



Kampala International University Uganda

BACHELOR OF COMMERCE

MODULE 11

BUSINESS FINANCE

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INTRODUCTION

The Business School/CODL's aim is to become a market leader in the cost-effective provision of quality business management education leading to awards of certificates, diplomas and degrees internationally recognized and professionally acceptable. Throughout its history the business school/CODL has run a series of programmes primarily focused on business and management, which has been consistently, reviewed every three to five years to meet the contemporary needs of the market. The latest review was carried out in 2011 when the current curriculum was launched for six programmes: Business Administration, Bachelor of Commerce,

Businesses in the 21st century are experiencing profound challenges, which include the need to seek new market opportunities, develop new products that meet the changing demands of customers globally. The rapid growth of businesses and increasing transformations in the global economy has led not only to an increasing demand for specialists in the various management fields, but also to the need of a caliber of managers who are able to constantly adjust and innovate in the increasingly complex and volatile international business environment. It is upon this background that a modular system of teaching has been adopted to cope-up with the competitive environment of service delivery highly emphasizing on the concept of value for money.

The module enables a student to appreciate the concepts and examines the functions and roles of business in an organization. It presents a general overview and analysis of the main principles as a foundation for the more crystallized detailed description of policies, processes and practices, for purposes of setting ground for grooming the students in preparation for the challenging and dynamic field at the end of the course. For instance, accounting options seeks to provide answers to the need of management to maintain high and professional levels of competence in tracking, managing the inflows and outflows of resources in this volatile environment. It answers to the scientific managerial need for ensuring effective, efficient and productive use of resources and the ethical need for accountability and transparency.

The module explores various functional areas with accounting and finance, marketing and human resource management and examines in detail both conceptual and methodological tools that managers use to

inform their decision making. Emphasis is placed on engaging with real life examples and applying course materials to specific familiar phenomena such as case studies. The main aims are to help students to understand the dynamics of today's business environment in the digital age.

Unit 1

Business Finance

1.0 Introduction

In the academic perspective questions like why should we study finance are being put forward by students, therefore as a student you might be asking your self this questions right now. In order to answer this we need to know what finance is, its functions what roles does it play. Under this course we come across two variables i.e. finance and management, where by they are all used to enlighten the student in regards to what is finance.

The field of finance is as broad and diverse, it directly affects the lives of every person and every organization as to how to spend and invest the available scarce resources such as funds (Finances), and also it's concerned with the process of how Financial Institutions markets and Business organizations get involved in the transfer of money amongst and between them selves.

Therefore we can *define finance* as a medium of exchange that is used in the transaction of goods and services. Business finance refers to using an outside resource to help cover the financial needs of a business. While this may include traditional financial options like a loan, a lease, or a line of credit, it could also refer to other financial alternatives.

Well as financial management is defined as an art and science of managing and handling money (finances)., it includes areas such as;

- Financial accounting, this regards to issues of being answerable to the stakeholders as regards to how management has used funds of the organization.
- Financial planning and budgeting; this involves preparing financial plans and forecasts for the purpose of managing financial resources properly.
- Financial analysis; is the process of establishing the financial strengths, weakness, position and performance levels of the firm through use of financial statements.
- Financial decision-making and action; this involves use of the four major finance decisions which include, Investment, Financing, Working Capital(Liquidity) and the Dividend decisions.

Business finance involves the actual management of the firm's finance, its important in all types whether they are public or private, manufacturing or deal with financial services. The types and tasks one encounters in managerial finance jobs range from making decisions regarding plant expansions ,to choosing what types of securities to issue, which investment to undertake.

It's also becoming increasingly important for people in marketing, accounting, production, personnel and other areas to understand finance in order to do a good job in their fields.

In conclusion the most important opportunities in managerial finance are summarized by reviewing the career opportunities in finance, i.e. financial services, which deal with the plan and delivery of advice and products to individual and government, it involves a variety of interesting career opportunities with in the areas of banking and others.

Business decisions are not made in a vacuum; decision makers should have some objective in mind, throughout, so as to attain the major objectives of the organization.

As noted that the theory of finance rests on the notion that the goals of the firm is to:

- Maximize the wealth of its stake holders i.e. share holders. The owners of the organization are normally distinct from its management.

Wealth Maximization

$$\sum_{i=1}^n W = \frac{A_1}{(1+K)^1} + \frac{A_2}{(1+K)^2} + \dots - I_0$$

A_i = Expected cash flow in period i

K = required rate of return by investors at given discounting rate

N = number of years (Period)

I_0 = Cash outflow in acquiring Assets

- Profit maximization
- Cost minimization
- And others such as, market share , customer care,

If the managers succeed in this, they also achieve their own financial and professional objectives.

Maximize profits; under this financial manager aims at only those actions and procedures that are expected to contribute to the firms over all profits, therefore when the financial manager is to select the project to invest in they should aim at those projects that will generate high monetary returns,

Under this also the financial manager should ensure that time is managed properly, should avoid un necessary cash flows and all other risks involved

Maximize share holders wealth, all managers and employees should aim at maximizing the wealth of the owners for whom their jobs are being attributed to.

Another issue that deserves consideration is the social responsibility, a concept that business should be actively concerned with the welfare of society at large .i.e. business should operate strictly in their stakeholders best interests or are firms also responsible for the welfare of their employees, customers, and the communities in which they operate, certainly

firms have an ethical responsibility to provide a safe working environment for its stakeholders.

1.1 Levels of Business Finance

The finance decisions are relied on a series of hierarchical levels of management levels mainly the strategic and routine levels i.e. tactical and operational levels.

At the strategic level, the top management that is; Board of directors , Managing Directors of the organization are concerned formulation and making, decisions taken at this hierarchical level have or carry long term implications for the survival and sustainability of financial requests, if this is maintained then the assets mix is created and which is composed of short and long term durable assets such as machinery, buildings and money and in doing this the nature of the firm is determined which leads the creation of the business risk. Also in raising funds, a combination of short and long term funds is created in the firm and this creates the financing mix and in turn determines the financing risk and this risk will arise when debt is used in the financing structure. These strategic implications must be appreciated and taken care of in financial decision making.

The routine level: the main area of interest under this level is focused on ensuring efficient use of resources once funds have been acquired and allocated. It involves internal control activities like control of funds at different units of the firm, from which decisions made at strategic level are put into practice by the subordinates at this level and safeguarding of assets (insurance) and when all the above is efficiently handled, then the firm will create value and maximize wealth of its investors.

1.2 Major Business Finance Decisions

Financial decisions must be made at many levels in a business, from executive decisions on the goals and objectives that a business wants to pursue, to the day to day repetitive operations performed by lower level managers. By definition, a decision is a choice made from two or more alternatives. Through careful analysis these alternatives can be identified from available opportunities or options. While many decisions are made in order to solve problems, some decisions are more the result of opportunities that present themselves. In many cases these opportunistic occasions may provide new ways of doing things or be the beginning of new business if properly pursued and executed.

Decisions made by managers of the firm are centered on four divisions, they include; Financing, Investment or Capital budgeting, Working capital management, Dividend decisions and reconstruction or re-organizing decisions.

These decisions attract the attention of managers, which requires them to plan, Interpret and analyze the financial status in order to measure the performance of the firm that helps in determining the trend projection and future development.

- **Investment decisions;** this concerns decisions as to how capital is to be allocated in the firm. Once the project to invest in has been chosen, a plan/ model on how to invest in the project. The unit of analysis in capital budgeting is an investment project. Considerable managerial time, attention and energy are devoted to identify, evaluate, and implement investment projects, which can be, acquisition of new machines, plant expansion, new venture, replacements, new products.
- Under capital structure, takes it that once a firm has decided the investment projects it wants to undertake, it has to figure out ways and means of financing them. Under capital structure the decision of the firm concerns the whole unit of the firm not an individual as the capital budgeting is based on individual investment project. This involves commitment of funds to long term assets that will generate future returns.
- **Financing decisions;** this involves determining when, where, how to raise funds, from where to acquire funds to invest, the proportion of equity and debt.
- **Working capital management decisions;** which is referred to as short term financial management , refers to day-to-day financial decisions that deal with current assets such as inventories ,debtors, short term holdings of marketable securities and cash and current liabilities (short term debt, trade creditors accruals and provisions).
- **Dividend decisions:** Dividend decision, after the firm has realized its cash inflows most especially net profit, decisions whether to refinance the business or to distribute the returns to its shareholders as dividends, all in all the financial manager should be able to express his position on what should be retained or distributed as dividends.

1.3 The Finance Function:

In order to understand the finance function we need to ask our selves a few questions and provide answers for them,-such as,

- what is the financial function of the firm,

- What specific tasks are assigned to financial managers?
- What tools and techniques are available to them for improving their performance?

Providing at least tentative answers to this question is the principle purpose of studying finance.

Financial managers have main functions that they perform in order to be as efficient and effective in fulfilling the assigned tasks and these include:

- To plan for, obtain and use funds to maximize the value of the firm.
In the short run financial managers make decisions on alternative sources and uses of funds.
- Planning and forecasting i.e. managers must look ahead and interact with executives who are responsible for the general planning of the firm Investment and financing decisions.
- Develop relationships with other sectors so as to operate efficiently as possible.
- Proper use of funds and study of capital markets and other institutions that act as sources of funds.

In conclusion the central responsibilities of financial managers relate to decisions on investment in the firm and how they are financed.

1.4 The Finance System

The financial managers must understand the environment in which businesses operate so as to try to examine the markets where firms raise funds, securities are traded, and stock prices are established as well as institutions that operate in these markets.

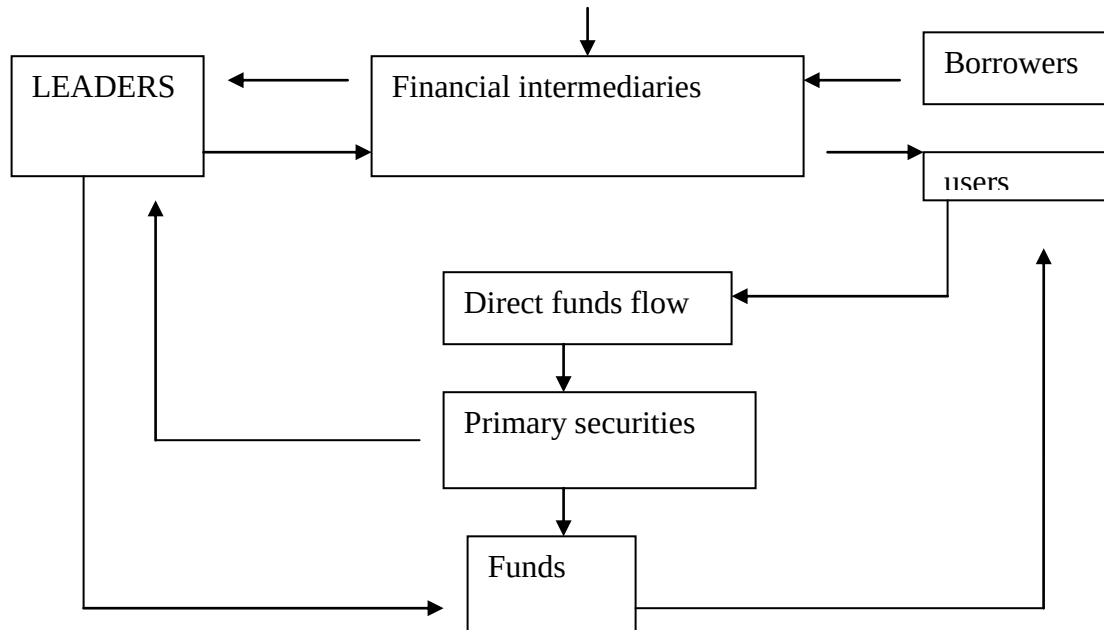
The purpose of the financial system is to channel money/funds from savers to users. The fact that it comprises a variety of intermediaries that are all interrelated, in understanding the financial system every party has to be informed as regards to how it works, therefore chapter managers should study and conceptualize the framework for understanding how well the financial system works.

Functions of the financial system:

There are different interrelated functions that are of great importance in the field of finance in the business world today, the finance system comprises of interrelated components that make it easy for the flow of funds. It serves several purposes such as;

- It enables the pooling of funds of undertaking large scale enterprises.
- It helps in dealing with the incentives problem when one party has an informational advantage.
- It generates information that helps in coordinating decentralized decision making.
- It provides the mechanism for spatial and temporal transfer of resources.
- It provides a way for managing uncertainty and controlling risk.
- It provides a payment system for the exchange of goods and services

INDIRECT FUNDS FLOW



The figure below illustrates the flow of funds through the system. Borrowers seek to increase funds in order to boost their business through acquiring assets, where by lenders i.e. who poses access funds on which they wish a return in form of interest.

Under the finance system funds flow either directly or indirectly between lenders and borrowers as illustrated.

However this flow process is typically not efficient when it's dealt directly between lender and borrower, therefore this call for the intermediation process, such that there is need for financial or multiple institutions that stand between ultimate lender and borrower providing services for both sides

Funds flow from lender to institutions which in return efficiently channel the funds to the borrower after having received the deposits.

Also the in the figure primary securities flow from the borrower to the institutions and indirect assets from institutions to lender

Note: that the intermediaries effectively transfer primary securities into indirect securities which include the spectrum of financial assets. Institutions offer to savers to attract their surplus funds such as checking time deposits certificates.

The finance system involves:

- Pooling system – house hold savings.

- Payment system – depositing.
- Transfer of resources – facilitates the transfer of economic resources across time and space.
- Risk management.
- Price information for decentralized decision making.
- Dealing with incentives problems.

1.5 Basic finance concepts

Discounted techniques,

This method discounts future inflows and outflows to get the present value of these flows so that they can be compared with the funds that are going to be invested, and the rate used to discount is known as the discounting rate or compounding rate.

This puts into consideration the ***time value of money concept***, that is, a concept that refers to the fact that investors and other decision makers in finance prefer to have a sum of money earlier than later, as delayed money means delayed consumption and therefore satisfaction. Examples include:

- Present value, an investment expression that shows present initial cash outlays allocated to fund a given project; this is further split into four versions which include present value of annuity, present value of an un-even cash flow stream on an investment, present value of perpetual annuity.
- Net present value, a difference between the present value of the projects cash inflows and outflows.
- Internal rate of return, a discounting rate that when applied to evaluate a project, makes the present value of the cash inflows equal to that of cash outflows thus giving a NPV of zero
- Profitability Index, a ratio of the present value of cash inflows to the present value of the cash outflows
- Modified Internal Rate of Return (MIRR), a technique that combines reinvestment assumption of the net present value method with the internal rate of return.

Non- discounted techniques,

These are finance techniques that are used to appraise business projects; however these do not incorporate with in them selves the time value of money. Methods used this appraisal technique include; (decisions without a formal analysis)

- **Payback Method**, This is the time required to recoup the initial investment and there is no consideration of inflows after the cutoff period. The method fails to consider the concept of the time value of money.

Advantages:

- Easy to understand and emphasizes liquidity.
- Must recoup the initial investment quickly or it will not qualify.
- Rapid payback preferred in industries characterized by dynamic technological environment.

Shortcomings:

- Fails to discern the optimum or most economic solution to a capital budgeting problem.
- **Accounting rate of return**, a measure representing the ratio of the average annual profits after taxes to the average outlay of the investment.

Future value

A value of present cash flows on an investment when compounded using an appropriate discount rate to reflect the future status of the project.

- **Future Value – Annuity**

This refers to a series of consecutive payments or receipts of equal amount, and the future value of each payment can be totaled to find the future value of an annuity. Under this we have annuity due, *that is cash flows occurring at the beginning of financial period* and deferred annuity, *cash flows that accrue at the end of each financial period*.

- **Compounding factor**

A process of finding the future value of a present payment or a series of present payments

- **Depreciation**, a gradual loss in a value of an asset due to wear and tear, It under takes two major approaches used in computing depreciation, they include, straight line method or the fixed installment method and the reducing balance method most and double declining method.

Cash flows, such as intermediate (expected from period 1 to n period) and terminal cash flows (accrue in the final year of the life of an asset)

1.6 Forms of Business organization

Business organizations are categories depending on the composition of sole contributors of the essential finances, but the most legally recognized forms include;

Sole proprietorship, under this a business entity is owned by one person who is the sole contributor of the funds and the management of funds rests

on his single brains as he reaps all the returns realized. It is the simplest form of business to start and is the least regulated however sole proprietors have unlimited liabilities where by all the business debts rests on his chest to the extent of encroaching on the proprietors assets in case of any default in payments. The life span of the business posses a great attachment to owner's life span and it may be difficult to transfer since it requires the sale of the entire business to the new owner.

Partnership, this possess some relationships as to that sole proprietorships, except that under this there are two or more owners commonly referred to as partners, who share either gains or losses with unlimited liability for all debts. The operations and transactions under this form of business are bid by mutual agreement which can either be formal or an informal oral agreement. In case of limited partnership one or more partners will come together and agree to run the business but still have unlimited liabilities, if it happens that one of the partners do not actively participate in the business his liability is only attached to the partners contribution to the partnership.

The above two forms possess some similarities in their mode of operation such as un limited liability for business debts on the part of owners, limited life of the business and lastly difficulties in transference of ownership and all these become stumbling block on the ability of the business to grow or to raise funds for investment.

Corporation, this is the most important form of business organization, it is a business created as distinct legal entity owned by one or more individuals or entities. It can be also suggested that all medium sized business can be categorized under this form of business. Most important aspect with this form is that management is separate entirely from ownership and it possesses rights, duties and privileges like those of an actual person. Corporations can borrow money, lend money, sue or be sued and can engage in contracts all these are clearly stipulated in the bylaws that is; articles and memorandum of association.

It is evident that this form of business is quite different from those discussed above, because with corporations there is that flexibility and relative ease of transferability of ownership, limited liability of the business debts and un limited life of the business however a significant disadvantage is the corporation pay taxes.

Joint ventures, under this form, two different business entities agree to under take business venture in which might be different from the original separate business or team up to a certain level to carry out business operations in a given location or market niche.

Licensing, under this form, a parent company grants permission another company to manufacture or produce one of its product or its product under license a good example is the Uganda Breweries which brews some selected products under license of East African breweries Limited.

Review Questions

1. Discuss the different stages under which the financial systems undertakes and of what importance is the intermediation process is to the financial managers and other stakeholders in the financial system.
2. Explain the nature and the importance of the major finance decisions showing their impact on the performance of business entities.
3. Discuss the nature and scope of finance system in the business environment.

What are the various forms of business organization? Give the advantages and disadvantages of the forms discussed.

Unit 2

Investment Decisions

2.1 Introduction

Investment refers to the commitment of current funds in long term projects or business ventures in anticipation of returns from these projects in the future. Under this investors hope to be compensated for the opportunity cost of foregoing immediate consumption.

Under this managers make decisions to venture in long term investments such as acquiring of assets like plant and machinery, land and other intangible assets like research and development. Decisions to invest in these long term assets by the firm is known as the capital budgeting decision, which involves processes of planning expenditures on assets whose cash flows are expected to extend beyond one year and under this managers analyze and evaluate projects and take decisions as to which one should be in the capital budget.

Important point to note here is that managers at this level should put into consideration the time value of money, future value and their impact on the value of an asset, it is essential that financial managers have a clear understanding as regards to this.

The time value of money concept refers to the fact that investors and managers prefer to have a sum of money earlier than later based on the fact that any monetary value at hand will enable immediate consumption and therefore satisfaction other than the later monetary value which would mean delayed consumption yet delayed satisfaction. When the investor decides to wait for the later cash, then compensations should be made for the opportunity cost lost.

