

DJB3B - FINANCIAL MANAGEMENT

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Lease Financing: Types - Leasing decisions.

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FINANCIAL MANAGEMENT

UNIT - I

LESSON - 1

Meaning

Business concern needs finance to meet their requirements in the economic world. Any kind of business activity depends on the finance. Hence, it is called as lifeblood of business organization. Whether the business concerns are big or small, they need finance to fulfil their business activities.

In the modern world, all the activities are concerned with the economic activities and very particular to earning profit through any venture or activities. The entire business activities are directly related with making profit. (According to the economics concept of factors of production, rent given to landlord, wage given to labour, interest given to capital and profit given to shareholders or proprietors), a business concern needs finance to meet all the requirements. Hence finance may be called as capital, investment, fund etc., but each term is having different meanings and unique characters. Increasing the profit is the main aim of any kind of economic activity.

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The study of principle, practices, procedures and problems concerning financial management of profit making organization engaged in the field of industry, trade and commerce is

undertaken under the discipline of business finance. Business finance deals with the finance of business objectives and it is concerned with the planning and controlling firm's financial

Definition

According to Guthman and Dougal business finance can be defined as the "activity concerned with planning, raising, controlling and administering of funds used in the business".

Wheeler defines business finance as "that business activity which is concerned with the acquisition and conservation of capital funds in meeting the financial needs and overall objectives of business enterprise."

Financial management is concerned with business finance, i.e. the finance of profit seeking organization. Business finance can further be classified into 3 categories, viz.

- a) Sole proprietary finance
- b) Partnership firm finance
- c) Company or corporation finance

Corporation finance or broadly speaking business finance can be defined as the process of raising, providing and administering of all money/funds to be used in a corporate (business) enterprise.

Financial Management

Financial management is concerned with the management of funds in a corporate enterprise or financial management is concerned with the procurement and use of funds in a business. Financial management is the managerial activity, which is concerned with the planning and controlling of the firm's financial resources.

Definitions:

According to Solomon Ezra, "financial management is concerned with the efficient use of an important economic resource, namely capital funds".

"Financial management is concerned with the managing of finance of the business for smooth functioning and successful accomplishment of the enterprise objectives"

The term financial management, managerial finance, corporation finance and business finance are virtually equivalent and are used inter-changeably, most financial managers however seems to prefer either financial management or managerial finance.

Finance function

Finance function is the most important of all business functions. It remains a focus of all activities. It is not possible to substitute or eliminate this function because; the business will close down in the absence of finance. According to Solomon Ezra “finance function as the study of the problems involved in the use and acquisition of funds by a business”. It starts with the setting up of an enterprise and remains at all times. The funds will have to be raised from various sources. The receiving of money is not enough, its utilization is more important. The money once received will have to be returned also. It may be easy to raise funds but it may be difficult to repay them.

Aims of Finance function

The primary aim of finance function is to arrange as much funds for the business as are required from time to time. This function has the following aims:

1. **Acquiring Sufficient Funds:** - The main aim of finance function is to assess the financial needs of an enterprise and then finding out suitable sources for raising them. The sources should be commensurate with the need of the business. If funds are needed for longer period's then long term sources like share capital, debentures, term loans may be explored. A concern with longer gestation period should rely more on owner's funds instead of interest-bearing securities because profits may not be there for some years.
2. **Proper Utilization of Funds:** - Though raising of funds is important but their effective utilization is more important. The funds should be used in such a way that maximum benefit is derived from them. The returns from their use should be more than their cost. It should be ensured that funds do not remain idle at any point of time.
3. **Increasing Profitability:** - The planning and control of finance function aims at increasing profitability of the concern. To increase profitability sufficient funds will have to be invested. Finance function should be so planned that the concern neither suffers from inadequacy of funds nor wastes more funds than required. A proper control should also be exercised so that scarce resources are not frittered away on uneconomical operations.
4. **Maximizing Firm's Value:** -Finance function also aims at maximizing the value of the firm. Besides profits, the type of sources used for raising funds, the cost of funds, the condition of money market, the demand for products are some other considerations which also influence a firm's value.

Financing Decisions or Decisions of Financial Manager

a. Investment Decision: - The investment decision relates to the selection of assets in which funds will be invested by a firm. The assets, which can be acquired, fall into two broad groups- Long term assets and Short term assets. The aspect of financial decision making with reference to long term assets is termed as “capital budgeting” and to short term assets or current assets is termed as “working capital management”

b. Financing Decisions: - It is the second important function to be performed by the financial manager. Broadly he/she must decide when, where and how to acquire funds to meet the firm’s investment needs. The financial manager must strive to obtain the optimum best capital structure for his/her firm. The mix of debt and equity is known as the firm’s capital structure. Optimum capital structure means capital structure that maximizes the value of firm and minimizes the cost of capital.

c. Dividend Decision: - - It is the third important function to be performed by the financial manager. The financial manager must decide whether the firm should distribute all profits or retain them or distribute a portion and retain the balance.

d. Liquidity Decision: - Liquidity means the capacity of a firm to convert an asset into cash within a short period without much loss. It is a decision regarding the outflow and inflow of cash. In addition to the management of long-term asset, the current assets should be managed efficiently against the dangers of ill liquidity.

Scope or Content of Financial Management/ Finance Function:-

The main objective of financial management is to arrange sufficient finances for meeting short term and long term needs. A financial manager will have to concentrate on the following areas of finance function:

1. Estimating Financial Requirements: -

The first task of financial manager is to estimate short term and long-term financial requirements of his business. For this purpose, he will prepare a financial plan for present as well as for future. The amount required for purchasing fixed assets as well as for working capital will have to be ascertained.

2. Deciding Capital Structure: -

The capital structure refers to the kind and proportion of different securities for raising funds. After deciding about the quantum of funds required, it should be decided which type of securities should be raised. It may be wise to finance fixed assets through long-term debts and current assets through short-term debts.

3. Selecting a Source of Finance: -

After preparing capital structure, an appropriate source of finance is selected. Various sources from which finance may be raised include: share capital, debentures, financial institutions, commercial banks, public deposits etc. If finance is needed for short period then banks, public deposits and financial institutions may be appropriate. On the other hand, if long-term finance is required then, share capital, and debentures may be useful.

4. Selecting a pattern of Investment: -

When funds have been procured then a decision about investment pattern is to be taken. The selection of an investment pattern is related to the use of funds. A decision will have to be taken as to which asset is to be purchased. The funds will have to be spent first on fixed assets and then an appropriate portion will be retained for working capital. The decision-making techniques such as capital budgeting, opportunity cost analysis etc. may be applied in making decisions about capital expenditures.

5. Proper cash Management: -

Cash management is an important task of finance manager. He has to assess various cash needs at different times and then make arrangements for arranging cash. The cash management should be such that neither there is a shortage of it and nor it is idle. Any shortage of cash will damage the credit worthiness of the enterprise. The idle cash with the business will mean that it is not properly used. Cash flow statements are used to find out various sources and application of cash.

6. Implementing Financial Controls:-

An efficient system of financial management necessitates the use of various control devices. Financial control devices generally used are budgetary control, break even analysis; cost control, ratio analysis etc. The use of various techniques by the finance manager will help him in evaluating the performance in various areas and take corrective measures whenever

needed.

7. Proper use of Surplus: -

The utilization of profit or surplus is also an important factor in financial management. A judicious use of surpluses is essential for expansion and diversification plan and also in protecting the interest of shareholders. The finance manager should consider the following factors before declaring the dividend;

- a. Trend of earnings of the enterprise
- b. Expected earnings in future.
- c. Market value of shares.
- d. Shareholders interest.
- e. Needs of fund for expansion etc.

Objectives/Goals of Financial Management or Business Finance

The firms' investment and financing decisions are unavoidable and continuous. In order to make them rationally the firm must have a goal. It is generally agreed in theory that the financial goal of the firm should be the maximization of owner's economic welfare. Owner's economic welfare could be maximized while maximizing the shareholders wealth as reflected in the market value of shares. The main objective of a business is to maximize the owner's economic welfare. This objective can be achieved

- 1) Profit Maximization
- 2) Wealth Maximization

Profit Maximization: -

Profit maximization means maximizing the rupee income of a firm. Profit earning is the main aim of every economic activity. No business can survive without earning profit. Profit is a measure of efficiency of a business enterprise. Profit also serve as a protection against risk which enables a business to face risk like fall in prices, competition from other units, adverse govt. policies etc. So the profit maximization is considered as the main objective of business.

Arguments for profit maximization;

1. When profit earning is the aim of business, the profit maximization should be the main objective.
2. Profitability is a barometer for measuring efficiency and economic prosperity of a business enterprise.
3. Profits are the main source of finance for the growth of a business.
4. Profitability is essential for fulfilling social goals.
5. A business will be able to survive under unfavorable situation only if it has some past earnings.

Criticism of Profit Maximization: -

1. It is vague: - The precise meaning of profit maximization objective is unclear. Whether short term or long term profit, profits before tax or after tax, total profit or earning per share and so on.
2. Ignores the timing of the return: - The profit maximization objective ignores the time value of money. If values benefits received today and benefits received after a period as the same, it avoids the fact that cash received today is more important than the same amount of cash received after some years.
3. It ignores risk: - The streams of benefit may possess different degree of certainty. Two firms may have same total expected earnings, but if the earnings of one firm fluctuate considerably as compared to the other, it will be more risky. Profit maximization objective ignores this factor.
4. The effect of dividend policy on the market price of share is also not considered in the objective of profit maximization.
5. Profit maximization criteria fail to take into consideration the interest of govt., workers and other persons in the enterprise.
6. The firm's goals cannot be to maximize profit but to attain a certain level or rate of profit, holding a certain shares of the market or a certain level of sales.

Wealth Maximization:

It is assumed that the goal of the firm should be to maximize the wealth of its current shareholders. Wealth maximization is the appropriate objective of an enterprise. Financial theory asserts that wealth maximization is the single substitute for a stockholder's utility.

When the firm maximizes the stockholder's wealth, the individual stockholder can use this wealth to maximize his individual utility. It means that by maximizing stockholder's wealth the firm is operating consistently towards maximizing stockholder's utility. A stockholder's current wealth in the firm is the product of the number of shares owned, multiplied with the current stock price per share. Stockholder's current wealth in a firm = (Number of shares owned) x (Current stock price per share). The financial manager must know the factors, which influences the market price of shares; otherwise he would find himself unable to maximize the market value of company's shares. The wealth maximization is a criterion for every financial decision. Besides profit, the type of sources used for raising funds, the cost of funds, the condition of money market are some factors that influence the market value of shares.

Implications of wealth maximization

It serves the interests of suppliers of long term and short-term loaned capital, employees, management and society.

1. Short – term lenders are primarily interested in liquidity position so that they get their payments in time.
2. The long –term lenders get a fixed rate of interest from the earnings and also have a priority over share holders in return of their funds.
3. The employees may also try to acquire share of company's wealth through bargaining etc.
4. Management is the elected body of shareholders. The shareholders may not like to change a management if it is able to increase the value of their holdings. The efficient allocation of productive resources will be essential for raising the wealth of the company
5. The economic interest of society is served if various resources are put to economical and efficient use.

Arguments against Wealth Maximization: -

1. The objective of wealth maximization is not necessarily socially desirable.
2. The firm should not to increase the shareholders wealth but also to see the interest of customers, creditors, suppliers, community and others.

3. There is some controversy as to whether the objective is to maximize the shareholders wealth or the wealth of the firm, which includes other financial claim holders such as debenture holder's preference stock holders etc.

4. The objective is not descriptive of what the firms actually do to maximize the wealth.

Organisation of the finance

The responsibilities for financial management are spread throughout the organisation in the sense that financial management is, to an extent, an integral part of the job for the managers involved in planning, allocation of resources and control. For instance, the production manager (engineer) shapes the investment policy (proposal of a new plant) the marketing manager/analyst provides inputs in forecasting and planning the purchase manager influences the level of investment in inventories and the sales manager has a say in the determination of receivables policy. Nevertheless, financial management is highly specialized in nature and is handled by specialists. Financial decisions are of crucial importance it is, therefore, essential to set up an efficient organisation for financial management functions.

Since finance is a major/critical functional area, the ultimate responsibility for carrying out financial management functions lies with the top management, that is, board of directors/managing director/chief executive or the cornerstone of the board. However, the exact nature of the organisation of the financial management function differs from firm to firm depending upon factors such as size of the firm, nature of its business type of financing operations, ability of financial officers and the financial philosophy, and so on. Similarly, the designation of the chief executive of the finance department also differs widely in case of different firms. In some cases, they are known as finance managers while in others as vice-president (finance), director (finance), and financial controller and so on. He reports directly to the top management. Various sections within the financial management area are headed by managers such as controller and treasurer.

UNIT-11

LESSON - 2

Sources of capital

Many of us are endowed with great business ideas. However, the rate of implementing those ideas is very low due to lack of capital. This is why many people die with ideas that, if they were implemented, would have transformed the world to a better place. As an entrepreneur, you need to try and push yourself to the limit so as to make your ideas reality.

Nowadays, banks have become so conservative with their cash.

There are so many things taken into consideration before any business loan is approved. This means that entrepreneurs need to think outside the box and determine alternative and creative financing options for their businesses. With Internet and technology, it is time to put them to use when it comes to raising capital, rather than relying only on the traditional sources that have been there forever.

Today, we would like to take you through different ways businesses or entrepreneurs can raise capital. Not every source of capital is applicable to every business idea, though. An entrepreneur should choose one which fully meets their demands. Here is a breakdown of traditional and creative s may use to start up your company.

Friends and Family

If your business is well thought out and has a proper business plan, your family members together with your friends are the closest people to approach when it comes to raising capital for your business.

Your communication skills should save you at this point. The good thing with cash from friends as well as family members is that it comes with very low interest rates or none at all. This makes it cheap for you when running the business since you would not be required to pay interest rates on loans.

However, be careful when choosing the members since some of them might want a majority share of your company.

Selling of Assets

When starting off a business venture, it is good to consider and use what you have to get what you want. Do you have any assets that you can easily convert into cash? If you have some, the better for you. Just sell them and use the cash to kick-start your business. It is vital to be aware that, in the business world, it is all about risking and nothing else. Sell off all your assets and invest in your business. Doing so is cheaper than going out for a loan which will automatically come with high interest rates.

Look Out for Angel Investors

If you have a great business idea, it is good to look for an angel investor who will provide capital for you to kick-start your venture without any financial strains. However, you should note that angel investors will have a share of your business and will also be involved in decision making. Furthermore, they also expect a certain value of return on their investment. If indeed you have a proper and well laid out business plan, make your dream a reality by looking for an angel investor. Have proper language and convince them that your business idea is quite profitable.

Venture Capitalist

This is another awesome idea you can use to expand your business in the 21st century. However, this method only applies to companies or businesses that are already beyond the start-up phase and are facing difficulties in running and administration due to financial strain. If your company is in such a phase, you may approach venture capitalists who will inject a certain amount of capital into the business and keep it running instead of closing it down. As a piece of advice, we would like to state that many venture capitalists insist on recovering their cash within a period of three years.

Home Equity Loan

If you have a home equity loan, you may use the loan to finance your business. The good thing with these loans is that they come with flexible terms and low interest rates compared to traditional loans.

However, caution should be taken since, if the business fails or you somehow don't follow the terms and conditions of the loan, you risk foreclosure.

Renting Your Home

In the business world, it is always good to risk what you have in order to get to where you want to be. The best example is renting your apartment and using the rent to start up your business. This is a very creative way many people across the US have used to get into entrepreneurship. There is absolutely no need for you to live in a ten bedroom house when you can fit in a three bedroom house! Rent the 10 bedroom house and use the cash to start your business.

Bank Loans

With a proper business plan, which has objectives and is commercially based, different financial institutions will be willing to give out small business loans to you. There are two types of business loans: the secured loans and the unsecured loans. The secured loans have collateral, meaning that if you fail in repaying them, your assets might be taken away by the bank. On the other hand, the unsecured loans have no security attached to them. What may limit you in both cases is if your personal FICO score is low.

Merchant Cash Advance

If you plan to use credit and debit cards for your business, one good source of capital could be a merchant cash advance. This is a loan given to businesses against their future credit and debit card sales. The advantage of merchant cash advance is that the lender collects a certain percentage of the credit and debit card sales, meaning that if the sales are low, he will take a low amount and if the sales are high, he will take a higher percentage. Also, it does not come with interest rates since it is not considered a form of loan.

