable
- inventory

4.0 CONCLUSION

In this unit, we have studied the concept of working capital finance, its sources in terms of spontaneous finance and negotiated finance and other sources of working capital finance that are available.

5.0 SUMMARY

Trade credit, lag in payment of wages and expenses are the spontaneous finance available to a firm while arrangements of finance from commercial banks and financial institutions are negotiated financing. Trade credit is generated when the company acquires goods and services but paid after sometimes as per the terms of credit.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is trade credit?
2. What are the costs involved in taking credit?

7.0 REFERENCES/FURTHER READING

Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore, R. M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 3 RISK ANALYSIS

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1.0 INTRODUCTION

Decision making is the prerogative of management and the nature of the decisions made will vary according to the status of the manager. At board level, fundamental decision regarding the objectives of the organisation and the development of a corporate plan to fulfil those objectives will be made. Functional and line management will be involved in operational decisions and at shop floor level, foremen and line supervisors will be involved in determining the best approach to performing more specific tasks.

2.0 OBJECTIVES

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

- list the steps in decision making process
- define business risk and financial risk
- explain risk analysis in project selection
- explain the influence of non-financial factors in capital investment decisions.

3.0 MAIN CONTENT

3.1 Decision Making Under Risk and Uncertainty

The making of the right decision at the right time is essential for the management of a company. Wrong or unwise decision may be fatal for an organisation. It is important that those involved in management should make use of every tool and technique available in order to arrive at the best decision. Therefore, it involves consideration relating to risk and uncertainty. The objectives to be achieved must be carefully thought out before any decision is made. People have different attitudes towards the future; some welcome the opportunity to take risk and may be called risk takers or risk seekers, others are averse to risk. In relation to decision making under condition of risk and uncertainty, the purpose of expressing an opinion about the likelihood of an event occurring is to facilitate the development of decision making procedures that are consistent with decision maker's beliefs.

Risk occurs where the future outcomes of current actions are unknown, but the probabilities of these future outcomes can be reasonably estimated from knowledge of past and current events. Risk is therefore normally measured by volatility of returns, because a certain outcome has no variance and hence, no volatility. Uncertainty, on the other hand, occurs where the probabilities of future outcomes cannot be predicted from past or current events, because no probability estimates are available.

3.2 Business Risk and Financial Risk

The total risk of a company can be broken down into business risk and financial risk. A company's business risk is determined by how it invests its funds i.e. the type of project which it undertakes while financial risk is determined by how it finances these investments.

Risk means possibility of a future loss which can be foreseen. Risk, as such, financial or otherwise can be well predicted. Usually in business accounting, suitable provisions are made for all such risks or for most of them. This is done by forecasting possibilities of such risks on the basis of their past occurrences and future estimated trends.

3.2.1 Allowing for Risk in Project Evaluation

The easiest and most common method of allowing for risk is by adjusting the discount rate applied to the future cash flow arising from the project. By this method, a premium can be added to the average

required discount rate as a safety margin to compensate for the enhanced risk of the project.

However, another way of allowing for risk can be the payback evaluation technique in calculating the discounted payback for the projects. A further approach in allowing for risk in project evaluation is to carry out sensitivity analysis in the project cash flows. Sensitivity analysis involves evaluating the impact on the financial returns from the project if certain key variables changed from those forecast in the basic evaluation. Key variables help a manager to understand the risk profile of the project. If these variables are also non-controllable, the level of risk may be unacceptably high and the project is rejected.

3.3 Risk Analysis in Project Selection

The acceptability of projects depends upon cash flows and risk. Risk is a more difficult operation concept to a project. Risk must be taken into account when estimating the required rate of return on a project. Investors do not like risk and the greater the risk of returns on a project, the greater the return they will require. There is a tradeoff between risk and return which must be reflected in the discount rates applied to investment opportunities.

3.4 Techniques for Decision-Making under Risk and Uncertainty

The following techniques and models will help in taking decision under risk and uncertainty:

1. Probability and Expected Values
2. Optimistic-Most Likely-Pessimistic Estimate
3. Value of Information
4. Sensitivity Analysis
5. Simulation
6. Standard Deviation
7. Certainty Equivalent Approach
8. Risk Adjusted Discount Rate
9. Project Beta
10. Decision Trees

3.4.1 Probability and Expected Values

Probability is highly useful for decision making under condition of risk. The probability of a particular outcome of an event is simply the proportion of times this outcome would occur if the events were

repeated a great number of times. The whole theory of probability is based on the following three axioms.

- The probability (P) of an event ranges from zero to one
- The probability of entire sample space
- If A and B events are mutually exclusive events, the probability of occurrence of either A or B is denoted by:

$$P(A \cup B) = P(A) + P(B)$$

In application of probability theory, the knowledge of the following terms is essential:

(a) **Actions**

These are acts that the management performs by choosing a particular action among other alternatives.

(b) **Events**

It represents the various states that management actions can offer.

(c) **Expected value**

It results from the multiplication of each possible outcome of an event by the probability of that outcome occurring.

(d) **Payoff**

This is related to the action and the event.

Advantages

- It is simple to understand and calculate.
- It represents whole distribution by a single figure.
- It arithmetically takes account of the expected variabilities of all outcomes.

Disadvantages

- By representing the whole distribution by a single figure, it ignores the other characteristics of the distribution.
- It makes the assumption that the decision maker is risk neutral.

3.4.2 Optimistic-Most Likely-Pessimistic Estimates

In decision making, the first step is usually to make a single best estimate for each item. One might then also make optimistic and pessimistic estimates for each variable. Another approach is to make the most likely estimate for each item in turn in order to see how much difference it makes to the overall result. The worst possible/best possible outcomes can be evaluated from the pessimistic and optimistic attitudes of the decision made. An optimistic decision maker considers the most favorable outcome whereas a pessimistic decision maker is very conservative in his approach.

The analysis will help in understanding the full range of possible outcomes from a decision and will help the decision maker to take the right decision, keeping in view the risk involved in the decision.

3.4.3 Value of Information

Uncertainty involved in making a decision can be reduced sometimes by collecting more information. However, we will usually have to pay for this additional information. If we know in advance, which one of the outcomes will occur, then we will choose the decision which will lead to the maximum pay off. Information can be obtained from various sources, such as:

- market research surveys
- other survey or questionnaires
- conducting a pilot test
- building a prototype model

How reliable is the information likely to be for predicting what will happen in the future in helping managers to make better decision?. We can categorise information into two groups:

- Value of Perfect Information
- Value of Imperfect Information

3.4.4 Sensitivity Analysis

This is the study of the Key assumptions or calculations in which a management decision is based in order to produce alternative outcome of that decision if different assumptions are adopted. Sensitivity analysis is a modeling procedure used in forecasting whereby changes are made in the estimate of the variables to establish whether any estimate will critically affect the outcome of the forecasts. Sensitivity analysis seeks to determine the range of variation in the coefficients over which the

solution will remain optimal. It is used in the determination of risk factor in capital budgeting decisions. It aids in identifying the most sensitive factor that may cause the error in estimation. Sensitivity analysis involves the following two steps.

- a) Identification of all those variables having influence on the projects NPV or IRR
- b) Analysis of the impact of the changes in each of the variables on the NPV of the project.

The variations can be classified under the following five headings:

- Variations in the objective function coefficients
- Variations in the technical coefficients
- Variations in the constraint sector coefficients
- The addition or deletion of constraints
- The addition or deletion of variables

Methodology

- List the key factors or parameters.
- Attach the most likely values to each of these parameters and from these predict the most likely level of profits.
- Calculate the effect of varying the values of all these parameters.
- List the outcomes of the alternative assumptions and make a subjective assessment of their likelihood.
- Draw conclusion on any action required which would make the achievement of the better outcomes most likely.

Benefits

Sensitivity analysis helps to prevent rash predictions about the outcome of plans by ensuring that the assumptions on which the plans are based are examined and that the effect of changes in these assumptions is gauged. It can indicate area where improvements are likely to have the greatest impact on results.

3.4.5 Simulation

Simulation is imitation of reality. Simulation is the representation of a system by a model which will react to change in a similar way to that which is being simulated. This evolves a decision through testing it via the model. There are several techniques of simulation that are in use. However, Monte Carlo method is very popular as it is very simple and easy to use. Some problems are too complex to solve with pure mathematics or they involve random elements or risk situations that defy

a practical mathematical solution. In such situations, analysts sometimes construct a model of the real world problem and use a trial and error approach to arrive at reasonable solutions to the problem.

Steps for using simulation

- define the problem precisely
- introduce the variables associated with the problems
- construct a numerical model
- set up possible courses of action for testing
- run the experiment
- consider the number and the possibilities to modify the model or change data inputs
- decide the best action to take

Advantages

- Simulation can be used to investigate the behaviour of problems which are too complex to be modeled mathematically.
- It does not interfere with the real world system only with table model and therefore, it results in saving of costs.
- It is a micro analysis of business and complicated system by breaking business into each sub system and studying the interface of the various sub systems.
- Time will be saved in simulation.

Disadvantages

- Simulation is not an optimising technique.
- Reliable results are possible only if the simulation is continued for a long period.
- Computer is essential to cope with the amount of calculation in simulation modeling.
- Simulation methods generally are not as efficient as the analytical method.