Financial managers, most important should understand the timing concept analysis, and be able to state the cash flow time lines as one of the tools used in to help visualize when the cash flows associated with a particular situation occur. Under this given periodical settings are used to illustrate what happens within the time line of the project, these are always given in years, or other time intervals such as semiannual periods, quarters, months or even days.

Other points to note when making capital budgeting decisions are the future value, bearing in mind that a dollar in hand today is worth more than a dollar to be received in the future. Future values represent the sum of amounts to which a cash flow or series of cash flows will grow over a given period of time of an investment when compounded using an appropriate discount rate to reflect their future values.

Compounding refers to the process of determining the value of a cash flow or series of cash flows some time in the future when compounded interest is applied and this brings difference between the present values or today values and the future values

2.2 Stages of Investment Decisions

The capital budgeting decisions involves five major stages, they include;

- Proposal or idea generation

- Review and analysis
- Decision making
- Implementation
- Evaluation and follow up.

Proposal or idea generation, capital budgeting proposals are made at all levels within a business organization, these are basically innovations that arise at a continuous basis within the organization that managers have to scrutinize in order to come up with viable decisions.

Review and analysis, this involves to assess considerations on capital proposals that are formerly reviewed their appropriation in the light of the firm's overall objective and brands more importance to evaluate their economic validity. Under this the proposed costs and benefits are estimated and converted into a series of relevant cash flows to which various capital expenditures analysis and techniques are applied to measure the investment merit of the potential outline. In addition various aspects of the risks associated with the proposals are either incorporated into the economic analysis and related along with economic measures.

Once the economic analysis is completed a summary report often with recommendations is submitted to the decision maker.

Decision making, this involves making considerate measures on the proposals and the amount of money, the importance of the capital expenditure determines the organizational level at which expenditure decision is made. Firms typically delegate capital expenditure authority based on certain limits from which the top management deserves the right to make total decisions on capital expenditures requiring outlays beyond certain amounts.

Implementation, once a proposal has been approved and funding has been made available the implementation phase begins for minor outlays, implantation is relatively a routine process. For the major capital expenditures greater control is required to ensure that what has been proposed and approved is acquired at the budgeted costs, most often the expenditure for single proposal may occur in phases from which each outlay requires the approval of the coffers.

Follow up, this involves monitoring the results during the operating phase of a project to take course. The comparisons of actual costs and benefits with those expected and those of previous projects are vital when actual outcomes deviate from projected outcomes, action may be required to cut the costs improve benefits or possibly terminate the project.

On a broader scale analysis of the deviations of the actual from forecast value, provides information that can be used to improve the capital budgeting process particularly the accuracy of the cash flows estimator.

2.3 Significance of Investment Decisions

Many factors combine to make investment of capital budgeting decisions perhaps the most important decisions with which financial managers are involved with, further all departments of the firms that is to say, production, marketing, personnel are virtually affected by capital budgeting decisions, so all executives no matter what primary motive they hold they should be aware of how decisions are made.

It is evident that when financial managers consider the following points:

- **Long term effects**, the results of capital budgeting continue for a long time, managers must make a commitment into the future, for example the purchase of an asset with an economic life of say 10 years, before the final results of the actions can be known a decision to buy an asset lasting for several period involves an implicit forecast for the duration of the economic life of the assets, failure to forecast accurately will result into serious consequences.
- **Timing the availability of the capital assets**, the firm must phase out properly the availability of capital assets in order to have them come on stream at the right time or on-line otherwise opportunities may be lost. This involves forecasting and determining market forces that are demand or supply at that required capacity. It is through the capital budgeting decisions that timing projections can be determined in order for the firm to meet its acquisitions. It also facilitates for early ordering for the assets since production of capital goods involve a relatively long term working period, a firm that forecasts its needs for capital assets in advance will have an opportunity to purchase and install the assets before they are needed.
- **Rising of finances**, like wise capital budgeting is important in that asset acquisition typically involve substantial expenditure before the firm spends a large amount of funds, it must make proper plans, arrange its finances several months in advance to be sure of having the funds required for such acquisitions. Constant and up-date capital budgeting decisions enable the firm to acquire the relevant assets necessary for producing competitively and this makes the firm be capable of maintaining adequate capacity and therefore meet the market requirements efficiently.

2.4 Capital Budgeting and Cash Flow Principles

Understanding capital budgeting criteria should be associated with the principles underlying the cash flow systems in order to make appropriate decisions. All valuations require estimation of cash flows and required rate of return in accordance with the firm's goals such as share holders wealth maximization. For this to be effective the firm must perform the following tasks;

- a) Estimate the cash flows involved with the project

- b) Estimate the required rate of return for the project that is the cost of capital
- c) Apply the decisions rules to determine the viability of the projects.

2.5 Cash Flow Determination

This is a relevant as regards to project evaluation and determining the cash flow patterns provides relevant information for financial decision making. Note should be taken that cash flows differ from income statement profits or earnings, in that the later includes non- cash charges such as depreciation. Cash flows represent cash transactions for any given period for each project being considered. They are composed of cash receipts CR_i and cash payments CP_i .

Therefore $CF = CR - CP$

When $t = 0$, implies that CP are greater than CR resulting into cash outflows for the firm, thus we have the following cash convection;

1. Convention 1, when cash receipts CR are greater than cash payments CP , then cash flow CF is positive, and when the cash receipts CR is equal to cash payments CP then cash flow CF is zero and in case the cash receipts CR are less than cash payments CP then negative cash flows are experienced

Note that with profits concept, although accounting income plays a permanent role in the life of the firm, cash flows are more important when deciding which project to invest in.

Basing on the fact that cash flows theoretically are better measure of the net economic benefits associated with a prospective project, consideration of this minimizes accounting ambiguities in determining earnings.

Also standard accounting practices are oriented more towards allocating investment costs across useful economic life than toward pressing cash costs at the point of occurrence thus when a firm makes new investments traditional accounting procedures spread out the initial investment by, capitalizing it over the life of the asset and then reducing future net benefits by subtracting annual depreciation charge but this accounting procedure reflects neither the original need for cash at the time of investment nor the actual size of the net cash in flows and out flows in the future periods.

2.6 Nature of Cash Flows in Capital Budgeting

Under capital budgeting there are important elements procedures and guidelines applied when measuring and analyzing cash flows, they include;

- a) That cash flows should be measured on earnings after taxes basis, this considers specific cash flows that the firm receives or pays out after accounting for taxes, this are referred to relevant cash flows.
- b) That cash flows should be measured on incrementally basis , when evaluating capital budgeting financial managers should be concerned

with net cash flows that are directly associated with a particular project, those that occur due to the fact that the project is undertaken.

- c) That sunk costs are irrelevant and should be excluded when evaluating the project due to the fact cash out lays are incurred and can not be recovered regardless of whether the project is accepted or rejected.
- d) Frequently there are opportunity costs that should be included in the investment most especially those generated from the assets that a firm already owns.

2.7 Types of Cash Flows

Cash out Flows

These consists of payments made through the firms expenditure patterns, it involves actual movement of cash from the firms capital to finance its fixed and indirect costs. They include;

- a) Initial investment, the sum of cash out lays associated with an investment project, they include acquisition price which is the total sum of the projects purchase price, any freight, insurance and installation charges which occurs only at the start of the projects life CF_0 .

Also under this we consider the net working capital change, always new investment in long term assets often create the need for increased investment in net working capital, any change in current assets is off-set by a change in current liabilities which automatically will lead to increased change in the firm's revenue.

- b) Operating cash flows, these are associated with day to day activities of the project after the initial out- lay of the investment and do continue flowing until the firm disposes of the asset.

Cash in flows

These are receipts realized by the business in form of returns from the investments mix of the firm which arise either from the operations and terminal value,

- i. **Terminal cash flows**, net cash flow that occurs at the end of the uses full life of the project associated with either final disposal of the project or returns from the firms operations and investments such that $T = n$, they are typically positive in nature. At the point of disposal financial managers should be in position to determine the net salvage value (sv) of the asset so that comparison is made between the initial costs to which the business incomes are subjected. This can be analyzed through use $S_v (1 - t)$ where sv is the salvage value and t is the tax rate attached the business returns.

- ii. **Intermediate cash flows,** these are cash in flows expected from start of the project or from period 1 to period n of the projects useful life depending on the set time span for any given project. These cash in flows are realized from the operating an asset in form of adjusted net revenues and cost savings made by taking on an investment.

When dealing with cash in flows from operations there are either an increase or decrease in costs as result of undertaking the project such realizations should be adjusted for costs incurred in order to derive at the final cash flow. The cash in flows should take into non-cash expenses that require to be adjusted in the determination of net earnings during a given period. It at is this point that financial treatments as regards depreciation are put into account in order to arrive at the net value and return from the project.

When accounting for depreciation, that is the continuous gradual loss in value of a tangible asset due to wear and tear. Deductions are made from the net revenues in order to ascertain the net earnings, in reality deductions made do not involve actual movement of cash from the business like other expenses on this note, they are set a side to determine the value of the asset after successive series of operations, however it is added back in order to comply with the accounting principles. Due to this depreciation also acts as a source of financing for the business and its through this that after the assets is put to for given period funds to purchase another asset for replacement or expansion consideration can readily be got as result of positive depreciation treatments, it also acts as the shield against taxes, the higher the depreciation the lower figure available for taxation.

Approaches for computing depreciation

- i. The straight line method or the fixed installment method, under this treatment of depreciation is fixed or constant over the life span of the asset.
- ii. The reducing balance method , this allocates higher depreciation charges in the earlier years of the investment than in the later years , the assets value reduces as it tends to it its given life span . with this method higher values of depreciation at early years amounts into higher values of taxes charged but this lessens as the assets depreciates gradual up the scrap value status.

2.8 Project Classification and Analysis

Firms normally classify projects into different categories form which each category is analyzed differently and they include;

- **Mandatory projects,** these are projects that require the firm to incur expenditures to comply with the statutory requirements such as pollution control equipment , fire fighting equipment and these are often non- revenue producing investments. In analyzing such

investments the focus is mainly on finding the most effective way of fulfilling a given statutory need.

- **Replacement projects**, firms normally invest in equipments meant to replace absolute inefficient equipments even though they may be in a serviceable condition. Decisions to replace capital projects are vital because the firms are able to keep on truck and improve profitable operations.

The objectives of such decisions include,

- To reduce costs such as costs of labor, raw materials, power and others
- To increase on yield and quality improvement

In analyzing this type of investments the focus is mainly on finding the most profitable investment, that is the one which will maximize returns and most important is that management should follow a replacement policy based on economic consideration.

- **Expansion projects**, this involves taking decisions on investments that are meant to increase capacity or widen the distribution net work and such investment call for an explicit forecast of growth. Since this can be risk and complexed, expansion decisions normally warrant more care full analysis than replacement decisions and decisions relating to expansion are always taken at the strategic managerial levels.
- **Diversification projects**, these are aimed at producing new products or services or entering entirely into new geographical areas , often diversification decisions involve substantial risk outlays for which considerable management efforts and attention should be devoted in order to control the business environmental factors. Given their nature and strategic importance, such projects call for every thoroughly evaluation.
- **Research and development decisions**, under this firms are required to allocate more attention and funds on research and development , decisions taken here are characterized by numerous un certainties and typically involves sequential decision making hence standard analysis however managerial judgments are also applied to come up with accommodative projects.

From the above it is evident that considering the implementation of these decisions, there is need to establish decision criteria rules that help to resolve the capital budgeting management they are the evaluation techniques that indicate how attractive an investment is, the most used include, independent decisions criteria, mutually exclusive and capital rationing criteria decisions.

Independent criteria decisions refers to decisions whose operations are not entirely affected by the incorporation of other projects and cash flows realized from these are not affected by the managerial decision made about other projects.

Mutually exclusive, are those decisions in which acceptance of one project means the others can not be accepted given a set of competing investment alternatives.

Capital rationing decisions, this refers to the situation where the firm has many acceptable projects but insufficient funds to undertake all of them at once, only chooses the most viable.

Accept reject decision criteria, this is the fundamental decision whether to invest or not in the proposed project.

In conclusion, managerial line of decision making as regards to the above requires taking substantial simultaneous considerations and analysis so that the projects can be viable to meet the firm's trend line and objectives.

2.9 Investment Evaluation Techniques

The basic approaches or techniques used evaluate the viability of the projects and that help on deciding whether they should be rejected or taken on in the capital budgeting process include;

- a) Non-discounted cash flow techniques of analysis that do not consider the time value of money concept
- b) Discounted cash flow techniques, those that recognize and incorporate with in them selves the time value of money concept and
- c) Lastly those that are made based on informal procedures and suggestions.

It quite important for financial managers to apply logical and practical assessment procedures by which appraise the investment projects at their disposal.

Non- Discounted Evaluation Techniques

- i. **Pay back period**, (PB), this is the lengthy of time required to recover the initial outlay on the project, it is the simplest method used to compute recovery of the capital invested. to compute this we apply a formal method of getting the sum of the cash flows and divided by the number of the years the project is take, but this works properly if the cash flow stream is uniform or constant through out the given period, in case of non-uniformity then we apply ;

Number of years before fully recovery of the original investment added to sum of the balance to full recovery divided by the total sum of cash flow during full recovery.

Pay Back

- i. Uniform cash flows = $\frac{\text{Initial Outlay}}{\text{Annual Cashflows}}$
- ii. Un-even cash flow
Number of years before full recovery; **add** the balance to full recovery/cash flow to recovery

YFR + BFR

CFR

According to the payback criteria, the shorter the payback period the more acceptable and desirable the project, firms that apply this technique should specify the maximum acceptable payback period.

The accept decision rule under this is that, all the projects with the payback period equal to one or below the set criteria are accepted and those above are rejected. In case of mutually exclusive projects, the firm selects projects with a minimum shortest acceptable pay back period.

Draw backs of the payback criteria

- a) It does not consider the time value of money concept, cash flows with in payback calculations are simply added without suitable discounting and this violates the most basic principles of financial analysis.
- b) Secondly it ignores the cash flows beyond the pay back period, this leads to discrimination against projects which generate substantial cash in flows in later years.
- c) It ignores the subject value of the projects and it proves to be just a measure of the projects capital recovery not for profitability considerations.

In conclusion payback method is not a reliable method for selecting projects amongst the many on the manager's disposal; however it gives an insight into projects showing inflows at stated time intervals.

- ii. **Accounting rate of return or Average rate of return, (ARR)** this represents the ratio of average annual profits after taxes to the average outlay on the investment

$$\begin{aligned} \text{ARR} &= \frac{\text{Average Annual Profits after Taxes}}{\text{Average investment on the Project}} \\ \text{AAPAT} &= \frac{A_1 + A_2 + A_3 + A_4 + \dots + A_n}{n} \\ \text{AI} &= \frac{\text{Sum of Book Value of Asset}}{\text{Number of years of Useful life}} \end{aligned}$$

The accept reject criteria, is that ARR should be compared with the rate of return required by the investors in order to accept or reject the investment the investment can only be accepted if the ARR is greater than the required

rate of return by the investor which implies that if its less then automatically has to be rejected.

The ARR technique is easy to use , uses readily available data extracted from the profit and loss statements reflecting the profits earned by the firm however it has got some draw backs such as, that it ignores the time value of money concept through aggregating profits ignoring the compounding factor in order to express their present and future values and profits only can be used to measure the viability of the projects there are other factors that do help to express the values of the projects.

The Discounted Cash Flow Techniques

Basically it is an important technique that provides a distinction from the non-discounted approaches, it refers to the methods of evaluating investment proposals that employ time of value of money concepts as per to cash flows. The approaches used include;

- a. Net present value (NPV), A method of evaluating capital investment proposals by finding the present value of future net cash flows, discounted at the rate of return required by the firm, it is the sum of the present values (PV) of all cash flows either negative implying that the present values of in flows are less than out flows or positive indicating that the present values of cash inflows are greater than cash out flows that are expected to occur over the life of the project and it is consistent with the goals of the firm. Negative signifies that the cash inflows are insufficient to repay the initial capital thus not viable and in case of zero, implies that the firm is just break-through which is not a bad indicator as compared to negative cash flows.

More to that the net present value as the discounted value of the entire cash flow strip for the project works with in the set magnitude considering the required rate of return k_r which specifies the minimum rate required by the firms investors . It is that minimum rate of return that must be earned from the project. In most cases it is referred to as the firm's marginal cost of capital. This can be in form of present value of annuity due, deferred annuity or Un-even cash flow, and then project evaluations are carried in the following expressions.

Present Value,
Even cash flows

$$i. \quad P V_o = F V_o \left[\frac{1}{(1+r)^n} \right] \text{ or } \frac{F V_n}{(1+r)^n}$$

$$P V_o = \frac{A_1}{(1+r)^0} + \frac{A_2}{(1+r)^1} + \frac{A_3}{(1+r)^2} + \dots + \frac{A_n}{(1+r)^n}$$

ii. Un-even cash flows

$$P_v = \sum_{i=1}^n \frac{A_i}{(1+r)^i}$$

P_v = Present Value of the Cash flow stream
 A_i = Cash flow for period i
 r = Discount rate
 I_o = cash out flow or out lay

$$NPV = P_{v(i)} - P_{v_0}$$

$$NPV = \sum_{i=1}^n \frac{CF_n}{(1+r)^n} - I_o$$

$$NPV = \frac{A_1}{(1+r)^0} + \frac{A_2}{(1+r)^1} + \frac{A_3}{(1+r)^2} + \dots \frac{A_n}{(1+r)^n} - I_o$$

The accept reject decision rule is that if the net present value is greater than zero the project should be accepted and the reverse is true. In case of annuity, where the cash flow stream is uniform over the given period of time, which can be deferred annuity PV_{DF} that is, cash flows accruing at the end of each period, say loan repayment with reflection of equal installments cash flow or annuity due PV_{AD} that has cash flows accruing at the beginning of each period say rental payments, then a distinction should be made when determining the present values. In regard to the above, present values of annuity.(PVAn) of the project at any given period n with a given compounding factor k then projects future value is obtained as;

$$F_{vn} = PV_0(1+\hat{\lambda})^n$$

F_{vn} = Future value at the end of n years
 PV_o = Present Value of interest at time 0
 $\hat{\lambda}$ = Annual interest rate
 n = Period

With perpetual annuity, a stream of uniform cash flows that are expected to be received for ever. It should be noted that the NPV for the projects can change as the discount rate changes, say increases can be experienced when the discount rate k increases and the reverse is true.

- b. **Internal rate of return IRR**, defined as that rate that equates the present value of the projects expected cash inflows with its initial costs or cash outflows, it is determined under two scenarios, that is when the cash flow stream is a series of equal payments, then divide the initial cost by the constant annual operating cash flow after tax CFAT or present value interest factor of annuity.

$$IRR = Pv_I - Pv_o = 0$$

$$\sum_{i=1}^n \frac{CF_n}{(1+r)^n} - I_0 = 0$$

$$\frac{A_1}{(1+r)^0} + \frac{A_2}{(1+r)^1} + \dots - I_0 = 0$$

$$R_A + (R_B - R_A)X \frac{NPV_A}{(NPV_A + NPV_B)}$$

Where:

- R_A is the discount rate where NPV is Positive(NPV_A)
- R_B is the discount rate where NPV, NPV_B is negative
- Please note the distance between R_A and R_B is a maximum of 5% points.

In case the CFAT in flow stream comprises a series of unequal profit flows, then a trial and error procedure is applied until the discounting factor is obtained. Through the application of the trial and error procedures a discount rate is selected initially and in case any value obtained is positive, then a higher rate is then selected to further discount the cash flows and when the NPV is negative, lower rate is selected. The process is repetitive until a rate that equates the present value of cash in flows and out flows thus getting zero is obtained. The acceptance reject criteria is that if the IRR is greater than required rate of return RRR accept the project and if it is less reject the project. As a matter of fact, the NPV and IRR approaches should give the same and consistent indicators for the consideration of the criteria decisions of an investment, an investment appraised through the NPV approaches and taken on should be accepted by the IRR.