Invoice Factoring

This is sometimes referred to as invoice advances. This is a process whereby an entrepreneur agrees with the moneylender to grant them the money against future payment of invoices by the customers. The good thing with this type of agreement, unlike loans, is that no interest rates are charged by the lender. Isn't this a better way to finance your business compared to

going for a loan from the bank? Definitely it is. However, it is good to note that if your clients fail to pay their invoices on time, you could end up losing the service provider.

Credit Cards

Many companies nowadays borrow money on their personal and business credit cards so as to finance their businesses. This is due to the fact that they are cheaper and faster than merchant cash advances as well as invoice factoring. When using this method, however, you should be careful not to default in payments since the interest rates and cost on the cards build up very quickly.

Online Lending

The Internet is slowly taking over the entrepreneurial world by storm. Online lending services like Kabbage and OnDeck are now growing and becoming very popular compared to traditional business loans from banks as well as micro finance institutions. This is because they are fast and reliable. The timing of the loan takes less than a day! If you have a business idea, don't hesitate, just apply for money from online lenders and kickstart your venture in no time.

Government Grants

Lucky you, who has a research-oriented business idea! The government, especially the small business administration, offers grants to entrepreneurs who want to have research-related business ideas. However, your topic of concern should be related to problem-solving activity. The idea should also have high commercialization potential in order for you to get funded. The good thing with grants is that they are absolutely free and you don't need to repay anything back to the government. high commercialization potential in order for you to get funded. The good thing with grants is that they are absolutely free and you don't need to repay anything back to the government.

Crowdfunding

This is where you use the Internet to market your business idea. Sites such as kickstarter and indiegogo provide a platform for you to market your idea. Interested individuals will donate amounts to raise capital for you, though with strings attached. The rules are not monetary in

nature but may include things like making sure that they are the first ones to enjoy the product or service in the market. This is one of the best methods you can use to raise capital for your business, compared to bank loans, which require you to pay the interest rates.

Bartering

My assumption is that most of us have heard about bartering. This is a form of trade whereby we exchange goods for other goods. This means no money or cash is involved in the transactions. In this case, however, you could have business ideas that need machinery. If you meet someone who has the machine that you need, you could convince them to give the equipment in exchange for different things. This will save you the total amount of cash needed to start up your business.

Peer to Peer Lending

The Internet has provided unlimited platforms for those who want to raise capital for their businesses. We have sites such as prosper and lending club who pair people who need loans with people who are willing to extend the loans to them at an interest rate. All you need is to register on those sites and specify the size of your business and the amount of loan you need. The intermediary will check your credit report and disclose the information to different lenders. The lenders will bid on your loan. Lastly, the intermediary shall choose the lender with the lowest interest rate and help you find the loan you want to start up your business.

Microloans

Since getting loans from banks has become an uphill task to many due to many rules, it is time for entrepreneurs to start applying for microloans in nongovernmental organizations, as well as government agencies such as the US Small Business Administration. These loans have limits and the maximum could be \$50,000 USD. What makes these loans worth trying out is that they come with very low interest rates compared to loans from banks.

Internet-based Lending

As stated before, the Internet has completely taken over the world. Thus, many entrepreneurs should work hard and benefit from this since it is faster and cheaper. What you need is to submit your loan application online and then let the lenders review your application within a

day. Most of the time, your credit history will be taken into consideration. Once the loan is approved, it will be electronically deposited into your bank account the next day. The loan shall be rapid via electronic deductions on your business daily transactions. The interest rates charged on these loans, however, are not as high as those on traditional loans or lines of credit.

Finance Companies

Finance companies are also options you can use to get capital for your business. These companies are there to give small loans to small business owners. However, these companies do offer loans at high interest rates. Thus, it is good to be very careful when signing contracts with such companies. To make it even worse, they are loosely regulated.

Conclusion

In the world that we live in today, getting access to funding for your business requires you to look beyond the traditional sources people used to depend on in the past. This means that the level of your creativity needs to edge out the rest of the individuals. This is what differentiates successful and unsuccessful people in life. If you have business ideas that you think, when implemented, will take over the world, don't sit on it. Try and work hard by using the above creative financing options to generate enough money so you can establish a strong business empire. Utilize the above traditional and creative ways to raise money and start your business venture. However, choose the most appropriate method that fully meets your needs.

TYPES OF SECURITIES

1. Shares

A share is an equity security. Its owner owns one part of the capital of the company which has issued the shares in question. The shares enable the shareholder the right to take part in the decision-making in the company. If the latter operates with profit, the owners of shares may receive dividends. The amount of the dividend is decided upon by the shareholders at a General Meeting of the Shareholders.

2. Bonds

A bond is a debt security. When purchasing a bond, you have no right to participate in the company's decision making but are entitled to the reimbursement of the principal and the

interest. There are several ways of repayment as the companies may decide that the principal be paid in regular annual instalments or on the maturity of bonds. The interest may be refunded in a fixed amount or may be variable (inflation rate or foreign currency). The issuers pay the interest once every year or once every half-year (on the coupon maturity date).

3. Open-end funds

An open-end fund stands for a diversified portfolio of securities and similar investments, chosen and professionally managed by a fund management company. Since the fund does not have fixed capital but is rather 'open ended', it grows together with new investors joining and thus funding it. Open-end funds can invest in domestic and international securities, in either shares, bonds or other investment vehicles. Depending on the portfolio, the fund's risk and returns vary accordingly.

3.1. Trading in open-end funds

Open-end funds do normally not trade on exchanges, and there are indeed few exchanges worldwide where open-end fund shares can be bought; but there are exceptions. Usually, open-end funds are bought through fund management companies. Investors can invest into the fund via a postal or a standing order, being charged with an entry fee upon each new purchase and with an exit fee when they decide to sell their fund units. The other option, however, is to buy through a brokerage firm; trading in open-end fund shares on an exchange involves no entry or exit fees for investors, as they are only bound by broker's fees.

4. Index open-end funds

With an index open-end fund, fund management companies allot investors' assets to a basket of securities making up a chosen index that thus tracks the yield of the mentioned index. While the big investors may invest directly into a fund, minor investors can only trade in fund shares on stock exchanges. Due to the possibility of arbitrage, the market price of index open-end fund shares does usually not stray from its NAV for more than 1%.

4.1. Trading in index open-end fund shares on primary market

Before purchasing index open-end fund units, a declaration of accession must be signed. After that, assets are transferred to a special fund account, open at a custodian bank. Upon each purchase and sale, the fund charges appropriate entry and exit fees (max 3% from purchase/sale). Fund investors are also charged a management fee (0.5% of the average annual fund NAV) and the costs of custodian services (0.1% of the average annual fund NAV). Each purchase or sale within the fund on the primary market results in a changed number of index open-end fund shares, which in turn affects the changes in the size of fund's

assets. Index open-end fund shares are purchased and sold at NAV, as calculated by the management company.

4.2. Trading in index open-end fund shares on secondary market

Minor investors can buy index open-end fund shares on the exchange at the price that forms on the market, without entry or exit fees, being charged solely brokerage fees. Exchange trading of index open-end fund shares does not affect the size of capital; while the owners of index open-end fund shares change, the fund's assets remain unaffected.

5. Close-end funds (ID)

ID is a close-end investment fund investing its capital into securities by other issuers. Investment company is managed by a management company (DZU) which decides which securities to include in the fund's portfolio. The DZU is paid a management fee by the investment company; it usually amounts to 1-2% per year in Slovenia. The value of shares of the close-end funds is closely correlated to the value of the company's

6. Investment certificates

Investment certificates are debt securities issued by a bank, and are designed to offer the investor an agreed yield under pre-defined conditions stipulated in the prospectus. Issuers are mainly large banks, and an important criterion in selecting the bank in whose investment certificates you would like to invest is its credit rating. Investment certificates represent an investment directly linked to an index, share price, raw material price, exchange rate, interest, industry, and other publicly available values. The holder of an investment certificate does thereby not become an indirect owner of the assets underlying the certificate.

A certificate ensures the investor a guaranteed manner of payment. Investment certificates are predictable and the investor can always anticipate their yield (or loss) in a specific situation, which makes them a successful investment vehicle in times of heavy market losses. There are different types of investment certificates – some guarantee yields no matter what the situation on the market, while others yield profit only when the prices fall, etc.

7. Warrants

Warrants are options issued by a joint-stock company, which give holders the right to purchase a certain quantity of the respective company's shares at a pre-determined Share

Cost of capital refers to the opportunity cost of making a specific investment. It is the rate of return that could have been earned by putting the same money into a different investment

with equal risk. Thus, the cost of capital is the rate of return required to persuade the investor to make a given investment.

How it works (Example):

Cost of capital is determined by the market and represents the degree of perceived risk by investors. When given the choice between two investments of equal risk, investors will generally choose the one providing the higher return.

Let's assume Company XYZ is considering whether to renovate its warehouse systems. The renovation will cost \$50 million and is expected to save \$10 million per year over the next 5 years. There is some risk that the renovation will not save Company XYZ a full \$10 million per year. Alternatively, Company XYZ could use the \$50 million to buy equally risky 5-year bonds in ABC Co., which return 12% per year.

Because the renovation is expected to return 20% per year ($\$10,000,000 / \$50,000,000$), the renovation is a good use of capital, because the 20% return exceeds the 12% required return XYZ could have gotten by taking the same risk elsewhere.

The return an investor receives on a company security is the cost of that security to the company that issued it. A company's overall cost of capital is a mixture of returns needed to compensate all creditors and stockholders. This is often called the weighted average cost of capital and refers to the weighted average costs of the company's debt and equity.

Why it Matters:

Cost of capital is an important component of business valuation work. Because an investor expects his or her investment to grow by at least the cost of capital, cost of capital can be used as a discount rate to calculate the fair value of an investment's cash flows.

Investors frequently borrow money to make investments, and analysts commonly make the mistake of equating cost of capital with the interest rate on that money. It is important to remember that cost of capital is not dependent upon how and where the capital was raised. Put another way, cost of capital is dependent on the *use* of funds, not the source of funds.

What is Cost of Debt?

The cost of debt is the return that a company provides to its debt holders and creditors. These capital providers need to be compensated for any risk exposure that comes with lending to a company. Because interest rates play a big role in quantifying the cost of debt, it is relatively straightforward to calculate cost of debt than cost of equity. Not only does cost of debt, as a rate, reflect the default risk of a company, it also reflects the level of interest rates in the market. In addition, it is an integral part of calculating a company's Weighted Average Cost of Capital or WACC.

Estimating the Cost of Debt: YTM

There are two common ways of estimating the cost of debt. The first approach is to look at the current yield to maturity or YTM of a company's debt. If a company is public, it can have observable debt in the market. An example would be a straight bond that makes regular interest payments and pays back the principal at maturity. This approach is widely used when a company being analyzed has a uncomplicated capital structure, where it does not have tranches of debt, including subordinated debt or senior debt for example, with each having significantly different interest rates.

What is the Cost of Preferred Stock?

The cost of preferred stock to the company is effectively the price it pays in return for the income it gets from issuing and selling the stock. In other words, it's the amount of money the company pays out in a year divided by the lump sum they got from issuing the stock.

Management often uses this metric to determine what way of raising capital is most effective and efficient. Corporations can issue debt, common shares, preferred shares, and a number of different instruments in order to raise funds for expansions or continuing operations. They calculate the cost of preferred stock formula by dividing the annual preferred dividend by the market price per share. Once they have the rate, they can compare it to other financing options. The cost of preferred stock is also used to calculate the Weighted Average Cost of Capital.

What is Preferred Stock?

Preferred stock is commonly issued to fund new developments and projects a firm wants to complete in the future. This allows the company to raise capital and dilute the current ownership percentages of the common shareholders because preferred shares don't have voting rights. Preferred stock is also a more flexible option to a typical bond.

Preferred stock is different from common stock in several ways. Holders are first in line for any dividend payments. Holders also get priority in receiving their money back if the company goes into liquidation. This guarantee of receiving some or all the purchase price back means preferred stock is a mix of equity security, like common stock, and a debt security, like a bond. Typically, a preferred stock dividend is also considered a perpetuity. For this reason, the cost of preferred stock formula mimics the perpetuity formula closely.

The cost of preferred stock formula:

$$\mathbf{R_p = D (dividend) / P_0 (price)}$$

For example:

A company has preferred stock that has an annual dividend of \$3. If the current price is \$25, what is the cost of preferred stock?

$$\mathbf{R_p = D / P_0}$$

$$\mathbf{R_p = 3 / 25 = 12\%}$$

It is the job of a company's management to analyze the costs all of these options and pick the best one. Since preferred shareholders are entitled to dividends each year, management must include this in the price of raising capital with preferred stock.

For investors, the cost of preferred stock, once it has been issued, will vary like any other stock price. That means it will be subject to supply and demand in the market. In theory at least, preferred stock may be seen as more valuable than common stock as it has a greater likelihood of paying a dividend and offers a greater deal of security if the company folds.

Cost of Equity

Cost of equity refers to a shareholder's required rate of return on an equity investment. It is the rate of return that could have been earned by putting the same money into a different investment with equal risk.

The *cost of equity* is the rate of return required to persuade an investor to make a given equity investment.

In general, there are two ways to determine cost of equity.

First is the dividend growth model:

Cost of Equity = (Next Year's Annual Dividend / Current Stock Price) + Dividend Growth Rate

Second is the Capital Asset Pricing Model (CAPM):

$$r_a = r_f + B_a (r_m - r_f)$$

where:

r_f = the rate of return on risk-free securities ()

B_a = the beta of the investment in question

r_m = the market's overall expected rate of return

Let's assume the following for Company XYZ:

Next year's dividend: \$1

Current stock price: \$10

Dividend growth rate: 3%

r_f : 3%

B_a : 1.0

r_m : 12%

Using the dividend growth model, we can calculate that Company XYZ's cost of capital is $(\$1 / \$10) + 3\% = 13\%$

Using CAPM, we can calculate that Company XYZ's cost of capital is $3\% + 1.0 \cdot (12\% - 3\%) = 12\%$:

Cost of equity is a key component of stock valuation. Because an investor expects his or her equity investment to grow by at least the cost of equity, cost of equity can be used as the discount rate used to calculate an equity investment's fair value.

Definition of cost of equity

The cost of equity is the rate of return required by the company's ordinary shareholders in order for that investor to bear the risk of holding that company's shares. The return consists both of dividend and capital gains. The returns are expected future returns, not historical returns.

There are two formulae commonly used to determine cost of equity. The first is the dividend growth model, which is (next year's forecast annual dividend divided by the current stock price) + the anticipated dividend growth rate.

The other formula is the capital asset pricing model, a more complicated formula which includes risk assumptions.

Both cost of equity calculation methods have advantages and disadvantages.

The dividend growth model is simple and straightforward, but it does not apply to companies that don't pay dividends, and it assumes that dividends grow at a constant rate over time. The dividend growth model also quite sensitive to changes in the dividend growth rate, and it does not explicitly consider the risk of the investment.

CAPM is useful because it explicitly accounts for an investment's riskiness and can be applied by any company, regardless of its dividend size or dividend growth rate. However, the components of CAPM are estimates, and they generally lead to a less concrete answer

than the dividend growth model does. The CAPM method also implicitly relies on past performance to predict the future.

If you'd like to read more in-depth information about how to calculate and use cost of equity, check out these related definitions:

Capital Asset Pricing Model (CAPM)

Equity Risk Premium

Alpha

Beta

Risk-free Rate

Dividend Discount Model

Gordon Growth Model

Cost of retained earnings

Cost of retained earnings (k_s) is the return stockholders require on the company's common stock.

There are three methods one can use to derive the cost of retained earnings:

a) Capital-asset-pricing-model (CAPM) approach

b) Bond-yield-plus-premium approach

c) Discounted cash flow approach

a) CAPM Approach

To calculate the cost of capital using the CAPM approach, you must first estimate the risk-free rate (r_f), which is typically the U.S. Treasury bond rate or the 30-day Treasury-bill rate as well as the expected rate of return on the market (r_m).

The next step is to estimate the company's beta (b_i), which is an estimate of the stock's risk. Inputting these assumptions into the CAPM equation, you can then calculate the cost of retained earnings.