3.4.6 Standard Deviation

Standard deviation is the statistical technique used in capital budgeting decisions to determine the variation or deviation from the mean of cash flow of the project. The project with lesser standard deviation in cash flows carries less risk and uncertainty.

Decision makers choose the project which has smaller variation in expected value but when the life of the project and their cash outflow differ, the selection of the project will be done by ascertaining the

coefficient of variation instead of standard deviation when two projects have similar EVs of profits, although not exactly the same. In such cases, a useful measure of risk for project comparison is the coefficient of variation, which is calculated as follows.

$$\text{Coefficient of Variation} = \frac{\text{Standard Deviation}}{\text{EV of Profit}} \times 100$$

A project with a higher coefficient of variation would be more risky than a project with a lower coefficient of variation.

3.4.7 Certainty Equivalent Approach

This approach takes into account the risk factor in making estimates and appraisal of capital investment decisions. Under this technique, the estimated cash flows are adjusted by using risk-free rate to ascertain risk from cash flows. This approach is theoretically a superior technique over the risk adjusted discount approach because it can measure risk more accurately. It is a conservative approach in making estimation of project cash flows recognising the risk factor in cash flows.

3.4.8 Risk Adjusted Discount Rate

Once the sources of funds, their costs and the relative weighing in of the capital structure have been determined, it is a simple task to compute the Weighted Average Cost of Capital (WACC) of a project. WACC is not a theoretically correct approach to determine the required rate of return of a project. The Capital Asset Pricing Method (CAPM) has provided an approach to determine project required rate of return which takes risk into account. The CAPM divides the cost of equity into two components; the near risk free return available on investing in a particular investment.

The risk-adjusted discount rate approach attempts to handle the problem of risk and uncertainty in a more direct and thoughtful way. Since investors are averse to risk and so require a reward for undertaking a risky investment in the form of the rate of return that it is expected to produce the more risky the investment, the greater must be its expected return if investors are going to be persuaded to undertake it. It is their idea – the relationship between risk and return that the risk-adjusted discount rate approach picks upon. The approach usually adds a risk premium to the risk-free rate of return. The greater the projects perceived level of risk, the greater is the risk premium.

3.4.9 Projects Beta

Risk can be defined as the volatility of returns from an investment. However, some investments are more volatile than others. A measure of risk developed in portfolio theory is beta (β). Beta is an expression of the market sensitivity of an investment or how volatile it is compared with the normal volatility of the market.

$$\beta_p = \frac{(\beta \text{ Equity} \times E)}{0 + E} + \frac{(\beta \text{ Debt} \times D)}{D + E}$$

Where β_p = the business risk of a project used in finding required return of a project

$\beta \text{ Equity}$ = the share market beta, relating to equity returns

$\beta \text{ Debt}$ = the riskiness of the company's debt borrowings.

E = market value of equity

D = market value of debt

3.4.10 Decision Trees

A decision tree is a branching diagram which is similar to a probability tree. It represents problems in a series of decisions to be made under conditions of uncertainty. A decision tree is a diagrammatic representation of the relationships among decisions states of nature and pay-offs (or outcomes).

Decision trees are constructed from left to right. The branches represent the possible alternative decisions which could be made and the various possible outcomes which might arise.

3.5 Non-Financial Factors

In addition to the financial aspects of the capital investment decision, there are also many other areas which warrant attention such as:

- technical
- imported equipment
- size and weight of equipment and spares
- standardisation of equipment
- look before you buy
- human and social factors
- organisational behaviour

There are, of course, numerous other factors that need to be taken into account e.g. special offers – two for the price of one guarantees, and the

possibility of renegotiating the terms. Thus, the so called non-financial factors may have a significant influence upon a firm's long term financial performance and cannot be ignored in the capital investment decision making process.

4.0 CONCLUSION

Decision making is the function of management, and a formalised decision making process is essential for the achievement of corporate objectives. Decision makers should have the complete knowledge of all possible alternative course of actions, out of which he should select the alternative with highest payoff.

5.0 SUMMARY

Uncertainty means all future outcomes which cannot be predicted with accuracy, which may arise due to lack of previous experience and knowledge. Risk occurs where future outcomes of current actions are unknown, but the probabilities of the outcomes of these factors can be reasonably estimated from the knowledge of past and current events.

6.0 TUTOR-MARKED ASSIGNMENT

Distinguish between 'business risk' and 'financial risk'.

7.0 REFERENCES/FURTHER READING

Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore, R. M. (2007), *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 4 WORKING CAPITAL PLANNING

CONTENTS

- 1.0 Introduction
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 - 3.1 Definition and Objectives of Working Capital Management
 - 3.2 Components of Working Capital
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 - 3.4 Permanent and Temporary Working Capital
 - 3.5 Positive and Negative Working Capital
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1.0 INTRODUCTION

Working Capital Management is significant in Financial Management due to the fact that it plays a pivotal role in keeping the wheels of a business enterprise running. Working Capital Management is concerned with short term financial decisions. Shortage of funds for working capital has caused many businesses to fail and in many cases, has retarded their growth. Lack of efficient and effective utilisation of working capital leads to low rate of return on capital invested or can even lead to losses.

2.0 OBJECTIVES

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

- define working capital
- list the objectives of working capital management
- describe the factors influencing the level of working capital.

3.0 MAIN CONTENT

3.1 Definition and Objectives of Working Capital Management

Working capital is defined as the excess of current assets over current liabilities. All elements of working capital are quick moving in nature and therefore require constant monitoring for proper management. Working capital is also known as circulating capital, fluctuating capital and revolving capital. If the working capital level is not properly maintained and managed, then it may result in unnecessary blockage of scarce resources of the company.

Objectives of Working Capital Management

The basic objectives of working capital management are as follows:

- By optimising the investment in current assets and reducing the level of current liabilities, the company can reduce the locking-up of funds in working capital thereby, improving the return on capital employed in the business.
- The second important objective is that the company should always be in a position to meet its current obligations which should properly be supported by the current assets available with the firm.
- The firm should manage its current assets in such a way that the marginal return on investment on these assets is not less than the cost of capital employed to finance the current assets.
- The firm should maintain proper balance between current assets and current liabilities to enable the firm to meet its day to day financial obligations.

3.2 Components of Working Capital

3.2.1 Current Assets

Current assets are those assets which are convertible into cash within a period of one year and are those which are required to meet the day to day operations of the business. The current assets are cash or near cash resources. These include the followings:

- a) Cash and bank balances
- b) Temporary investments
- c) Short term advances
- d) Prepaid expenses
- e) Receivables

- f) Inventory of raw materials, stores and spares
- g) Inventory of work-in-progress
- h) Inventory of finished goods

3.2.3 Current Liabilities

Current liabilities are those claims of outsiders which are expected to mature for payment within an accounting year. These include the followings:

- 1) Creditors for goods purchased
- 2) Outstanding expenses
- 3) Short term borrowings
- 4) Advances received against sales
- 5) Taxes and dividend payable
- 6) Other liabilities maturing within a year.

3.3 Gross and Net Working Capital

Generally, the working capital categorised into two perspectives. These are gross working capital and net working capitals which are called balance sheet approach of working capital.

Gross Working Capital

This refers to the firm's investment in current assets. The concept of gross working capital is advocated for the following reasons.

- Profits of the firm are earned by making investment of its funds in fixed and current assets.
- The management is more concerned with the total current assets as they constitute the total funds available for operating purposes than with the sources from which the funds come.
- An increase in the overall investment in the enterprise also brings an increase in the working capital.

Net Working Capital

The term net working capital refers to the excess of current assets over current liabilities. The net working capital is a qualitative concept which indicates the liquidity position of a firm and the extent to which working capital needs may be financed by permanent source of funds.

3.4 Permanent and Temporary Working Capital

The term net working capital refers to the excess of current assets over current liabilities. The net working capital is a qualitative concept which indicates the liquidity position of a firm and the extent to which working capital needs may be financed by permanent source of funds.

Considering time as the basis of classification, there are two types of working capital viz, permanent and temporary.

3.4.1 Permanent Working Capital

The magnitude of investment in working capital may increase or decrease over a period of time according to the level of production. But, there is a need for minimum level of working capital to carry the business irrespective of change in level of sales or production. Such minimum level of working capital is called permanent working capital or fixed working capital.

3.4.2 Temporary Working Capital

It is also called fluctuating working capital. It depends upon the changes in production and sales over and above the permanent working capital. It is the extra working capital needed to support the changing business activities. It represents additional assets required at different times during the operation of the year.

The supplier of permanent working capital look for long term return on funds invested whereas the supplier of temporary working capital will look for immediate return and the cost of such financing will also be costlier than the cost of permanent funds used for working capital.

3.5 Positive and Negative Working Capital

The net working capital of a firm may be positive or negative:

- The positive net working capital represents the excess of current assets over current liabilities
- Sometimes, the networking capital turns to be negative when current liabilities are exceeding the current assets. The negative working capital position will adversely affect the operations of the firm and its profitability.

3.5.1 Disadvantages of Negative Working Capital

The disadvantages suffered by a company with negative working capital are as follows.

- The company is unable to take advantage of new opportunities or adapt to changes.
- Fixed assets cannot be used effectively in situation of working capital shortage.
- The operating plans cannot be achieved and will reduce the profitability of the firm.
- It stagnates the growth of the firm.
- Employee morale will be lowered due to financial difficulties.