- c. **Profitability Index (PI)**, this similar to NPV, it is the ratio of the present value of cash in flows to that of cash outflows

The accept reject criteria is that if the PI is 1.0 accept the project and if it is less than 1.0 reject the project. As to NPV the reference point is zero to PI the reference point is 1.0, implying that the PV of the inflows is exactly equal to the PV of outflows the PI is exactly 1.0 and NPV is 0. Like the NPV and IRR methods the PI also accounts the time value of money concept which is one of the core point mark for the investment, the PI is closely related to NPV technique simply representing the same information in different expressions. It divides the PVs of cash flows well as the NPVs subtracts the cash flows, and it will always give the same accept reject decision as NPV analysis however this is not the case with the mutually exclusive projects the two disagrees. With mutually exclusive the projects criteria decisions considers the following factors

$$PI = \frac{\text{Present value of cash inflows}}{\text{Present value of cash outflows}}$$

Present value of cash outflows

Modified internal rate of return (MIRR), this is discounted technique that re-assumes a re-investment discounting rate lower than internal rate of return.

$$MIRR = \frac{\text{Initial Investment} \times TTV}{(1 + r)^n}$$

Where TTV = Total Terminal Values

Example 1:

KAL investments are planning to invest 400m Shs for a period of 5 years, with a target to realize a return at a compounding rate of 10%. He has got two projects at his disposal and has requested for your expertise as an investment analyst to help him undertake the project. Given that the estimated cash inflow projections as follows:

	Project A	B
CF Millions		
1	80	120
2	120	80
3	60	140

4	140	100
5	200	120

You are required to use the appropriate apparent techniques to evaluate the two.

Approach

Non- discounted techniques.

Pay back method

$$PB = \frac{\text{No of years before full recovery} + \text{balance to full recovery}}{\text{Cash flow to full recovery}}$$

Project A:

$$= 3 + \frac{40}{140} \times 12$$

140

$$= 3 + 0.29$$

= 3 years 3 months

Project B

$$3 + \frac{60}{100}$$

$$3 + 0.6$$

= 3 years 7 months

Note that in case uniform cash inflows then the pay back period will,

$$PB = \frac{\text{Total cash outlay}}{\text{Uniform cash inflow}}$$

Uniform cash inflow

Example 2, MK Ltd has provided you with the following information as regards to the two projects he is planning to commit a total sum, of 400 million shillings for a period of 5 years and has requested you select the most viable project using the pay back method, which project would you recommend.

Period(years)	Projects A	Project B
1	100	250
2	100	250
3	100	250
4	100	250

5	100	250
---	-----	-----

Project A, pay back will be

PB= Total cash outlay

Uniform cash inflow

= 400

100

= **4 years**

Project B

PB= Total cash outlay

Uniform cash inflow

= 400

250

= 1.6

= **1 year 7 months**

To arrive at the exact months multiply 0.6 by 12= 7.2, (7months 2 days)

In reference to example 1, project A takes shortest period to recover the invested funds well as for example 2, project B takes the shortest period to recoup the invested funds.

The accept and reject rule is that projects with shortest period of are accepted and those with longest period are rejected.

Under the ARR (let's assume that Cash inflows (CF's) given are after taxes)

Project A

$$\text{AAR} = \frac{A_1 + A_2 + A_3 + A_4 + A_5}{n}$$

$$= \frac{80 + 120 + 60 + 140 + 200}{5}$$

5

$$= \frac{600}{5}$$

5

$$= \underline{\underline{120}}$$

Project B

$$\frac{120 + 80 + 140 + 100 + 120}{5}$$

5

$$= \frac{560}{5}$$

5

$$= \underline{\underline{112 \text{ Shs}}}$$

$$\text{Average investment} = \frac{\text{Sum of book values}}{\text{Number of year's useful life of asset}}$$

Using straight line method (SLM) for depreciation which allocates the same depreciation rate throughout the accounting period, then the sum of book values will be;

AI = 400 X 20% = 80 m. shillings, therefore using the SLM, then the asset worth 400 will experience a depreciation of 80 m. Shs every year.

Project A (which is the same for project B)

1. $400 - 80 = 320$

2. $320 - 80 = 240$

3. $240 - 80 = 160$

4. $160 - 80 = 80$

5. $80 - 80 = 0$

$$\begin{aligned} \text{Therefore AI} &= \frac{320 + 240 + 160 + 80 + 0}{5} \\ &= \frac{800}{5} \\ &= \underline{\underline{160}} \end{aligned}$$

$$\text{Therefore ARR} = \frac{120}{160} \times 100\%$$

160

$$= \underline{\underline{75\%}}$$

Under this the ARR obtained should be compared with the required rate of return by the investors in order to accept or reject the project, but the project is accepted if the ARR is greater than the RRR and is rejected if the ARR is lower than RRR.

Using the discounted techniques:

- Present value after 5 years

$$\begin{aligned} \text{Project A PV } \sum_{i=1}^n \frac{CF_i}{(1+r)^i} \\ = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \frac{CF_4}{(1+r)^4} + \frac{CF_5}{(1+r)^5} \\ = \frac{80}{(1+0.10)^1} + \frac{120}{(1+0.10)^2} + \frac{60}{(1+0.10)^3} + \frac{140}{(1+0.10)^4} + \frac{200}{(1+0.10)^5} \\ = \frac{80}{1.1} + \frac{120}{1.21} + \frac{60}{1.33} + \frac{140}{1.46} + \frac{200}{1.61} \\ = 72.73 + 99.17 + 45.11 + 95.89 + 124.22 \end{aligned}$$

Therefore PV at the fifth year, = 437.12

- Net present value

$$\begin{aligned} \text{Project A NPV } \sum_{i=1}^n \frac{CF_i}{(1+r)^i} - I_0 \\ = \frac{CF_1}{(1+r)^1} + \frac{CF_2}{(1+r)^2} + \frac{CF_3}{(1+r)^3} + \frac{CF_4}{(1+r)^4} + \frac{CF_5}{(1+r)^5} - I_0 \\ = \frac{80}{(1+0.10)^1} + \frac{120}{(1+0.10)^2} + \frac{60}{(1+0.10)^3} + \frac{140}{(1+0.10)^4} + \frac{200}{(1+0.10)^5} - 400 \\ = \frac{80}{1.1} + \frac{120}{1.21} + \frac{60}{1.33} + \frac{140}{1.46} + \frac{200}{1.61} - 400 \\ = 72.73 + 99.17 + 45.11 + 95.89 + 124.22 - 400 \\ = 437.12 - 400 \end{aligned}$$

Therefore NPV = 37.12 Shs

Or

N	Cfs	PVIF	PV
0	(400)	(0.000)	0
1	80	0.9091	72.73
2	120	0.8264	99.17
3	60	0.7513	45.08
4	140	0.6830	95.62

5	200	0.6209	124.18
			436.78 – 400

NPV = 36.78

Project B

$$\begin{aligned}
 &= \frac{120}{1.1} + \frac{80}{1.21} + \frac{140}{1.33} + \frac{100}{1.46} + \frac{120}{1.61} - 400 \\
 &= 109.09 + 66.12 + 105.26 + 68.49 + 74.53 - 400 \\
 &= 423 - 400 \\
 &\quad \textbf{NPV = } \underline{\underline{23.49}}
 \end{aligned}$$

N	Cfs	PVIF	PV
0	400	0.000	0
1	120	0.9091	109.09
2	80	0.8264	66.11
3	140	0.7513	105.18
4	100	0.6830	68.30
5	120	0.6209	74.51
			423.19
			423.19 – 400

NPV = 23.19

*Profitability Index

Project A =

PI = Present value of cash inflow

Present value of cash outflows

= 436.78

400

= 4.3676

Project B

$$PI = \frac{\text{Present value of cash inflow}}$$

$$\text{Present value of cash outflows}$$

$$= \frac{423.19}{400}$$

$$= 1.06$$

The accept and reject criteria when using the profitability index is that projects with PI greater than 1 are accepted because they increase investors wealth and those less than 1 are rejected.

* **Internal rate of return (IRR)**, this involves a trail error method or guess work, until that discounting rate that gives difference between the cash outflows and inflows be equal to zero, then that rate used is the IRR.

*basing on the previous example 10% gives a positive NPV of 37.12, then this means that 10% will need to be increased further say to 18% if that 18% gives a difference of zero then it's the IRR. In case of negative NPV say -37.12 then 10% would be lowered down or decreased say to 6% and if that gives a difference of zero then that rate is IRR.

*Modified internal rate of return

This assumes a re-investment rate lower than the IRR, under this when using the re-investment rate we arrive at terminal values (TV) which will help to determine the total terminal values (TTV) that are discounted at given rate lower than the IRR.

Before basing in the previous example our MIRR will be:

Period (yrs)	Project A	Years of investment	Terminal values At 8% ($1+0.08$)	TTV
1	80	4	$80(1.08)^4$	108.84
2	120	3	$120(1.08)^3$	151.17

3	60	2	$60(1.08)^2$	69.98
4	140	1	$140(1.08)^1$	151.2
5	200	0	$200(1.08)^0$	200
				681.19

$$\begin{aligned} \text{MIRR} &= \text{Initial Investment} = \frac{\text{Total terminal values}}{(1 + r)^n} \\ &= 400 = \frac{681.19}{(1 + r)^n} \end{aligned}$$

At this stage we cross multiply the values to arrive at,

$$= 400 (1 + r)^5 = 681.19$$

Also at this stage we make $(1+r)^5$ a subject by dividing 400 m to both sides,

$$\begin{aligned} &= \frac{400 (1 + r)^5}{400} = \frac{681.19}{400} \\ &= (1 + r)^5 = \frac{681.19}{400} \\ &= (1 + r)^5 = 1.70 \\ &(1 + r) = \sqrt[5]{1.70} \\ &1 + r = 1.1119 \\ &r = 1.1119 - 1 \\ &r = 0.11 \\ &\mathbf{r = 11\%} \end{aligned}$$

2.10 Risk Analysis in Capital Budgeting

Risk refers to the uncertainty associated with the out comes from an investment future cash flows. The fact that cash flows are not known with certainty, financial managers use future cash flow projections to determine returns from the investment, as it is not proper to predict using past returns. Risk analysis is associated with cash in flows that base on the forces, changes and conditions with in the business environment, therefore when considering risk measurements; decision makers should develop pertinent

information as regards to the future expected value and variability distributions of the expected returns. It is at this point that financial managers are able to measure and manage the risk through developing and implementing scales to manage the risk.

Under investment decisions, you observe that the required rate of return for a given investment is generally related to the risk associated with that investment, due to the fact that most investors do not like risk, a higher rate of return required by investors is always associated with more risky investments because it is the only way through which investors can be compensated for taking risk.

Types of risks

Risks can be categorized under different forms which can either be *systematic risks* that is risks that arise out of movements of general economic and industrial factors and those that arise out of an uncoordinated set of events referred to as unsystematic risks. The total variability of the firm's cash flows is attributable to factors that are peculiar to the firm, those that fall due to the general economic and market conditions thus making the systematic risks the most risk element that the financial managers should adhere to consider when investment decisions are to be made, however it is noted that risk averse investors do not mind about any form of risk, since these risks are diversifiable.

- Strategic risks, related to the operations of the firm in a particular industry they include changes in the market forces of demand and supply, technological and industry changes
- Financial risks, risks associated with financial system and structure, funds flow or disbursement.
- Operation risks, those that arise out of managerial tendencies within the firm's systems
- Employee and environmental risks

Risk measurements and Analysis techniques

The most notable risk measurement is determined by measures of variability and the most notable include;

- a) Probability distribution of expected returns from the project. A typical forecast is a single figure for a period, referred to as "best estimate" or "most likely" forecast. Under this financial managers are not certain with the chances of this figure actually occurring, i.e. the uncertainty surrounding this figure, The meaning of best estimates or most likely

is not very clear, it is not known whether it is the mean, median or mode. For these reasons, a forecaster should not give just one estimate, but a *range* of associated probability—a probability distribution.

b) Sensitivity analysis, a way of analysing change in the project's NPV for a given change in one of the variables. It estimates cash in flow movements under different assumptions of the environment, such as market share, market size and so on. The logic behind this analysis is that, as managers make cash flow forecasts they should consider what *if scenarios*'. That is, if cash returns are not realised as expected. It deals with :

- Identification of all those variables, which have an influence on the project's NPV
- Definition of the underlying (mathematical) relationship between the variables.
- Analysis of the impact of the change in each of the variables on the project's NPV.

When the above have been clearly analyzed the decision maker computes the project's NPV (or IRR) for each forecast under three assumptions:

(A) Pessimistic, (b) expected, and (c) optimistic

Advantages

- It enables the decision-maker to identify the variables, which affect the cash flow forecasts. This helps him in understanding the investment project in totality.
- It indicates the critical variables for which additional information may be obtained. The decision-maker can consider actions, which may help in strengthening the 'weak spots' in the project.
- It exposes irrelevant and inappropriate forecasts, and thus guides the decision-maker to concentrate on the most viable projects.

Disadvantages

- It does not provide clear-cut results. The terms 'optimistic' and 'pessimistic' could mean different things to different persons in an organisation. Thus, the range of values suggested may be inconsistent.
- It fails to focus on the interrelationship between variables. For example, sale volume may be related to price and cost. A price cut may lead to high sales and low operating cost.

Review Questions

- 1) Sony company is planning to invest an initial outlay of 500 billion shillings in the proposed 4 projects i.e. Tele vision, Radio, Mobile telephone center, and printing, these projects are to be tested for a period span of 6 years at a required rate of return of 12%, expected cash in flows are as follows

Years	Projects			
	TV	R	MP	P
1.	200	150	105	(150)
2.	105	150	-100	250
3.	85	150	200	100
4.	240	150	120	20
5.	180	150	250	40
6.	45	150	140	20

- a. Pay back
 - b. Accounting rate of return taking 20% to be the depreciation charge
 - c. Present value
 - d. Net present value
 - e. Profitability index
 - f. Internal rate of return
 - g. Modified internal rate of return, if the re-investment rate a difference of from the IRR obtained above.
 - h. What interpretation and advice can you give as regards to the status of the four projects
-

Unit 3

Financing Decision

3.1 Introduction

These are decision under taken by financial managers most especially after identifying or selecting the project or projects to invest in under the investment decisions.

It's the task of the top management and senior managers to plan as regards to how to finance these projects, putting into consideration the various factors that influence the financing aspects.

Its evident that there are mainly two sources of finance that is, internal and external sources for which the business can employ in its financing decisions, these sources can further be explained as short and long term sources which include Debt and Equity which make the financial mix or structure of the business or firm.

The term capital structure is used to represent the proportionate relationship between debt and equity, the financing or capital structure decision is a significant managerial decision because:

- It affects the market value of the shares of the firm
- The debt-equity mix which has implications for the shareholder's earnings and risk.
- Debt introduces an element of fixed financing charges, which consequently determine the financing risk of the firm.
- This in turn will affect the cost of capital and market value of the firm.

Capital structures theories

Broad Financing concerns as to whether the employment of financial leverage is of any relevance to the firm have been seen as bother to finance academicians thus leading to contrasting schools of thought in respect to give solutions as regards to financial leverage with in the business firm.

The schools of thought include:

The Traditional or the classical school/ Approach

This argues that moderate degree of debt can lower the firms overall cost of capital thereby increasing the firms value. That the increase in the cost of equity is more than offset by the lower cost of debt, but as debt increases, shareholders perceive higher risk and the cost of equity rises until a point is reached at which the advantage of lower cost of debt is more than offset by more expensive equity.

The Modigliani and miller approach (Neo-classical)

The MM'S proposition states that the firm's value is independent of its capital structure. With personal leverage, shareholders can receive exactly the same

return, with the same risk, from a levered firm and unlevered firm. Thus, they will sell shares of the over priced firm and buy shares of the under priced firm until the two values equate.

The MM's assume that;

- a) There are many buyers and sellers of securities such that no party can single handedly determine prices.
- b) That there are no transaction costs, taxes and bankruptcy
- c) That investors are fully rational and base their decisions solely on risk and return
- d) That wealth is created via the investment decision rather than the financing decision.

3.2 Financial Leverage

Reflects the amount of debt used in the capital structure of the firm.

- It determines how the operation is to be financed.
- Determines the performance between two firms having equal operating capabilities.

Degree of financial leverage

$DFL = \frac{\text{Percent change in EPS}}{\text{Percent change in EBIT}}$

Limitations of use of financial leverage

- Beyond a point, debt financing is detrimental to the firm.
 - Lenders will perceive a greater financial risk.
 - Common stockholders may drive down the price.
- Recommended for firms that are:
 - In an industry that is generally stable.
 - In a positive stage of growth.
 - Operating in favorable economic conditions
- Combined leverage: when both leverages allow a firm to maximize returns.
 - Operating leverage:
 - Affects the asset structure of the firm.
 - Determines the return from operations.
 - Financial leverage:
 - Affects the debt-equity mix.
 - Determines how the benefits received will be allocated.

Corporations usually have multiple financial alternatives to reduce their costs of funds, which are achieved, through the use of a combination of financing methods that aim to strike a balance between short-term versus long-term considerations against:

- The composition of the firm's assets
- The willingness to accept risk.
- Influenced by the term structure of interest rates

The assets of a company can be financed either by issuing shares or raising debt. The owner's claims increase when the firm raises funds by issuing ordinary shares or by retaining the earnings while the creditor's claims increase by borrowing.

- Equity includes paid up share capital and reserves and surplus (retained earnings). Retained earnings is that portion of income (profit) that the firm retains for reinvestment after taking off the portion for dividends to be paid to its share holders.
- Debt includes debentures, bonds and term loans
- Any time a firm raises new funds the capital structure is affected.

Before a firm raises new funds, it should first analyze the existing capital structure.

External Financing:

- This consists of debt and equity(shares)
- Debt can be short term or long term.
- Equity is a long term source of financing
Rising of funds through shares is known as equity financing such as Ordinary shares and Preference shares

3.3 Ordinary shares these are

- Common stocks which represent ownership in the company.
- The shareholders (stockholders) are the legal owners of the company.
- Ordinary shares are the source of permanent capital since the company is not supposed to pay back.
- The shareholders are entitled to dividends for the capital contributed.
- The amount of dividend is not fixed; it is only decided by the company's Board of Directors.
- Dividends are income distributed to shareholders only after the company has earned profit.
- Shareholders cannot claim anything if the company has made losses.
- Being owners of the company, shareholders bear the risk of ownership.
- They are entitled to dividends only after the income claim of others has been satisfied.
- When the company is wound up they can exercise claim to the assets after the claims of other investors have been settled.

Characteristics of Ordinary Shares:

- a) Claim on Income:
They have a claim to the balance of income (earnings available) after the company has catered for:
- Interest to lenders.

- Taxes.
 - Dividend due to preference share holders.
- a) Claim on Assets:
In case of liquidation, ordinary shareholders have the last claim on assets after the preference shareholders and lenders have been paid
- b) Right of Control

Ordinary shareholders elect the Board while the Board appoints the management. The Board approves major policies while the management carries out day-to-day running of the company. The control is exercised through the Board.

Preference shares, these have some characteristics similar to those of ordinary shares

- a. Similarities with ordinary shares
 - I. Non-payment of dividends does not force a company to be taken to court (or to be liquidated)
 - II. In some cases preference shares have no fixed maturity date
- b. Similarities with debentures; preference share holders have a fixed rate of dividends just like interest. Preference shareholders have superior claim to dividends over ordinary shareholder and they normally do not have voting rights.