Formula 11.3

$$\bar{r}_a = r_f + \beta_a(\bar{r}_m - r_f)$$

Where:

r_f = Risk free rate

β_a = Beta of the security

\bar{r}_m = Expected market return

Example: CAPM approach

For Newco, assume $r_f = 4\%$, $r_m = 15\%$ and $b_i = 1.1$. What is the cost of retained earnings for Newco using the CAPM approach?

Answer:

$$k_s = r_f + b_i(r_m - r_f) = 4\% + 1.1(15\% - 4\%) = 16.1\%$$

b) Bond-Yield-Plus-Premium Approach

This is a simple, ad hoc approach to estimating the cost of retained earnings. Simply take the interest rate of the firm's long-term debt and add a risk premium (typically three to five percentage points):

Formula 11.4

$$k_s = \text{long-term bond yield} + \text{risk premium}$$

Example: bond-yield-plus-premium approach

The interest rate on Newco's long-term debt is 7% and our risk premium is 4%. What is the cost of retained earnings for Newco using the bond-yield-plus-premium approach?

Answer:

$$k_s = 7\% + 4\% = 11\%$$

c) Discounted Cash Flow Approach Also known as the "dividend yield plus growth approach". Using the dividend-growth model, you can rearrange the terms as follows to determine k_s .

Weighted average cost of capital (WACC) is a calculation of a firm's cost of capital in which each category of capital is proportionately weighted.

All sources of capital, including common stock, preferred stock, bonds and any other long-term debt, are included in a WACC calculation. A firm's WACC increases as the beta and rate of return on equity increase, as an increase in WACC denotes a decrease in valuation and an increase in risk.

To calculate WACC, multiply the cost of each capital component by its proportional weight and take the sum of the results. The method for calculating WACC can be expressed in the following formula:

$$\text{WACC} = \frac{E}{V} * R_e + \frac{D}{V} * R_d * (1 - T_c)$$

Where:

R_e = cost of equity

R_d = cost of debt

E = market value of the firm's equity

D = market value of the firm's debt

$V = E + D$ = total market value of the firm's financing (equity and debt)

E/V = percentage of financing that is equity

D/V = percentage of financing that is debt

T_c = corporate tax rate

Explanation of Formula Elements

Cost of equity (R_e) can be a bit tricky to calculate, since share capital does not technically have an explicit value. When companies pay debt, the amount they pay has a predetermined associated interest rate that debt depends on size and duration of the debt, though the value is relatively fixed. On the other hand, unlike debt, equity has no concrete price that the company must pay. Yet, that doesn't mean there is no cost of equity. Since shareholders will expect to receive a certain return on their investment in a company, the equity holders' required rate of return is a cost from the company's perspective, since if the company fails to deliver this expected return, shareholders will simply sell off their shares, which leads to a decrease in share price and in the company's value. The cost of equity, then, is essentially the amount that a company must spend in order to maintain a share price that will satisfy its investors.

Calculating cost of debt (R_d), on the other hand, is a relatively straightforward process. To determine the cost of debt, use the market rate that a company is currently paying on its debt. If the company is paying a rate other than the market rate, you can estimate an appropriate market rate and substitute it in your calculations instead.

There are tax deductions available on interest paid, which is often to companies' benefit. Because of this, the net cost of companies' debt is the amount of interest they are paying, minus the amount they have saved in taxes as a result of their tax-deductible interest payments. This is why the after-tax cost of debt is $R_d (1 - \text{corporate tax rate})$.

BREAKING DOWN 'Weighted Average Cost of Capital - WACC'

In a broad sense, a company finances its assets either through debt or with equity. WACC is the average of the costs of these types of financing, each of which is weighted by its proportionate use in a given situation. By taking a weighted average in this way, we can determine how much interest a company owes for each dollar it finances.

Debt and equity are the two components that constitute a company's capital funding. Lenders and equity holders will expect to receive certain returns on the funds or capital they have provided. Since cost of capital is the return that equity owners (or shareholders) and debt holders will expect, so WACC indicates the return that both kinds of stakeholders

(equity owners and lenders) can expect to receive. Put another way, WACC is an investor's opportunity cost of taking on the risk of investing money in a company.

A firm's WACC is the overall required return for a firm. Because of this, company directors will often use WACC internally in order to make decisions, like determining the economic feasibility of mergers and other expansionary opportunities. WACC is the discount rate that should be used for cash flows with risk that is similar to that of the overall firm.

To help understand WACC, try to think of a company as a pool of money. Money enters the pool from two separate sources: debt and equity. Proceeds earned through business operations are not considered a third source because, after a company pays off debt, the company retains any leftover money that is not returned to shareholders (in the form of dividends) on behalf of those shareholders.

Suppose that lenders require a 10% return on the money they have lent to a firm, and suppose that shareholders require a minimum of a 20% return on their investments in order to retain their holdings in the firm. On average, then, projects funded from the company's pool of money will have to return 15% to satisfy debt and equity holders. The 15% is the WACC. If the only money in the pool was \$50 in debt holders' contributions and \$50 in shareholders' investments, and the company invested \$100 in a project, to meet the lenders' and shareholders' return expectations, the project would need to generate returns of \$5 each year for the lenders and \$10 a year for the company's shareholders. This would require a total return of \$15 a year, or a 15% WACC.

Uses of Weighted Average Cost of Capital (WACC)

Securities analysts frequently use WACC when assessing the value of investments and when determining which ones to pursue. For example, in discounted cash flow analysis, one may apply WACC as the discount rate for future cash flows in order to derive a business's net present value. WACC may also be used as a hurdle rate against which to gauge ROIC performance. WACC is also essential in order to perform economic value added (EVA) calculations.

Investors may often use WACC as an indicator of whether or not an investment is worth pursuing. Put simply, WACC is the minimum acceptable rate of return at which a company

yields returns for its investors. To determine an investor's personal returns on an investment in a company, simply subtract the WACC from the company's returns percentage. For example, suppose that a company yields returns of 20% and has a WACC of 11%. This means the company is yielding 9% returns on every dollar the company invests. In other words, for each dollar spent, the company is creating nine cents of value. On the other hand, if the company's return is less than WACC, the company is losing value. If a company has returns of 11% and a WACC of 17%, the company is losing six cents for every dollar spent, indicating that potential investors would be best off putting their money elsewhere.

WACC can serve as a useful reality check for investors; however, the average investor would rarely go to the trouble of calculating WACC because it is a complicated measure that requires a lot of detailed company information. Nonetheless, being able to calculate WACC can help investors understand WACC and its significance when they see it in brokerage analysts' reports.

Limitations of Weighted Average Cost of Capital (WACC)

The WACC formula seems easier to calculate than it really is. Because certain elements of the formula, like cost of equity, are not consistent values, various parties may report them differently for different reasons. As such, while WACC can often help lend valuable insight into a company, one should always use it along with other metrics when determining whether or not to invest in a company.

Introduction of capital structure

Capital is the major part of all kinds of business activities, which are decided by the size, and nature of the business concern. Capital may be raised with the help of various sources. If the company maintains proper and adequate level of capital, it will earn high profit and they can provide more dividends to its shareholders.

Meaning of Capital Structure

Capital structure refers to the kinds of securities and the proportionate amounts that make up capitalization. It is the mix of different sources of long-term sources such as equity shares, preference shares, debentures, long-term loans and retained earnings.

The term capital structure refers to the relationship between the various long-term source financing such as equity capital, preference share capital and debt capital. Deciding the

suitable capital structure is the important decision of the financial management because it is closely related to the value of the firm.

Capital structure is the permanent financing of the company represented primarily by long-term debt and equity.

Definition of Capital Structure

The following definitions clearly initiate the meaning and objective of the capital structures.

According to the definition of **Gerestenbeg**, “Capital Structure of a company refers to the composition or make up of its capitalization and it includes all long-term capital resources”.

According to the definition of **James C. Van Horne**, “The mix of a firm’s permanent long-term financing represented by debt, preferred stock, and common stock equity”.

According to the definition of **Presana Chandra**, “The composition of a firm’s financing consists of equity, preference, and debt”.

Objectives of Capital Structure

Decision of capital structure aims at the following two important objectives:

- Maximize the value of the firm.
- Minimize the overall cost of capital.

Forms of Capital Structure

Capital structure pattern varies from company to company and the availability of finance.

Normally the following forms of capital structure are popular in practice.

- Equity shares only.
- Equity and preference shares only.
- Equity and Debentures only.

Equity shares, preference shares and debentures

FACTORS DETERMINING CAPITAL STRUCTURE

The following factors are considered while deciding the capital structure of the firm.

Leverage

It is the basic and important factor, which affect the capital structure. It uses the fixed cost financing such as debt, equity and preference share capital. It is closely related to the overall cost of capital.

Cost of Capital

Cost of capital constitutes the major part for deciding the capital structure of a firm. Normally long- term finance such as equity and debt consist of fixed cost while mobilization. When the cost of capital increases, value of the firm will also decrease. Hence the firm must take careful steps to reduce the cost of capital.

Nature of the business: Use of fixed interest/dividend bearing finance depends upon the nature of the business. If the business consists of long period of operation, it will apply for equity than debt, and it will reduce the cost of capital.

Size of the company: It also affects the capital structure of a firm. If the firm belongs to large scale, it can manage the financial requirements with the help of internal sources. But if it is small size, they will go for external finance. It consists of high cost of capital.

Legal requirements: Legal requirements are also one of the considerations while dividing the capital structure of a firm. For example, banking companies are restricted to raise funds from some sources.

Requirement of investors: In order to collect funds from different type of investors, it will be appropriate for the companies to issue different sources of securities.

Government policy

Promoter contribution is fixed by the company Act. It restricts to mobilize large, long-term funds from external sources. Hence the company must consider government policy regarding the capital structure.

LESSON - 3

CAPITAL STRUCTURE THEORIES

Capital structure is the major part of the firm's financial decision which affects the value of the firm and it leads to change EBIT and market value of the shares. There is a relationship among the capital structure, cost of capital and value of the firm. The aim of effective capital structure is to maximize the value of the firm and to reduce the cost of capital.

There are two major theories explaining the relationship between capital structure, cost of capital and value of the firm.

Net Income (NI) Approach Net income approach suggested by the Durand. According to this approach, the capital structure decision is relevant to the valuation of the firm. In other words, a change in the capital structure leads to a corresponding change in the overall cost of capital as well as the total value of the firm.

According to this approach, use more debt finance to reduce the overall cost of capital and increase the value of firm.

Net income approach is based on the following three important assumptions:

- There are no corporate taxes.
- The cost debt is less than the cost of equity.

The use of debt does not change the risk perception of the investor.

where

$$V = S+B$$

V = Value of firm

S = Market value of equity

B = Market value of debt

Market value of the equity can be ascertained by the following formula:

NI

$$S = \frac{NI}{K_e}$$

where

NI = Earnings available to equity shareholder

K_e = Cost of equity/equity capitalization rate

Format for calculating value of the firm on the basis of NI approach.

Particulars	Amount
Net operating income (EBIT)	XXX
Less: interest on debenture (i)	XXX
Earnings available to equity holder (NI)	XXX
Equity capitalization rate (K_e)	XXX
Market value of equity (S)	XXX
Market value of debt (B)	XXX
Total value of the firm (S+B)	XXX
Overall cost of capital = $K_o = EBIT/V(\%)$	XXX%

Exercise 3

A Company expects a net income of Rs. 1,00,000. It has Rs. 2,50,000, 8% debentures. The equality capitalization rate of the company is 10%. Calculate the value of the firm and overall capitalization rate according to the net income approach (ignoring income tax).

If the debenture debts are increased to Rs. 4,00,000. What shall be the value of the firm and the overall capitalization rate?

Solution

(a) Capitalization of the value of the firm

	Rs.
Net income	1,00,000
Less: Interest on 8% Debentures of Rs. 2,50,000	20,000
Earnings available to equality shareholders	<u>80,000</u>
Equity capitalization rate	<u>10%</u>

$$= \frac{80,000}{10} \times 100$$

Market value of equity = 8,00,000
Market value of debentures = 2,50,000

Value of the firm = 10,50,000

Calculation of overall capitalization rate

$$\text{Overall cost of capital (K}_o\text{)} = \frac{\text{Earnings of the firm}}{\text{Value of the firm}} \frac{\text{EBIT}}{\text{V}}$$

$$\frac{1,00,000}{10,50,000} \times 100$$

9.52%

Calculation of value of the firm if debenture debt is raised to Rs. 3,00,000.

	Rs.
Net income	1,00,000
Less: Interest on 8% Debentures of Rs. 4,00,000	32,000

Equity Capitalization rate	<u>68,000</u>
	10%
	100

Market value of equity	=	$68,000 \times \frac{100}{10} = 6,80,000$
	=	6,80,000
Market value of Debentures	=	4,00,000
Value of firm	=	10,80,000
		1,00,000

$$\text{Overall cost of capital} = \frac{1,00,000}{10,80,000} \times 100$$

= 9.26%

Thus, it is evident that with the increase in debt financing, the value of the firm has increased and the overall cost of capital has increased.

Net Operating Income (NOI) Approach

Another modern theory of capital structure, suggested by **Durand**. This is just the opposite to the Net Income approach. According to this approach, Capital Structure decision is irrelevant to the valuation of the firm. The market value of the firm is not at all affected by the capital structure changes.

According to this approach, the change in capital structure will not lead to any change in the total value of the firm and market price of shares as well as the overall cost of capital.

NI approach is based on the following important assumptions;

There are no corporate taxes;

The market capitalizes the value of the firm as a whole;

Value of the firm (V) can be calculated with the help of the following

The overall cost of capital remains constant;

$$V = \text{EBIT} / K_o$$

Where,

V = Value of the firm

EBIT = Earnings before interest and tax

K_o = Overall cost of capital

Exercise 5

Abinaya company Ltd. expresses a net operating income of Rs. 2,00,000. It has Rs. 8,00,000 to 7% debentures. The overall capitalization rate is 10%.

Calculate the value of the firm and the equity capitalization rate (or) cost of equity according to the net operating income approach.

If the debenture debt is increased to Rs. 12,00,000. What will be the effect on the value of the firm, the equity capitalization rate?

Solution

Net operating income = Rs. 2,00,000 Overall cost of capital = 10%

Market value of the firm (V)

NOI(EBIT)

Overall cost of capital (OK)

$$= 2,00,000 \times 100/10$$

$$= \text{Rs. } 20,00,000$$

$$\text{Market value of firm} = \text{Rs. } 20,00,000$$

$$\text{Less Market value of debentures} = \text{Rs. } 8,00,000$$

$$\text{Total marketing value of equity} = \text{Rs. } 12,00,000$$

Equity capitalization rate (or) cost of equity (K_e)

$$= \text{EBIT} - I / V - D$$

$$= 200000 - 56000 / 2000000 - 800000 * 100$$

$$= 144000 / 1200000 * 100$$

$$= 12\%$$

Where I = Interest of debt

V = Value of the firm

D = Value of debt capital

$$I = 8,00,000 \times 7\% = 56,000$$

$$V = 20,00,000$$

$$D = 8,00,000$$

If the debenture debt is increased at Rs. 12,00,000, the value of the firm shall change to Rs. 20,00,000.

Equity Capitalization Rate (K_e)

$$= \text{EBIT} - I / V - D$$

$$= 200000 - 81000 / 2000000 - 1200000$$

$$= 14.5\%$$

Modigliani and Miller Approach

Modigliani and Miller approach states that the financing decision of a firm does not affect the market value of a firm in a perfect capital market. In other words MM approach maintains that the average cost of capital does not change with change in the debt weighted equity mix or capital structures of the firm.

Modigliani and Miller approach is based on the following important assumptions:

There is a perfect capital market.

- There are no retained earnings.
- There are no corporate taxes.
- The investors act rationally.
- The dividend payout ratio is 100%.
- The business consists of the same level of business risk.

Value of the firm can be calculated with the help of the following formula:

$$\frac{\text{EBIT} (1 - t)}{K_o}$$

Where

EBIT = Earnings before interest and tax

K_o = Overall cost of capital

t = Tax rate

Exercise 6

There are two firms 'A' and 'B' which are exactly identical except that A does not use any debt in its financing, while B has Rs. 2,50,000, 6% Debentures in its financing. Both the firms have earnings before interest and tax of Rs. 75,000 and the equity capitalization rate is 10%. Assuming the corporation tax is 50%; calculate the value of the firm.