3.6 Factor Determining Working Capital Requirements

There is no set of universally applicable order to ascertain working capital needs of a business organisation. The factors which influence the need level are the followings:

- Nature of business
- Manufacturing cycle
- Production process
- Business cycle
- Seasonal variations
- Scale of operations
- Inventory policy
- Credit policy
- Accessibility to credit
- Business standing
- Growth of business
- Market condition
- Supply situation
- Environment policy

3.6.1 Assessment of Working Capital in Seasonal Industries

In seasonal industries, the level of working capital requirement will not be similar all through the year. In off-season times, the working capital requirement and the levels of investment in current assets and liabilities are very low. During the on- season, the firm's requirement of working capital is at peak level. For efficient management of working capital, the finance manager should be able to properly estimate the on-season and the off-season requirements of working capital.

The finance manager of a seasonal industry should be extra cautious while carrying out assessment of working capital for the firm.

3.6.2 Impact of Inflation on Working Capital

One of the objectives of working capital management is to determine and maintain the optimum level of investment in current assets for

increase of return on capital employed. When the inflation rate is high, it will have its direct impact on the requirement of working capital as explained below:

- Inflation will cause to show the turnover figure at higher level even if there is no increase in the quantity of sales.
- Inflation will result in increase of raw material prices and in payment for expenses.
- Increase in valuation of closing stock results in showing higher profits causing the firm to pay higher tax dividends and bonus.
- Increase in investments in current assets means the increase in requirement of working capital without the corresponding increase in sales or profitability of the firm.
- In view of the above, the finance manager should be very careful about the impact of inflation in assessment of working capital requirements and its management.

3.6.3 Impact of Overtrading on Working Capital

Overtrading arises when a business expands beyond the level of funds available. Overtrading means an attempt to finance a certain volume of production and sales with inadequate working capital. Overtrading is a situation where a firm attempts to increase its sales level without having a support of adequate working capital. Expansion is advantageous so long as the business has the funds available to finance the stock and debtors involved. Overdependence on outside finance is a sign of weakness unless the expansion is curtailed, suppliers may refuse credit beyond certain limits, and the bank may call for a reduction of the overdraft.

3.6.4 Impact of Under Capitalisation on Working Capital

Under capitalisation is a situation where the company does not have funds sufficient to run its normal operations smoothly. If the company faces the situation of under capitalisation, it will suffer from the following disadvantages.

- The firm will face difficulties in meeting current obligations and in meeting the day to day running expenses.
- It is unable to procure raw materials and stores items in time.
- The long term fixed assets cannot be utilised at optimum level.
- The return on capital employed would be lower due to lower capacity utilisation.
- The firm will face difficulty in meeting the delivery schedules, causing loss of goodwill as well as prolonged operating cycle.
- The discounts on cash purchase and bulk purchases cannot be obtained by cash starved concern.

3.6.5 Impact of Over Capitalisation on Working Capital

If there are excessive stocks, debtors and cash and very few creditors, there will be an over investment in current asset. The inefficiency in managing working capital will cause this excessive working capital resulting in lower return on capital employed and long term funds will be unnecessarily tied up when they could be invested elsewhere to earn profit.

3.7 Strategies in Working Capital Management

So far, the banks are the main source of funds for working capital needs of business sector. At present, more finance options are available to a finance manager to see the operations of his firms go smoothly. Depending on the risk exposure of business, the following strategies are evolved to manage the working capital.

3.7.1 Conservative Approach

A conservative strategy suggests not to take any risk in working capital management and to carry high levels of current assets in relation to sales. It requires maintaining a high level of working capital and it should be financed by long term funds like share capital or long term debt.

Under the strategy, long term financing covers more than the total requirement for working capital. The excess cash is invested in short term marketable securities and in case of need, these securities are sold off in the market to meet the urgent requirements of working capital.

3.7.2 Aggressive Approach

Under this approach, current assets are maintained just to meet the current liabilities without keeping any cushion for the variations in working capital needs. Adoption of this strategy will minimise the investment in net working capital and ultimately it lowers the cost of financing working capital. The main drawback of the strategy is that it necessitates frequent financing and also increases risk as the firm is vulnerable to sudden shocks. The price of this strategy is higher financing costs since long term rates will normally exceed short term rates. But when aggressive strategy is adopted, sometimes the firm runs into mismatches and defaults.

3.7.3 Matching Approach

Under matching approach to financing working capital requirements of a firm, each asset in the balance sheet assets side would be offset with a financing instrument of the same approximate maturity. The basic objective of this method of financing is that the permanent component of current assets, and fixed assets would be met with long term funds and the short term or seasonal variations in current assets would be financed with short term debt. To shorten the receivable period without necessarily reducing the credit period, the companies can offer trade discount for prompt payment. This strategy is also called the 'hedging approach'.

3.7.4 Zero Working Capital Approach

This is one of the latest trends in working capital management. The idea is to have zero working capital i.e. at all times the current asset shall equal the current liabilities. The firm saves opportunity cost on excess investments in current assets and as bank cash credit limits are linked to the inventory levels, costs of interests are also saved. Zero working capital also ensures a smooth and uninterrupted working capital cycle and it would pressurise the finance manager to improve the quality of the current assets at all times. Zero working capital would call for a fine balancing act in financial management and the success in this endeavour would get reflected in healthier bottom line.

3.7.5 Working Capital Policies

The degree of current assets that a company employs for achieving a desired level of sale is manifested in working capital policy. In practice, the business concern follows three forms of working capital policies which are discussed in brief as follows.

- **Restricted Policy:** It involves the rigid estimation of working capital to the requirements of the concern and then forcing it to adhere to the estimate.
- **Relaxed Policy:** It involves allowing sufficient cushion for fluctuations in funds requirement for financing various items of working capital.
- **Moderate Policy:** The working capital level estimated in between the two extremes i.e. restricted and relaxed policies.

4.0 CONCLUSION

In this unit, we have learned the meaning of working capital planning, the objectives, its components and factors determining working capital requirement.

5.0 SUMMARY

Working capital refers to a firm's investment in short term assets. It refers to all aspects of current assets and current liabilities. The basic principle of working capital management is that, the permanent current assets are to be financed from long term sources and temporary fluctuations in current assets are to be financed by raising short term funds.

6.0 TUTOR-MARKED ASSIGNMENT

Write short notes on permanent and temporary working capital.

7.0 REFERENCES/FURTHER READING

- Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.
- Kishore, R M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 5 CASH AND TREASURY MANAGEMENT

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Cash Asset Management
 - 3.2 Classification of Cash flow
 - 3.3 Motives for Holding Cash
 - 3.4 Management of Liquidity
 - 3.5 Reasons for Cash Flow Problems
 - 3.6 Management of Cash Balance
 - 3.7 Electronic Cash Management System
 - 3.8 Treasury Management
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- 4.0 Conclusion
- 5.0 Summary
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1.0 INTRODUCTION

In this unit, we shall be discussing the concept of cash and treasury management, classification of cash flows, motive of holding cash and cash budget.

2.0 OBJECTIVES

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

- explain cash management
- explain the motives behind holding cash balances
- describe electronic cash management system and virtual banking
- explain treasury management and the functions of a treasurer.

3.0 MAIN CONTENT

3.1 Cash Asset Management

Cash asset management implies making sure that all business generated revenues are effectively controlled and utilised in the best possible manner to result in gains for the organisation. Cash assets management is concerned with optimising the amount of cash available to the company and maximising the interest generated by funds not required

immediately by the company. The fundamental objective of cash asset management is optimisation of liquidity through an improved flow of funds. The basic objectives of cash assets management are:

- a) to ensure availability of cash as per payment schedule.
- b) to minimise the amount of idle cash.

Effective cash asset management requires proper management of cash inflows and outflows which entail:

- improving forecasts of cash flows
- synchronising cash inflows and outflows
- using floats
- accelerating collections
- getting available funds to where they are needed
- controlling disbursements.

3.2 Classification of Cash flows

Cash flows are classified into the followings:

a) **Operational cash flow**

Derives from normal trading operations.

b) **Priority cash flow**

Payments for non-trading cash payments that must be made to keep the company afloat e.g. tax payment, interest payment.

c) **Discretionary cash flow**

Cash payments or receipts that can be avoided or deferred if necessary.

d) **Financial cash flow**

From variations in long term capital.

3.3 Motives for Holding Cash

The motives for holding cash balances in a firm are given below”

- **Transaction Motive**

cash balance is required to meet the day to day transactions of business.

- **Precautionary Motive**

Firms hold cash to meet uncertainties, emergencies, running out of cash and fluctuations in cash balances.

- **Speculative Motive**

Firms hold high cash balances to take advantage of speculative investment opportunities, to exploit discount for prompt payments, to improve credit rating, etc.

- **Future Requirement**

Cash balances are held to meet future payment obligations, like payment of tax, dividends, purchase of fixed assets, etc.

- **Compensating Balances**

Firms generally have to hold cash balances to compensate its banker for the services provided.

3.4 Management of Liquidity

Liquidity is defined as the ability of the organisation to realise value in money, the most liquid of assets. It refers to ability to pay in cash, the obligations that are due.