Debt financing

This is a form of financing where firms use funds acquired from financial institutions, in form of either short or long term debit facility, use of debt introduces an element of fixed financing obligations which consequently determine the financing risk of the business firm. Noted is that high levels of debt financing will determine the earnings available to the share holders

Note that:

- Debt does not dilute ownership.
- Interest payable to the lender is fixed irrespective of the profit earned by the firm.
- During periods of high inflation, the borrower benefits because the money borrowed loses value.
- Less costly than equity (issue of shares)

Disadvantages of borrowing:

- a) Obligatory payments. The firm has an obligation to pay interest and principal upon maturity of the debenture. These are

obligations, if the company fails to pay, they may result into liquidation.

- b) Financial** risk.
It increases financial leverage, which is a risk for firms with fluctuating sales and earnings.
- c) High cash flows, at the time of maturity**

Trade credit

This arises carrying out trade where suppliers do not demand immediate payment for the services or goods purchased by their clients. Under this clients are extended a credit period for which to settle their bills or obligations and in most cases the goods and services in the hands of clients can be sold in shorter than the one extended, therefore they commit the funds from the goods to other ventures awaiting to settle the debt at the expiry date of the trade credit.

Debentures

- A debenture is a long-term debt instrument used by governments and large companies to obtain funds.
- It is a long term promissory note for raising loan capital.
- The firm promises to pay interest and principal as stipulated
- The purchasers of debentures are called debenture holders

Debenture

- In some countries like the USA the term debenture means unsecured bond

Bonds

Bonds are issued for a fixed term (the maturity) longer than ten years. A bond is simply a loan, but in the form of a security.

The issuer is equivalent to the borrower, the bond holder to the lender, and the coupon to the interest

Term loans (bank loans)

- Term loans are sources of long term financing obtained directly from the bank.
- Their characteristics include:
 - Maturity
 - Repayment schedule
 - Direct negotiation
 - Security
 - Restrictive conditions.

- These may include restriction on sale of assets, incurring further debts, dividends and regular furnishing of financial statements.

3.4 Capital markets

- Capital markets facilitate the free trading in all securities (shares and debentures).
- The capital market in Uganda is called the Uganda Securities Exchange

Role of capital markets

- Capital markets facilitate the allocation of funds between savers and borrowers.
- Resource mobilization
- Provision of investment opportunities
- Generation of government revenue
- Provides an alternative source of long-term finance for long-term productive investments.
- This helps to reduce the stress on the banking system by providing long-term capital.
- Provides government with capital for infrastructure development which has socio economic benefits roads, water, housing, energy telecommunications, public transport, etc.
- Provides avenues for investment opportunities that encourage a culture for domestic savings
- Encourages ownership of productive assets by small savers to enable them benefit economic growth and wealth distribution.
- Promotes public-private sector partnerships to encourage participation of private sector in productive investments.
- Encourages economic efficiency by shifting driving force of economic development from public to private sector
- Improves the efficient capital allocation through competitive pricing mechanism for better utilization of scarce resources for increased economic growth.
- Provides a gateway to global and foreign portfolio investors, which is critical in supplementing the low domestic saving ratio.

The Capital Markets Authority

- This is a body that is responsible for regulating the operations of the capital markets.

- It approves the listing (enrollment) of companies that have satisfied the requirements.
- Promotes investor confidence
- Protects investors
- Promotes growth of capital markets

Retained earnings, these are the undistributed portions of profit of the company, it arises when the company does not declare and pay dividends to its ordinary shareholders for which the management in agreement with the shareholders decides to retain the profit to finance further investment instead of acquiring external debt such as loans from financial institutions. These retained earnings some times are converted into extra shares to the ordinary share holders depending on the earning ratio.

This is good for the organization because its cheap internal source of finance, which is useful in times of deficit, however to some share holders, may possess different feelings, taking it to be denial of expected returns on the funds committed to the company.

Interests, these are earnings of the company that arise out of the external investments such as treasury bills and commercial papers.

Leasing

A leases the right to use or occupy personal property given by a lessor to another person (called the lessee or tenant) for a fixed or indefinite period of time.

The lessee obtains exclusive possession of the property in return for paying the lessor a fixed amount.

Fees, such as management fees a portion of sum of money that must be paid to the company, commitment fees a certain percentage charged on the portion of the credit facility not yet drawn, membership fee, agency fees and others.

Savings or own equity, portion of money that the undertaker of the business has been putting aside in form of savings realized from other sources such employment income to finance business investments.

In conclusion the financing decision is one of the major finance decisions that financial managers should not isolate. After the identification of the projects to invest in managers the next stage is to assess the financial capability thus under taking the financing decisions.

Review Questions

1. Distinguish between debt, preference shares and equity as instruments of long term financing.
 2. Discuss the relationship between the investment decision and financing decisions in the finance system
 3. Retained earnings are believed to be the major source of funds available to business entities. Discuss the validity of the above statement.
-

Unit 4

Working Capital Management Decisions

4.1 Introduction

This concerns management of the current assets maintained by an organization for the day to day running of the business, these assets includes;

- Cash
- Accounts receivables
- Financial securities
- Prepayments
- Inventory

Working capital is also known as net working capital which is the financing metric that represents operating liquidity available to the business. Together with fixed assets, working capital is considered to be part of the operating capital.

Working capital management is entirely concerned with to decisions relating to working capital and short term financing, it involves managing the relationship between the firm's short term assets and short term liabilities.

It also involves taking decisions relating to the level of current assets that business should maintain and lastly how to raise funds to boost the working capital.

It is also primarily concerned with liquidity and safety, and then on maximizing profits and ensures a competitive advantage and often creates an increase in shareholder value.

Net working capital is determined by deducting the current liabilities from the current assets, and if CA's are less than CL's, then the business entity has a working capital deficiency (deficit).

If a business empire has got negative working capital it may lack necessary funds for growth and these happens when the CL are greater than the CA, and this becomes difficult for the business to meet its obligations

A company may have high levels of fixed assets but if it lacks sufficient capital it may fail to make use of this fixed assets, in other words with out working capital these fixed assets would be idle.

4.2 Determinants of the Working Capital in the Business

- The size of the firm- big business require more working capital as compared to small medium sized businesses
- Length of the cash cycle- this is the time it takes from acquisition of inputs, making finished products up to selling, and collection of proceeds.
- The longer the cash cycle, the more working capital will be needed as daily collections cannot be relied on to meet short term obligations

- The stability of sales and revenues- if the sales are unpredictable, higher levels of working capital will be needed to cater for uncertainty.
- The nature of the business- retail shops must carry a variety of stock to satisfy its customers.
- Seasonal sales
- A number of companies experience seasonal and cyclic fluctuations which affect the working capital requirement.
- Manufacturing cycle.
- This comprises of the purchase and use of raw materials and conversion into finished products.
- Availability of credit from suppliers
- Price changes

The importance of maintaining sufficient working capital

- Working capital is considered to be the life blood of a firm.
- A company may have a high value of fixed assets but if it lacks sufficient working capital it may fail to make use of its fixed assets.
- Without working capital, the fixed assets (e.g. plant, equipments, furniture, machinery, buildings and vehicles) of an organization would be idle.
- Adequate working capital is required to ensure that a firm is able to continue its operations un interrupted
- To pay maturing short-term debt
- Maintaining good company image
- To take care of unforeseen financial difficulties that may arise.
- To support the day-to-day financial operations of an organization, including:
 - Purchase of stock,
 - Payment of salaries, wages and other business expenses, monthly bills
 - Financing of credit sales.
- Raising credit standing of a business because of:
 - Better terms on goods bought e.g. ability to obtain cash discounts,
 - Favorable rates of interest etc
- Poor working capital leads to:
 - Financial pressure on a company,
 - Increased borrowing,
 - Late payment to creditors-all of which result in a lower credit rating.
 - Lower credit rating means banks charge a higher interest rate, which can cost a company a lot of money over time.

The need effective working capital management

- Effective working capital management will ensure that the business has enough current assets (liquidity) to meet its obligations, without having to frequently sacrifice business opportunities.

- When a business can predict its future cash flows with relative accuracy, it can maintain minimal excess cash reserves.

Level of working capital

- It is crucial to retain right level of working capital.
- A financial manager is required to decide the appropriate amount of working capital
- The manager has to trade off between profitability and liquidity (risk)
- When a firm maintains high levels of working capital, it is able to pay its obligation when they fall due
- This enhances liquidity and reduces the risk of insolvency
- Liquidity- measures the ability of a business to pay its debts as they fall due.
- It is a useful indicator of the short-term financial stability of a business.
- The high level of liquidity involves keeping large amounts of current assets which become idle as they are not employed to generate a return.
- This would jeopardize the profitability position of the firm

4.3 Management of Receivables

Accounts receivables are also known as trade debtors. Trade debtors arise from a firm selling its products and services on credit and expect to collect, in the near future.

The customers from whom receivables are to be collected are called Trade Debtors.

Implication of receivables

- Receivables involve the element of risk which should be carefully analyzed – cash sales do not involve risk
- Economic value – the value of the goods passes immediately after the sale
- It implies futurity – the buyer will pay in future
- The interval between the date of sale and the date of payment has to be financed out of working capital – this may necessitate the firm to get funds from banks or other sources, hence receivables represent an investment.

The justification for investment in receivables

- Trade credit is a marketing tool.
- The firm can use it for launching new products
- For gaining market share.

- For coping with competition. The higher the competition, the more the credit granted by the firm. Trade credit helps to protect a firm sale from competition.
- Building customer loyalty and good will credit sales help to create loyal customers who will always buy from the organization during times of economic instability.
- Buyers status
- Large/buyers demand credit purchases because of bulk purchases and higher bargaining power. Companies prefer extending credit to bulk buyers because collection costs tend to be lower.
- Some buyers can not operate without credit e.g. Government.
- Industrial practice – it may a practice in a certain industry to extend credit to customers. So all new entrants to the industry find it inevitable to offer credit.
- Reduction in inventory levels of the company
- Acts as a bridge for moving of goods through production and distribution stages to customers.
- It increases bargaining power of the firm.

Costs of selling on credit

- Collection costs, these include:
 - Postage costs, incurred through sending reminders(letters informing the client of his debt position
 - Telephone, calls made on demand
 - News papers, publishing of debtors in journals
 - Legal costs, arising out of engaging company lawyers.
 - Debt collectors
- Bad debts losses i.e. failure by some customers to honor their credit obligations
- Administration costs these include:
 - Processing of credit sales costs
 - Supervising and investigating receivables
 - Costs of customer analysis
 - Production and selling costs
- Damaged relationships
- Opportunity costs
- Tying up of funds in receivables

Factors that determine the level of receivables maintained

- The of credit sales is a function of total sales. Total sales depend on:
 - Market share
 - Intensity of competition
 - Economic conditions-
- Collection period
- Credit policy.

The credit policy, these are procedures and policies that the company puts in place to when dealing in trade credit and it's evident that when a firm adopts a lenient credit policy, it tends to increase sales, however this may increase costs associated with credit sales.

Therefore a credit policy is a set of guidelines designed to minimize costs associated with credit while maximizing the benefits in order for a firm to arrive at an optimum credit policy, it should analyze the contribution of additional sales resulting from a lenient policy and the associated costs.

Elements of the credit policy

There are 3 important elements to be considered in coming up with a credit policy:-

- Credit standards
- Credit terms
- Collection procedures

Credit standards, these are criteria which a firm follows in selection of customers to whom credit is to be extended and they affect the quality of customers. Managers should be in position to determine:

- The time it takes to collect credit sales (average collection period)
- The default rate which is proportion of uncollected receivables. It is also known as bad debts losses ratio.
- Default risk (This is likelihood that the customer will fail to pay the credit obligation)

Therefore, a firm may have tight credit standards (– i.e. selling only to the most reliable or financially strong customers). This may minimize bad debts but the firm may not expand sales.

The choice of optimum credit standards involves a trade off between incremental return and incremental costs.

Criteria for vetting credit customers

To minimize the credit risk the manager should vet customers using the **5Cs**

- Character -*Marital status, Level of Education, Contact ,Occupational stability, Historical back ground*

- Capacity
- Condition
- Capital
- Collateral
- **Character**, this concerned with the customer's willingness to pay. The following aspects can be used to assess the customer's character, they include:
 - Bank reference
 - Marital status
 - Level of Education
 - Contact
 - Occupational stability
 - Historical *back ground*
- **Capacity**, this is the ability of the customer to pay the credit, capacity can be analyzed using the following sources:
 - Previous experience
 - Trade reference
 - Bank reference
 - Amount and purpose of credit
 - Financial statements i.e. Balance sheet, income statement, forecasted cash flow statements and duration a customer has been in business.
- **Condition**, this refers to prevailing economic, social, political conditions. These affect customer ability to pay.
- **Capital**, need to analyze the customer's working capital position and trends.
- **Collateral**

This refers to the security offered by the customer

Credit terms

These refer to conditions under which a firm grants credit to customers, they include:

- Credit period, this stipulates the length of time for which credit is extended.
- Cash discount, this is what is offered to customers in form of a reduction in payment. So as to induce them to repay their credit obligations within a specified period which is less than the normal

credit? It is used as tool to increase sales and accelerate collections from customers.

Collection procedures

This is a set of collection efforts intended to accelerate collection from slow-payers and reducing bad debts losses.

The following steps can be taken:

- (a) Reminders
 - (i) Sending credit notes
 - (ii) Sending letters
 - (iii) Making personal contacts
- (b) Resorting to legal measures.
- (c) Insuring debtors – here the business insures its debtors with an insurance firm which will pay bad debts.
- (d) (d) engaging a debt collector
- (e) **Factoring** is a financial transaction whereby a business sells its accounts receivable (i.e., invoices) to a third party (called a factor) at a discount in exchange for immediate money with which to finance continued business. Factoring differs from a bank loan, the emphasis is on the value of the receivables , not the firm's credit worthiness
- (f) Write off.

4.4 Management of Cash

Financial managers actively attempt to keep cash (non-earning asset) to a minimum. It is critical to have sufficient cash to assuage emergencies and steps to improve overall profitability of a firm through minimizing cash balances thus have accurate knowledge of when cash moves in and out of the firm.

Cash management policy

Cash being the most liquid short term asset normally held as money, efficient management is therefore very essential because cash is the basic input in production, with out cash labor force will not be motivated to perform, procurement process will not be effected, and other resource in puts. In relation to this guidelines should be established by the business to ensure that the cash resource are efficiently and effectively put to use which involves management of cash inflows and outflows.

Reasons for Holding Cash

- Transactions balances
 - Payments towards planned expenses.
- Compensative balances for banks
 - Compensate a bank for services provided rather than paying directly for them.
- Precautionary needs and emergency purposes.

Cash planning, a process of making decisions which will define how cash resources can be put to use, it defines what has and should be achieved in the future. It is a means of ensuring that the organizations cash objectives are accomplished as when desired.

Planning is future oriented and it's necessary for facilitating control and to determine targets that have to be achieved.

Under the planning process we use tools or techniques such as, Cash Budget, which is a statement of the monetary terms.

It is a coordinate and comprehensive plan expressed in financial terms for the operation and resource organization for a specific period in the future. It must be comprehensive, financially quantified and has a time element. Therefore a cash budget is a detailed budget of cash in flows and outflows incorporating both revenue and capital items.

It is prepared by showing estimated cash flows in form of receipts and payments

Example 1

Given below is information, which relates to HLC General Traders Ltd. you are required to prepare a month-by-month cash budget for the first half of 2002 and to append such brief comments as you consider might be helpful to management.

(a) The company's only product sells a unit U Shs 40,000/- and has a variable cost of U Shs 26,000/= per unit made up as follows: materials 20,000/=-, labour U Shs 4,000/- and overheads U Shs 2,000/=

(b) Fixed costs of U Shs 6,000,000/= per month are paid on the 28th of each month.

(c) Quantities sold/to be sold on credit.

Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	May 02	Jun 02
1,000	1,200	1,400	1,600	1,800	2,000	2,200	2,600

(d) Production quantities

Nov 01	Dec 01	Jan 02	Feb 02	Mar 02	Apr 02	May 02	Jun 02
1,200	1,400	1,600	2,000	2,400	2,600	2,400	2,200

(e) Cash sales at a discount of 5% expected on average 100 units per month.

- (f) Customers are expected to settle their accounts by the end of the second month following sale.
- (g) Suppliers of materials are paid two months after' the material is used in production.
- (h) Wages are paid in the same month as they are incurred.
- (i) 70% of the variable overhead is paid in the month of production, the remainder in the following month.
- (j) Corporation tax of U shs 18,000,000/- is to be paid in April 2002.
- (k) A new delivery vehicle is to be bought in December 01. It costs U shs 8,000,000/- and is to be paid for in Feb 2002. The old vehicle was sold for U shs 600,000/-, the buyer undertaking to pay in January 2002.
- (l) The company is expected to be U shs 3,000,000/- overdrawn at the bank at 31st December 2001.
- (m) No increases or decreases in raw materials, work in progress or finished goods are planned over the period.
- (n) No price increases or cost increases are expected in the period

Solution: HLC General Traders Ltd - Cash Budget For January to June 2062

	Jan Shs. 000	Feb Shs. 000	Mar Shs. 000	Apr Shs. 000	May Shs. 000	Jun Shs. 000	Total Shs. 000
Receipts							
Credit Sales	40,000	48,000	56,000	64,000	72,000	80,000	360,000
Cash Sales	3,800	3,800	3,800	3,800	3,800	3,800	22,800
Sale of Vehicle	600	-	-	-	-	-	-
	44,400	51,800	59,800	67,800	75,800	83,800	383,400
Payments							
	Jan	Feb	Mar	Apr	May	Jun	Total

	Shs. 000	Shs. 000	Shs. 000	Shs. 000	Shs. 000	Shs. 000	Shs. 000
Materials	24.000	28.000	32.000	40.000	48.000	52.000	224.000
Labour	6.400	8.000	9.600	10.400	9.600	8.800	52.800
Variable overhead	3.080	3.760	4.500	5.080	4.920	4.520	25.920
Fixed Costs	6.000	6.000	6.000	6.000	6.000	6.000	36.000
Corporation tax				18.000			18.000
Purchase of Vehicles		8.000					8.000
	39.480	53.760	52.160	79.480	68.520	71.320	364.720

Receipts – Less:

	Jan Shs. 000	Feb Shs. 000	Mar Shs. 000	Apr Shs. 000	May Shs. 000	Jun Shs. 000	Total Shs. 000
Payments	4.920	(1.960)	7.640	(11.680)	7.580	12.480	18.680
Balance b/f	(3.000)	1.920	(40)	7.600	3.200	3.200	(3.000)
Balance c/f	<u>1.920</u>	<u>(40)</u>	<u>7.600</u>	<u>(4.080)</u>	<u>15.680</u>	<u>15.680</u>	<u>15.680</u>

Working

Variable overhead

	Dec 01 Shs.	Jan 02 Shs.	Feb 02 Shs.	Mar 02 Shs.	Apr 02 000	May 02 Shs.	June 02 Shs.
Variable overhead production cost	2.800	3.200	4.000	4.800	5.200	4.800	4.400
70%						3.360	3.080
Paid Month 30%		2.400	2.800	3.360	3.640		
in Following Month		840	960	1.200	1.440	1.560	1.440
		<u>3.080</u>	<u>3.760</u>	<u>4.560</u>	<u>5.080</u>	<u>4920</u>	<u>4.520</u>