Solution

The market value of firm A which does not use any debt.

$$\begin{aligned} V_u &= \frac{\text{EBIT}}{K_o} \\ &= \frac{75,000}{10\%} \\ &= \text{Rs. } 7,50,000 \end{aligned}$$

The market value of firm B which uses debt financing of Rs. 2,50,000 $V_t = V_u + t$

$$\begin{aligned} V_u &= 7,50,000, t = 50\% \text{ of Rs. } 2,50,000 \\ &= 7,50,000 + 1,25,000 \\ &= \text{Rs. } 8,75,000 \end{aligned}$$

Traditional Approach

It is the mix of Net Income approach and Net Operating Income approach. Hence, it is also called as intermediate approach. According to the traditional approach, mix of debt and equity capital can increase the value of the firm by reducing overall cost of capital up to certain level of debt. Traditional approach states that the K_0 decreases only within the responsible limit of financial leverage and when reaching the minimum level, it starts increasing with financial leverage.

Assumptions

Capital structure theories are based on certain assumption to analysis in a single and convenient manner:

- There are only two sources of funds used by a firm; debt and shares.
- The firm pays 100% of its earning as dividend.
- The total assets are given and do not change.
- The total finance remains constant.
- The operating profits (EBIT) are not expected to grow.
- The business risk remains constant.
- The firm has a perpetual life.
- The investors behave rationally.

UNIT - III

LESSON - 4

Working Capital Management

Introduction of working capital:

Working capital is that part of firm's capital which is required for financing current assets such as cash, debtors, receivables, inventories, marketable securities etc. Funds invested in such assets keep revolving with relative rapidity and are constantly converted into cash. Hence working capital is also known as circulating capital, revolving capital, short term capital or liquid capital.

Types of Working capital:

- 1. Gross working capital** – Refers to firm's investments in current assets which are converted into cash during an accounting year such as cash, bank balance, short term investments, debtors, bills receivable, inventory, short term loans and advances etc.
- 2. Net working capital** – Refers to the difference between current assets and current liabilities or excess of total current assets over total current liabilities.
- 3. Operating cycle concept** – Refers to the capital/ amount required in different forms at successive stages of manufacturing operation/ process. It represents the cycle during which cash is reconverted into cash again. In the manufacturing process, cash is required for purchasing raw material- raw material is converted into work in progress – which is converted into finished product – finished products are sold on credit- then cash is realized out of credit sale. Total time taken in completing one cycle helps in ascertaining working capital requirements.
- 4. Regular or permanent working capital** – Refers to the minimum amount which permanently remains blocked and cannot be converted into cash such as the minimum amount blocked in raw material, finished product, debtors etc.
- 5. Variable or temporary working capital** – Refers to the amount over and above permanent working capital i.e. the difference between total working capital less permanent working capital.

6. **Seasonal working capital** - Refers to capital required to meet seasonal demand e.g. extra capital required for manufacturing coolers in summer, wollen garments in winter. It can be arranged through short term loans.
7. **Specific working capital** – Refers to part of capital required for meeting unforeseen contingencies such as strike, flood, war, slump etc.

Important factors or determinants of working capital:

- i. **Nature of business:** firms dealing in luxury goods, construction business, steel industry etc need more capital while those dealing in fast moving consumer goods (FMCG's) need less working capital.
- ii. **Size of business:** large size firms need more working capital as compared to small size firms.
- iii. **Level of technology:** use of high level technology leads to fastening the process and reduce wastage and in such case, less working capital would be required.
- iv. **Length of operating cycle:** longer is the operating cycle, higher would be the need of working capital.
- v. **Seasonal nature:** firms dealing in goods of seasonal nature, higher capital during peak season would be required.
- vi. **Credit policy:** If credit policy followed is liberal more working capital would be required and if the same is strict less working capital would be required.
- vii. **Turnover of working capital:** If rate of turnover is more, less working capital would be required and this rate is less, more working capital would be required.
- viii. **Dividend policy:** If a firm retains more profit and distributes less amount as dividend, less working capital would be required.
- ix. **Profit margin:** If rate of margin of profit is more, less working capital would be required.
- x. **Rate of growth:** If growth rate is high and firm is continuously expending/ diversifying its production & business, more working capital would be needed.
- xi. **Other factors like :**
 - Means of transport

- Availability of water, power nearly
- Political stability

Financial mix is a term used in the corporate world to define a mix of equity to debt in a firm. In other words, this term is used to describe the formula that defines how much capital is being raised by debt and how much is being raised by equity. There are many that believe this particular mix can have an impact on increasing or decreasing the value of the firm. The goal of any firm is to continuously increase the value. Any plans that are made, financial or otherwise, will be done with this goal in mind. Those in charge of the finances want to bring more wealth to the shareholders to keep them happy with the way the business is going. For most firms, debt is considered a cheaper source of finance. This is because when a firm raises capital through debt the interest that they are charged is tax deductible. The same is not true for debt that is raised from capital.

Because of this, a financial mix can actually help increase the value of the firm. It does this by altering the amount of debt that the firm has. This process will change the interest that the firm must pay out. If the interest that is paid out is decreased due to the new debt, then the income of the firm is increased. This leads to an increase in the value of the firm. This is why many in finance believe that financial mix plays a pivotal role in how successful a business is. However, there are risks. By increasing the debt of a firm, there is also the increased risk of bankruptcy. Those in charge of the finances must be certain that they know what they are doing if they are going to adjust the financial mix.

What is a 'Hedge'

A hedge is an investment to reduce the risk of adverse price movements in an asset. Normally, a hedge consists of taking an offsetting position in a related security, such as a futures contract.

BREAKING DOWN 'Hedge'

Hedging is analogous to taking out an insurance policy. If you own a home in a flood-prone area, you will want to protect that asset from the risk of flooding – to hedge it, in other words – by taking out flood insurance. There is a risk-reward tradeoff inherent in hedging; while it reduces potential risk, it also chips away at potential gains. Put simply, hedging isn't free. In the case of the flood insurance policy, the monthly payments add up, and if the flood never

comes, the policy holder receives no payout. Still, most people would choose to take that predictable, circumscribed loss rather than suddenly lose the roof over their head.

A perfect hedge is one that eliminates all risk in a position or portfolio. In other words, the hedge is 100% inversely correlated to the vulnerable asset. This is more an ideal than a reality on the ground, and even the hypothetical perfect hedge is not without cost. Basis risk refers to the risk that an asset and a hedge will not move in opposite directions as expected; "basis" refers to the discrepancy.

Hedging Through Derivatives

Derivatives are securities that move in terms of one or more underlying assets; they include options, swaps, futures and forward contracts. The underlying assets can be stocks, bonds, commodities, currencies, indices or interest rates. Derivatives can be effective hedges against their underlying assets, since the relationship between the two is more or less clearly defined.

For example, if Morty buys 100 shares of Stock plc (STOCK) at \$10 per share, he might hedge his investment by taking out a \$5 American put option with a strike price of \$8 expiring in one year. This option gives Morty the right to sell 100 shares of STOCK for \$8 any time in the next year. If a year later STOCK is trading at \$12, Morty will not exercise the option and will be out \$5; he's unlikely to fret, however, since his unrealized gain is \$200 (\$195 including the price of the put). If STOCK is trading at \$0, on the other hand, Morty will exercise the option and sell his shares for \$8, for a loss of \$200 (\$205). Without the option, he stood to lose his entire investment.

The effectiveness of a derivative hedge is expressed in terms of delta, sometimes called the "hedge ratio." Delta is the amount the price of a derivative moves per \$1.00 movement in the price of the underlying asset.

Hedging Through Diversification

Using derivatives to hedge an investment enables for precise calculations of risk, but requires a measure of sophistication and often quite a bit of capital. Derivatives are not the only way to hedge, however. Strategically diversifying a portfolio to reduce certain risks can also be considered a—rather crude—hedge. For example, Rachel might invest in a luxury goods company with rising margins. She might worry, though, that a recession could wipe out the

market for conspicuous consumption. One way to combat that would be to buy tobacco stocks or utilities, which tend to weather recessions well and pay hefty dividends.

This strategy has its tradeoffs: if wages are high and jobs are plentiful, the luxury goods maker might thrive, but few investors would be attracted to boring counter-cyclical stocks, which might fall as capital flows to more exciting places. It also has its risks: there is no guarantee that the luxury goods stock and the hedge will move in opposite directions. They could both drop due to one catastrophic event, as happened during the financial crisis, or for unrelated reasons: floods in China drive tobacco prices up, while a strike in Mexico does the same to silver.

Hedge accounting is a method of accounting where entries for the ownership of a security and the opposing hedge are treated as one. Hedge accounting attempts to reduce the volatility created by the repeated adjustment of a financial instrument's value, known as marking to market. This reduced volatility is done by combining the instrument and the hedge as one entry, which offsets the opposing movements.

BREAKING DOWN 'Hedge Accounting'

The point of hedging a position is to reduce the volatility of the overall portfolio. Hedge accounting has the same effect except that it's used on financial statements. For example, when accounting for complex financial instruments, such as derivatives, the value is adjusted by marking to market; this creates large swings in the profit and loss account. Hedge accounting treats the reciprocal hedge and the derivative as one entry so that large swings are balanced out.

Hedge accounting is used in corporate bookkeeping as it relates to derivatives. In order to lessen overall risk, hedging is often used to offset the risks associated with the derivatives. Hedge accounting uses the information from the derivative and the associated hedge as a single item, lessening the appearance of volatility when compared to reporting each individually.

A short hedge is an investment strategy that is focused on mitigating a risk that has already been taken. The "short" portion of the term refers to the act of shorting a security, usually a derivatives contract, that hedges against potential losses in an investment that is held long.

If a short hedge is executed well, gains from the long position will be offset by losses in the derivatives position, and vice versa.

BREAKING DOWN 'Short Hedge'

A common risk in short hedging is basis risk, or the risk that price levels will not change much over the period the hedge is in place; in this scenario, the asset held in the long position would not gain any value, and the short hedge would lose value.

Short hedging is often seen in the agriculture business, as producers are often willing to pay a small premium to lock in a preferred rate of sale in the future. Also, short hedges involving interest rates are common among institutional money managers that hold large amounts of fixed income securities and are concerned about reinvestment risk in the future.

A natural hedge is a method of reducing financial risk by investing in two different financial instruments whose performance tends to cancel each other out. A natural hedge is unlike other types of hedges in that it does not require the use of sophisticated financial products such as forwards or derivatives. However, most hedges (natural or otherwise) are imperfect, and do not eliminate risk completely.

BREAKING DOWN 'Natural Hedge'

For example, bonds are a natural hedge against stocks because bonds tend to perform well when stocks are performing poorly and vice versa. Pair trading is another type of natural hedge. It involves buying long and short positions in highly correlated stocks because the performance of one will offset the performance of the other.

Conservative

conservatism is a branch of accounting that requires a high degree of verification before making a legal claim to any profit as it requires recognition of all probable losses as they are discovered and most expenditures as they are incurred. Revenue will be deferred until it is verified as strict revenue-recognition criteria is one of the most common forms of accounting conservatism. An example of accounting conservatism — overestimating an allowance for doubtful accounts — can give a more accurate picture of recoverable receivables given a specific economic outlook.

The corporate finance literature has traditionally focused on the study of long-term financial decisions, particularly investments, capital structure, dividends or company valuation decisions. However, short-term assets and liabilities are important components of total assets and needs to be carefully analyzed. Management of these short-term assets and liabilities warrants a careful investigation since the working capital management plays an important role for the firm's profitability and risk as well as its value (Smith, 1980). Efficient management of working capital is a fundamental part of the overall corporate strategy to create the shareholders' value. Firms try to keep an optimal level of working capital that maximizes their value

The main objective of working capital management is to maintain an optimal balance between each of the working capital components. Business success heavily depends on the ability of financial executives to effectively manage receivables, inventory, and payables (Filbeck and Krueger 2005). Firms can reduce their financing costs and/or increase the funds available for expansion projects by minimizing the amount of investment tied up in current assets. Most of the financial managers' time and effort are allocated in bringing non-optimal levels of current assets and liabilities back toward optimal levels (Lamberson 1995). An optimal level of working capital would be the one in which a balance is achieved between risk and efficiency. It requires continuous monitoring to maintain proper level in various components of working capital i.e. cash receivables, inventory and payables

Conservative Accounting Theory

Accounting conservatism establishes the rules when deciding between two financial reporting alternatives. This allows accounts to be fair and objective until multiple outcomes are possible. At this point, accounting conservatism provides guidance where the accountant has the potential for bias. Because external users base decisions on the financial information reported, accounting conservatism prevents information to incorrectly portray an entity's financial situation. This is done through the reduction of risk as a cautious approach puts the company in a "worst case" scenario.

Revenue Reporting

Accounting conservatism is most stringent in relation to revenue reporting. Accounting conservatism requires revenues are reported in the same period as related expenses were

incurred. All information in a transaction must be realizable to be recorded. If a transaction does not result in the exchange of cash or claims to an asset, no revenue may be recognized. The dollar amount must be known to be reported.

LESSON - 5

Cash Management

Cash Management:

Cash management is the corporate process of collecting and managing cash, as well as using it for (short-term) investing. It is a key component of ensuring a company's financial stability and solvency. Corporate treasurers or business managers are frequently responsible for overall cash management and the related responsibilities to remain solvent.

Successfully managing cash is an essential skill for small business developers, because they typically have less access to affordable credit and have a significant amount of upfront costs to manage while waiting for receivables. Wisely managing cash enables a company to meet unexpected expenses, and to handle regularly occurring events such as payroll distribution.

Cash management deals with the following:

1. Cash Planning
2. Managing Cash flows
 - Determining optimum cash balance

Cash Management Objectives

One of the prime responsibilities of the financial manager is that managing cash to make the balance between profitability and liquidity. In other words, he/she has to maintain the optimum cash balance. Optimum cash means it should not be excess or inadequate. Maintenance of excess cash reserve to meet the challenges, the excess cash will remain idle, and idle cash earns nothing but involves cost. So it will reduce profit. On the other hand, having inadequate cash balance will affect the liquidity of the firm. Hence, there is need to maintain the balance between profitability and liquidity. In other words,

To Meet Cash Payments: Cash Management Objectives

The prime objective of cash management is to meet various cash payments needed to pay in business operations. The payments are like payment to the supplier of raw materials, payment of wages and salaries, payment of electricity bills, telephone bills and so on. The firm should maintain cash balances to meet the payments, otherwise, it will not be able to run a business. To quote Bollen, "Cash is an oil to lubricate the ever-turning wheels of business: without it,

the process grinds to a stop”. Hence, one of the cash management objectives is to meet the payments with the maintenance of sufficient cash.

To Maintain Minimum Cash Balance (Reserve): Cash Management Objectives

This is the second important objective of cash management. It means the firm should not maintain excess cash balances. Excess cash balance may ensure prompt payment, but if the excess balance will remain idle, as cash is a non-earning asset and the firm will have to forego profits. On the other hand, maintenance of the low level of cash balance, may not help to pay the obligations. Hence, the aim of cash management is to maintain an optimum cash balance.

Cash budget:

Cash budget is a summary statement of the firm’s expected cash flows and cash balances over the projected period. This information helps the finance, manager to determine the future cash needs of the firm, plan for the financing of these needs and exercise control over the cash and to reach liquidity of the firm. It is a forecast of expected cash intake and outlays. The cash budget should be coordinated with the other activities of the business. The functional budgets may be adjusted according to the cash budgets.

The cash budget consists of three parts:

- (1) The forecast of cash inflows.
- (2) The forecast of cash outflows.
- (3) The forecast of cash balance.

Objectives of cash budget:

Cash budget in a firm is prepared to accomplish the following objectives:

- (1) To project firm’s cash position in future period.
- (2) To predict cash surplus or deficit for the ensuing months.
- (3) To permit planning for financing in advance of need. By indicating when cash will be required, the budget helps the management to arrange in advance bank loans or other short-term credits, to prepare for a sale of securities or to make other preparations for new financing.
- (4) To help in selection of proper source of financing cash requirements of the firm.
- (5) To permit proper utilisation of idle cash.
- (6) To maintain adequate balance between cash and working capital, sales, investments and loans.

(7) To exercise control over cash expenditure by limiting the spending of various departments.

