UNIT-1 Financial management and Sources of finance

**Topic covered**:-Introduction so Financial Management , significance, scope, functions, objectives of Financial Management, Profit maximization Vs. Wealth maximization. Sources of Finance: Short term, medium term and long term sources of finance

**Introduction:** Finance is defined as the provision of money when it is required. The role of finance is vital in every organization, weather big or small. A firm’s success or even survival is dependent on finance and it is much dependent upon how efficiently a firm is able to acquire and utilize the funds.

**Meaning**: Financial management means to plan and control the finance of the company. It is done to achieve the objectives of the company. **Financial management is concerned with raising financial resources and their effective utilization towards achieving the organizational goals.**

Financial management has a wide scope.

**According to Dr. S. C. Saxena**, the scope of financial management includes the following five 'A's.

Anticipation: Financial management estimates the financial needs of the company. That is, it finds out how much finance is required by the company.

**Acquisition:** It collects finance for the company from different sources.

**Allocation :** It uses this collected finance to purchase fixed and current assets for the company.

**Appropriation:** It divides the company's profits among the shareholders, debenture holders, etc. It keeps a part of the profits as reserves.

**Assessment :** It also controls all the financial activities of the company.

**Significance of financial management**

1. **Helpful in acquiring sufficient funds :** It is helpful in assessing the financial needs of the business, preparing an optimum capital structure and then raising the finance from from app. Sources of finance.
2. **Proper utilization of funds:** fm uses the funds in such a way that maximum benefits is derived from them. The benefits are received from their use are compared with their costs.
3. **Proper cash management:** fm asseses way that maximum benefits is derived from them. The benefits received from their use are compared with their cost. Se of profits
4. Proper use of profits: judiucious use of profits is essential for expansion and diversification of the concern.
5. **Lowers Cost of Capital :**Financial managers also try their very best to reduce the cost of capital, which is something that is vital to the business. They ensure money borrowed attracts little interest rates so the company can maximize profit.
6. **Useful for investor:** If the investor has sufficient knowledge of the principles of financial management ,they will be able to decide whether a company’s securities should be purchased or not.

**Objectives of financial management: I**t is the duty of the top management to lay down the objectives which are to be achieved by business. there are two approaches in this regard:

1. **Profit maximization**
2. **Wealth maximization**

**Profit maximization**: according to this activiti**es** which increase profits should be undertaken and which decrease the profits should be avoided

**Points in favour of Profit maximization**

* It is a barometer of the performance of the company.
* It covers the cost of running a business.
* It provides fund for the growth of future.
* Without profit a business can not survive .
* It provide support in emergencies.
* Source of incentive
* Maximization of social welfare

Some of the drawbacks of profit maximizations ar**e**

1. **Ambiguous:** In Profit Maximization, profit is not defined precisely or correctly. It creates some unnecessary opinion regarding earning habits of the business concern. For example, profit may be long term or short term. It may be total profit or rate of profit. It may be net profit before tax or net profit after tax. It may be return on total capital employed or total assets or shareholders equity and so on.
2. **It ignores the time value of money:** Profit maximization does not consider the time value of money or the net present value of the cash inflow. It leads certain differences between the actual cash inflow and net present cash flow during a particular period. When the profitability is worked out the bigger the better principle is adopted as the decision is based on the total benefits received over the working life of the asset, Irrespective of when they were received.
3. **It ignores risk:** Profit maximization does not consider risk of the business concern. Risks may be internal or external which will affect the overall operation of the business concern.
4. **Ignores future profits .**
5. **Ignore social obligations of business.**

**Wealth Maximization:** Wealth maximization is one of the modern approaches, which involves latest innovations and improvements in the field of the business concern. The term “wealth” means shareholder wealth or the wealth of the persons those who are involved in the business concern. Wealth maximization is also known as **value maximization or net present worth maximization.** This objective is a universally accepted concept in the field of business. It removes technical disadvantages of the profit maximization. Wealth maximization is superior to the profit maximization because the main aim of the business concern under this concept is to improve the value or wealth of the shareholders.  Wealth maximization considers the comparison of the value to cost associated with   the business concern. Total value detected from the total cost incurred for the business operation. It provides extract value of the business concern. This concept considers both time and risk of business concern. This criteria provides efficient allocation of resources and it also ensures the economic interest of the society. The wealth maximization criterion is based on cash flows generated and not on accounting profit. The computation of cash inflows and cash outflows is precise. Wealth maximization can be activated only with the help of the profitable position of the business concern.