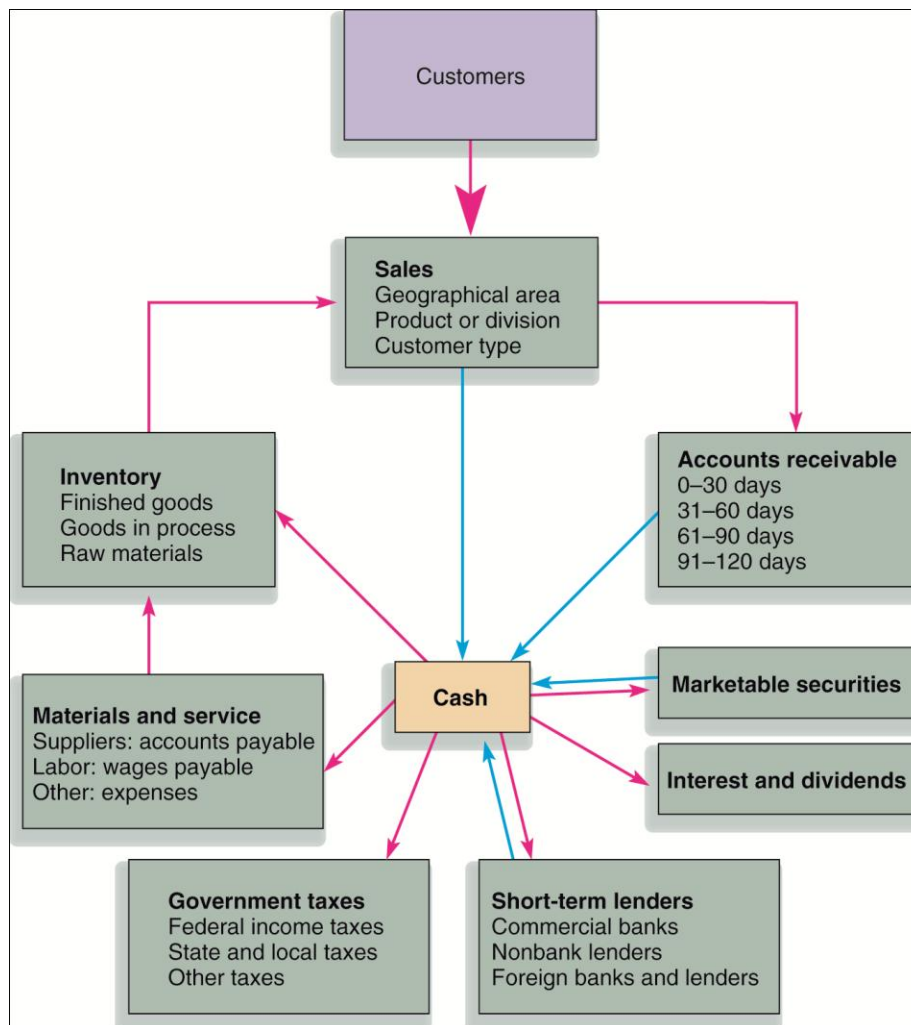
Comments

- a) There will be a small overdraft at the end of January 2002, but a much larger one at the end of April 2002. It may be possible to delay payments to suppliers for longer than two months or to reduce purchases of materials or reduce the volume of productivity by running down existing stock levels.
- b) If neither of these courses is possible, the company may need to negotiate overdraft facilities with its banks.
- c) The cash deficit is only temporary and by the end of June 2002 there will be a comfortable surplus. The use to which this cash will be put should ideally be planned in advance.

Cash Cycle; the length of time it takes to convert cash into raw materials, work in progress, to finished products that are ready for disposal so as a return in form of cash is realized and the cycle continues and under this ensure that cash inflows and outflows are synchronized for transaction purposes. Under this tools like cash budgets are used to track cash flows and ensuing balances.

- Cash flow relies on:
 - Payment pattern of customers.
 - Speed at which suppliers and creditors process checks.
 - Efficiency of the banking system.
- Cash-generating process is continuous although the cash flow may be unpredictable and uneven and are driven by sales and influenced by:
 - Type of customers.
 - Customers' geographical location.
 - Product being sold.
 - Industry.

Expanded Cash Flow Cycle



- Financial managers must pay close attention to the percentage of sales generated:
 - By cash.
 - By outside credit cards.
 - By the company's own credit terms
- Account receivable is collected or the credit card company advances payment.
 - Used for various payments such as interest to lenders, dividends to stockholders, taxes to the government etc.
 - Used to invest in marketable securities.
- Therefore when there is a need for cash a firm can:
 - Sell the marketable securities.
 - Borrow funds from short-term lenders

Collection & Disbursement

- Primary concern to the financial manager is the management of Cash inflows which are still affected by collection mechanisms and Payment outflow. There are various measures that are put in place to control the collection and disbursement of cash with in business organizations, they include;

Float

- Difference between firm's recorded amount and amount credited to the firm by a bank.
 - Arises due to time delays in mailing, processing and clearing checks through the banking system.
 - Can be managed to some extent by combining disbursements and collection strategies.
 - Main challenge: the physical presentation of the check to the issuing bank.
- Factors that help in reducing float:
 - Ease of credit and debit cards payments and on-line banking for customers.
 - Wire transfers for corporations.
 - Rise of Internet commerce.
 -

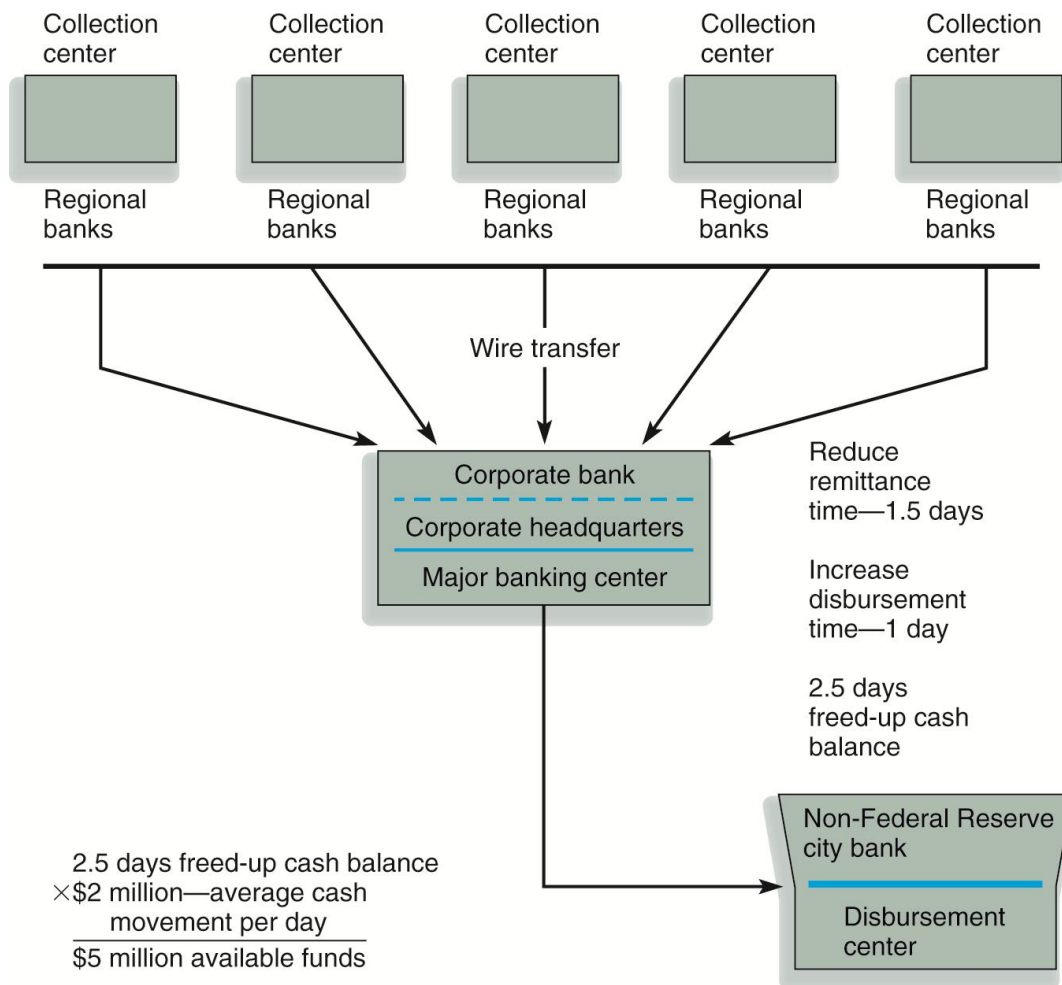
Improving collections

- Setting up multiple collection centers at different locations.
- Adopt lockbox system for expeditious check clearance at lower costs.

Extending disbursements

- General trend speed up processing of incoming checks while slowing down payment procedures. Extended disbursement float - allows companies to hold onto their cash balances for as long as possible.

Cash Management Net Work



Electronic Funds Transfer

Funds are moved between computer terminals without the use of a 'check', automated clearinghouses (ACH) that transfers information between financial institutions and between accounts using computer tape and Central clearing facilities include:

- National Automated Clearinghouse Association (NACHA)
- Federal Reserve system
- Electronic Payment Network
- VISA
- International EFT

Carried out through Society for Worldwide Interbank Financial Telecommunications (SWIFT) which uses a proprietary secure messaging system each message is encrypted and every money transaction is

authenticated by a code, using smart card technology and assumes financial liability for the accuracy, completeness, and confidentiality of transaction.

International cash management

- Factors differentiating international cash management from domestic based systems:
 - Differing payment methods and or higher popularity of electronic funds transfer.
 - Subject to international boundaries, time zone differences, currency fluctuations, and interest rate changes.
 - Differing banking systems, and check clearing processes.
 - Differing account balance management, and information reporting systems.
 - Cultural, tax, and accounting differences
- Financial managers try to keep as much cash as possible in a country with a strong currency and vice versa.
- Sweep account:
 - Allows companies to maintain zero balances.
 - Excess cash is swept into an interest-earning account.

4.5 Management of Inventory

Inventory refers to, the stock of any item or resources used in an organization. An inventory system is the set of policies and controls that monitor levels of inventory and determine what level should be maintained, when stock should be replenished and how large order should be.

In finance inventory refers to items that contribute to or become part of a firm's product output or in service inventory refers to the tangible goods to be sold and the supplies necessary to administer the Service.

Inventory has three basic categories that is,

- Raw materials
- Work in progress, which reflects partially finished products
- Finished goods, which are ready for sale.

It's evident that the amount of inventory is affected by sales, production, and economic conditions. Inventory is the least of liquid assets that provides the highest yield. When maintaining maximum Level production, efficiency in manpower and machinery usage is vital.

Inventory position can be protected in an environment of price instability by:

- Taking moderate inventory positions (by not committing at a single price).
- Hedging with a futures contract to sell at a stipulated price some months from now.

- Rapid price movements in inventory may also have a major impact on the reported income of the firm.

Inventory control techniques

- Two-Bin System - Two containers of inventory; reorder when the first is empty
- Universal Bar Code -Bar c ode printed on a label that has information about the item to which it is attached

Functions of Inventory

- To meet anticipated demand
- To smooth production requirements
- To decouple operations
- To protect against stock-outs
- To take advantage of order cycles
- To hedge against price increases
- To permit operations
- To take advantage of quantity discounts

Costs associated with management of Inventory

- Carrying costs
 - Interest on funds tied up in inventory.
 - Cost of warehouse space, insurance premiums and material handling expenses.
 - Implicit cost associated with the risk of obsolescence and perish-ability.
- Ordering costs
 - Cost of ordering.
 - Cost of processing inventory into stock
- **Lead time:** time interval between ordering and receiving the order
- **Holding (Carrying) Costs:** cost to carry an item in inventory for a length of time, usually a year
- **Ordering costs:** costs of ordering and receiving inventory
- Shortage costs: when demand exceeds supply

Approaches to the inventory management

a) ABC Analysis

Classifying inventory according to some measure of importance and allocating control efforts accordingly,

A - Very important

B - Mod, Important

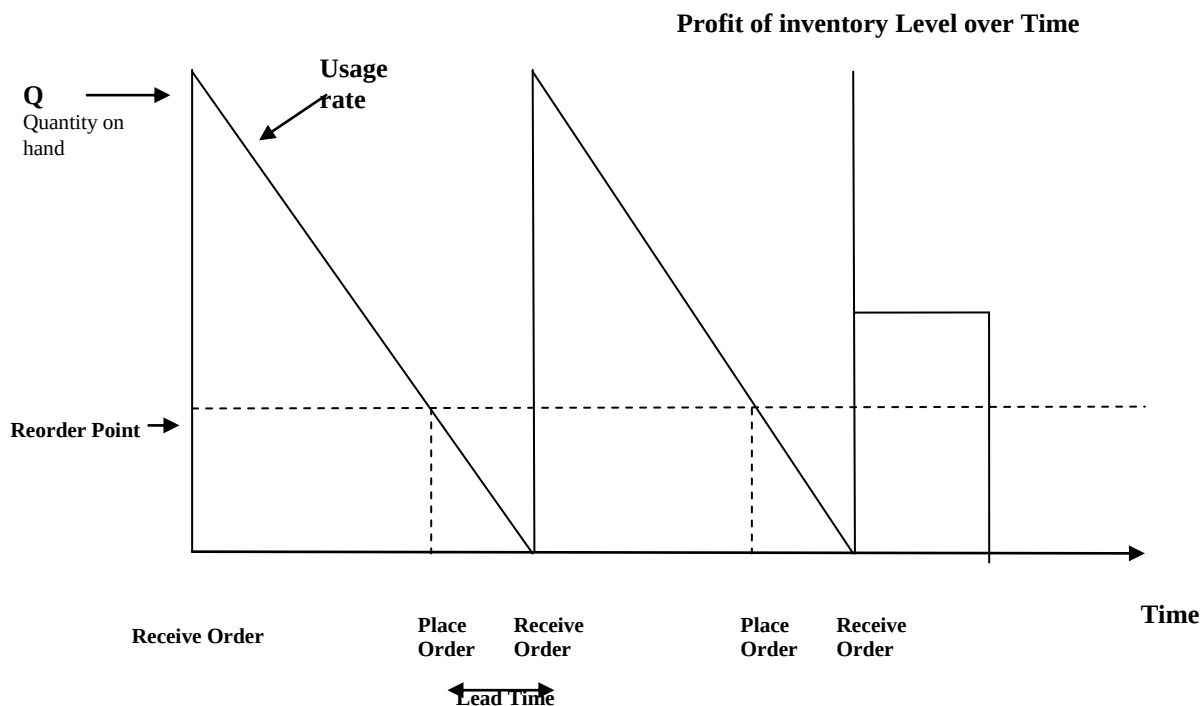
C - Least important

b) The economic order quantity approach (EOQ) refers to the order size that minimizes total annual cost, economic production model and quantity discount model.

Assumptions of EOQ

- Only one product is involved
- Annual demand requirements known
- Demand is even throughout the year
- Lead time does riot vary
- Each order is received in a single delivery
- There are no quantity discounts

The Inventory Cycle



Total Ordering Costs = (number of orders) X (Ordering Costs per Order)

Number of Orders = $\frac{TD}{Q}$

Total Ordering Costs = $\left(\frac{TD}{Q}\right)OC$

Total Carrying Costs (CC) = $\frac{Q}{2}$

$$\text{Total Carrying Costs} = \left(\frac{Q}{2}\right)CC$$

Total Inventory Costs

$$\left(\frac{Q}{2}\right)CC + \left(\frac{TD}{Q}\right)OC$$

$$Q^* = \frac{dT}{dQ} \left(\frac{Q}{2}\right)CC + \left(\frac{TD}{Q}\right)OC$$

$$Q^* = \sqrt{\frac{20C.TD}{CC.}}$$

Or

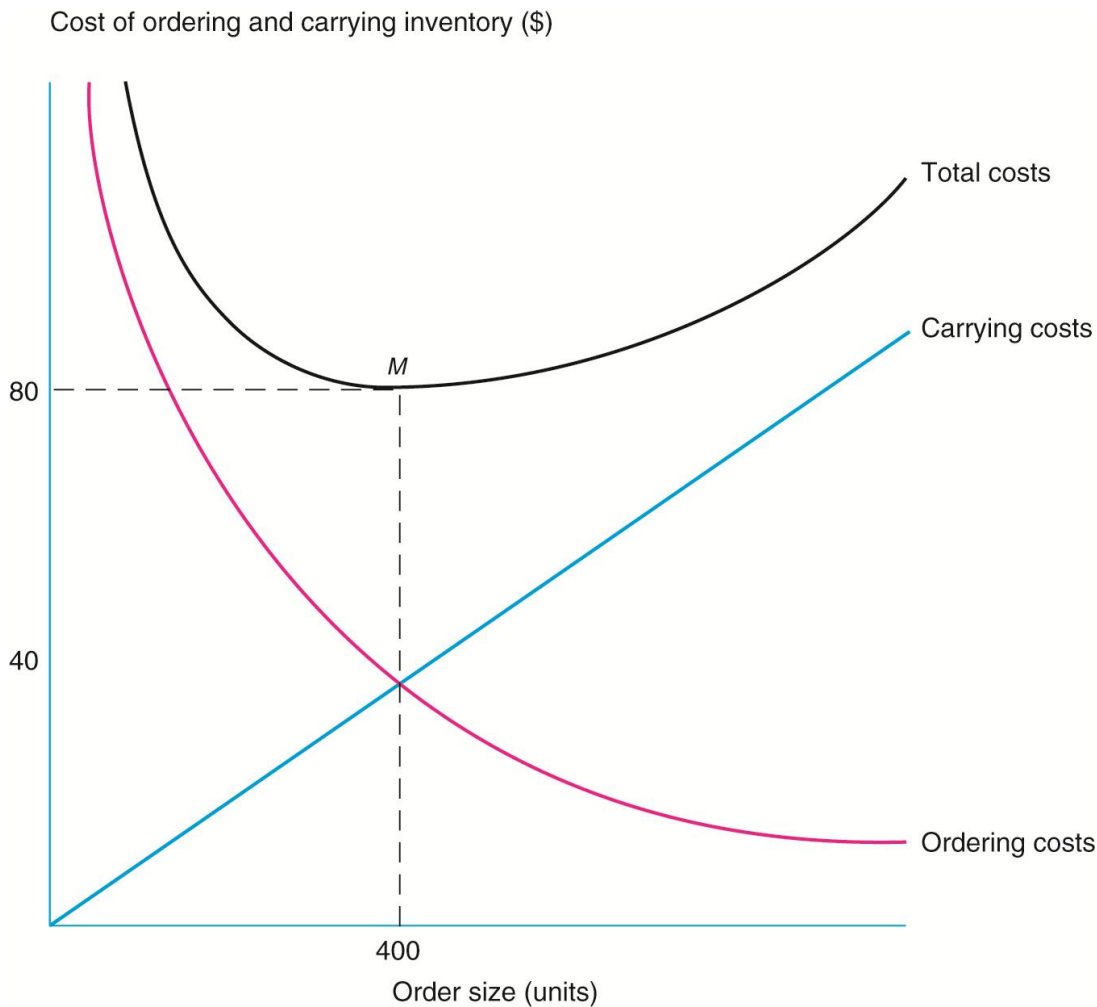
$$Q_{OPT} = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2(\text{Annual Demand units})(\text{Order Cost per order})}{\text{Annual Holding Cost per unit}}}$$

- Reorder Point -When the quantity on hand of an item drops to this amount, the item is reordered
- Safety Stock - Stock that is held in excess of expected demand due to variable demand rate and/or lead time.
- Service Level - Probability that demand will not exceed supply during lead time.