Utility of cash budget:

1. Cash budget is an extremely important tool available in the hands of a finance manager for planning fund requirements and for controlling cash position in the firm. As a planning device, cash budget helps the finance manager to know in advance the cash position of the firm in different time periods.

2. The cash budget indicates in which months there will be cash surfeit and in which months the firm will experience cash drain and by how much.

3. With the help of this information finance manager can draw up a programme for financing cash requirements. It indicates the most opportune time to undertake the financing process. There will be two advantages if the finance manager knows in advance as to when additional funds will be required. First, funds will be available in hand when needed and there will be no idle funds.

4. In the absence of the cash budget it may be difficult to determine cash requirements in different months. If cash required is not available in time it will entail the firm in a precarious position. The firm's output is reduced because of imbalance in financial structure and the rate of return consequently declines.

5. If the firm is marginal, the decline in profits could lead to disaster. Further, it would be difficult for the firm to meet its commitments and would consequently lose its credit standing. A firm with a poor credit standing stands little chance of success.

6. With the help of cash budget finance manager can determine precisely the months in which there will be cash surplus. Nevertheless, a reasonable amount of cash adds to a firm's debt paying power of the firm, holding excess cash for any period of time is largely a waste of resource yielding no return. This will result in the decline in profits.

7. The cash budget offsets the possibility of decline in profits because the finance manager in that case will invest idle cash in marketable securities. Thus, with the help of the cash budget, finance manager can maintain high liquidity without jeopardizing the firm's profitability.

8. The cash budget, besides indicating cash requirements, reflects the length of time for which funds will be needed. This will help the finance manager to decide the most likely source from which the funds can be obtained. A firm which stands in need of funds for a short-term duration will use a source different from the one requiring funds for a long time.

9. Bank loan is most appropriate source to cover temporary cash requirements while permanent funds requirements are met by selling stock and bonds. If long-term cash requirements are met through short-term funds, this will leave the company in considerable financial predicament.

10. The firm will have to either renew the loans to make it long-term or an entirely new loan must be negotiated. In either case the negotiations are on a much shorter notice than the original loan and the renewal or new loan will very likely be made with less favourable terms. Further, planning for cash may engender the confidence of suppliers of cash and credit to such an extent that they are more likely to grant loans on easier terms.

11. Usually bankers are loath to lend to companies which do not follow good managerial practices with respect to their financial requirements. However, when they grant loans they usually charge higher interest rates and place restrictive clauses in the loan contract. When funds are obtained for period longer than necessary, the cost of capital will go up resulting in decline in profits.

12. Cash budget is also conducive to the formulation of sound dividend policy for the firm. As already stated, availability of adequate amount of cash is necessary for dividend payments. A firm may experience cash drain despite high earnings because of the fact that bulk of sales was affected through credit.

13. Even if the firm has sufficient cash in hand it may not be able to pay high dividends because of the need to repay loan or retire debt, to carry inventories and to meet other emergent requirements. Keeping the firm's cash position in mind finance manager can reach suitable dividend decision.

14. Cash budget is also a useful device to establish a sound basis for current control of the cash position. Cash budget sets the limitation on cash expenditure which must be observed by all those whose activities involve cash disbursements. With the help of cash budget reports which are prepared periodically finance manager can compare actual receipts and expenditure with the estimated figures.

15. With these reports finance manager can find out deviations and study reasons for variation and finally take steps to remedy the variations. But this tool is not devoid of its limitations. Errors in estimation anywhere along the logline of budget that must be prepared prior to the cash budget will obviously create inaccuracies in the cash forecast.

This means that cash budget should be reviewed from time to time against actual performance so that corrections can be made and plans adjusted accordingly.

Another drawback of the cash budget is that it fails to indicate time segments of cash flows. For example, if company has planned to invest money in short-term securities in the month of April, the budget would not indicate when in April. Will it be early or late April? It is quite possible that the company could run out of cash altogether by April 10 leaving it without adequate cash balance with which to meet wages bills.

Thus, the finance manager may find it useful to prepare more than one cash budget depending on how critical he feels his firm's cash position is. He may prepare a weekly forecast for the next 30 to 60 days, another for one year month by month and yet another long-range forecast for several years.

7 Strategies for Boosting

Cash Management

The economy is brighter, but companies are still scrutinizing their cash positions. They're concerned about health care and regulatory costs, as well as customers who seek to maximize the value of every dollar spent. As a result, many are working harder to provide value and win business in a fiercely competitive environment. That pressure is playing out in the steps finance executives are taking to manage cash. Companies continue to squeeze money out of operations, build cash reserves and renegotiate terms—all to be prepared should business conditions shift. To maintain their footing, companies also need to maintain and improve collections and credit, revamp internal processes, and tap into investors for more than cash. Here are some ways companies can improve cash management:

1. Re-evaluate payment terms and pricing. Push out payment terms to hang onto cash longer, but not far enough to fall out of vendors' good graces. If possible,renegotiate pricing. Perform regular internal audits to make sure departments are buying from pre-approved suppliers, and sticking to contract terms
2. Simplify processes. Don't overcomplicate accounts payables by requiring multiple sign offs on all supplier payments, which can help avoid problems but also be inefficient and add to costs. Instead, re-evaluate to see where you can reduce approvals while keeping processes and spending tight. One option is switching to equiring purchase orders only for goods or services of a lower dollar amount, for instance \$2,500 or more, and requiring multiple authorizations only for purchases of more than \$5,000. Perform regular audits to make sure no one abuses the system.
3. Lean on investors for introductions.

Gone are the days when investors simply wrote a check. Today, they're likely to be involved in the daily business of companies they help fund. Tap into knowledge venture capital firms

or other investors are likely to have of what's happening in your market or industry. Ask them to recommend suppliers or make introductions to vendors they've worked with before.

4. Use a corporate card to pay for supplies. More companies are using cards to buy business-related goods and services purchases that cards weren't traditionally used for, such as telecommunications services, shipping and office supplies

5. Automate processes in lieu of adding manpower. Partner with a corporate card provider to create accounts payable payment solutions that alleviate the need for additional manpower. Such a move may require sharing supplier files and other sensitive information with a card provider. To overcome resistance to sharing such information, think of card providers as consultants who can help with cash-flow management and other internal efficiencies as well.

6. Work with multiple financial partners. Don't limit yourself to one supplier's payment solutions. Instead, be open to maintaining relationships with several parties, for example, a treasury bank and purchasing-card program provider, to maximize the spend you put on a card program.

7. Encourage customers to use electronic payments. Convincing even a relatively small portion of your customer base to switch to a card program can help cut costs associated with fraudulent checks and outbound phone calls for collections. From a resource standpoint, it's an automated way of receiving payments.

Receivables Management:

Receivables constitute a significant portion of the current assets of a firm. But, for investments in the receivables, a firm has to incur certain costs. There is also a risk of bad debts also. It is therefore very necessary to have a proper control and management of receivables.

Meaning of Receivables: Receivables represents amount owed to the firm as a result of sale of goods or services in the ordinary course of business these are the claims of firm against its customers and form a part of the current assets. Receivables are also known as accounts Receivables; trade Receivables, customer Receivables, etc. the Receivables are carried for the customers. The period of credit and extent of Receivables depend upon the credit policy followed by the firm. The purpose of maintaining or investing in Receivables is to meet competition, and to increase the sale and profits of the business.

Objectives of Receivable Management

The main objective in Accounts Receivable management is to minimize the Days Sales Outstanding (DSO) and processing costs while maintaining good customer relations.

Monetizing the relationship

Account receivable management determines the charges before sending bill of product and services they provide. In America this is called Relationship Monetization.

Setting Credit and Payment Terms

This is important task for account receivable management to setting payment and credit term and conditions for each different type of customer.

Payment Collection

Service providers accepted any type of payment mode that user wants, but now there are so many payment systems today, So suppliers have to choose which payment system they will accept, because of different cost of collection and associated risk of non-payment.

Chasing Late Payments

The A/R department typically uses the sales ledger to manage the collection of receivables. A good indicator of how efficiently the receivables are being collected is the Accounts Receivable Collection Period: the average number of days that accounts receivables are outstanding. This should be only a few days longer than the standard days of credit.

Minimizing Invoice Disputes

Invoice disputes are a major reason why invoices are unpaid. Dispute resolution is a complex and manually intensive task. Companies need to be able to identify short pay invoices and disputes and capture all the information about the dispute as soon as possible. Then the dispute needs to be assigned to a member of staff or an outsource account receivable service provider, to resolve the dispute as quickly and efficiently as possible. Outsource service providers helps a lot in speed up this process and prevents bad debts, lower the administration cost and reduces the days sales outstanding. The objective of managing accounts receivable is for a business to simply get paid. Faster.

Accounts receivables are the debtors in your business that have been issued goods or services on credit - the customer agrees to pay at a time stipulated in the future. Unfortunately, late

payments are common, and cause cash flow problems for businesses - they may become cash strapped and unable to pay their own bills, wages, or plan for growth.

Managing accounts receivables becomes a key function in business. We all understand that improving sales is good for business, but making the cash collection is equally important because until you get paid, you haven't capitalised on the sale (but you've incurred the cost of making the sale).

Accounts receivable management should be proactively managed:

Proactive: Have a pre-determined system in place that includes risk assessment of potential bad debts, consequences for late payment (how does the business chase payment?) and prompts you to stay ahead of credit control. Make it easy to pay you (for example, collect money online).

Remember, accounts receivable is an asset in your business.

Costs of maintaining Receivables:

When a firm maintains receivables, some of the firm's resources remain blocked in them because there is a time lag between the credit sale to customer and receipt of cash from them as payment. Whether this additional finances is met from its own resources or from outside, it involves a cost to the firm in terms of interest (if financed from outside) or opportunity costs (if internal resources are used).

Administrative costs: When a company maintains receivables, it has to incur additional administrative expenses in the form of salaries to clerks who maintain records of debtors, expenses on investigating the creditworthiness of debtors etc.

Collection costs: These are costs, which the firm has to incur for collection of the amount at the appropriate time from the customers.

Defaulting costs: When customers make default in payment not only is the collection effort to be increased but the firm may also have to incur losses from bad debts.

Dimensions of Receivables Management:

Receivables management involves the careful consideration of the following steps:

- Forming of Credit Policy
- Executing the Credit Policy
- Formulating and Executing Collection policy

Forming of Credit Policy: A credit policy is related to decision such as Credit standards, length of credit periods, cash discount and discount period.

Credit standards: The volume of sales will be influence by the credit policy of the concern. By liberalizing the credit policy the volume of sales can be increased resulting into increased profits. The increased volume of sales is associated with the certain risks also. It will result in enhanced costs and risk of bad debts and delayed receipts. The increase in number of customers will increase the clerical work of maintaining the additional accounts and collecting of information about the credit worthiness of the customers. On the other hand, extending the credit only to credit worthy customers will save the cists like bad debts losses, collection costs, investigation costs etc. the restriction of credit to such customers only will certainly reduce sales volume, thus resulting n reduced profits. The credit should be liberalized only to the level where incremental revenue matches the additional costs. This the optimum level of investment in receivables is achieved at a point where there is a trade off between the cists, profitability and liquidity

Length of Credit period: Length of Credit period means the period allowed to the customers for making the payment. The customers paying well in time may also be allowed certain cash discounts. There are no bindings on fixing the terms. The length of credit period and quantum of discount allowed determine the magnitude of investment in receivables. A firm may allow liberal credit terms to increase the volume of sales. The lengthening of this period will mean blocking of more money in receivables, which could have been, invested somewhere else to earn income. There may be an increase in debt collection costs and bad debts losses too. If the earnings from additional sales by Length of Credit period are more than the additional costs then the credit terms should le liberalized. A finance manager should determine the period where additional revenues equates the additional costs and should not extend credit beyond this period as the increases in the cost will be more than the increase in revenue.

Cash discount: cash discount is allowed to expedite the collection of receivables. The funds tied up in receivables are released. The concern will be able to use the additional funds

received from expedited collection due to cash discount. The discount allowed involves cost. The finance manager should compare the earnings resulting from released funds and the cost of the discount. The discount should be allowed only if its cost is less than the earnings from additional funds. If the funds cannot be profitably employed then discount should not be allowed.

Discount period: The collection of receivables is influenced by the period allowed for availing the discount. The additional period allowed for this facility may prompt some more customers to avail discount and make payments. For example, if the firm allowing cash discount for payments within 7 days now extends it to payments within 15 days. There may be more customers availing discount and paying early but there will be those also who were paying earlier within 7 days will now pay in 15 days. It will increase the collection period of the concern.

Executing the Credit Policy: The evaluation of credit applications and finding out the credit worthiness of customers should be undertaken.

Collecting the Credit information: The first step in implementing the credit policy will be to gather the information about the customers. The information should be adequate enough so that the proper analysis about the financial position of the customers is possible. The type of the information can be undertaken only up to a certain limit because it will involve cost. The cost incurred on collecting this information and the benefit from reduced bad debts losses will be compared. The credit information will certainly help in improving the quality of receivables but the cost of collecting information should not increase the reduction of bad debt losses. The information may be available from the financial statements of the applicant, credit rating agencies; reports from the banks, firm's records etc. a proper analysis of financial statements will be helpful in determining the creditworthiness of customers. Credit rating agencies supply information about various concerns. These agencies regularly collect the information about the business units from various sources and keep the information up to date. Credit information may be available with the banks also. The banks have their credit departments to analyze the financial position of customers. In case of old customer, businesses own records may help to know their credit worthiness. The frequency of payments, cash discount availed may help to form an opinion about the quality of the credit.

Credit analysis: After gathering the required information, the finance manager should analyze it to find out the credit worthiness of potential customers and also to see whether they satisfy the standard of the concern or not. The credit analysis will determine the degree of risk associated with the account, the capacity of the customers to borrow and his ability and willingness to pay.

Credit Decision: The finance manager has to take the decision whether the credit is to be extended and if yes up to which level. He will match the creditworthiness of the customers with the credit standard of the company. If the customer's creditworthiness is above the credit standards then there is no problem in taking a decision. In case the customer's are below the company's standards then they should not be out rightly refused. Therefore they should be offered some alternatives facilities. A customer may be offered to pay on delivery on goods; invoices may be sent through bank and released after collecting dues.

Financing Investments in receivables and factoring: Receivables block a part of working capital. Efforts should be made so that the funds are nit tied up in receivables for longer periods. The finance manager should make the efforts to get the receivable financed so that working capital needs are met in time. The banks allow the raising of loans against security of receivables. Banks supply between 60-80% of the amount of receivables of dependable parties only. Then quality will determine the amount of loan. Beside banks, there may be other agencies, which can buy receivables and pay cash for them known as factoring. The factor will purchase only the accounts acceptable to him. The factoring may be with or without recourse. If it is without recourse then any bad debts loss taken up by the factor but if it is with recourse then bad debts loss will be recovered from the seller. The factor may suggest the customer for whom he will extend this facility.

Formulating and executing collection policy. The collection of amount due to the customers is very important. The concern should devise the procedures to be followed when accounts become due after the expiry of credit period. The collection policy termed as strict and lenient. A strict policy of collection will involve more efforts on collection. This policy will enable the early collection of dues and will reduce bad debts losses. The money collects will be used for other purpose and the profits of the concern will go up. A lenient policy increases the debt collection period and more bad debts losses. The collection policy should weigh the various aspects associated with it, the gains and losses of such policy and its effects

on the finances of the concerns. The collection policy should also devise the steps to be followed in collecting overdue amounts.

The steps should be like:

- ✓ Personal request through telephone
- ✓ Personal visit to customers

Taking help of collecting agencies

UNIT - IV

LESSON - 6

Inventory Management:

Introduction:

Every enterprise needs inventory for smooth running of its activities. It serves as a link between production and distribution processes. There is generally a time lag between the recognition of needed and its fulfilment. The greater the time, higher the requirement of inventory. Thus it is very essential to have proper control and management of inventories.

Meaning of Inventory:

The inventory means stock of goods, or a list of goods in manufacturing concern, it may include raw material, work in progress and stores etc. it includes the following things:

Raw materials are those basic inputs that are converted into finished product through the manufacturing process. Thus, raw materials inventories are those units, which have been purchased and stored for future production.

Work-in-process inventories are semi-manufactured products. They represent products that need more work before they become finished products for sale.