3.4.1 Liquidity and Profitability

Profitability concept signifies the operational efficiency of an organisation by value addition through the utilisation of resources.

Liquidity means the ability of the organisation to realise value in money and its ability to pay in cash the obligations that are due for payment. There is an inverse relationship between profitability and liquidity. The higher the liquidity, the lower will be the profitability and vice versa.

Lack of liquidity may lead to lower rate of returns, loss of business opportunities, etc. If more assets of the firm are held in the form of highly liquid assets, it will reduce the profitability of the firm. Therefore, a firm should maintain a trade off situation where the firm maintains its optimum liquidity for greater profitability.

3.5 Reasons for Cash Flow Problems

The continuous deficit in cash flow will show the signal for forthcoming situation of financial distress. Cash flow problem may arise from the following reasons:

- continuous operating losses will cause deficit in cash flow
- when the rate of inflation is higher
- non-recurring expenditure or payment
- when the seasonal or cyclical sales are higher
- overtrading
- continuous growth in business of a firm may lead to continuous cash requirements to support its production and working capital shortages
- inefficient working capital management

3.5.1 Effects of Cash Deficits

Cash shortages can result in the making of sub-optimal investment decisions and sub-optimal financing decisions.

3.6 Management of Cash Balance

3.6.1 Setting Cash Balance

The level of cash holding of a firm depends upon a number of factors. One measure that would assist in the management of cash is the ratio of the cash balance to the level of current assets.

$$\text{Cash Proportion Ratio} = \frac{\text{Cash Balance}}{\text{Current Assets}}$$

Another approach to determine the amount of cash that the company may need to carry is to examine the cash balance in relation to the sale of the period.

$$\text{Cash Turnover} = \frac{\text{Sales per Period}}{\text{Initial Cash Balance}}$$

3.6.2 Zero Balance Sheet

This is an approach in which zero balance is maintained. Every day, the firm sums up all cheques presented for payment against the account and transfer the balance of cash in the account by buying marketable securities.

3.6.3 Money Market Banking

One of the tasks of treasury functions of larger companies is the investment of surplus funds in the money market. Money market banks obtain funds by competing in the money market for the deposits of corporate customers, public authorities, wealthy individuals and other banks.

3.6.4 Petty Cash Imprest System

For better control of cash, companies use petty cash imprest system wherein the day to day petty expenses are estimated taking into account past experiences and future needs and generally, one week requirement of cash will be kept separate for making petty expenses.

3.7 Electronic Cash Management

Most of the cash management systems in the world are electronically based since speed is the essence of any cash management system. Various elements in the process of cash management are linked through a satellite. Certain network cash management system may also provide a very limited access to third parties like parties having very regular dealings of receipts and payments with the company.

Benefits

- Significant saving in time
- Decrease in interest costs
- Less paper work
- Greater accounting accuracy
- More control over time and funds
- Provides timely access of information
- Supports electronic payments

3.7.1 Virtual Banking

Virtual banking denotes the provision of banking related services through extensive use of information technology without direct recourse to the bank by the customer. The origin of virtual banking can be traced to the seventies with the installation of Automated Teller Machine (ATM).

Advantages

The advantages of virtual banking services are as follows:

- Lower cost of handling transaction
- The increased speed of response to customers' requirements.
- The lower cost of operating branch network and reduced staff costs lead to cost efficiency.
- Virtual banking allows the possibility of improved equality and a range of service being available to customers more rapidly and accurately at his convenience.
- The popularity, which virtual banking has won among customers, owing to the speed, convenience and round the clock services endear it to many customers.

3.8 Treasury Management

Treasury management is defined as the corporate handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows and the complex strategies, policies and procedures of corporate finance. Tight money, escalating interest rates and economic volatility have called for a specialised skill called treasury management. The key goal of treasury management is planning, organising and controlling cash assets to satisfy the financial objectives of the organisation. Treasury management tries to minimise losses by adopting risk transfer and hedging techniques that suit the internal policies of the organisation.

3.8.1 Role and Functions of the Treasurer

- The treasurer will maintain the cordial relationship with the banks and be involved in working capital and money management.
- The treasurer will ensure that the business has the liquid funds it needs and invest surplus funds.
- The treasurer should have a thorough knowledge of funding requirements of the organisation, sources of finance available, the cost of these sources and the risk attached to it.

The important functions of a treasurer are as follows:

- Corporate financial planning
- Cash management
- Minding management
- Currency management
- Corporate finance

- Other related matters like corporate tax planning, risk management, insurance and pension fund investment management.

3.8.2 Advantages of Centralised Treasury Management

Under the centralised cash management, the treasury department, which will look after the management of funds of multi-locational centers of the organisation, is set up. The important advantages are as follows.

- It avoids a mix up of cash surplus and overdrafts, at different centres of the firm.
- The back cash flow allows the company to negotiate with its bankers for lower rate of interest.
- The surplus cash can be efficiently invested in short term and marketable securities to earn interest on it.
- Foreign currency risk can be efficiently managed.
- It maintains the balance of funds for the entire organisation, on precautionary measures.
- Efficient utilisation of funds is ensured by centralised funds management.

3.8.3 Advantages of Decentralised Treasury Management

The decentralised treasury management has the following reasons for its adoption:

- Sources of finance can be diversified and can match local assets
- Greater autonomy can be given to subsidiaries and divisions
- The decentralised treasury function may be able to be more responsive to the needs of individual unit.
- There will be more limited opportunities to invest balances on a short term basis.

3.8.4 Cash Management And Treasury Management

The cash management is very closely linked with the treasury operations of any business organisation. The treasury operations of an organisation can be divided into two:

- a) Short term investment of surplus funds
- b) Short term borrowing of funds from banks or market for normal working capital requirements.

The broad objective of cash management with regards to the treasury operations is to maximise the availability of funds at any point in time

and/or also to minimise the deficit or shortfall in the requirement of funds at any point in time.

3.9 Cash Budget

Cash budget is a detailed budget of income and cash expenditure incorporating both revenue and capital items. Cash budget is concerned with liquidity, which reflects changes between opening and closing debtor balances and between opening and closing creditor balances, as well as, focusing attention on other inflows and outflows of cash. In preparation of cash budget, the following points are considered.

- Credit period allowed to customers
- Credit period allowed by suppliers to the company for goods and services
- Payments of dividends, taxation and capital expenditure
- Non-consideration of transactions which have no impact in cash flow e.g. depreciation
- Minimum cash balance required
- The bank overdraft limits allowed
- Dealing with the surplus cash
- Dealing with the cash deficit
- Trend of sales
- Period of debt repayments
- Raising long term funds during the course of cash budget, etc.

3.9.1 Methods of Cash Budgeting

A cash budget can be prepared in the following ways:

- Adjusted income method
- Adjusted balance method
- Receipts and payments method

3.9.2 Cash Budget and Profit and Loss Account

Three groups of transactions can cause difference between the cash flow and the profit figure:

- Timing differences
- Non-cash items
- Matters of principle

3.9.3 Cash flow Statement and Cash Budget

The distinctions between cash flow statements and cash budget are given below.

Cash flow statement		Cash budget	
1.	It shows the cash inflows and cash outflows relating to firm's activities	1.	All expected cash receipts and estimated cash payments are incorporated into cash budget
2.	The preparation is done as a post mortem exercise of the past event	2.	It is prepared for the forthcoming period as a planning exercise
3.	It is prepared basically for a financial accounting period	3.	It may be prepared for a month, a quarter, half a year and annually

4.0 CONCLUSION

The management of cash assets holds a central position in the area of short term investment and financial decisions. The basic objective of cash management is to optimise liquidity and profitability.

5.0 SUMMARY

Cash management is making sure that all business generated revenues are effectively controlled. Treasury management deals with efficient and skilled management of corporate finances and with management of cash asset and its financial risk.

6.0 TUTOR-MARKED ASSIGNMENT

1. What is treasury management?
- 2i. What are the roles of a treasurer?

7.0 REFERENCES/FURTHER READING

- Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.
- Kishore, R. M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 6 DEBT AND RECEIVABLES MANAGEMENT

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning of Trade Debt
 - 3.2 Credit Terms
 - 3.3 Cash Discounts
 - 3.4 Monitoring of Accounts Receivables
 - 3.5 Management of Trade Debts
 - 3.6 Decision Tree Analysis in Credit Granting
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The management of receivables broadly covers the study of credit policy, credit analysis, credit control, management of investment in debtors' balances and increase in efficiency of short term funds management. A firm should adopt the policy on account receivables to minimise the costs and risks and maximise the firm's profitability and returns.

2.0 OBJECTIVES

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

- describe types of credit
- explain the meaning of receivables
- explain the meaning of cash discount
- explain the ratios used in control of receivables.

3.0 MAIN CONTENT

3.1 Meaning of Trade Debt

There is a time lag between provision of goods and services and the receipt of cash for them. Any increase in time lag will cause serious liquidity problem and sometimes can cause insolvency of the firm.

There are two types of credit generally offered to the customers:

- **Trade Credit:** credits issued by a business to another business.
- **Consumer Credit:** credits that are generally offered to the end customer.

3.1.1 Costs of Granting Credit

The costs involved in extension of credit to the customers are as follows:

- Carrying costs
- Defaulting costs
- Administration costs

If the firm intends to increase its sales, it should resort to sell its products by extending credit.