Determinants or reorder point

- The rate of demand
- The lead time
- Demand and/or lead time variability
- Stock out risk (safety stock)

Determining Optimum Inventory in



Just In Time approach (JIT)

- Basic requirements for JIT are that there must be quality production that continually satisfies customer requirements, close ties between suppliers, manufactures, and customers, minimization of the level of inventory.
- Cost Savings from lower inventory, on average, JIT has reduced inventory to sales ratio by 10% over the last decade

Advantage of JIT

- Reduction in space due to reduced warehouse space requirement.
- Reduced construction and overhead expenses for utilities and manpower.
- Better technology with the development of electronic data interchanges systems (EDI).

- Reduction in costs from quality control.
- Elimination of waste and Integration costs.

In conclusion working capital management is concerned with the management of short term assets of the business such as cash, inventory, receivables and payables and when doing this financial managers need to be versed or exposed to the business environment in order to affect their duties.

Review Questions

1. What happens when a company has a low working capital?
2. What is the importance of maintaining sufficient working capital?
3. Discuss the different approaches used in inventory management
4. The management of HLC Ltd has requested you to analyze their financial information below and prepare their cash budget for the of May 2007 to April 2008 and they have provided you with the following information that;
 - A. Returns of 100,000 were to be earned for the months of May to October and 180,000 for November to April 2008.
 - B. Sales for Feb, March and April were 80,000 respectively
 - C. Division of sale between cash and credit is as follows 30% for cash and the balance being credit.
 - D. Credit collection pattern is 30% after one month and 70% after two months.
 - E. Bad debts were nil throughout.
 - F. Other anticipated receipts are sale of a machine in July at 90,000/= and 6,000 interest on securities in September.
 - G. Estimated purchases of materials are 80,000/= for the months of May to July and 100, 000/= for the remaining months and payments are made one month after the purchase.
 - H. Wages and salaries are expected to be 40,000/= per month.

- I. Manufacturing expenses are expected to be 30,000/= per month.
- J. General administration and selling expenses is to be 10,000/= per month.
- K. Dividend payments of 25,000/= and tax payment of 30,000 are scheduled for October.
- L. A machine worth 100,000/= is planned to be purchased in June.
- M. The cash balance as on Jan was 20,000/= and the minimum cash balance required by the firm is 20,000/=

Required to prepare cash forecast for HLC showing the surplus and deficit in relation to the minimum cash balance

Unit 5

Dividend Decisions

5.1 Introduction

The dividend decisions involve a trade-off between holding or retaining the internally generated funds to finance further projected investments, Dividends are paid out only if the corporation cannot make better use of the funds for the benefit of stockholders and this is subject to managements consent.

Dividends are part of the net earnings after tax that a firm pays out to share holders, the rational of paying out dividends is to increase the current wealth holding of the shareholders who then perceive the investment less risky.

Dividends represent cost of capital to a firm which is raising investment funds from shares, thus it's a reward to share holders for committing their funds into the firms business.

The dividend decision involve what a firm does with its net earnings, the decisions made always depend on options such as;

- To declare all earnings as dividends and pay them out to shareholders and borrow funds for investment.
- Retain all earnings in the firm to finance further investments and hence declare no dividends
- To declare and pay out as dividends a portion of the earnings.

It's evident that there exists contradicting issues as to whether dividend payment is of any value to the firm, that for any dividend to valuable to the firm, it should have an effect on the overall valuation of the firm.

Forms of dividends

There are basically two forms in which dividends may be declared and paid, they include:

- a) Cash dividends, most firms do pay dividends in form of cash and for cash dividend the firm must be in possession of enough legal tender or be able to liquidate the near cash assets on its bank account. Cash dividend should be paid only if it does not affect the liquidity of the firm.
- b) Stock dividends, this involves extending more investment holdings to share holders by allowing them to convert the thy dividends to be paid in form of new shares, so as to increase on the shareholding in the firm, this helps to increase the share capital, while reducing the reserves of the firm.

Relevancy of dividends

Dividends resolve uncertainty in the minds of investors and it can be hypothesized that stockholders might apply a higher discount rate (K_e),

assign a lower valuation of funds that are retained in the business because of the information content of dividends which may be more favorable to the stockholders. Stockholder's needs and preferences go beyond the marginal principle of retained funds in practice. In regard to payment of dividends does matter in the investor's position because;

- A payment of dividends signals good news, as it affirm and provides information to shareholders that the firm is doing well the reverse conveys that firm is not doing well.
- Investors want diversify their portfolio into other business, therefore they regard dividend payment to boost their current income.
- Investors invest precisely to earn dividends which acts as their source of income, therefore this makes a core argument.
- Provides the investor with an opportunity to buy additional shares of stock with the cash dividend paid by the company.

5.2 Divided payment procedures,

Cash dividends are usually paid quarterly through quoted on an annual basis however, this entirely depend on the general performance of the firm, through which the management come up with plans, (*sets delicate date that it is meets and announces the amount and the date of payment, the record date on which an investor must be a shareholder to be entitled to dividend payment*) procedures and policies on how dividends are to be paid but mostly dividends can or are paid as:

- A constant sum of money per share per year, or as a percentage of the net earnings per year
- Dividends can be paid in form of cash or additional stock to the current share holder
- In form of cash and note that stock dividends do not attract taxes.
- Most firms pay dividends in form of cash
- Stock dividends do not attract taxes

Dividend Policy

This is a set of guidelines that govern the declaration and payment of dividends in the firm, it comprises of a set of guidelines that a firm follows in the appropriation of the firms earnings, of which the earnings of the firm can either be distributed to the shareholders as dividends or they can be retained in the firm to finance further investment and if earnings are reinvested then shareholders hope to receive capital gain or a positive return in future.

The dividend policy is important because it affects:

- The long term financing decisions of the firm.
- The profitability of the firm

- The wealth of the shareholders
- The value of the firm
- It maximizes the shareholders return that comprise of dividend capital gain with out jeopardizing the objectives of the firm.

5.3 Dividend Capitalization model

The general principle of valuation applies to share valuation (We have to use cash flows). The value of the share today is a function of cash inflows expected by investors and risk associated with those cash inflows. Cash inflows expected from an equity share will consist of dividends expected to be received by the owner while holding the share, and the price he expects to obtain when the share is sold.

The price which the owner is expected is to receive when the share is sold will include the original investment plus the capital gain or minus the capital loss.

Valuation for single period / single period valuation

This is used when the investor intends to buy a share and hold for one year.

$$P_0 = \frac{D_1 + P_1}{1 + K_e}$$

Why dividends?

- The one bird in hand is better than two in the bush. Due to uncertainty of future dividends and capital gains share holders tend to prefer current dividends. Share holders perceive firms that regularly pay dividends as less risky.
- Share holders invest precisely to earn income from dividends. Payment of dividends therefore influences their rating of the firm.
- Investors may require dividends in order to diversify
- Dividend payment signals good news to the capital market that a firm is doing well. Firms that pay dividends will form a better perception to the share holders.
- Existence of transaction costs. In real life transaction costs exist in the capital Markets. These include floatation costs for new shares and brokerage. These therefore reduce the value of shares sold.
- Tax considerations tax rates on capital gain and dividends vary.

Factors that must be put into consideration before declaring dividends

- At the end of every financial year management has to recommend to the Board whether to pay dividends or not
- The following factors influence a firm's decision to declare or not to declare dividends
- Legal considerations. The company act stipulates that firms can only declare dividends if it has generated enough surplus earnings. It is prohibited from encroaching on capital reserves as this may jeopardize the interest of creditors.
- Ease of raising capital through shares.
- Level of indebtedness of the firm, If a firm is highly levered it will find debt as a very expensive source. So it can not pay dividends.
- Availability of investment opportunities
- Preference by the majority of share holders.
- Level of control desired by share holders.
- Internal restrictions on borrowing

In conclusion the dividend decision involves the decisions to pay out earnings versus retaining them for reinvestment in the firm, and dividend policy decisions can have either favorable or unfavorable effects on the price of the firm's stock.

Review Questions

1. Differentiate between the dividend irrelevance and dividend relevance theories.
 2. Identify four broad categories of factors that affect the dividend policy.
 3. Discuss the major factors that must be put into consideration before and when declaring dividends.
-

Unit 6

Financial Analysis and Planning

6.1 Introduction

Many diverse groups of people are interested in the information found in the financial statements of the firms, they include all stakeholders and all just interested in knowing the exact stand, true value of the capital invested, job security, borrowed funds, tax capacity, and corporate social responsibility. And all these study the statements carefully interpreting the information that relates to their particular interest of their company.

Financial planning, the projection of sales, income and assets based on alternative production and marketing strategies, as well as the determination of the resources needed to achieve the projections, it's a tool of financial analysis that involves analysis of the investment and financing options available to the firm.

Interpreting Financial Statements

The purpose of financial statement analysis is to help users make better decisions; internal users want helpful information in improving the company's efficiency or effectiveness in providing products or services. External users want information to make better and more informed decisions in pursuing their goals.

The financial statements include:

- Income statement, a statement summarizing the firm's revenues and expenses over an accounting period which can be quarterly or yearly.
- Balance sheet, a statement of the firm's financial position at a specific point in time.
- Statement of cash flows, a statement reporting the impact of a firms operating, investing and financing activities on cash flows over an accounting period.

The common goals:

- Past and current performance.
- Current financial position.
- Future performance and risk.

Horizontal Analysis

The first method of analyzing financial statements, this deals with carrying out comparison between current year and previous year noting any significant changes. It is usually applied by auditors in analytical review procedures.

- Gross profit.
- Profit before tax.
- Profit after tax.
- Dividends.

6.2 Ratio Analysis.

This refers to a study or investigation carried out to show the relationship between financial

Statement accounts within firms and between firms. Financial analysis is very useful both as a way to anticipate future conditions and more important as a starting point for planning actions that will influence the future course of events.

Financial statements provide information about a firm's position at a point in time as well as its operations over some past period; however, the real value of financial statements lies in the fact they can be used to help to predict a firm's financial position in the future and to determine expected earnings and dividends.

Predicting for the future is what financial analysis is all about and they are useful both as a way to anticipate future conditions and events.

An analysis of the firm's ratios helps to show the relationships between financial statements accounts within firms and between firms. They are said to be the calculation and analysis of firm's financial ratios and are typically associated with ratio analysis defined as the analysis of relationships among various financial statements both at a time and over time.

Limitations of Ratios

- (i) There is no single ratio for all purposes; specific ratios are therefore required for specific purposes.
- (ii) Different sizes of organization may impact on internal company comparisons.
- (iii) Financial statements on which ratio analysis is based have limitations like estimates, which are based on personal decisions.
- (iv) The accounting period covered by financial statements may not be representative of the financial position.
- (v) Comparison of ratios may be misleading if ratios are not computed in a similar manner and from uniform data. Therefore comparing different organizations may not be meaningful.
- (vi)

The various kinds of ratios used include:

a) Liquidity ratios Or Short term solvency

For the firm to continue in business it must be able to pay its bill as they come due, therefore liquidity ratios measure the extent to which the firm can service its immediate obligations, i.e. the ability for the firm to meet its short term contingencies.

A liquid asset is one that can be easily converted to cash without significant loss of its original value, converting assets such as inventory and receivables, therefore a firm's liquid position deals with the question of how well the firm

is able to meet its current obligations (short term assets or current assets are more easily converted to cash (more liquid) than long term assets).

A full liquidity analysis requires the use of cash budgets, but by relating the amount of cash and other current assets to the firm's current obligations, ratio analysis provides a quick, easy-to-use measure of liquidity. There are two commonly used liquidity ratios:

- I. **Current ratio (CR):** it's calculated by dividing current asset CA by current liabilities. It indicates the extent to which current liabilities are covered by assets expected to be converted into cash in the near future. Current assets normally include cash, marketable securities, accounts receivables and inventories. Current liabilities consist of accounts payable, short term notes payable, current maturities of long term debt accrued income taxes and other accrued expenses. Relatively high current ratios are interpreted as an indication that a firm is liquid and in good position to meet its current obligation. It's obtained by

$$\text{Current Ratio (CR)} = \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}}$$

- II. **Quick (acid test ratio):** this is calculated by deducting inventories from current assets and dividing the remainder by current liabilities, it's a variation of the current ratio thus it's obtained by:

$$\text{Quick Assets Ratio} = \frac{\text{Current Asset} - \text{Inventory}}{\text{Current Liabilities}}$$

Inventories typically are the least liquid of the firm's CA, hence, they are the assets on which losses are most likely to occur in the event of liquidation, therefore a measure of the firm's ability to pay off short-term obligations without relying on the sale of inventories is important.

b) Profitability ratios

These measures the profits of the firm relative to sales, assets or equity, it's important to emphasize that profitability ratios describe the firm's past profitability however there is little evidence that past profitability results foretell future profitability, we must therefore be careful not to attach too much importance to the numbers they tell a story about where the firm has been not where it's going.

It's the net result of a number of policies and decisions. The ratios examined thus far provide some information about the way the firm is operating, but the profitability ratios show the combined effects of liquidity, asset management, and debt management on operating results:

- I. Profit margin, this is a ratio of net profit after taxes to sales. It shows what percentage of every sales and the expenditure the firm was able to convert into net income. It's an important ratio because it describes how well a monetary value of sales is squeezed into profits.

$$A). \quad \text{Net Profit margin} = \frac{\text{Earnings after Tax (EAT)}}{\text{Total Sales}} \times 100$$

- II. Return on assets (ROA): The ratio of net income after tax income, it relates to the net income to total assets .it measures how profitably the firm has used its assets. This ratio provides an idea of the overall return on investment earned by the firm. A low return on asset should be a cause for some concern, however while ROA does crudely reflect how well the firm uses its assets, there are some difficulties associated with it, since a large part of many firms total asset are fixed assets and since book and market values of fixed assets may be widely divergent .ROA differences can arise simply because the degree to which the assets have been depreciated.

$$\text{Return on Investment} = \frac{\text{Earnings after Tax (EAT)}}{\text{Investment}}$$

$$\text{Return on Equity (ROE)} = \frac{\text{EAT}}{\text{Equity}} \times 100$$

$$\text{Equity} = \text{Share Capital} + \text{Retained Earnings} + \text{Reserves}$$

- III. Return on capital employed, In order to assess the profit or profit growth properly we must relate them to the amount of funds (capital) that were employed in making the profits. The most important profitability ratio is therefore return on capital employed which states the profit as percentage of the amount of capital employed.

c) Long term solvency or Efficiency ratios

Debt ratios are concerned with a company's long term stability, how much the company owes in relation to its size whether its getting into heavier debt date or its improving its situation and whether its debt burden seems heavier or light.

Debt ratio= Total debts / total assets

Assets consist of fixed assets (book value + current assets)

Debts consist of all creditors whether long or short term current liabilities

- 1) **Control of debtors or Debtors ratios**, its used to analyze or measures of the average length of time, Its takes for company debtors to pay d what they owe is the debtors days ratio or average debtors payment period(in this we want to know how long it takes the debtors to pay)

$$\text{Debtor's Turn Over} = \frac{\text{Credit sales or total Sales}}{\text{Average debtors}}$$

$$\text{Average debtors} = \frac{\text{Opening Debtor} + \text{Closing Debtors}}{2}$$

$$\text{Debtors Turn Over Period} = \frac{\text{Average debtors}}{\text{Cost of Sales}} \times \text{Number of Day's in a period}$$

Sales are usually made on normal credit terms of payment which is usually 30 days. Debtors days significantly in excess of this might be representative of poor management of funds of a business and lack of credit control however some company's must allow generous terms to win customers.

2) Control of stock or Inventory ratios

Another ratio worth calculating is the stock turn over period or stock day's ratio. It indicates the average number of days that items of stock are held so the number of stock days

$$\text{Rate Inventory Turnover} = \frac{\text{Cost of Sales}}{\text{Average Inventory}}$$

$$\text{Average inventory} = \frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$$

$$\text{Inventory Turn over Period} = \left[\frac{\text{Average Inventory}}{\text{Cost of sales}} \right] \times (\text{Number of days per year})$$

3) Creditors turn over ratios, this is used to analyze to assess the firms management of the creditors, the period it takes the firm to honor obligations , to meet the suppliers demands

$$\text{Creditors Turn Over} = \frac{\text{Credit Purchases/Purchase}}{\text{Average Creditors}}$$

$$\text{Average Creditors} = \frac{\text{Opening Creditors} + \text{Closing Creditors}}{2}$$

$$\text{Purchases} = \text{COS} + \text{CS} - \text{OS}$$

- **Investment ratios**

These are ratios which help equity shareholders and other investors to assess the value and quality of invest in the ordinary shares of the company.

It includes the following:

- a) Earnings per share: this helps to find out how much each share earn, it indicates the amount of net profit after tax attributable to shareholders during the period.

$$\text{Earnings per Share (EPS)} = \frac{\text{Earnings after Tax (EAT)}}{\text{Number of Outstanding Shares}}$$

- b) Dividend per share, this indicates the dividend payment retention policy of a firm.

$$\text{Dividend per Share} = \frac{\text{Total Dividend for the Year}}{\text{Number of shares}}$$

- c) The dividend cover shows what proportion of profit on ordinary activities of or for the year that is available for distribution for share holders as been paid or proposed and what proportion that will be retained in the business to finance future growth. A dividend cover of 2times would indicate that company has paid 50% of its distributable profits as dividends and retained 50% in the business to help financed operations

$$\text{Dividend cover} = \frac{\text{Earnings per share}}{\text{Net dividends per share}}$$

- d) Price earning per ratio:

PER is the ratio of the company's current share price to the earnings per share. A high price earning ratio indicates stronger shareholder confidence in the company and its future and a lower PER indicates lower confidence.

$$\text{PER} = \frac{\text{Price per share}}{\text{Earnings per share}}$$

- e) Rate on common equity; the ratio of net income to common equity measures the return on

Common equity (ROE) or the rate of return on stockholders investment

$$\text{ROE} = \frac{\text{Net income available to common stock holders}}{\text{Common equity}}$$

f) Market value ratios:

The market value ratio represents a group of ratios that relate the firm's stock price to its earning and book value per share. These ratios give management an indication of what investors think of the company's past performance and future prospects. If the firm's liquidity, asset management, debt management and profitability ratios are all good, then its market value ratios will be high and its stock price will probably be as high as can be expected.

- **Leverage Ratios/Debt management ratios**, these assess the firm's position to meet its long term obligations as they fall due, that the higher proportion of debt to equity, the higher the leverage (the use of debt financing) of the firm.