Finished goods inventories are those completely manufactured products, which are ready for sale. Stocks of raw materials and work-in-process facilitate production, while stock of finished goods is required for smooth marketing operations.

Thus, inventories serve as a link between the production and consumption of goods. The levels of three kinds of inventories for a firm depend on the nature of its business. A manufacturing firm will have substantially high levels of all three kinds of inventories, while a retail or wholesale firm will have a very high level of finished goods inventories and no raw material and work-in-process inventories. Within manufacturing firms, there will be differences. Large heavy engineering companies produce long production cycle products. Therefore, they carry large inventories. On the other hand, inventories of a consumer product company will not be large because of short production cycle and fast turnover. Supplies (or stores and spares) is a fourth type of inventory is also maintained by firms. Supplies include office and plant cleaning materials like soap, brooms, oil, fuel, light bulbs etc. These materials do not directly enter production, but are necessary for production process. Usually, these supplies are small part of the total inventory and do not involve significant investment. Therefore, a sophisticated system of inventory control may not be maintained for them.

The investment in inventory is very high in most of the undertakings engaged in manufacturing, wholesale and retail trade. The amount of investment is sometimes more in

inventory than on other assets. In India, a study of 29 major industries has revealed that the average cost of the material is 64 paise and the cost of labour and overhead is 36 paise in a rupee. It is necessary for every management to give proper attention inventory management. A proper planning of purchasing, handling, storing, and accounting should form a proper inventory management. An efficient system of inventory management will determine:

What to purchase?

How much to purchase?

Where to purchase?

Where to store?

The purpose of inventory management is to keep the stocks in such a way that neither there is over stocking nor under stocking. The over stocking will mean a reduction of liquidity and starving for other production processes. On the other hand, under stockings, will result in stoppage of work. The investment in inventory should be left in reasonable limits.

Purpose of holding inventories:

There are three main purposes for holding the inventories:

1. The Transaction Motive: This facilitates the continuous production and timely execution of sales orders.
2. The Precautionary Motive: This necessitates the holding of inventories for meeting the unpredictable changes in demand and supply of material.
3. The Speculative Motive: This includes keeping inventories for taking the advantage of price fluctuations, saving in reordering costs and quantity discounts.

Objectives of Inventory Management:

The main objectives of inventory management are operational and financial. The operational objectives mean that the materials and spares should be available in sufficient quantity so that work is not disrupted for want of inventory. The financial objective mean that investment in inventories should not remain idle and minimum working capital should be locked in it. The following are the objectives of inventory management:

1. To ensure the continuous supply of raw material, spare and finished goods so that the production should not suffer at any time.
2. To avoid both over stocking and under stocking of inventory.

3. To maintain the investment in inventories at the optimum level as required the operational and sales activities.

4. To keep material cost under control so that they contribute in reducing the cost of production and overall costs.

5. To eliminate duplication in ordering stocks. This is possible with the help of centralized purchase.

6. To minimize the losses through pilferages, wastages and damages.

7. To design the proper organization for inventory management.

8. To ensure the perpetual inventory control so that the material shown in the stock ledgers should be actually lying in the stores.

9. To facilitate the furnishing of data for short term and long term planning and control of inventory

Tools and Techniques of Inventory Management:

Effective inventory management requires an effective control, system for inventories. A proper inventory control not only helps in solving the acute problem of liquidity but also increases the profits and causes substantial reduction in the working capital of the concern.

The following are the important tools and techniques in inventory management and control:

Determination of stock level

Determination of safety stock

Determination of economic order quantity

A.B.C. analysis

V E D analysis

Inventory turnover ratio

JIT Control system

1. **Determination of stock level:** Carrying too much and too little inventories is detrimental to the firm. If the inventory level is too little, the firm will face frequent stock outs involving heavy ordering costs and if the inventory is too high it will be unnecessary tie up of capital. Therefore an efficient inventory management requires that a firm should maintain an optimum level of inventory where inventory costs are minimum. Various stock levels are as follows:

a. **Minimum level:** This represents the quantity, which must be maintained in hand at all, times. If stocks are less than the minimum level than the work will stop due to shortage of material. Following factors are undertaken while fixing minimum stock level.

b. **Lead time:** The time taken in processing the order and then executing is known as lead time

c. **Rate of consumption:** It is the average consumption of material in the factory. Minimum stock Level = Re order level – (Normal consumption x Normal reorder period)

d. **Reorder level:** Re order level is fixed between minimum and maximum level. Reorder level = Maximum Consumption x Maximum reorder period

e. **Maximum Level:** It is the quantity of the material beyond which a firm should not exceeds its stocks. If the quantity exceed maximum level limit then it will be overstocking. Maximum Level = Reorder level + reorder quantity – (Minimum Consumption x Minimum reorder period)

f. **Average stock level:** Average Stock level = Minimum stock level + ½ of reorder quantity

2. **Determination of safety stock:** Safety stock is a buffer to meet some unanticipated increase in usage. The usage of inventory cannot be perfectly forecasted. It fluctuates over a period of time. Two costs are involved in the determination of this stock.

- Opportunity cost of stock out
- Carrying costs

The stock out of Raw Material would cause production disruption. The stock out of finished goods result into the failure of the firm in competition as the form cannot provide proper customer service.

3. **Economic Order Quantity:** A decision about how much to order has a great significance in inventory management. The quantity to be purchased should be neither small nor big. EOQ is the size of lot to be purchased which is economically viable. This is the quantity of the material, which can be purchased at minimum cost. Cost of managing the inventory is made up of two parts:-

Ordering Costs: This cost includes:

- Cost of staff posted for ordering of goods
- Expenses incurred on transportation of goods purchased.

- Inspection costs of incoming material
- Cost of stationery, postage, telephone charges.

Carrying costs: These are the costs for holding the inventories. It includes:

- The cost of capital invested in inventories.
- Cost of storage
- Insurance cost
- Cost of spoilage on handling of materials
- The loss of material due to deterioration.

The ordering and carrying costs of material being high, an effort should be made to minimize these costs. The quantity to be ordered should be large so that economy may be made in transport cost and discounts may also be earned.

VED Analysis: The VED analysis is generally used for spare parts. The requirement and urgency of spares parts is different from that of the material. Spare parts are classified as Vital (V), essential (E), and Desirable (D). The vital spares are must for running the concern smoothly and these must be stored adequately. The non-availability of spare parts will cause havoc on the concern. The E type of spares is also necessary but their stock may be kept at low figures. The stocking of D type of spares may be avoided at times. If the lead time of these spares is less, then stocking of these spares can be avoided. The classification of spares under these three categories is an important decision. A wrong classification of any spare will create difficulties for production department. The classification should be left to the technical staff because they know the need urgency and use of these spares.

Inventory Turnover Ratio: This ratio is calculated to indicate whether the inventories have been used efficiently or not. The purpose is to ensure the blocking of only required minimum funds in inventory. This ratio is also known as Stock velocity.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average inventory at cost}}$$

$$\text{Inventory Conversion period} = \frac{\text{Days in Year}}{\text{Inventory Turnover Ratio}}$$

Just In Time (JIT) Inventory Control System: Just in time philosophy, which aims at eliminating waste from every aspect of manufacturing and its related activities, was first developed in Japan. Toyota introduced this technique in 1950's in Japan, how U.S. companies started using this technique in 1980's. The term JIT refers to a management tool that helps produce only the needed quantities at the needed time.

Just in time inventory control system involves the purchase of materials in such a way that delivery of purchased material is assured just before their use or demand. The philosophy of JIT control system implies that the firm should maintain a minimum (zero level) of inventory and rely on suppliers to provide materials just in time to meet the requirements.

Objectives of JIT:

- Minimum (zero) inventory and its associated costs.
- Elimination of non-value added activities and all wastes.
- Minimum batch/lot size.
- Zero breakdowns and continuous flow of production.
- Ensure timely delivery schedules both inside and outside the firm.

Features of JIT:

- ✓ It emphasises that firms following traditional inventory control system overestimate ordering cost and underestimate carrying costs associated with holding of inventories.
- ✓ It advocates maintaining good relations with suppliers so as to enable purchases of right quantity of materials at right time.
- ✓ It involves frequent production/order runs because of smaller batch/lot sizes.
- ✓ It requires reduction in set up time as well as processing time.
- ✓ The major focus of JIT approach is to purchase or produce in response to need rather than as per the plans and forecasts.

Advantages of JIT Inventory Control System:

- ✓ The right quantities of materials are purchased or produced at the right time.
- ✓ Investment in inventory is reduced.
- ✓ Wastes are eliminated.

LESSON - 7

Capital Budgeting:

Introduction: Capital Budgeting is the process of making investment decision in capital expenditure. It involves the planning and control of capital expenditure. It is the process of deciding whether or not to commit resources to particular long-term projects whose benefits are to be realized over a period of time.

According To Charles T Horn green: “Capital Budgeting is the long term planning for making and financing proposed capital outlays”

According To Lynch: “Capital Budgeting consists in planning development of available capital for the purpose of maximizing the long term profitability of the concern”

From the above definition, it may be concluded that it is the process by which the companies allocate funds to various investment projects designs to ensure profitability and growth.

Features of Capital Budgeting:

- Exchange of funds for future benefits:
- The future benefits are expected to be realized over a period of time.
- The funds are invested vested in long-term activities.
- They have a long term and significant effect on the profitability of the concern,
- They involve huge funds.

Importance of Capital Budgeting:

Large Investment: Capital budgeting decision involves large investment of funds. But the funds available with the firm are always limited and the demand for funds far exceeds the resources. Hence it is very important for a firm to plan and control its capital expenditure.

Long Term Commitment of Funds: capital expenditures involves not only large amount of funds but also funds for long term or permanent basis. The long term commitments of funds increases, the financial risk involved in the investment decision. Greater the risk involved, greater is need for careful planning of capital expenditure i.e. Capital Budgeting.

Irreversible Nature: The Capital expenditure decision is of irreversible nature. Once the decision for acquiring a permanent asset is taken, it becomes very difficult to dispose of these assets without incurring heavy losses.

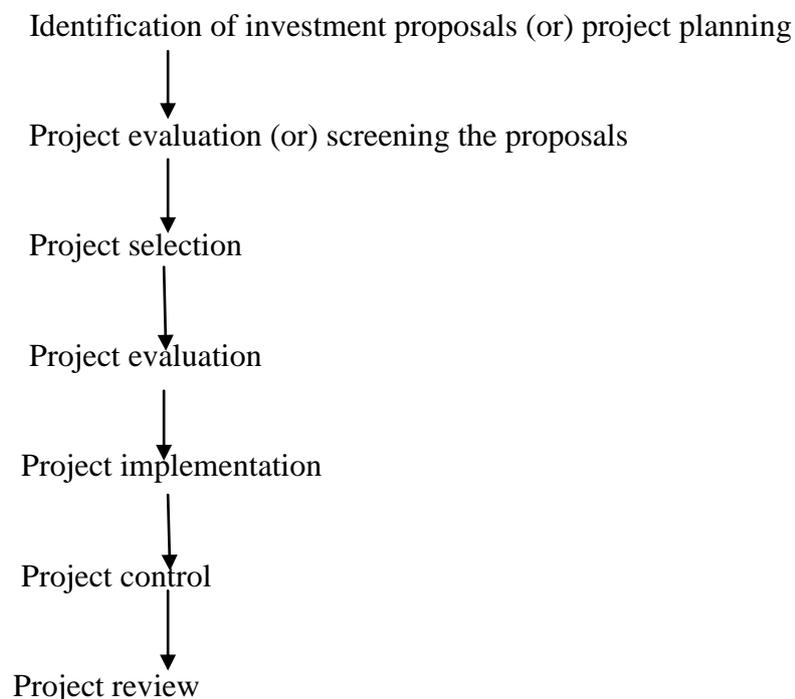
Long term Effect on profitability: Capital budgeting decisions have a long term and significant effect on the profitability of a concern. Not only the present earnings of the firm

are affected by the investments in capital assets but also the future growth and profitability of the firm depends upon the investment decision taken today. An unwise decision may prove disastrous and fatal to the very existence of the concern.

Difficulties of investment Decisions: The long term investment decision are difficult to be taken because decision extends to a series of years beyond the current accounting period, uncertainties of future, higher degree of risk.

National Importance: Investment decision though taken by individual concern is of national importance because it determines employment, economic activities and growth.

Capital Budgeting Process:



Identification of investment proposals (or) project planning:

Project planning invests the identification of potential investment opportunities after carrying out SWOT (Strength, Weakness, Opportunity and Threats) analysis.

Ex: Out of several opportunities (say A, B, C, D, E) A, C and E are expected to have potential investment opportunities.

Project Evaluation:

Project evaluation involves:

- a) Determination of cash inflows and cash outflows of each proposals.
- b) Selection of capital budgeting techniques.
- c) Appraisal of the projects using capital budgeting techniques selected.

Ex: Determination of cash inflows and cash outflows of proposal A, C and E. selection of capital budgeting technique (Say net present value) and calculating NPV of proposal A, C and E.

Project Selection:

Project selection involves making choice of the project so as to maximize the shareholders wealth.

Ex: Making choice of for project E having target NPV.

Objectives of Capital Budgeting:

1. Selection of the right mix of profitable projects.
2. Control of capital expenditure.
3. Determining the required quantum and the right source of funds for investments.

Evaluation Techniques:

The commonly used methods are:

- Traditional Method
- Payback period method or pay out or pay off method
- Rate of return Method or Accounting Method
- Time adjusted Method or discounted method
- Net present value method
- Internal rate of return method
- Profitability Index

Pay-Back Period Method: It represents the period in which the total investments in permanent assets pay back itself. This method is based on the principle that every capital expenditure pays itself back within a certain period out of the additional earnings generated from the capital assets thus it measures the period of time for the original cost of a project to be recovered from the additional earnings of the project itself.

In case of evaluation of a single project, it is adopted if it pays back itself within a period specified by the management and if the project does not pay back itself within the period specified by the management then it is rejected.

The payback period can be ascertained in the following manner: Calculate annual net earnings (profit) before depreciation and after taxes; these are called the annual cash flows.

Where the annual cash inflows are equal, divide the initial outlay (cost) of the project by annual cash flows, where the project generates constant annual cash inflows.

Where the annual cash inflows are unequal, the pay back period can be found by adding up the cash inflows until the total is equal to the initial cash outlay of project or original cost of the asset.

$$\text{Payback period} = \frac{\text{Cash outlay of the project or original cost of the asset}}{\text{Annual cash Inflows}}$$

Advantages of Pay Back Period method:

- It is simple to understand and easy to calculate.
- It saves in cost; it requires lesser time and labour as compared to other methods of capital budgeting.
- This method is particularly suited to firm, which has shortage of cash or whose liquidity position is not particularly good.

Disadvantages of Pay Back Period method:

- It does not take into account the cash inflows earned after the payback period and hence the true profitability of the project cannot be correctly assessed.
- It ignores the time value of money and does not consider the magnitude and timing of cash inflows. It treats all cash flows as equal though they occur in different time periods.
- It does not take into consideration the cost of capital, which is very important; factor in making sound investment decision.
- It treats each asset individually in isolation with other asset, which is not feasible in real practice.
- It does not measure the true profitability of the project, as the period considered under this method is limited to a short period only and not the full life of the asset.

Rate of Return Method: This method take into account the earnings expected from the investment over their whole life. It is known as accounting rate of Return method for the reasons that under this method, the accounting Concept of profit is used rather than cash

inflows. According to this method, various projects are ranked in order of the rate of earnings or rate of return. The project with the higher rate of return is selected as compared to the one with the lower rate of return. This method can be used to make decisions as to accepting or rejecting a proposal. The expected return is determined and the project with a higher rate of return than the minimum rate specified by the firm called cut -off rate, is accepted and the one which gives a lower expected rate of return than the minimum rate is rejected.