3.1.2 Costs of Denying Credit

In a competitive market, if the competitor grants credit, it will be difficult for the firm to deny credit to customers so as to increase sales in the market. Unless the monopoly market prevails, it is very difficult to sell all goods on cash basis. The reduction in sales limits the profitability of the firm.

3.2 Credit Terms

An important aspect of the credit control policy is to desire suitable payment terms covering when payment should be made and how this should be achieved. The terms must be simple to understand and easily enforceable. Some examples of payment terms are as follows:

- Payment after specified days after delivery
- Credit period with cash discount for early payment
- Weekly credit
- Half monthly sheet
- 10th and 25th – similar to a half monthly credit
- Monthly credit

3.3 Cash Discounts

Cash discounts are offered by the seller to the customer to encourage early payment before the end of the credit period. Cash discounts are cost to the seller and benefit to the buyer. To consider whether the offer of a discount for early payment is financially worthwhile, it is necessary to compare the cost of the discount with the benefit of a reduced

investment in debtors. The percentage of cost of early settlement discount to the company can be calculated by using the formula given below.

Cost of Cash Discount

$$= \frac{d}{(100-d)} \times \frac{365}{(n-s)} \times 100$$

Where

- | | | |
|---|---|---|
| d | = | Discount offered |
| n | = | Number of days credit is offered, for no discount |
| S | = | Number of days credit is allowed with the settlement discount |

3.4 Monitoring of Accounts Receivables

For effective management and control of receivables, the following techniques are used by the credit manager in monitoring the status and composition of account receivables:

- Ratio analysis for control of receivables
- Ageing schedule
- ABC analysis of receivables
- Discriminate analysis and credit scoring
- Credit utilisation report
- Cost benefit analysis of collected expenses
- The average day's sales in terms of debtors

3.5 Management of Trade Debts

For effective management of trade debts, the management of a firm can do the following:

- Establishment of credit control department
- Establish credit policy
- Establish credit standards
- Access credit risk
- Establish effective administration of debtors
- Access customer credit worthiness
- Establish policy on bad debts

3.6 Decision Tree Analysis in Credit Granting

A decision tree is a branching diagram which is similar to a probability tree. It represents problems in a series of decisions to be made under

conditions of uncertainty. The decision tree technique can also be used in analysing the cost-benefit in granting credit to a customer.

The payments of debts or debts turning out to become bad debts are the future uncertain events for which probabilities are assigned, based on the chances of estimated outcomes. For example, that there is 80% chance that the debt can be recovered is therefore assigned the probability of 0.8 and the probability of turning it to be bad debt is 0.2.

Expected profit and expected loss are estimated as follows:

- Expected profit = (sales less costs) x probability of payment
- Expected loss = costs x probability of default

If the expected profit is more than expected loss, the decision can be made to grant the credit.

4.0 CONCLUSION

Trade credit is the credit issued by a business to another business as a practice of trade transaction. Customer credit is generally offered to the end customer. The extension of credit to customer involves the carrying costs, defaulting costs and administration costs. Costs of denying credit leads to loss of sale.

5.0 SUMMARY

Receivables arise from sales made on credit for which payment is not yet received. Credit term is the time period allowed to the customer for payment against credit sales.

6.0 TUTOR-MARKED ASSIGNMENT

What is trade debt?

7.0 REFERENCES/FURTHER READING

Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore R. M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

UNIT 7 FINANCIAL MANAGEMENT PLANNING AND CONTROL

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Strategic Financial Planning
 - 3.2 Financial Advisor
 - 3.3 Capital Budgeting
 - 3.4 Pricing Policy
 - 3.5 Causes of Sickness
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

The concepts of Financial Management are applicable to both private sector undertakings and Public Sector Enterprises. The report provides more information as per the requirements of the agency of the government overseeing this aspect of the economy.

2.0 OBJECTIVES

By the end of the unit, you should be able to:

- explain strategic financial planning
- list the factors affecting the pricing policy
- describe the causes of sickness in organisations.

3.0 MAIN CONTENT

3.1 Strategic Financial Planning

The strategic financial planning requires concentration in aligning the conflicting financial objectives. In business organisations, investment decision can be evaluated using discounted cash flow technique and a project might be adopted if it will add to the wealth of the organisation and its owners. Strategic financial planning requires a consideration of the following.

- The development of an adequate financial information system which would enable them to monitor and forecast external parameters and assessment of internal capabilities.
- The existence of clear strategic financial objectives.
- The co-ordination of the plant with the government's economic, social, fiscal and monetary policies.

3.2 Financial Advisor

The financial advisor occupies a pivotal role in management. He acts as a principal advisor on financial matters and renders financial advisory services to the committee. The financial advisor helps in the following matters:

- Estimation of short term and long term financial needs of the enterprise
- Formulation of financial policies and authorisation procedure
- Determination of the level of activity and set-up of cost-volume-profit relationships of different activity levels
- Evaluation of financial and economic viability of the project, feasibility reports, social costs and benefits
- Review of cash flow and operational performance on periodical basis
- Advising on capital expenditure proposals
- Conduct of special duties on cost
- Submission of periodical reports on operational and financial performance
- Analysis of financial results of all operations and advising on the future of the enterprise.

3.3 Capital Budgeting

The following objectives are identified in capital budgeting:

- To estimate the expenses, in financial terms, the capital works necessary to meet the objectives expressed within an accounting period.
- To set out the agreed priorities of capital schemes
- To facilitate coordination of plans and resources by:
 - (a) allocating the financial resources among departments
 - (b) assisting in the implementation of capital expenditure schemes
 - (c) providing a basis for forecasting cash flows and financial requirements
 - (d) providing a basis for forecasting revenue implication
 - (e) providing a basis for budgetary control
 - (f) satisfying government control requirements

3.4 Pricing Policy

There are laid down guidelines for pricing with the main objective of serving the overall interest of the community at large. The following will have impact on the pricing policy:

- a) socio-economic objectives to be achieved
- b) subsidies available to the enterprise
- c) subsidies available to the users of the enterprises products
- d) state of financial health of the enterprise
- e) degree of control of the enterprise by the government
- f) government attitude towards the enterprise
- g) nature of product/service relevance to economic condition
- h) the market structure for the product
- i) goals of the enterprise

3.5 Causes of Sickness

Sickness, inefficiency and corruption are found in all enterprises. However, the percentage is higher in public sector than in the private sector. The causes of sickness can be the followings..

- Short tenure of manager
- A really sick company without any hope of revival cannot be kept alive for long by artificial means
- Psychology of human beings is basically selfish and he can work best only when he has something to gain personally.
- Political interference and corruption

4.0 CONCLUSION

In this unit, strategic financial management planning has been explained. The functions of a financial advisor are also discussed fully.

5.0 SUMMARY

The strategic financial planning requires concentration in aligning the conflicting financial objectives. The financial advisor acts as a principal advisor on financial matters to the enterprise.

6.0 TUTOR-MARKED ASSIGNMENT

1. What are the roles of a financial advisor?
2. In what respect is capital budgeting essential?

7.0 REFERENCES/FURTHER READING

Akintoye, I. R. (2008). *Investment Decisions, Concept, Analysis & Management*, (Third Edition). Lagos: Glorious Hope Publishers.

Kishore, R. M. (2007). *Financial Management*, (Sixth Edition). Taxman Publishers.

INVESTMENT APPRAISAL TECHNIQUES

Question

Alapere Manufacturing Company limited has found that after only two years of using a machine for a semi-automatic process, a more advance model has arrived in the market. This advanced model will not only produce the current volume of the company's product more efficiently but it will allow an increased output of the product. The existing machine had cost N32, 000 and was being depreciated on straight line basis over a 10 year period, at the end of which it would be scrapped-off. The market value of this machine is currently N15, 000 and there is a prospective purchaser or buyer interest in acquiring it.

The advanced model now available costs N123, 500 fully installed, because of its more complex mechanism, the advanced model is expected to have a useful life of only 8 years. A scrap value of N20, 500 is considered reasonable. A comparison of the existing and advanced model now available shows the following.

	Existing Machine 208,000 units N	Advanced Machine 230,000 units N
Capacity per annum		
Selling price per unit	0.95	0.95
Production costs per units:		
Labour	0.12	0.08
Materials	0.48	0.46
Fixed overhead (allocation of portion of company's fixed overhead)	0.24	0.16

The sale director is of the opinion that the additional output could be sold at 95k per unit. If the advance model were to be run at the old production level of 200,000 units per annum, the operation would be freed for a proportionate period of time for re-assignment to the other operation of the company. The sale director has suggested that the advanced model should be purchased by the company to replace the existing machine. Cost of capital 15%. Ignore taxation.

Require to:

1. Calculate, comparing the advanced and existing machines on an incremental basis.
2. payback period,
3. average annual rate of return on investment,
4. the net present value,

5. the internal rate of return and,
6. the sensitivity of your decision to error on the estimate of:
 - i. annual demand
 - ii. cost of capital.

Solutions

Working Notes – Required for payback, NPV and IRR

1. Incremental Investment	N
Cost of advanced model	123,500
Less: Market value of existing machine	<u>(15,000)</u>
Incremental investment	<u>108,500</u>

For this purpose, the original cost of the existing machine is irrelevant.