Gearing Debt to Equity Ratio, this shows the proportion of long term borrowing to the owner's equity in the capital structure, it's thus an indicator of the extent to which borrowed funds are covered by owner's funds, its,

$$= \frac{\text{Long term Debt}}{\text{Total equity}}$$

Debit: Total Assets, the ratio of total debt to total assets, it's a measure of the percentage of funds provided by creditors

$$= \frac{\text{total long term Debt}}{\text{Total assets}}$$

In conclusion ratio analysis is useful, but analysts must be aware of the drawbacks and relevancy of the use of ratio, as it's evident that there are various forms of ratio, some discussed above. The most important and difficult input to successful ratio analysis is the judgment used when interpreting the results to reach an overall conclusion about the firm's financial position

Examples

Hills Logistics & Consultants Ltd has provided you with the following information for the year ended 2000 – 2001

Income statement

Particulars	2000 (000's)	2001 (000's)
Net sales	9,500	10,000
Cost sales	6,000	6,500
Cross profit	3,500	3,500
<u>Less Expenses</u>		
General expenses	140	170
Selling expenses	1,600	1,000
Earnings before tax	1,760	2,330
<u>Less Tax (50%)</u>	(880)	(1,165)
Earnings after tax	880	1,165
Dividends	120	200
Retained profits	760	965

Balance Sheet

Particulars	2000 (000's)	2001 (000's)
<u>Current Assets</u>		
Cash	200	250
Bank	350	450
Inventory/Stock	300	3200
Pre-Debtors	100	100
Total Current Assets	3,650	4,000
<u>Fixed Assets:</u>		
Plant & Machinery	2,000	2,500
Long term investment	600	640
Others (Fixed Assets)	500	600
Depreciation (Accrued)	<u>1,000</u>	<u>1,200</u>
Total Assets	<u>4,100</u>	<u>4,940</u>
<u>Current Liabilities</u>		
Creditors	1,000	1,200
Other Accruals	600	500
Tax Accruals	820	900
Bank Over drafts	<u>900</u>	<u>1,000</u>
Total current liabilities	<u>3,320</u>	<u>3,600</u>
<u>Financed by</u>		
Long term debt	1,470	1,780
Share capital	2,000	2,000
Retained profits	<u>960</u>	<u>1,560</u>
	<u>7,750</u>	<u>8,940</u>
	=====	=====

Analysis Statement:

a) Liquidity ratios

(i) *Current ration (CR)* =

2000

$$\begin{aligned} & \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}} \\ &= \frac{3650}{3320} \\ &= \mathbf{1.1:1} \end{aligned}$$

2001

$$\begin{aligned} &= \frac{CA}{CL} \\ &= \frac{4000}{3600} \\ &= \mathbf{1.11:1} \end{aligned}$$

(ii) *Quick Asset Ratio*

2000

$$\begin{aligned} &= \frac{\text{Current Assets - Inventory}}{\text{Current liabilities}} \\ &= \frac{3650 - 3000}{3320} \\ &= \mathbf{0.2:1} \end{aligned}$$

2001

$$\begin{aligned} &= \frac{CA - Inventory}{CL} \\ &= \frac{4000 - 3200}{3600} \\ &= \frac{800}{3600} \\ &= \mathbf{0.22:1} \end{aligned}$$

b) Profitability ratios

(i) *Net Profit Margin*

2000

$$\begin{aligned} &= \frac{\text{Earnings After Tax}}{\text{Total/Net Sales}} \times 100\% \\ &= \frac{880}{9500} \times 100\% \end{aligned}$$

$$= \mathbf{9.26\%}$$

2001

$$= \frac{1165}{10000} \times 100\%$$

$$= \mathbf{11.65\%}$$

(ii) *Return on Assets*

2000

$$\begin{aligned} &= \frac{\text{Earnings After Tax}}{\text{Net/ TotalSales}} \times 100\% \\ &= \frac{880}{7750} \times 100\% \end{aligned}$$

$$= \mathbf{11.35\%}$$

$$2001 = \frac{1165}{9840} \times 100\%$$

$$= \underline{\underline{13.03\%}}$$

$$(iii) \text{ Return on Investments} = \frac{\text{Earnings After Tax}}{\text{Investment}} \times 100\%$$

Note that investments can be Total Assets employed, Net Assets, Ordinary Share Capital or preference Share capital.

$$\text{Return on Equity} = \frac{\text{Earnings After Tax}}{\text{Equity}} \times 100\%$$

Note that Equity

Share capital + Returned Earnings + reserves.

$$2000 = \frac{880}{2960} \times 100\%$$

$$= \underline{\underline{29.73\%}}$$

$$2001 = \frac{1165}{3560} \times 100\%$$

$$= \underline{\underline{32.72\%}}$$

(c) Activity/Efficiency ratios

$$(i) \text{ Inventory Turn Over} = \frac{\text{Cost of Sales}}{\text{Average Inventory}}$$

$$\text{Note that Average Inventory} = \frac{\text{Opening + Closing Inventory}}{2}$$

$$2000 = \frac{6000}{3000}$$

$$= \underline{\underline{2 \text{ times}}}$$

$$\text{In days} = \frac{\text{Average Inventory}}{\text{Cost of Sales}}$$

$$= \frac{6,500}{\frac{3000 + 3200}{2}}$$

$$= \frac{6500}{3100}$$

$$= \quad \underline{\underline{2.10 \text{ times}}}$$

In days

$$= \quad \frac{\text{Average Inventory}}{\text{Cost of Sales}}$$

$$= \quad \frac{3100 + 3200}{26500} \times 365$$

$$= \quad \underline{\underline{174.8 \text{ days}}}$$

(ii) Debtors turn over =

$$\frac{\text{Credit Sales (Total sales/Net Sales)}}{\text{Average Debtors}}$$

Note that Average Debtors
2000

$$= \quad \frac{\text{Opening + Closing Debtors}}{2}$$

$$= \quad \frac{9500}{100}$$

$$= \quad \underline{\underline{95 \text{ times}}}$$

In days

$$= \quad \frac{100}{9500} \times 365$$

$$= \quad \underline{\underline{3.84 \text{ Days}}}$$

2001

$$= \quad \frac{10,000}{\frac{100 + 100}{2}}$$

$$= \quad \frac{10000}{400}$$

$$= \quad \underline{\underline{100 \text{ times}}}$$

In days

$$= \quad \frac{100}{1000} \times 365$$

$$= \quad \underline{\underline{3.65 \text{ days}}}$$

(iii) Creditors turn over =

$$\frac{\text{Credit Purchases (Purchases)}}{\text{Average Creditors}}$$

Note that Average Purchases
2000

$$= \quad \frac{\text{Cost of Sales + Closing stock}}{\text{Opening Stock}}$$

$$= \quad 6000 + 3000 - 0 = 9000$$

2000

$$= \quad \frac{9000}{1000}$$

$$= \quad \underline{\underline{9 \text{ times}}}$$

$$\begin{aligned}
 \text{In days} &= \frac{\text{Average Creditors}}{\text{Credit Purchases (Purchases)}} \times 365 \\
 &= \frac{100}{9000} \times 365 \\
 &= \mathbf{40.56 \text{ Days}}
 \end{aligned}$$

$$\begin{aligned}
 \text{2001:} \\
 \text{Purchases} &= 6500 + 3200 - 3000 \\
 &= 9700 - 3000 \\
 &= \mathbf{4700}
 \end{aligned}$$

$$\begin{aligned}
 \text{2001} &= \frac{4799}{\frac{3000 + 3200}{2}} \\
 &= \frac{4700}{3100} \\
 &= \mathbf{1.52 \text{ times}}
 \end{aligned}$$

$$\begin{aligned}
 \text{In days} &= \frac{3100}{4700} \times 365 \\
 &= \mathbf{240.74 \text{ Days}}
 \end{aligned}$$

d) Solvency ratios
(i) Debt: Equity

$$\begin{aligned}
 \text{2000} &= \frac{1470}{2960} \\
 &= \mathbf{0.50:1}
 \end{aligned}$$

$$\begin{aligned}
 \text{2001} &= \frac{1780}{3560} \\
 &= \mathbf{0.50:1}
 \end{aligned}$$

(ii) Debt: Total Assets

$$\begin{aligned}
 \text{2000} &= \frac{2960}{7750} \\
 &= \mathbf{0.38:1}
 \end{aligned}$$

$$2001 = \frac{1780}{8940} = \underline{\underline{0.20:1}}$$

e) Investment ratios

$$(i) \text{ Earnings Per share} = \frac{EAT}{No. of Shares}$$

$$(ii) \text{ Dividend per Share} = \frac{Total Dividends for the Year}{Number of Shares}$$

$$(iii) \text{ Price earning rate} = \frac{Priee per Share}{Earnings per Share}$$

2000

Let us assume that the company pays 100 shillings per share out of 2000,000 shares (Total) =

$$(i) \frac{880,000}{200,000} = \underline{\underline{4.4 Shs per share}}$$

$$(ii) \frac{120}{200} = \underline{\underline{0.6 Shs.}}$$

$$\frac{100}{4.4} = \underline{\underline{22.73}}$$

Review Questions

1. The following information has been extracted from the recently published accounts of

HILLS LOGISTICS & CONSULTANTS LTD.

Income Statement of Hills Logistics & Consultants Ltd As at 30th Dec 2009

	Shs.
	000's
Sales revenue:	11,200
Cost of sales	<u>(8,460)</u>
Gross profit	2740
Depreciation	(360)
Administrative expenses	(12)
Interest expense	<u>(80)</u>
Profit before tax	2'288
Income tax	<u>(80)</u>
Net profit	2,038
	=====

Balance sheet as at 30th Dec 2009

	Shs.	Shs. 000's
	000's	
Assets		
<u>Non-Current Assets</u>		
Property, plant and equipment	<u>1,850</u>	
		1,850
<u>Current Assets</u>		
Inventory	<u>640</u>	
Trade receivables	<u>1,230</u>	
Cash	<u>80</u>	
		<u>1,950</u>
Total Assets		<u>3,800</u>
<u>Share holders Equity</u>		
Share capital		800
Returned Earnings		<u>1,235</u>
Total Shareholders equity		2,035
<u>Liabilities</u>		
Trade Payables		750
Interest payable		985
Income tax payable		30
Total liabilities		<u>1,765</u>
		3,800
		=====

Required to:

- (a) Use relevant ratios to appraise the performance of the Hills Logistics & Consultants Ltd For the year ended 30th December 2009.
 - (b) Briefly explain the limitations of ration analysis.
2. Discuss the different form or categories of ratios that are used in analyzing the organization performance.
 3. Examine and explain the different stakeholders who are interested in the information contained in the financial statements.
 4. Give the advantages and disadvantages that arise out of use of financial ratios.
-

Unit 7

Cost of Capital

7.1 Introduction

It is defined as the minimum rate of return that a firm must generate from an investment to justify the commitment of funds in such an investment.

It is also referred to as the hurdle rate reflecting the fact that any investment must realize such a rate of return if it's to be feasible.

Crucial decisions in financial management are often made with refine in the cost of capital e.g.:

- In the capital budgeting decision the cost of capital is reflected in the investors IRR which is then used to discount the investments cash flow so as to derive its NPV.
- The IRR is compared with the required rate of return in order to determine if the investment project is feasible or not.
- The profitability index PI also relates to the present value of inflows to that of out flows which present values are partly affected by the required rate of return.

Categories of cost of capital

They are:

- Specific cost of capital
- Over all or weighted cost of capital
- Historical cost of capital
- Future or marginal cost of capital

Specific cost of capital

It refers to the required rate of return on an investment for a specific financial asset hence there is the specific cost of the debt, the specific cost of preference share capital, specific cost of ordinary share capital.

Overall or weighted cost of capital

It is the cost of capital for the aggregate pool of funds used in the firm.

Historical cost of capital

It refers to the cost of funds already being utilized in the business. These funds were raised sometimes in the past hence the cost if just historical.

Future/marginal cost of capital

This is the cost of capital funds yet to be raised by the firm which is being planned for. It is determined by conditions relating to the future when these funds will be raised because it is the cost of additional funds to be raised in future it is also referred to as marginal cost of capital.

Determination of specific cost of capital

Cost of debt capital

It is the required rate of return on the investment by the lenders of funds. It is obtained by determining the discount rate which equates the present value

of the debt to the present value of the interest and principle payment on the debt.

$$B_0 = \frac{\text{int}^1}{(1 + k_d)} + \frac{\text{int}^2}{(1 + k_d)^2} + \dots + \frac{\text{int}_n}{(1 + k_d)^n} + \frac{B_n}{(1 + k_d)^n}$$

B_0 = Present value of Bond

K_d = Discount rate

When debt instruments are issued at values other than the par value, in this cost the debt (k_d) is determined as follows:

$$K_d = \frac{\text{int} + \frac{1}{n} (F_0 - P_0)}{\frac{1}{2} (F_0 + P_0)}$$

Int-period interests

N-years to maturity of the bond

F_0 - face value of the bond

P_0 - price at which bond is issued.

Cost of preference share capital

The cost of preference share capital is the rate of dividends that the investors require in order to purchase these shares since most preference shares have no maturity date, the cost of preference share is determined as follows

$$K_p = \frac{\text{Div } P}{P_0}$$

Div p – Dividend per share

P_0 – Price of preference share

K_p – cost of preference share

Cost of Equity share

To determine the cost of equity is slightly more difficult because the dividends on ordinary share capital are not definite. They fluctuate depending on the availability of earnings and the proyalities of BOD this makes it difficult to estimate the periodic dividends; however Gordon model can be still used to determine the cost of equity.

$$P_0 = \frac{\text{Div}^1}{(1 + K_e)^1} + \frac{\text{Div}^2}{(1 + K_e)^2} + \dots + \frac{\text{Div } n}{(1 + K_e)^n}$$

$$= \sum_{t=1}^n \frac{\text{Div}_t}{(1 + K_e)^t}$$

Where P_0 = is market value of ordinary shares at the time of issue.

Div t, refers to dividend per share expected to period t.

K_e refers to cost of equity being sought.

T- Time period ranging from period (1 – x) since the ordinary shares are held for ever as long as the business exists.

To determine cost of equity (K_e) requires estimate of future dividends expected by investors.

Approach: it's normally easier and more realistic to estimate the dividends of any share (Div1) and then assume that these dividends will grow at given rate.

Dividends are normally assumed to grow at a constant rate over the future period.

Once the initial dividends and the growth rate have been defined, then the cost of equity is determined by the following formula.

$$K_e = \frac{\text{Div}}{P_0} + g$$

K_e - cost of equity

Div 1- Dividend in period one

P_0 - price of the share

g - Growth rate

7.2 Weighted cost of capital

This is the cost of funds that the firm intends to employ. It is more relevant in evaluating new investments whose financing is yet to be procured. The process of determining the marginal cost of capital is the same as that of historical weighted cost of capital. Except that the rights in case of marginal cost are the expected proportions of the new funds and the specific costs related to those new funds.

The weighted cost of capital (K_o) is the firms over all cost of capital.

It's a combination of costs of all the individual sources of funds for the firm or it's a combination of the cost of all the individual sources of funds for the firm or it's a combined total cost of funds of the funds.

It can be the historical cost of funds or cost of funds to be raised.

Determination of the average cost of capital

Determining of K_o involves the following: 3 steps

- Determine the specific costs of capital for the different categories of funds used in financing the firm.
- Determine the weight or proportion of each source of funds in the entire capital structure.
- Multiplying the cost of each source of funds by its weight to determine the weighted cost of each source and then summing these up to obtain the over all cost of capital

$$K_o = \sum w_k$$

W_i - weight of each source

K_i - cost of specific source of each fund.

Byansi ltd currently has a total capital of 100m/= composed of the ff.

	Amount	proportion
20% long term bank loan -	40m	0.40
10% preference shares -	10 m	1.10
Common shares -	30m	0.30
Retained earnings -	20 m	0.20

100m 1.00

Additional information:

The business anticipates that dividends on ordinary shares would be 5000/= per share and the market value of the share is 22.000/= per share, the dividends are expected to grow at rate of 6% per year for ever and the co is in 30% tax bracket.

Required: determine the weighted average cost of capital of the firm.

$$K_i = k_d (I - T) = 20\% (1 - 0.3) = 14\%$$

$$0.20 (0.7) = 0.14$$

$$= 14\%$$

Long term bank loan	amount	proportion	Ki	Wiki
* 20%	40m	0.40 x	0.14 =	0.056
* 10% preference shares	10m	0.10 x	0.10 =	0.010
Common shares	30m	0.30 x	0.287 =	
				0.0861
Retained earnings	20m	0.20 x	0.287 =	
				<u>0.0574</u>
	100	1.00		Σwiki 0.2095

NB:

- This cost of capital is historical
- When raising funds to finance new invests this cost may not be appropriate as the required rate of return because conditions may change.
- Weighted average cost of capital (WACC) assumes that all invests have the same risk level and should be evaluated using a uniform required rate of return.
- The weighted average cost of capital even if its historical still serves as an important planning tool in finance decisions. By providing an insight into the present cost of capital for the firm.

$$Q_n. B_x = P 1.20$$

Market rate of return = 18%

Return on bond security 8%

$$ER: = R_f + (R_m - R_f) B_x$$

$$= 0.08 + (0.18 - 0.08) 1.20$$

$$= 0.08 + (0.1) 1.20$$

$$= 0.08 + 1.20$$

$$= 0.2$$

$$= 20\%$$

Capital Asset Pricing Model (CAPM)

The CAPM is used in portfolio management to determine the required rate of return given the risk of the equity share capital.

$$ER = R_f + (R_m - R_f) B_x$$

Where ER – is the expected rate of return of share i.e. cost of equity.

R_f = Risk free rate of return i.e. return on government securities.

R_m – Market rate of return

B_x – Beta coefficient showing risk less of the asset compared to the market port folio:

Illustration

A firm is interested in investing in a project whose average risk as indicated by Beta (B_x). 1.80 And has a market rate of return of 16%. If government bonds presently earn a risk less rate of return of 6% find the cost of capital for the project.

$$\begin{aligned} ER &= R_f + (R_m - R_f) B_x = \\ 6\% + (16\% - 6\%) 1.80 \\ &= 0.06 + (0.16 - 0.06) 1.80 \\ &= 0.06 + (0.1) 1.80 \\ &= 0.06 + 0.18 \\ &= 0.24 \\ &= 24\% \end{aligned}$$

Review Questions

Unit 8

Financial Markets

8.1 Introduction

Businesses, individuals, and government units often need to raise capital to fund investments. For example, suppose HLC forecasts an increase in the

demand for electricity in North Carolina, and the company decides to build a new power plant. Because HLC almost certainly will not have the hundreds of millions or billions of dollars needed to pay for the plant, the company will have to raise these funds in the financial markets. Or suppose you want to buy a home that costs \$100,000, but you only have \$20,000 in savings. How can you raise the additional \$80,000? At the same time, some individuals and firms have incomes that are greater than their current expenditures, so they have funds available to invest. For example, HLC has an income of \$36,000, but her expenses are only \$30,000, while Reliant Energy recently agreed to invest nearly \$2.5 billion over the next seven years to purchase power companies in Europe.

People and organizations wanting to borrow money are brought together with those having surplus funds in the financial markets. Unlike physical (real) asset markets, which are those for such products as wheat, autos, real estate, computers, and machinery, financial asset markets deal with stocks, bonds, mortgages, and other claims on real assets with respect to the distribution of future cash flows.