The return in investment can be used in several ways as follows:

Average rate of return method (ARR): Under this method average profit after tax and depreciation is calculated and then it is divided by the total capital outlay or total investment in the project.

$$\frac{\text{Total Profits (after dep. \& taxes)}}{\text{Net Investment in project x No. Of years of profits}} \quad \times 100$$

Or

$$\frac{\text{Average annual profit}}{\text{Net investment in the Project}} \quad \times 100$$

Return per unit of investment method: This method is small variation of the average rate of return method. In this method, the total profit after tax and depreciation is divided by the total investment i.e.

$$\text{Return per Unit of Investment} = \frac{\text{Total profit (after depreciation and tax)}}{\text{Net investment in the project}} \quad \times 100$$

Return on Average Investment method: In this method the return on average investment is calculated. Using of average investment for the purpose of return in investment is referred because the original investment is recovered over the life of the asset on account of depreciation charges.

$$\text{Return on Average Investment} = \frac{\text{Total profit (after depreciation and tax)}}{\text{Total Net investment/2}} \quad \times 100$$

Advantages of Rate of Return Method:

- It is very simple to understand and easy to operate.
- This method is based upon the accounting concept of profits; it can be readily calculated from the financial data.
- It uses the entire earnings of the projects in calculating rate of return.

Net Present Value Method: This method is the modern method of evaluating the investment proposals. This method takes into consideration the time value of money and attempts to calculate the return in investments by introducing the factor of time element. It recognizes the fact that a rupee earned today is more valuable earned tomorrow. The net present value of all inflows and outflows of cash occurring during the entire life of the project is determined separately for each year by discounting these flows by the firm's cost of capital.

Following are the necessary steps for adopting the net present value method of evaluating investment proposals:

- Determine appropriate rate of interest that should be selected as the minimum required rate of return called discount rate.
- Compute the present value of total investment outlay.
- Compute the present value of total investment proceeds.
- Calculate the net present value of each project by subtracting the present value of cash inflows from the present value of cash outflows for each project. If the net present value is positive or zero, the proposal may be accepted otherwise rejected.

Advantages of Net Present Value method:

1. It recognizes the time value of money and is suitable to be applied in situations with uniform cash outflows and cash flows at different period of time.
2. It takes into account the earnings over the entire life of the Projects and the true profitability of the investment Proposal can be evaluated.
3. It takes into consideration the on objective of maximum profitability.

Disadvantages of Net Present Value method:

- This method is more difficult to understand and operate.
- It is not easy to determine an appropriate discount rate.
- It may not give good results while comparing projects with unequal lives and investment of funds.

Profitability Index or PI: This is also known as benefit cost ratio. This is similar to NPV method. The major drawback of NPV method that not does not give satisfactory results while evaluating the projects requiring different initial investments. PI method provides solution to this. PI is calculated as:

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

If $\text{PI} > 1$ project will be accepted,

if $\text{PI} < 1$ project is rejected

if $\text{PI} = 1$ then decision is based on non-financial consideration

Advantages of PI method:

- It considers Time value of money
- It considers all cash flow during life time of project.
- More reliable than NPV method when evaluating the projects requiring different initial investments.

Disadvantages of PI method:

- This method is difficult to understand.
- Calculations under this method are complex

Exercises:

1. Calculate Average Rate of Return for the following information:

Year		0	1	2	3
Investment		100000			
Sales Revenue			120000	100000	80000
Operating Expenses (Excluding Depreciation)			60000	50000	40000
Depreciation			30000	30000	30000
Annual Income			30000	20000	10000

$$\text{Average annual income} = (30000+20000+10000)/3 = 20000$$

$$\text{Average net book value if the investment} = (100000+0)/2 = 50000$$

$$\text{Accounting rate of return} = 20000/50000 * 100 = 40\%$$

Internal Rate of Return Method: It is a modern technique of capital budgeting that takes into account the time value of money. It is also known as “time adjusted rate of return discounted cash flows” “yield method” “trial and error yield method”

Under this method, the cash flows of the project are discounted at a suitable rate by hit and trial method, which equates the net present value so calculated to the amount of the investment. Under this method, since the discount rate is determined internally, this method is called as the internal rate of return method. It can be defined as the rate of discount at which the present value of cash inflows is equal to the present value of cash outflows.

Steps required for calculating the internal rate of return:

- Determine the future net cash flows during the entire economic life of the project. The cash inflows are estimated for future profits before depreciation and after taxes.

- Determine the rate of discount at which the value of cash inflows is equal to the present value of cash outflows.
- Accept the proposal if the internal rate of return is higher than or equal to the minimum required rate of return.
- In case of alternative proposals select the proposals with the highest rate of return as long as the rates are higher than the cost of capital.

Determination of Internal Rate of Return:

1. When the annual net cash flows are equal over the life of the assets.

$$\text{Present value Factor} = \frac{\text{Initial Outlay}}{\text{Annual cash Flows}}$$

2. When the annual net cash flows are Unequal over the life of the assets.

Following are the steps:

- Prepare the cash flow table using an arbitrary assumed discount rate to discount the net cash flows to the present value.
- Find out the net present value by deducting from the present value of total cash flows calculated in above the initial cost of the investment
- If the NPV is positive, apply higher rate of discount.
- If the higher discount rate still gives a positive NPV, increase the discount rate further the NPV becomes become negative.
- If the NPV is negative at this higher rate, the internal rate of return must be between these two rates.

Advantages of Internal Rate of Return Method:

- It takes into account the time value of money and can be usefully applied in situations with even as

well as uneven cash flows at different periods of time.

- It considers the profitability of the project for its entire economic life.
- It provides for uniform ranking of various proposals due to the % rate of return.

Disadvantages of Internal Rate of Return Method:

- It is difficult to understand.
- This method is based upon the assumption that the earnings are reinvested at the internal rate of return for the remaining life of the project, which is not a justified assumption particularly when the rate of return earned by the firm is not close to the internal rate of return.
- The result of NPV and IRR method may differ when the project under evaluation differ their size.

UNIT -V

LESSON - 8

Introduction of Dividend Policy:

The term dividend refers to that part of profits of a company which is distributed by the company among its shareholders. It is the reward of the shareholders for investments made by them in the shares of the company. The investors are interested in earning the maximum return on their investments and to maximize their wealth. A company, on the other hand, needs to provide funds to finance its long-term growth. If a company pays out as dividend most of what it earns, then for business requirements and further expansion it will have to depend upon outside resources such as issue of debt or new shares. Dividend policy of a firm, thus affects both the long-term financing and the wealth of shareholders.

Dividend Decision and Value of Firms: The value of the firm can be maximized if the shareholders' wealth is maximized. There are conflicting views regarding the impact of dividend decision on the valuation of the firm. According to one school of thought, dividend decision does not affect the share-holders' wealth and hence the valuation of the firm. On the other hand, according to the other school of thought, dividend decision materially affects the shareholders' wealth and also the valuation of the firm. Below are the views of the two schools of thought under two groups:

- The Irrelevance Concept of Dividend or the Theory of Irrelevance.
- The Relevance Concept of Dividend or the Theory of Relevance.

The Relevance Concept of Dividend or The Theory of Relevance: The other school of thought on dividend decision holds that the dividend decisions considerably affect the value of the firm. The advocates of this school of thought include Myron Gordon, James Walter and Richardson. According to them dividends communicate information to the investors about the firms' profitability and hence dividend decision becomes relevant. Those firms which pay higher dividends, will have greater value as compared to those which do not pay dividends or have a lower dividend payout ratio. We have examined below two theories representing this notion:

- Walter's Approach
- Gordon's Approach

- **Walter's Approach:** Prof. Walter's approach supports the doctrine that dividend decisions are relevant and affect the value of the firm. Prof. Walter's model is based on the relationship between the firms's (i) return on investment. i.e., r . and (ii) the cost of capital or the required rate of return, i.e., k .

According to Prof. Walter, **If $r > k$** i.e., if the firm earns a higher rate of return on its investment than the required rate of return, the firm should retain the earnings. Such 'firms are termed as growth firm and the optimum pay-out would be zero in their case.

In case of declining firms which do not have profitable investments, i.e., **where $r < k$** , the shareholders would stand to gain if the firm distributes its earnings. For such firms, the optimum pay-out would be 100% and the firms should distribute the entire earnings as dividends.

In case of normal firms **where $r = k$** , the dividend policy will not affect the market value of shares as the shareholders will get the same return from the firm as expected by them. For such firms, there is no optimum dividend payout and the value of the firm would not change with the change in dividend rate.

Assumptions of Walter's Model:

- * The investments of the firm are financed through retained earnings only and the firm does not use external sources of funds.
 - * The internal rate of return (r) and the cost of capital (k) of the firm are constant.
 - * Earnings and dividends do not change while determining the value.
- The firm has a very long life.

Criticism of Walter's Model:

The basic assumption that investments are financed through retained earnings only is seldom true in real world. Firms do raise funds by external financing. The internal rate of return, i.e. r , also does not, remain constant. As a matter of fact, with increased investment the rate of return also changes. The assumption that cost of capital (k) will remain constant also does not hold good. As a firm's risk pattern does not remain constant, it is nAccording to Prof. Walter, **If $r > k$** i.e., if the firm earns a higher rate of return on its investment than the required rate of return, the firm should retain the earnings. Such 'firms are termed as growth firm and the optimum pay-out would be zero in their case.

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Gordon's Approach: Myron Gordon has also developed a model on the lines of Prof. Walter suggesting that dividends are relevant and the dividend decision of the firm affects its value. His basic valuation model is based on the following assumptions:

- * The firm is an all equity firm.
- * No external financing is available or used. Retained earnings are the only source of finance.
- * The rate of return on the firm's investment (r) is constant.
- * The retention ratio (b) is constant. Thus, the growth rate of the firm $g = br$, is also constant.
- * The cost of capital for the firm remains constant and it is greater than the growth rate, i.e. $k > br$.
- * The firm has perpetual life.
- * Corporate taxes do not exist.

Gordon's basic valuation formula can be simplified as under:

$$P = \frac{E (1 - b)}{K_e - br}$$

Where, $P =$ Price of shares

$E =$ Earnings per share $b =$ Retention ratio

$K_e =$ Cost of equity capital

$br = g =$ Growth rate in r , i.e. rate of return on investment

The implications of Gordon's basic valuation model may be summarized as below:

- * When $r > k$, the price per share increases as the dividend payout ratio decreases. Thus, growth firm should distribute smaller dividends and should retain maximum earnings.
- * When $r = k$, the price per share remains unchanged and is not affected by dividend policy. Thus, for a normal firm there is no optimum dividend payout.
- * When $r < k$, the price per share increases as the dividend payout ratio increases. Thus, the shareholders of declining firm stand to gain if the firm distributes its earnings. For such firms, the optimum payout would be 100%.

Gordon's Revised Model: The basic assumption in Gordon's Basic Valuation Model that cost of capital (k) remains constant for a firm is not true in practice. Thus, Gordon revised his basic model to consider risk and uncertainty. In the revised model, he suggested that even when $r = k$, dividend policy affects the value of shares on account of uncertainty of future, shareholders discount future dividends at a higher rate than they discount near dividends. That is there is a twofold assumption, viz. (i) investors are risk averse, and (ii) they put a premium on a certain, return and discount/penalize uncertain returns. Because the investors are rational and they want to avoid risk, they prefer near dividends than future dividends. Stockholders often act on the principle that a bird in hand is worth than two in the bushes and for this reason are willing to pay a premium for the stock with the higher dividend rate, just as they discount the one with the lower rate. Thus, if dividend policy is considered in the context of uncertainty, the cost of capital cannot be assumed to be constant and so firm should set a high dividend payout ratio and offer a high dividend yield in order to minimize its cost of capital.

Modigliani and Miller Approach (MM Model): Modigliani and Miller have expressed in the most comprehensive manner in support of the theory of irrelevance. They maintain that dividend policy has no effect on the market price of the shares and the value of the firm is determined by the earning capacity of the firm or its investment policy. The splitting of earnings between retentions and dividends, may be in any manner the firm likes, does not affect the value of the firm. As observed by M.M. "Under conditions of perfect capital markets, rational investors, absence of tax discrimination between dividend income and capital appreciation, given the firm's investment policy, its dividend policy may have no influence on the market price of the shares."

Assumptions of MM Hypothesis:

- There are perfect capital markets.
- Investors behave rationally.
- Information about the company is available to all without any cost.
- There are no floatation and transaction costs.
- No investor is large enough to affect the market price of shares.
- There are no taxes or there are no differences in the tax rates applicable to dividends and capital gains.
- The firm has a rigid investment policy.

The Argument of MM: The argument given by MM in support of their hypothesis is that whatever increase in the value of the firm results from the payment of dividend, will be exactly off set by the decline in the market price of shares because of external financing and there will be no change in the total wealth of the shareholders. For example, if a company, having investment opportunities, distributes all its earnings among the shareholders, it will have to raise additional funds from external sources. This will result in the increase in number of shares or payment of interest charges, resulting in fall in the earnings per share in the future. Thus whatever a shareholder gains on account of dividend payment is neutralized completely by the fall in the market price of shares due to decline in expected future earnings per share. To be more specific, the market price of a share in the beginning of a period is equal to the present value of dividends paid at the end of the period plus the market price of the shares at the end of the period. This can be put in the form of the following formula:

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

Where, P_0 = Market price per share at the beginning of the period

D_1 = Dividend to be received at the end of the period.

P_1 = Market price per share at the end of the period.

K_e = Cost of equity capital or rate of capitalization.

The value of P_1 can be derived by the above equation as under:

$$P_1 = P_0 (1 + K_e) - D_1$$

The MM hypothesis can be explained in another form also presuming that investment required by the firm, on account of payment of dividends are financed out of the new issue of equity shares.

Further, the value of the firm can be ascertained with the help of the following formula:

$$n P_0 = \frac{(n + m) P_1 - (I - E)}{1 + k_e}$$

Where, m = number of shares to be issued.

I = Investment required.

E = Total earnings of the firm during the period.

P₁ = Market price per share at the end of the period.

K_e = Cost of equity capital.

n = number of shares outstanding at the beginning of the period.

D₁ = Dividend to be paid at the end of the period.

n P₀ = Value of the firm

Criticism of MM Approach:

- * Perfect capital market does not exist in reality
- * Information about the company is not available to all the persons.
- * The firms have to incur flotation costs while issuing securities.
- * Taxes do exist and there is normally different tax treatment for dividends and capital gains.
- * The firms do not follow a rigid investment policy.
- * The investors have to pay brokerage, fees, etc. while doing any transaction.
- * Shareholders may prefer current income as compared to further gains.

Determinants of Dividend Policy:

The payment of dividend involves some legal as well as financial considerations. The following are the important factors which determine the dividend policy of a firm:

Legal Restrictions: Legal provisions relating to dividends in the Companies Act, 1956 lay down a framework within which dividend policy is formulated. These provisions require that:

- * Dividend can be paid only out of current profits or past profits after providing for depreciation or out of the moneys provided by Government for the payment of dividends in pursuance of a guarantee given by the Government.

* A company providing more than ten per cent dividend is required to transfer certain percentage of the current year's profits to reserves.

* The dividends cannot be paid out of capital, because it will amount to reduction of capital adversely affecting the security of its creditors.

Magnitude and Trend of Earnings: As dividends can be paid only out of present or past year's profits, earnings of a company fix the upper limits on dividends. The dividends should, generally, be paid out of current year's earnings only as the retained earnings of the previous year's become more or less a part of permanent investment in the business to earn current profits. The past trend of the company's earnings should also be kept in consideration while making the dividend decision.

Desire and Type of Shareholders: Desires of shareholders for dividends depend upon their economic status. Investors, such as retired persons, widows and other economically weaker persons view dividends as a source of funds to meet their day-to-day living expenses. To benefit such investors, the companies should pay regular dividends. On the other hand, a wealthy investor in a high income tax bracket may not benefit by high current dividend incomes. Such an investor may be interested in lower current dividends and high capital gains.

Nature of Industry: Certain industries have a comparatively steady and stable demand irrespective of the prevailing economic conditions. For instance, people used to drink liquor both in boom as well as in recession. Such firms expect regular earnings and hence can follow a consistent dividend policy. On the other hand, if the earnings are uncertain, as in the case of luxury goods, conservative policy should be followed.

Age of the Company: The age of the company also influences the dividend decision of a company. A newly established concern has to limit payment of dividend and retain substantial part of earnings for financing its future growth and development, while older companies which have established sufficient reserves can afford to pay liberal dividends.

Future Financial Requirements: The management of a concern has to reconcile the conflicting interests of shareholders and those of the company's financial needs. If a company has highly profitable investment opportunities it can convince the shareholders of the need for limitation of dividend to increase the future earnings.