2. Incremental Annual Cash Flow

Advanced model	Existing machine	Incremental	
Price	N0.95	N0.95	
Labour	(0.12)	(0.08)	
Material	<u>(0.48)</u>	<u>(0.46)</u>	
Contribution/unit	0.35	0.41	
Sales volume	200,000	230,000	
Total contribution	N70, 000	N94, 300	N24, 300

Workings to ARR

3. Incremental Accounting Investment

	N
Cost of advanced model	123,500
Book value of existing machine: N32, 800 x 8/10	<u>(25,600)</u>
Incremental book value	<u>97,500</u>

4. Incremental Accounting Profit

		N
Incremental contribution as above		24,300
Depreciation: New = $1/8(123,500 - 20,500)$	12,875	
Old = $32,000 / 10$	<u>3,200</u>	
		(9,675)
Fixed cost = $(0.16 \times 230,000) - (0.24 \times 200,000)$		11,200
Loss on disposal of the existing machine = $1/8(25,600 - 15,000)$		<u>(1,325)</u>
		<u>24,500</u>

The total profit can be determined as follows:

	N	N
Total incremental contribution: N24, 300 x 8		194,400
Total incremental depreciation N9, 675 x 8	(77,400)	
Total incremental fixed costs = N11, 200 x 8	89,600	
Total loss on disposal N25, 600 – 15,000	(10,600)	<u>1,600</u>
Total incremental profit		<u>196,000</u>
Life of project		8 yrs
Average annual profit	N196, 000/8	N24, 500

(a) payback period = N108,500 / 24,300 = 4.47 years

(b) Average annual rate of return on investment
Return on investment = (N24, 500/N97, 500) x 100 = 25%

(c) Net Present value

Item	Yr.	NCF N	DCF at 15%	PV N
Outlay	0	(108,500)	1	(108,500)
Contribution	1-8	24,300	4.49	109,107
Scrap value	8	20,500	0.33	<u>6,765</u>
NPV				<u>7,372</u>

(d) Internal Rate of Return

Try 18%	Yr	NCF N	DCF at 18%	PV N
	0	(108,500)	1	(108,500)
	1-8	24,300	4.08	99,144
	8	20,500	0.27	<u>5,535</u>
				<u>(3,821)</u>

$$IRR = 15 + (7,372 / (7,372 + 3,821)) (18 - 15) = 17\%$$

(e) (i) The sensitivity margin of annual sales demand is

$$= \frac{\frac{NPV}{PV \text{ of contribution of new machine}} \times 100}{7.372 / (94,300 \times 4.449)} \times 100 = 1.74\%$$

This means that sales volume of the new machine can drop by maximum of 1.74%. This should give break-even sales volume of 230,000(100 – 1.74)%

$$= 225,996 \text{ unit.}$$

- (f) Sensitivity margin of cost of capital is given by
- $$\frac{\text{IRR} - \text{cost of capital}}{\text{cost of capital}} \times 100 = \frac{17 - 15}{15} \times 100 = 13.33\%$$

This means that the existing cost of capital of 15% can increase by 13.33% to 17%

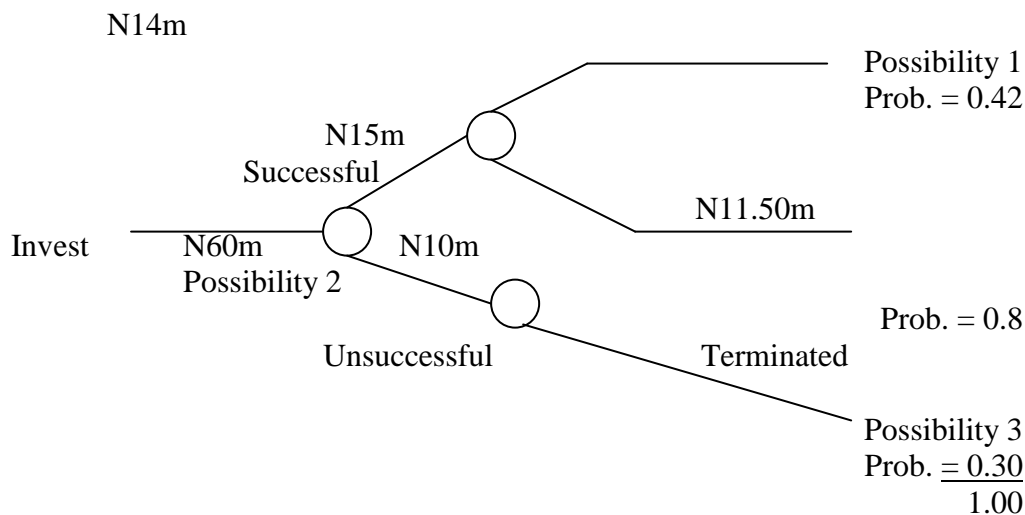
RISK AND UNCERTAINTY

MTTY Ltd is considering the investment in a new project with an initial expenditure of N60M in year 0. The net cash inflow in the following 3 years will depend upon the success of the initial advertising, the cost of which is included in the initial expenditure. If it is successful, net cash inflow will be N15M and if unsuccessful it will be N10M. There is a 70% chance of success. If the advertising is unsuccessful then there is a 60% chance of receiving net cash inflows of N14M and a 40% chance of receiving N11.5M, in the following 5 years. In both cases the residual value of the assets will be N4M. The relevant discount rate is 14%.

You are required to calculate the possible net present value which could result from the investment, given the above information and find expected net present value. What is the standard deviation of the project?

Solution

- (a) The information given is best represented in a probability tree



$$0.42 = 0.70 \times 0.60$$

$$0.28 = 0.70 \times 0.40$$

Calculation of possible NPVs

Possibility 1

Yr	CF Nm	DCF at 14%	PV Nm
0	(60)	1	(60)
1-3	15	2.32	34.80
4-8	14	2.32	32.48
8	4	0.35	1.40
NPV			<u>8.68</u>

Possibility 2

Yr	CF Nm	DCF at 14%	PV Nm
0	(60)	1	(60)
1-3	15	2.32	34.80
4-8	11.50	2.32	26.68
8	4	0.35	1.40
NPV			<u>2.88</u>

Possibility 3

Yr	CF Nm	DCF at 14%	PV Nm
0	(60)	1	(60)
1-3	10	2.32	23.20
3	40	0.67	26.80
NPV			<u>(10.00)</u>

Calculation of ENPV and standard deviation

Possibility	NPV x	Prob. P	Exp. Value Px	Variance $P(x-\bar{x})^2$
1	8.68	.42	3.65	21.89
2	2.88	.28	0.81	0.56
3	(10.00)	.30	<u>(3.00)</u>	<u>39.40</u>
ENPV = \bar{x} =			<u>1.46</u>	<u>61.85</u>

Standard deviation = $\sqrt{61.85}$ = N7.86m

Working Capital Planning

You are the management consultant of Bade Ltd., a company that manufactures and distributes clothing. You have estimated the following figures for the coming year:

Sales	N5, 600,000
Average debtors	N 506,000
Gross profit margin	25% on sales
Average stocks	
Finished goods	N 350,000
Work in progress (80% complete)	N 550,000
Raw materials	N 220,000
Average creditors	N 210,000

Materials costs represent 50% of the total cost of sales.

Required

- (a) Calculate the cash operating cycle, to the nearest day.

Solution

The cash operating cycle is calculated as follows:

	Days
Cost of sales = 75% x N 5,600,000 = N 4,200,000	
Purchases = 50% x N 4,200,000 = N, 100,000	
Raw materials holding period = (average stock of raw materials/annual purchases) x 365	
= (N220, 000/N2,100,000) x 365	38
Average credit period taken = (average trade creditors/annual purchases) x 365	
= (N210, 000/N2, 100,000) x 365	37
Average production period = (average stock of WIP/annual COS x degree of completion) x 365	
= ((N550, 000/N4, 200,000) x 80%) x 365	38
Average finished stock holding period = (average stock of finished goods/annual COS) x 365	
= (N350, 000/N4, 200,000) x 365	30

Average debt collection period = (average debtors/annual sales) x 365

$$= (\text{N}506,000 / \text{N}5,600,000) \times 365 \quad \underline{\underline{33}}$$

Total length of cash operating cycle 102

Financial Planning

Ado Chemical has a current turnover of N300 million. Each additional N1 of sales is believed to require a total investment in fixed assets, stock and debtors of N1.50, but this will also result in the provision of additional finance of 40 kobo per N1 of additional sales, as various creditors will automatically increase with increase in sales.

The net profit margin, after tax of Ado is 12% and dividends are typically 25% of after tax income.

Ado Plc

Summary of Profit and Loss Account

	Nmillion
Turnover	300
Profit before tax	54
Taxation	18
Profit after tax	<u>36</u>
Dividend	<u>9</u>
Retained earnings	<u><u>27</u></u>

Summarised Balanced Sheet

	N million
Fixed assets (net)	190
Current assets	146
Current liabilities	<u>(103)</u>
	<u><u>233</u></u>
Financed by:	
Issued ordinary shares	50
Reserves	90
Medium and long term debt	<u>93</u>
	<u><u>233</u></u>

Required

- (i). Ado wishes to increase sales by 15% during the next year. Based upon the above information, estimate how much external finance will be needed in order to achieve the growth rate.
- (ii). Estimate the maximum sales growth that can be achieved if only internal funds are used.
- (iii). Estimate the maximum growth that can be achieved if the company does not wish to increase its current level of financial gearing. Assume that financial gearing is measured by book value of debt: equity.