In a general sense, the term financial market refers to a conceptual “mechanism” rather than a physical location or a specific type of organization or structure. We usually describe the financial markets as being a system comprised of individuals and in situations, instruments, and procedures that bring together borrowers and savers, no matter the location. Note that “markets” is plural there are a great many different financial markets, each one consisting of many institutions, in a developed economy such as ours. Each market deals with a somewhat different type of instrument in terms of the instrument’s maturity and the assets backing it. Also, different markets serve different types of customers, or operate in different parts of the country. Here are some of the major types of markets:

1. Debt markets are the markets where loans are traded, while equity markets are the markets where stocks of corporations are traded. A debt instrument is a contract that specifies the amounts, as well as the times; a borrower must repay funds provided by a lender. The borrower can be an individual, a government, or a business. On the other hand, equity represents “ownership” in a corporation and entitles stockholders to share in any cash distribution generated from income (dividends) and from liquidation of the firm.
2. Money markets are the markets for debt securities with maturities of one year or less, while capital markets are the markets for long-term debt and corporate stocks. The primary function of the money markets is to provide liquidity to businesses, governments, and individuals to meet short-term needs for cash, because, in most cases, the timings of cash inflows and cash out flows do not coincide exactly. For example, if you had funds that you do not need for tuition payments

- until six months from now, you can invest those funds in a money market security and earn a greater return than if the funds were left in a checking account. The primary function of the capital market is to provide the opportunity to transfer cash surpluses or deficits to future years. For example, without the availability of mortgages, most individuals could not afford to buy houses when they are young and just starting their careers.
3. Mortgage markets deal with loans on residential, commercial, and industrial real estate, and on farmland, while consumer credit markets involve loans on autos and appliances, as well as loans for education, vacations, and so forth.
 4. World national, regional and local markets also exist. Thus, depending on an organization's size and scope of operations, it might be able to borrow all around world, or it might be confined to a strictly local, even neighborhood, market.
 5. Primary markets are the markets in which corporations (and governments) raise new capital. If General Electric (GE) were to sell a new issue of common stock to raise capital, this would be a primary market transaction. The corporation selling the newly created stock receives the proceeds from the sale in a primary market transaction. Secondary markets are markets in which existing, previously issued (already outstanding) securities are traded among investors. Thus, if Edgar Rice decided to buy 1,000 shares of IBM stock, the purchase would occur in the secondary market. The New York Stock, Nairobi stock, Uganda securities and others are all in a secondary market, because it deals in outstanding, as opposed to newly issued stocks and bonds. Secondary markets also exist for mortgages, various other types of loans, and other financial assets. The corporation (or government) whose securities are being traded is not involved in a secondary market transaction and, thus, does not receive any funds from such a sale.
 6. Spot markets and futures markets are terms that refer to whether the assets are being bought or sold for "on the spot" delivery (immediately or within a few days) or for delivery at some later date, such as six months or a year into the future. Futures markets have grown in importance in recent years.

Financial Institution

Funds are transferred between those who have funds to invest (savers) and those who need the funds (borrowers) by the three different processes diagrammed

1. A direct transferred of money and securities, as shown in the top section, occurs when a business sells its stocks or bonds directly to savers (investors), without going through any type of financial institution. The business delivers its securities to savers, who in turn give the firm the money it needs.
2. As shown in the middle section, a transfer also can go through an investment banking house such as Morgan Stanley Dean Witter, which serves as a middleman and facilitates the issuance of securities. The company sells its stocks or bonds to the investment bank, which in turn sells these same securities to investors. The business's securities and the savers' money merely "pass through" the investment banking house. However, the investment bank does buy and hold the securities for a period of time, so it is taking a chance it might not be able to resell them to savers for as much as it paid. Because new securities are involved and the corporation receives money from the sale, this is a primary market transaction. It should be noted that investment banking has nothing to do with the traditional banking process as we know it; investment banking deals with the issuance of new securities, not deposits and loans.
3. Transfers can also be made through a financial intermediary such as a bank or a mutual fund. Here the intermediary obtains funds from savers, issuing its own securities or liabilities in exchange, and then it uses the money to lend out or to purchase another business's securities. For example, a saver might give dollars to a bank, receiving from it a certificate of deposit, and then the bank might lend the money to a small business in the form of a mortgage loan. Thus, intermediaries literally create new forms of capital in this case, certificates of deposit, which are both safer and more liquid than mortgages and thus are better securities for most savers to hold. The existence of intermediaries greatly increases the efficiency of the financial markets because, without them, savers would have to provide funds directly to borrowers, which would be a much costlier process.

8.2 Investment Banker

An organization that underwrites and distributes new issues of securities; helps businesses and other entities obtain needed financing.

Direct transfers of funds from savers to businesses are possible and do occur on occasion, but it is generally more efficient for a business to enlist the services of an investment banker. Merrill Lynch, Morgan Stanley Dean Witter, and Goldman Sachs are examples of financial service corporations that offer investment banking services. Such organizations (i) help corporations design securities with the features that currently are most attractive to investors, (2) buy these securities from the corporation, and (3) then resell them to savers. Although the securities are sold twice, this process really is one primary market transaction, with the investment banker acting as a middleman as funds are transferred from savers to businesses.

8.3 Financial Intermediaries

Specialized financial firms that facilitate the transfer of funds from savers to borrowers

The financial intermediaries do more than simply transfer money and securities between borrowers and savers they literally create new financial products. Because the intermediaries generally are large, they gain economies of scale in analyzing the creditworthiness of potential borrowers, in processing and collecting loans, in pooling risks, and thus helping individual savers diversify that is, "not put all their financial eggs in one basket." Further, a system of specialized intermediaries can enable savers to do more than just draw interest. For example, individuals can put money into banks and get both interest income and a convenient way of making payments (checking), or put money into life insurance companies and get both interest income and financial protection for their beneficiaries.

In the United States and other developed nations, a large set of specialized, highly efficient financial intermediaries has evolved. Competition and government policy have created a rapidly changing arena, however, such that different types of institutions currently perform services that formerly were reserved for others. This trend, which most certainly will continue into the future, has caused institutional distinctions to become blurred. Still, there remains a degree of institutional identity and here are the major classes of financial intermediaries:

1. Commercial banks, which are the traditional "department stores of finance," serve a wide variety of customers. Historically, the commercial banks were the major institutions that handled checking accounts and through which the Federal Reserve System expanded or contracted the money supply. Today, however, other institutions also provide checking services and significantly influence the effective money supply. Conversely, commercial banking organizations provide an ever-widening range of services, including trust operations, stock brokerage services, and insurance.

Note that commercial banking organizations are quite different from investment banks. Commercial banks lend money, whereas investment banks help companies raise capital from other parties.

2. Savings and loan associations (S&Ls), which have traditionally served individual savers and residential and commercial mortgage borrowers, take the funds of many small savers and then lend this money to home buyers and other types of borrowers. Because the savers obtain a degree of liquidity that would be absent if they bought the mortgages or other securities directly, perhaps the most significant economic function of the S&Ls is to “create liquidity” that otherwise would be lacking. Savers benefit by being able to invest their savings in more liquid, better managed, and less risky accounts (investments), whereas borrowers benefit from the economies of scale that allow them to obtain more capital at lower costs than would otherwise be possible.
3. Credit unions are cooperative associations whose members have a common bond, such as being employees of the same occupation or firm. Members’ savings are loaned only to other members, generally for auto purchases, home improvements, and the like. Credit unions often are the cheapest source of funds available to individual borrowers.
4. Pension funds are retirement plans funded by corporations or government agencies for their workers and administered primarily by the trust departments of commercial banks or by life insurance companies. Pension funds invest primarily in long-term financial instruments, such as bonds, stocks, mortgages, and real estate.
5. Life insurance companies take savings in the form of annual premiums, then invest these funds in stocks, bonds, real estate, and mortgages, and finally make payments to the beneficiaries of the insured parties. In recent years life insurance companies have also offered a variety of tax-deferred savings plans designed to provide benefits to the participants when they retire.
6. Mutual funds are investment companies that accept money from savers and then use these funds to buy various types of financial assets such as stocks, long-term bonds, short-term debt instruments, and so on. These organizations pool funds and thus reduce risks through diversification. Different funds are designed to meet the objectives of different types of savers. Hence, there are income funds for those who prefer current income, growth funds for savers who are willing to accept significant risks in the hopes of higher returns, and still other funds that are used as interest-bearing checking accounts (money market funds). There are literally hundreds of different types of mutual funds with dozens of different goals and purposes.

Financial institutions historically have been heavily regulated in the United States, with the primary purpose of this regulation being to ensure the safety of the institutions and thus to protect depositors. However, these regulations which have taken the form of prohibitions on nationwide branch banking,

restrictions on the types of assets the institutions can buy and sell, ceilings on the interest rates they can pay, and limitations on the types of services they can provide have tended to impede the free flow of funds from surplus to deficit areas and thus have hurt the efficiency of our financial markets. Also, for the most part, U.S. financial institutions are at a competitive disadvantage in the international financial markets because most foreign financial institutions, including banks, are not as restricted with respect to organizational structure, ability to branch, nonbanking activities, and so forth. Recognizing this fact, Congress has authorized some major changes recently, and more will be forthcoming.

The result of the ongoing regulatory changes has been a blurring of the distinctions among the different types of institutions. Indeed, the trend in the United States today toward huge financial service organizations, which own banks, S&Ls, investment banking houses, insurance companies, pension plan operations, and mutual funds, and which have branches across the country and even around the world. In recent years, for example, Citigroup was formed by combining (1) Travelers Group, which included an insurance company (Travelers) and an investment organization (Smith Barney); (2) Salomon Brothers, which was an investment organization that included an investment banking operation; and (3) Citicorp, which was one of the largest banking organizations in the United States. During the same period, BankAmerica Corporation and NationsBank Corporation combined forces to form the nation's largest bank, Bank of America, which boasts that it serves about one-third of U.S. households and that two-thirds of large U.S. corporations use its cash management services. In general, the direction of recent mergers and acquisitions in the financial services industry is to form larger, more diversified companies that can better compete internationally.

The Stock Market

As noted earlier, secondary markets are those in which outstanding, previously issued securities are traded. By far the most active secondary market, and the most important one to financial managers, is the stock market. It is here that the prices of firms' stocks are established, and, because the primary goal of managerial finance is to maximize the firm's stock price, a knowledge of this market is essential for anyone involved in managing a business.

When we differentiate stock markets, we have traditionally divided them into two basic types: (1) organized exchanges, which include the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), and several regional exchanges and (2) the less formal over-the-counter market. But, as we shall see shortly, these lines of demarcation are much less precise today than in past years due to market mergers. Because the organized exchanges have actual physical market locations and are easier to describe and understand, we will consider them first.

8.4 The Stock Exchanges

The organized security exchanges are tangible physical entities. Each of the larger ones occupies its own building, has specifically designated members, and has an elected governing body—its board of governors. Members are said to have “seats” on the exchange, although everybody stands up. These seats, which are bought and sold, give the holder the right to trade on the exchange. For example, there are 1,366 seats on the New York Stock Exchange (NYSE); and, in August 1999, a seat on the NYSE sold for \$2.65 million, which is an all-time high.⁵

Most of the larger investment banking houses operates brokerage departments that own seats on the exchanges and designate one or more of their officers as members.

Exchange members meet in a large room equipped with telephones and other electronic equipment that enable each member to communicate with his or her firm’s offices throughout the country. Currently, U.S. exchanges are open during normal working hours; but as the investment arena becomes more globalized, there has been increased pressure for the exchanges to become globalized by expanding their trading hours. For example, Richard Grasso, chairman of the NYSE, recently announced plans to examine the benefits of expanding the exchange’s trading hours from six and one-half hours (9:30 A.M. to 4:00 P.M. eastern time) to 20 to 24 hours because it is expected that about one-third of the trades will be large multinational corporations within five years.

Like other markets, security exchanges facilitate communication between buyers and sellers. For example, Merrill Lynch might receive an order in its Atlanta office from a customer who wants to buy 100 shares of IBM stock. Simultaneously, Morgan Stanley Dean Witter’s Denver office might receive an order from a customer wishing to sell 100 shares of IBM. Each broker communicates by wire with the firm’s representative on the NYSE. Other brokers throughout the country are also communicating with their own exchange members. The exchange members with sell orders offer the shares for sale, and they are bid for by the members with buy orders. Thus, the exchanges operate as auction markets.

The Over-the-Counter (OTC) Market

If a security is not traded on an organized exchange, it is customary to say it is traded over the counter. In contrast to the organized security exchanges, the over-the-counter market is an intangible organization that consists of a network of brokers and dealers around the country. An explanation of the term “over-the-counter” will help clarify exactly what this market is. The exchanges operate as auction markets buy and sell orders come in more or less simultaneously, and exchange members match these orders. If a stock is traded less frequently, perhaps because it is the stock of a new or a small firm, few buy and sell orders come in, and matching them within a reasonable length of time would be difficult. To avoid this problem, some

brokerage firms maintain an inventory of such stocks they buy when individual investors want to sell and sell when investors want to buy. At one time the inventory of securities was kept in a safe, and the stocks, when bought and sold, literally were passed over the counter.

Traditionally the over-the-counter market has been defined to include all facilities that are needed to conduct security transactions not conducted on the organized exchanges. These facilities consist of (1) the relatively few dealers who hold inventories of over-the-counter securities and who are said to "make a market" in these securities, (2) the thousands of brokers who act as agents in bringing these dealers together with investors, and (3) the computers, terminals, and electronic networks that provide a communications link between dealers and brokers. Unlike the organized exchanges, the OTC does not operate as an auction market. The dealers who make a market in a particular stock continuously quote a price at which they are willing to buy the stock (the bid price) and a price at which they will sell shares (the asked price). Each dealer's prices, which are adjusted as supply and demand conditions change, can be read off computer screens all across the country. The spread between bid and asked prices represents the dealer's markup, or profit.

Most of the brokers and dealers who make up the over-the-counter market are members of a self-regulating body known as the National Association of Security Dealers (NASD), which licenses brokers and oversees trading practices. The computerized trading network used by NASD is known as the NASD Automated Quotation System (NASDAQ), and The Wall Street Journal and other newspapers contain information on NASDAQ transactions. Today, the NASDAQ is considered a sophisticated market of its own, separate from the OTC. In fact, unlike the OTC, the NASDAQ has market makers- who continuously monitor activities in various stocks to ensure they are available to traders who want to buy or sell. And, in an effort to become more competitive with the NYSE and with international markets, the NASDAQ, the AMEX, and the Philadelphia Stock Exchange merged in 1998 to form the Nasdaq-Amex Market Group, which might best be referred to as an organized investment network. Increased competition among global stock markets assuredly will result in similar alliances among various exchanges/markets in the future.

In terms of numbers of issues, the majority of stocks are traded over the counter. However, because the stocks of larger companies are listed on the exchanges, about two-thirds of the dollar volume of stock trading takes place on the exchanges.

In conclusion

Financial markets, these are localized markets where financial assets are traded in by registered and none registered financial markets participants,

such as financial institutions registered companies and individuals who possess different motives in the financial market environment.

Review Questions

1. Briefly elaborate on the following financial terminologies and give their relevance to the business environment of late;
 - a) Financial markets and financial institutions
 - b) Capital markets and money markets
 - c) Primary and secondary markets
 - d) Financial assets
 - e) Registered and over the counter markets
 2. Discuss the different forms of financial assets or securities traded on the stock market, use any example of stock market you versed to.
 3. What are the different ways of classifying the financial markets? And discuss the important functions performed by financial markets, show how the financial assets are traded in the above markets.
 4. If you are entering the money market for the first time by withdrawing from your savings account to invest in one of the instruments listed what factors do have to put into consideration before investing?
 5. As a financial analyst in a reputable financial firm what are the basic factors do you have to consider when evaluating the desirability of issuing an asset – backed security?
 6. What are primary and secondary securities? Give examples of each and the major principal characteristics.
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Unit 9

International Aspects Of Business Finance

9.1 Introduction

The decision criteria identified in the book so far pre-supposes that the business operates in a domestic country environment. However, businesses are increasingly becoming international with the attendant complexities in the financial management environment. The questions to answer are; what are these international businesses and how do the international aspects of business affect its financial management functions.

International businesses may be defined from several angles but they normally possess the following features;

- They operate and produce goods and services in other countries other than those of their origin.
- A substantial portion of the resources of business is committed in foreign operations, which involve foreign production of its products.
- They are involved in foreign direct investment as opposed to simple trading and investment in securities.
- There is sizable movement of funds into and from the domestic country to foreign countries of the business operations.

Examples of international businesses include the giants of Coca-Cola, ITT Sheraton, Shell, BAT and other multinational enterprises. In Uganda, there are limited examples of indigenous businesses that are engaged in international business, but the defunct Greenland Bank had operations in its subsidiaries in both Kenya and Tanzania before it collapsed.

Internationalisation of a business leads to globalisation of its operations. The business must then seek and exploit opportunities both at home and abroad in order to maximise its returns and minimise risks on a global basis. The allocation and movement of funds has to be such that different subsidiaries and affiliates contribute to the maximisation of the wealth of the business.

Why Do Businesses go International?

There are several reasons why businesses seek to produce in foreign countries instead of their home countries, and then export to the outside markets. These reasons include;

- To exploit raw materials in foreign countries, which would otherwise be very expensive or impractical to import into the home country?
- To take advantage of cheaper and more efficient means of production in foreign countries like existence of cheap and efficient labour force.
- To take advantage of technological advancement in foreign countries
- To serve local markets through production of goods and services in those markets e.g. McDonalds or Steers fast food chains producing from Uganda.
- To benefit from more favourable tax regimes and other regulatory advantages offered by foreign countries.
- To spread the business and financing risk that the business faces by diversifying its markets and production centres.

Implication of the Internationalisation Decision

When a business goes international it faces a more complex environment than when it is working within its home country. There are additional complexities as a result of the following factors;

- Differences in economic situations across different countries. There are differences concerning macro economic policies, trade practices and foreign exchange rate movements.
- Differences in legal and regulatory frameworks across different countries
- Different cultural and social practices in various countries
- Different political philosophies of government across the countries which affects the environment in which business is conducted.

Due to these differences across countries, the financial manager is confronted with the following additional considerations when managing finances in international business;

- (i) The differences and fluctuations in the exchange rate between currencies of different countries, what should the financial manager do to minimise the risks associated with this currency exposure?
- (ii) The different economic, social, cultural and political practice in different countries, which ultimately influence the nature and availability of cash flow to the multi-national business, how should the investment decision in such a firm be managed?
- (iii) Since multi-national business can source and utilise funds across the world, how should the firm position itself to efficiently manage its funds across different countries?

9.2 Types of Exchange Rate Exposure

Exchange rate risk may be categorised into three;

- Translation or Accounting Exposure
- Transaction Exposure and
- Real Operating Exposure

(i) Translation or Accounting Exposure

This is exchange rate loss or gain as a result of conversion of the accounts of the subsidiary unit from the currency of the country where the subsidiary is located into the currency of the country of the home office. For instance, BAT whose home office is the UK has to translate the accounts of its subsidiary BAT (Uganda) from Ugandan Shillings to Pounds Sterling at agreed rates of exchange. In the process of this change, the firm may report a loss or a gain because the rates of exchange at which various items are translated will vary from time to time.

(ii) Transactions Exposure

This is the exposure that a firm faces when it has transactions denominated in other currencies, other than that of its home country. This may involve a future payment or receipt of value that is in foreign currency. Due to inevitable foreign exchange rate fluctuations, the future value of the transaction may actually differ from its present worth, thereby exposing the business to foreign exchange rate risk.

This exposure is usually of a short-term nature like payments and receipts in foreign exchange anticipated over a period of a year or less.

(ii) Real Operating Exposure

This is a long-term foreign exchange rate exposure, which eventually alters the cost and revenue structures of the foreign subsidiary. This exposure may therefore lead to some subsidiaries being more profitable, while rendering others less profitable. In other words, the real operating exposure touches on the long run returns and risks of foreign subsidiaries and hence their overall viability.

Management of Foreign Exchange Rate Exposure

Translation Exposure normally does not expose the business to any fundamental danger. It is handled using accounting practices as reflected in the relevant accounting standards, which are beyond the scope of this book.

Transactions Exposure is largely managed through the hedging mechanisms. These are arrangements through which the business purchases or sells foreign currencies in order to cover the exchange rate variations. Hedging usually takes the following forms;

- Forward and futures contracts
- SWAP contracts
- Re-arrangement of short-term funds movements
- Insurance options

(i) Forward and Future Contracts

A forward contract involves an arrangement between two parties to exchange currencies or any other commodities at a future date, at a price determined today. The contract is based on a future price that is agreed in advance. The party which agrees to buy the commodity in future at a price set today is said to take a long position while that one committing itself to deliver the said commodity is said to take a short position.

Review Questions

1. Discuss the major environmental factors that are influential when carrying out international business.
 2. Why do local firms get involved in international business transactions?
 3. In what ways are the financial institutions of special importance to the functioning of the international business transactions?
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