Economic Policy: The dividend policy of a firm has also to be adjusted to the economic policy of the Government as was the case when the Temporary Restriction on Payment of Dividend Ordinance was in force. In 1974 and 1975, companies were allowed to pay dividends not more than 33 per cent of their profits or 12 per cent on the paid-up value of the shares, whichever was lower.

Taxation Policy: The taxation policy of the Government also affects the dividend decision of a firm. A high or low rate of business taxation affects the net earnings of company (after tax) and thereby its dividend policy. Similarly, a firm's dividend policy may be dictated by the income-tax status of its shareholders. If the dividend income of shareholders is heavily taxed being in high income bracket, the shareholders may forego cash dividend and prefer bonus shares and capital gains.

Inflation: Inflation acts as a constraint in the payment of dividends. when prices rise, funds generated by depreciation would not be adequate to replace fixed assets, and hence to maintain the same assets and capital intact, substantial part of the current earnings would be retained. Otherwise, imaginary and inflated book profits in the days of rising prices would amount to payment of dividends much more than warranted by the real profits, out of the equity capital resulting in erosion of capital.

Control Objectives: As in case of a high dividend pay-out ratio, the retained earnings are insignificant and the company will have to issue new shares to raise funds to finance its future requirements. The control of the existing shareholders will be diluted if they cannot buy the additional shares issued by the company.

Requirements of Institutional Investors: Dividend policy of a company can be affected by the requirements of institutional investors such as financial institutions, banks insurance corporations, etc. These investors usually favour a policy of regular payment of cash dividends and stipulate their own terms with regard to payment of dividend on equity shares.

Stability of Dividends: Stability of dividend simply refers to the payment of dividend regularly and shareholders, generally, prefer payment of such regular dividends. Some companies follow a policy of constant dividend per share while others follow a policy of

constant payout ratio and while there are some other who follows a policy of constant low dividend per share plus an extra dividend in the years of high profits.

Liquid Resources: The dividend policy of a firm is also influenced by the availability of liquid resources. Although, a firm may have sufficient available profits to declare dividends, yet it may not be desirable to pay dividends if it does not have sufficient liquid resources. If a company does not have liquid resources, it is better to declare stock-dividend i.e. issue of bonus shares to the existing shareholders. The issue of bonus shares also amounts to distribution of firm's earnings among the existing shareholders without affecting its cash position.

Types of Dividend Policy:

Regular Dividend Policy: Payment of dividend at the usual rate is termed as regular dividend. The investors such as retired persons, widows and other economically weaker persons prefer to get regular dividends.

Advantages of Regular Dividend Policy: (i) It establishes a profitable record of the company. (ii) It creates confidence amongst the shareholders. (iii) It aids in long-term financing and renders financing easier. (iv) It stabilizes the market value of shares. (v) The ordinary shareholders view dividends as a source of funds to meet their day-to-day living expenses. (vi) If profits are not distributed regularly and are retained, the shareholders may have to pay a higher rate of tax in the year when accumulated profits are distributed. However, it must be remembered that regular dividends can be maintained only by companies of long standing and stable earnings.

Stable Dividend Policy: The term 'stability of dividends' means consistency in the stream of dividend payments. In more precise terms, it means payment of certain minimum amount of dividend regularly. A stable dividend policy may be established in any of the following three forms:

- **Constant dividend per share:** Policy of paying fixed dividend per share irrespective of the level of earnings year after year. Such firms, usually, create a 'Reserve for Dividend Equalization' to enable them pay the fixed dividend even in the year when the earnings are not sufficient.

- **Constant payout ratio:** Constant pay-out ratio means payment of a fixed percentage of net earnings as dividends every year. The amount of dividend in such a policy fluctuates in direct proportion to the earnings of the company.
- **Stable rupee dividend plus extra dividend:** Some' companies follow a policy of paying constant low dividend per share plus an extra dividend in the years of high profits. Such a policy is most suitable to the firm having fluctuating earnings from year to year.

Advantages of Stable Dividend Policy: (i) It is sign of continued normal operations of the company. (ii) It stabilizes the market value of shares (iii) It creates confidence among the investors, improves credit standing and makes financing easier (iv) It provides a source of livelihood to those investors who view dividends as a source of fund to meet day-to-day expenses (v) It meets the requirements of institutional investors who prefer companies with stable divide.

Irregular Dividend Policy: Some companies follow irregular dividend payments on account of the following: (i) Uncertainty of earnings (ii) Unsuccessful business operations(iii) Lack of liquid resources

No Dividend Policy: A company can follow a policy of paying no dividends presently because of its unfavorable working capital position or on account of requirements of funds for future expansion and growth.

Forms of Dividend:

Dividends can be classified in various forms. Dividends paid in the ordinary course of bus in known as **Profit dividends**, while dividends paid out of capital are known as **Liquidation dividends**. A dividend which is declared between two annual general meetings is called **interim dividend**, while the dividend recommended to the shareholders at the annual general meeting is known as **final dividend**.

Classification on the basis of medium in which they are paid:

Cash Dividend: A cash dividend is a usual method of paying dividends. Payment of cash results in outflow of funds and reduces the company's net worth, though the shareholders get

a opportunity to invest the cash in any manner they desire. This is why the ordinary shareholders prefer to dividends in cash.

Scrip or Bond Dividend: A scrip dividend promises to pay the shareholders at a future specific date. In case a company does not have sufficient funds to pay dividends in cash, it may issue notes or bonds for amount due to the shareholders. The objective of scrip dividend is to postpone the immediate Payment. A scrip dividend bears interest and is accepted as a collateral security.

Property Dividend: Property dividends are paid in the form of some assets other than cash are distributed under exceptional circumstances and are not popular in India.

Stock Dividend: Stock dividend means the issue of bonus shares to the existing shareholders. If a company does not have liquid resources it is better to declare stock dividend. Stock dividend amounts to capitalization of earnings and distribution of profits among the existing shareholders without affecting the cash position of the firm. This has been discussed in detail under "Bonus Issue".

Bonus Issue:

A company can pay bonus to its shareholders either in cash or in the form of shares. Many a times, a company is not in a position to pay bonus in cash in spite of sufficient profits because of unsatisfactory cash position or because of its adverse effects on the working capital of the company. In such cases, if the articles of association of the company provide, it can pay bonus to its shareholder in the form of shares by making partly paid shares as fully paid or by the issue of fully paid bonus shares. Issue of bonus shares in lieu of dividend is not allowed as according to Section 205 of the Companies Act, 1956, no dividend can be paid except in cash. It cannot be termed as a gift because it only represents the past sacrifice of the shareholders.

When a company accumulates huge profits and reserves, its balance sheet does not reveal a true picture about the capital structure of the company and the shareholders do not get fair return on their capital. Thus, if the Articles of Association of the company so permit, the excess amount can be distributed among the existing shareholders of the company by way of issue of bonus shares.

Objectives of Bonus Issue:

- * To bring the amount of issued and paid up capital in line with the capital employed so as to depict more realistic earning capacity of the company.
- * To bring down the abnormally high rate of dividend on its capital so as to avoid labour problems such as demand for higher wages and to restrict the entry of new entrepreneurs due to the attraction of abnormal profits.
- * To pay bonus to the shareholders of the company without affecting its liquidity and the earning capacity of the company.
- * To make the nominal value and the market value of the shares of the company comparable.
- * To correct the balance sheet so as to give a realistic view of the capital structure of the company.

Advantages of issue of Bonus Shares:**Advantages from the viewpoint of the company:**

- * It makes available capital to carry and a larger and more profitable business.
- * It is felt that financing helps the company to get rid of market influences.
- * When a company pays bonus to its shareholders in the value of shares and not in cash, its liquid resources are maintained and the working capital of the company is not affected.
- * It enables a company to make use of its profits on a permanent basis and increases credit worthiness of the company.
- * It is the cheapest method of raising additional capital for the expansion of the business.
- * Abnormally high rate of dividend can be reduced by issuing bonus shares which enables a company to restrict entry of new entrepreneurs into the business and thereby reduces competition.
- * The balance sheet of the company will reveal a more realistic picture of the capital structure and the capacity of the company.

Advantages from the viewpoint of investors or shareholders:

- The bonus shares are a permanent source of income to the investors. Even if the rate of dividend falls, the total amount of dividend may increase as the investor gets dividend on a larger number of shares.
- The investors can easily sell these shares and get immediate cash, if they so desire.

Disadvantages of Bonus Shares:

- The issue of bonus shares leads to a drastic fall in the future rate of dividend as it is only the capital that increases and not the actual resources of the company. The earnings do not usually increase with the issue of bonus shares.
- The fall in the future rate of dividend results in the fall of the market price of shares considerably, this may cause unhappiness among the shareholders.
- The reserves of the company after the bonus issue decline and leave lesser security to investors.

What is a 'Stock Dividend'

A stock dividend is a dividend payment made in the form of additional shares rather than a cash payout, also known as a "scrip dividend." Companies may decide to distribute this type of dividend to shareholders of record if the company's availability of liquid cash is in short supply. These distributions are generally acknowledged in the form of fractions paid per existing share, such as if a company issued a stock dividend of 0.05 shares for each single share held by existing shareholders.

BREAKING DOWN 'Stock Dividend'

A stock dividend is a distribution of shares to existing shareholders in lieu of a cash dividend. These type of dividends arise when a company wants to reward its investors but either doesn't have the capital to distribute or it wants to hold onto its existing liquidity for other

investments. Stock dividends also have a tax advantage where they aren't taxed until the shares are sold by an investor. This makes them advantageous for shareholders who do not need immediate capital.

The board of a public company, for example, can approve a 5% stock dividend, which gives existing investors an additional share of company stock for every 20 shares they already own. However, this means that the pool of available equities increases by 5%, diluting the value of existing shares. So, even though an investor who owns 100 shares in a company may receive 5 additional shares, the total market value of those shares remains the same. In this way a stock dividend is very similar to a stock split.

Small Stock Dividends Versus Large Stock Dividends

The total value of equity remains the same from both the investors perspective and the company's perspective. However, all stock dividends require a journal entry on behalf of the company issuing the dividend. This entry transfers the value of the issued stock from the retained earnings account to the paid-in capital account. The amount transferred between the two accounts depends on whether the dividend is a small stock dividend or a large stock dividend.

A stock dividend is considered small if the shares issued is less than 25% of the total value of shares outstanding before the dividend. A small stock dividend journal entry is made that transfers the market value of the issued shares from retained earnings to paid-in capital.

Large stock dividends arise when the new shares issued is more than 25% of the v

A stock split is usually done by companies that have seen their share price increase to levels that are either too high or are beyond the price levels of similar companies in their sector. The primary motive is to make shares seem more affordable to small investors even though the underlying value of the company has not changed.

A stock split can also result in a stock price increase following the decrease immediately after the split. Since many small investors think the stock is now more affordable and buy the stock, they end up boosting demand and drive up prices. Another reason for the price increase is that a stock split provides a signal to the market that the company's share price has been increasing and people assume this growth will continue in the future, and again, lift demand

and prices. In June 2014, Apple Inc. (AAPL) split its shares 7-for-1 to make it more accessible to a larger number of investors. Right before the split, each share was trading at \$645.57 and after the split, the price per share at market open was \$92.70, which is approximately $645.57 \div 7$. Existing shareholders were also given six additional shares for each share owned, so an investor who owned 1,000 shares of AAPL pre-split will have 7,000 shares post-split. Apple's outstanding shares increased from 861 million to 6 billion shares, however, the market cap remained largely unchanged at \$556 billion. The day after the stock split, the price had increased to a high of \$95.05 to reflect the increased demand from the lower stock price.

Another version of a stock split is the reverse split. This procedure is typically used by companies with low share prices that would like to increase these prices to either gain more respectability in the market or to prevent the company from being delisted (many stock exchanges will delist stocks if they fall below a certain price per share). For example, in a reverse 1-for-5 split, 10 million outstanding shares at 50 cents each would now become two million shares outstanding at \$2.50 per share. In both cases, the company is still worth \$5 million. In May 2011, in an effort to reduce its share volatility and discourage speculator trading, Citigroup (C) reversed split its shares 1-for-10. The reverse stock split increased its share price from \$4.52 pre-split to \$45.12 post-split and every ten shares held by an investor was replaced with one share. While the split reduced the number of its shares outstanding from 29 billion to 2.9 billion shares, the market cap of the company stayed the same at approximately \$131 billion.

The bottom line is a stock split is used primarily by companies that have seen their share prices increase substantially and although the number of outstanding shares increases and price per share decreases, the market capitalization (and the value of the company) does not change. As a result, stock splits help make shares more affordable to small investors and pr

What is Lease Financing?

A lease is a simple financing structure that allows a customer to use energy efficiency equipment without purchasing it outright. The two most common types are on-balance sheet capital leases and off-balance sheet operating leases. Public sector organizations can also take advantage of tax-exempt leases. At the end of the lease, the customer may have the option to

purchase the equipment, return the equipment, or extend the contract, depending on the type of lease used. Lease financing is offered by many equipment manufacturers and vendors as well as third-party lessors. (Note that operating leases must be reported on balance sheet as of 2019-2020.)

How it Works

The customer either arranges lease financing through the manufacturer, vendor, or installer of the efficiency equipment being purchased or, if unavailable, directly with a third-party lessor. The customer and lessor sign a lease agreement once the project terms are agreed upon, and the lessor then provides the capital to purchase the equipment and associated installation services from a contractor. Once installation is complete, the customer begins making regular (typically monthly) fixed payments to the lessor on an agreed-upon schedule.

Beyond those similarities, the three types of leases work differently:

Capital Lease: In a capital lease, the customer is the owner of the equipment for most legal and accounting purposes during the term. Therefore, the customer must declare the equipment as an asset and the lease payments as a liability on its balance sheet. The customer may depreciate the equipment as an asset to provide a tax benefit, but the lessor typically takes a security interest in the equipment so that it can be reclaimed in the event of default. At the end of the lease term, the customer can purchase the equipment for a discounted bargain price, typically a \$1 “buck-out” payment. A capital lease functions much like a loan and is therefore sometimes called a “finance lease.” However, capital leases can offer a few advantages over bank loans such as little to no upfront cost, less paperwork, and quicker approvals.

Operating Lease: In an operating lease, the lessor owns the equipment and the customer rents it at a fixed monthly payment. These rental payments are treated as an operating expense for tax purposes and are therefore tax deductible. In order to qualify as an operating lease, a transaction must pass several tests set by the Financial Accounting Standards Board (FASB). At the end of the lease, the customer can extend the lease, purchase the equipment for fair market value, or return the equipment.

****NOTE**** FASB issued an update to accounting standards in February 2016 that will eliminate off-balance sheet treatment for most operating leases, requiring customers to report the associated asset and liability on their balance sheet as of 2019-2020. These new standards will apply to any operating lease with a term of over 12 months. The standards do not include a grandfather provision, meaning that any leases signed before the change will also be affected.

Tax-Exempt Lease: Also known as a municipal lease, a tax-exempt lease-purchase agreement is a common financing structure that allows a public organization to pay for efficiency using its annual revenues. This option is an effective alternative to traditional debt financing but is only available to municipalities and other political subdivisions that qualify. Tax exempt leases have two unique attributes. First, the lessor may claim a federal income tax exemption on the interest they receive from the customer under the lease, allowing them to offer a lower rate. Second, the lease contract usually stipulates that if the customer fails to appropriate funds to make payments on the lease in any given year, its obligations to the lessor ends. In most states, this non-appropriation clause means that (a) a tax-exempt lease is not considered debt and (b) lease payments may be made from operating rather than capital expense budgets. Although the financing terms for tax-exempt leases may extend as long as 15 to 20 years, they are usually shorter than 12 years and are limited by the useful life of the equipment. The customer has title to the equipment throughout the term of the lease and retains ownership once the lease is paid off.

Advantages and Disadvantages

Factors Favoring Leasing: Decision

- **Cash flow:** A business can conserve its cash flow by leasing. Under a lease, the initial cash expense for the facility will be a month's rent and a security deposit.
- **Credit rating:** The company has not established a credit rating sufficient to support a mortgage.
- **Maintenance:** The landlord is responsible for maintaining the property.
- **Property:** You have been unable to find a suitable property that is for sale.
- **Real estate values:** The facility you've found meets the needs of the business but is located in an area where property values are declining.
- **Mobility:** You're not sure that the facility will meet the future needs of the business.
- **Tax Savings:** Rent is deductible as a business expense.