Solution

- (i). The growth in sales will require an increase in the level of investment in assets.

However, this will be partially offset by the increase in the level of liabilities and of retained earnings:

		Nmillion
Increase in assets	$N300m \times 15\% \times 1.5$	67.50
Increase in liabilities	$N300m \times 15\% \times 0.40$	<u>(18.00)</u>
Total finance required		49.50
Total retained earnings for the year:		
Sales	$N300m \times 115\%$	N345.0m
Profit after tax	$N345m \times 12\%$	N41.4m
Retained earnings		
(internal finance)	$N41.4m \times 75\%$	<u>31.05</u>
Additional external funds that will be required		18.45

- (ii) Let g = rate of growth required

		N
Increase in assets	$= 300g \times 1.5$	$= 450g$
Increase in liabilities	$= 300g \times 0.40$	<u>$= (120g)$</u>

Net increase in asset	330g
Retained earnings for the year	$= 300(1+g) \times 0.12 \times 0.75$
Thus: $330g = 27 + 27g$	$= 27 + 27g$
$330g = 27$	
$g = 8.91\%$	

- (iii) The current level of gearing can be calculated as:
Debt: Equity = 93: 140 = 0.6643

If the ratio remains constant, for every N100 of additional earnings that are retained, the company must take an additional N66.43 of debt.

From (ii) above

Total funding required 330g

From equity (retained earnings) = 27 + 27g

$$\text{From debt} = 0.6643 (27 + 27\text{g}) = 17.9361 + 17.9361\text{g}$$
$$\text{Total funding} = 27 + 27g + 17.9361 + 17.9361g$$
$$= 44.9361 + 44.9361g$$

Thus, $330g = 44.9361 + 44.9361g$

$$285.0639\text{g} = 44.9361$$

g = 15.76%

The company could therefore achieve a growth rate of 15.76% if the gearing was kept at a constant level.

Dividend Policy

Discuss the matters which have to be taken into consideration when a Board of Directors is formulating its dividend policy.

Solution guide.

The answer should bring out the following points:

1. Any statutory limitations on dividend policy.
2. Shareholders expectations – what have been the dividend payments in the past?
3. Learning of earnings available for distribution – have they increased or fallen dramatically in the last year?
4. Dividend cover – what are current ideas on dividend cover considered desirable? What is the dividend cover with inflation – adjusted profits?
5. Liquidity situation – does the company have the cash available to pay the dividends?
6. Does the company need finance for investment purposes?
7. Dividend yields in the market place at the present time.

Financial Management Theory

Discuss the role of financial management as part of the management process in a company.

Solution guide

1. The company will be judged in financial terms. Therefore all decisions in the business, in whatever area, have to be analysed for their financial impact. This is part of financial management.
2. Financial management is involved in the planning process, helping to determine sources of finance, and so, the financial constraints on growth. It is concerned with determining optimal methods of financing the company.
3. It is involved in choosing between alternative courses of action – with capital budgeting. It provides information to decision makers. It is involved in valuing the company.
4. It is involved in helping to determine the objectives of the company.
5. As well as being forward-looking, financial management is concerned with comparing the actual performance of the business against predetermined yardsticks.
6. At a more short term level it is involved with cash management and working capital.

Dividend Theory

John Hermes is chairman of Hermes Foods Ltd. The company is able to pay a dividend of N1 per share per annum for ever but John Hermes decides that it will be advantageous if no dividend is paid for the next two years. After that time the company is expected to be able to pay dividends of N1.25 per share per annum forever.

The cost of capital for shares similar to Hermes Foods is 10%. Assume that these shares can be traded on an approximately perfect market.

Required

- (a) Calculate the market value of one Hermes Foods share (work to the nearest kobo).
- (b) Does John Hermes' decision improve the current position of the shareholders?
- (c) Show that since the shares can be traded, John Hermes' decision enables a shareholder owning 50 shares to spend more in each of the first and second years whilst leaving him with identical dividend expectations in subsequent years.

Solution guide

- (a) Value of share, if dividend remains at N1 forever:

$$\frac{N1}{(1.10)} + \frac{N1}{(1.10)^2} + \frac{N1}{(1.10)^3} + \dots + \frac{N1}{(1.10)^\infty} = \frac{N1}{0.10} = N10$$

Value of share, if change in dividend policy is announced immediately following payment of last N1 dividend:

$$0 + 0 + \frac{N1.25}{(1.10)^3} + \frac{N1.25}{(1.10)^4} + \dots + \frac{N1.25}{(1.10)^\infty} = (N1.25 \times 10) \times 0.8264 = N10.33$$

- (b) The decision does improve the current position of the shareholder.
- (c) A shareholder owning 50 shares is receiving dividends of N50 before the announcement of the new policy. With dividends of N1.25 per share, he should only own 40 shares to receive N50 of dividends. He can, therefore, over the two years of no dividend receipts, sell off 10 shares to increase his spending power. Assume that we are now at 1 January 1999.

He would not under the old dividend policy, have received a dividend payment until 31 December 1999. At that time, he can sell five shares at N10.33 per share and receive N51.65 at 31 December 2000, again no dividend receipt, so sell five shares, this time at a price of N11.36 (i.e. $N1.25 \times 10 \times 0.9091$). He has therefore, spent more in these two years that he would with the old dividend policy and he is just as well off in subsequent years.

Share Evaluation**Problem 1**

- (a) Value a 6% N1 irredeemable preference share assuming a discount rate of 12%.
- (b) Value a 7% N1 redeemable preference share assuming a discount rate of 10%. Redemption is to take place at the end of five years, together with a 20% premium.

Solution guide

- (a) Price = $\frac{N0.06}{0.12} = N0.50$

- (b) The formula for the present value of a redeemable preference share is:
$$\frac{Po = D}{(1+i)} + \frac{D}{(1+i)^2} + \frac{D}{(1+i)^3} + \dots + \frac{D}{(1+i)^n} + \frac{T}{(1+i)^n}$$

Where D = annual dividend
 i = discount rate
 T = Terminal value
 n = number of years of redemption

This can be simplified to:

$$P_0 = \frac{D}{i} (1 - (1+i)^{-n}) + \frac{T}{(1+i)^n}$$

Substituting in the equation:

$$\begin{aligned} P_0 &= \frac{N0.07}{0.10} - \frac{(1 - (1+0.10)^{-5})}{(1+1)^5} + N1.20 \\ &= (N0.7 \times (1 - 1/1.61)) + N1.2/1.61 \\ &= (N0.7 \times 0.379) + N0.745 \\ &= N0.265 + N0.745 \\ &= N1.01 \end{aligned}$$

Problem 2

A company has a N10million loan stock issue outstanding. It carries a 10% interest rate and will be outstanding for 10years. The loan stock could be purchased in the market at the present time for N105 for N100 par. The company has the opportunity to float a new ten-year loan stock issue at an 8% coupon rate which is the current rate of interest on such securities.

The administrative costs of the new issue would amount to 55 of the sum raised. Should the firm refund the old loan stock? What is the present value of savings?

Solution guide

Old interest payments

N1, 000,000 for 10 years

PV = N1, 000,000 x 6.7101 (i.e. discount at 8%)

N6,710,100

New interest payments

N800, 000 for 10 years

PV = N800, 000 x 6.7101 (i.e. discount at 8%)

N5, 368,080

Interest saving N1,342,020

Costs

Premium on redemption

500,000

Issue costs

500,000

N1, 000,000

There is a saving which has a net present value of N342, 020. Therefore, the refunding should take place.

Cost of Equity (Cost of Capital)

The Mabel Company wishes to raise new equity capital. Its existing shares are trading at a price of N4 each, and it has been estimated that the cost of the existing equity fund is 10%. The company decides to place the shares, and a merchant banker offers them at N3.75 per share. What is the cost of capital of the new equity funds raised?

Solution guide.

A company will normally be unable to obtain the full current market price for a new issue. Some incentives will be given to encourage new investors and the costs of the issue (underwriting, administration etc) have to be met. The cost of capital will have to be adjusted upwards to allow for this.

$$\text{New } K_e = \frac{K_e P}{P_{\text{new}}}$$

Where New K_e = cost of new equity

P_{new} = price obtained by company on sale of new shares.

Substituting the appropriate values for the Mabel Co.

$$\begin{aligned} K_e &= 10\% \times \frac{4}{3.75} \\ &= 10.66\% \end{aligned}$$

W.A.C.C

One of your clients has seen many references to the cost of capital in the financial press and has asked you to give him some guidance on what would be an appropriate figure for his organisation – The Delta Company Limited. The following information is available for Delta.

1. Existing Capital Structure

	N (000s)
Issued Ordinary shares – 12,000,000	12,000
Retained earnings	4000
9% debentures repayable 1979	6000
6% preference shares	<u>2000</u>
	<u>24,000</u>
2. 9% debentures
 - (a) Issued in 1968 at par.
 - (b) Current price N92
 - (c) A similar issue if made now would require to be made at N90.

- (a) Preference shares have a par value of N1 and were originally issued at 92k
- (b) Current price 43k
- (c) A similar issue if made now would require being at 40k per share.

3. Ordinary shares

- (a) The market price of the ordinary shares is N7.00
- (b) N6million in dividends were paid this year, which represented 75% of earnings.
- (c) Earnings are expected to grow at an annual rate of 5%.
- (d) If new ordinary shares were issued now costs incurred would represent 25k per share and a reduction below market value of 50k per share would also require to be made.

4. Corporation tax

Corporation tax rate can be assumed to be 50%.

Solution guide

Calculation of component costs:

1. Debentures

$$\begin{aligned}\text{Cost after tax} &= \frac{\text{coupon rate of interest}}{\text{proceeds of current issue}} (1 - \text{tax rate}) \\ &= \frac{9}{90} (1 - 0).\end{aligned}$$

2. Preference shares

$$\text{Cost} = \frac{\text{dividend}}{\text{proceeds of current issue}} = \frac{6}{40} = 15\%$$

3. Issue of ordinary shares

$$\begin{aligned}4. \quad \text{MC} &= \frac{\text{dividend per share} + \text{expected earnings (dividends) growth rate}}{\text{net proceeds of issue}} \\ &= \frac{50}{625} + 0.05 = 13\%\end{aligned}$$

5. Cost of retained earnings

$$\begin{aligned}
 &= \text{dividend yield} + \text{expected growth rate} \\
 &= \frac{50}{700} + 0.05
 \end{aligned}$$

6. Weighted-average marginal cost of capital

	Capital structure	Weight	Individual cost	Weighted cost
	Million N's			
Ordinary shares	12	0.50	13.0	6.50
Retained earnings	4	0.17	12.1	2.06
9% debentures repayable 1980	6	0.25	5.0	1.25
6% preference share	<u>2</u>	<u>0.08</u>	15.0	<u>1.20</u>
	<u>24</u>	<u>1.00</u>		<u>11.01</u>

CAPITAL RATIONING

A company is faced by the following five investments opportunities:

INVESTMENT	PROFITABILITY	INITIAL OUTLAY
No	index	-
1	1.3	500,000
2	1.4	100,000
3	1.1	400,000
4	1.5	200,000
5	1.6	150,000

The company has 750,000 available for investment. Projects three and four are mutually exclusive. All the projects are divisible, which group should be selected in order to maximise net present value? What is the NPV figure that results?

Solution Guide

First of all divide the investment up into two mutually exclusive sets A (containing investment 3) consist of 1, 2, 3, and 5. Set B (which contains investment 4) comprises 1, 2, 4, and 5. Now find the best selection that can be made from each set. Thus for set A we obtain:

INVESTMENT	PI	Σ OUTLAY	Σ NPV
5	1.6	150,000	90,000
2	1.4	250,000	190,000
1	1.3	750,000	415,000

Where we note that NPV to any project is found as outlay multiplied by PI minus one, thus with net A the best that can be done is a total NPV of 415,000.

For set B we have:

INVESTMENT	PI	Σ OUTLAY	Σ NPV
5	1.6	150,000	90,000
4	1.5	350,000	263,000
2	1.4	450,000	445,000
1(3/5)	1.3	750,000	580,000

Thus set B provides by far the better result with the selection of 5, 4, 2 and 3/5 of 1 giving a total NPV of 580,000.

RISK

A project has an initial outlay fixed at 1,500. returns in year 1 which could be 1,350 with probability 0.4 or 900 with probability 0.6. If in year 1 the 900 return transpire than in year 2 then in year 2 there can be 1,200 ($p=0.2$) or 1,050 ($p=0.8$). If the first-year return had been 1,350 then in the second year there is a seven-tenth chance of 600 and a three-tenth chance of 150. Find the co-efficient of variance in two different ways. The interest rate is 10%.

SOLUTION GUIDE

First, draw-up a tree diagram as shown below. The column headed 'p' shows the probability of each stream of return. Thus the stream -1500, 900, 1,200 has probability 0.12 of arising. The next column showed the NPV of each stream. Note that the probability of the project making a loss of 0.12. The ENPV emerges in the used fashion as 171.08. The remaining three columns give the variance calculation.

The variance emerge as 15,453.92, so that the co-efficient of variation.

$$\begin{array}{rcl} & 0.4 & 1350 \\ -1500 & \times & \\ & 0.6 & 900 \end{array}$$

$$\begin{array}{rcl} & 0.7 & 600 \\ -1350 & \times & \\ & 0.3 & 150 \end{array}$$

$$\begin{array}{rcl} & 0.2 & 1200 \\ 900 & \times & \\ & 0.8 & 1050 \end{array}$$

P	NPV	pNPV
0.28	223.14	62.48
0.12	-148.76	-17.85
0.12	309.92	37.19
0.48	185.95	89.26
		<hr/> ENPV = 171.08

NPV-ENPV	NPV-ENPV	p(NPV-ENPV) ²
52.06	2,710.24	758.87
-319.84	102,297.63	12,275.72
138.84	19,276.53	2,313.19
14.87	221.12	106.14
		<hr/> Q ² NPV = 15,453.92

$$C = \sqrt{\frac{15,453.92}{171.08}} = 0.7266$$

Alternative calculations treat the cash flow items separately instead of dealing with NPV as a whole. The expected return in the first year, R₁ is calculated as follows:

Return (R ₁)	probability (p)	pR
1350	0.4	540
900	0.6	540
		<hr/> R1 = <u>1080</u>

And similarly for the expected return on the second year, R₂:

Return (R)	Probability	pR
600	0.28	168
150	0.12	18
1200	0.12	144
1050	0.48	504
		<hr/> 834

So that, applying equation (1) we obtain:

$$\text{ENPV} = -1500 + \frac{1080}{(1.1)^2} + \frac{834}{(1.1)} = 171.07$$

Variance of first year return is found via:

Probability (P)	R ₁	R ₁ -R ₁	(R ₁ -R ₁) ₂	p (R ₁ -R ₁) ₂
0.4	1350	270	72,900	29,160
0.6	900	-180	32,400	19,440
				<u>Var R₁ = 48,600</u>

and for the second year return:

Probability (P)	R ₂	R ₂ -R ₂	(R ₂ -R ₂) ²	p(R ₁ -R ₁) ²
0.28	600	-234	54,756	15,331.68
0.12	150	-684	467,856	56,142.72
0.12	1200	366	133,956	16,074.72
0.48	1050	216	46,656	<u>22,394.88</u>
				<u>Var R₂ = 109,944.00</u>

Now, since the initial outlay is constant, there is zero covariance between either year's returns or the outlay. The only covariance figure to be ascertained is that between the return in years 1 and 2. The workings for this are:

Probability (P)	(R ₁ -R ₁)	(R ₂ -R ₂) ²	(R ₁ -R ₁) (R ₂ -R ₂) ²	p(R ₁ -R ₁)
(R ₂ -R ₂)				
0.28	270	-234	-63,180	-17,690.40
0.12	270	-684	-184,680	-22,161.60
0.12	-180	366	-65,880	-7,905.60
0.48	-180	216	-38,880	<u>-18,662.40</u>
				<u>Cov (R₂-R₂) = 66,420.00</u>

So, substituting into equation (3) gives:

$$2 \text{ NPV} = 0 + \frac{48,600}{(1.1)^2} + \frac{109,944}{(1.1)^4} - \frac{132,840}{(1.1)^3} = 15,453.86$$

So that the coefficient of variation is:

$$C = \sqrt{\frac{15,453.86}{171.07}} = 0.7267$$

Question 2

Ishola Nigeria Limited is considering running N100, 000 by issuing 10% debentures. At present, its capital consist entirely of ordinary shares, being valued at 40k cum-div, and the dividend which is about to be paid is 4k. Dividend has been stable for several years but if the company's level of earning is altered by the raising of these debentures, it is felt that the ordinary shareholders will require rate of return of 15% with the market value remaining unaltered.

Calculate the margin at cost of the new debentures and the WACC of the company with its revised capital structure. Ignore taxation.

Solution to Q2

ISHOLA NIGERIA LIMITED

- (i) Prevailing cost of equity (K_e)

$$K_e = \frac{d}{Mve \text{ (ex-div)}} \\ = \frac{4}{40-4} \times \frac{100}{1} = 11.11\%$$

- (ii) Calculation of the total market value of equity
20,000 shares x 36k = N72, 000

- (iii) Calculation of the present dividend payment
20,000 shares x 4k = N8000

- (iv) New dividend payment
 $d = Mve \times K_e$

	N
= 72000 x 0.15	= 10,800
less current dividend payable	(8000)
Incremental dividend	<u>2800</u>
Interest payable on the loan	
N1000,000 x 10%	<u>10000</u>
Incremental service cost	<u><u>12800</u></u>

$$(v) \quad \text{MCC of the new debentures} = \frac{\text{Incremental service cost}}{\text{Incremental capital}} \times \frac{100}{1}$$

$$\text{MCC} = \frac{12800}{100,000} \times \frac{100}{1} = 12.8\%$$

(b) Marginal weighted average cost of capital

Type	Market value	Cost	Hash total N
Equity	72000	15%	10800
Debt	1000000	10%	10000

$$k_n = \frac{20800}{172000} \times \frac{100}{1} = \underline{\underline{12.09\%}}$$