So The goal of maximizing the value of the stock avoids the problems associated with the different goals we discussed above. .in a simple language a good financial decisions increase the market value of the owners’ equity and poor financial decisions decrease it. So the financial manager best serves the owners of the business by identifying goods and services that add value to the firm because they are desired and valued in the free marketplace. So it is a **long term** concept **based on the cash flows rather than profits** and hence there can be a situation where a business makes losses every year but there are cash profits because of heavy depreciation which indirectly suggests heavy investment in fixed assets and that is the real wealth and it takes into account the time value of money and so is universally accepted.

**Shortly** it is a technique that concentrates its focus on increasing the net worth or shareholder capital gains, of a company or firm. This approach contrasts with the more traditional method of management that seeks out increased profits above all other pursuits. Those who pursue this technique also seek out profits, but they concern themselves with cash flow, earnings per share of shareholders, and the social value of any FINANCIAL initiatives as well profit maximization

*W= A1 + A2 + …………………………………+An – c*

*(1+k) (1+k)2 (1+k)n*

**Profit maximization vs. Wealth maximization**

The financial management has come a long way by shifting its focus from traditional approach to modern approach. The modern approach focuses on wealth maximization rather than profit maximization. This gives a longer term horizon for assessment, making way for sustainable performance by businesses.

|  |  |
| --- | --- |
| Profit maximization | Wealth maximization |
| It uses accounting profits. | It uses cash instead of accounting profits. |
| It ignores the ti,e value of money. | It considers the time value of money. |
| It emphasize on short term goal. | It emphasize on long term goal. |
| It ignores risk and uncertainty. | It considers risk and uncertainty. |
| It leads to the concept of exploitation of employees and consumer. | It serves the interests to suppliers, investors,  financiers, management, consumer & society |
|  |  |

**Accounting and Finance**

Accounting can be broadly defined as the preparation, evaluation and management of FINANCIAL records, while finance is best described as the study and management of investments. Accountants are therefore more concerned with budgets, audits, taxes and business FINANCIAL operations, while financial analysts are typically experts in stocks, bonds and various other financial products available to corporate or individual investors.

**Sources of Finance:**

* **Long term sources of finance**

1. Equity shares
2. Preference shares
3. Ploughing back of profits
4. Debentures
5. Loan from financial institutions
6. lease financing

* **Short term sources of finance**

1. Public deposits
2. Medium term loan from Commercial bank

* **Medium term sources of finance**

Bank s

Non-Bank

Cash credits

Overdrafts

Term loan

Discounting of bills

Trade credit

Commercial papers

Advances from customers

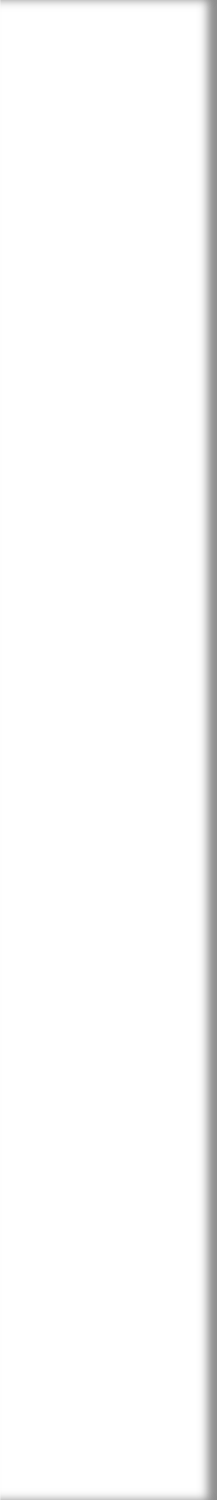
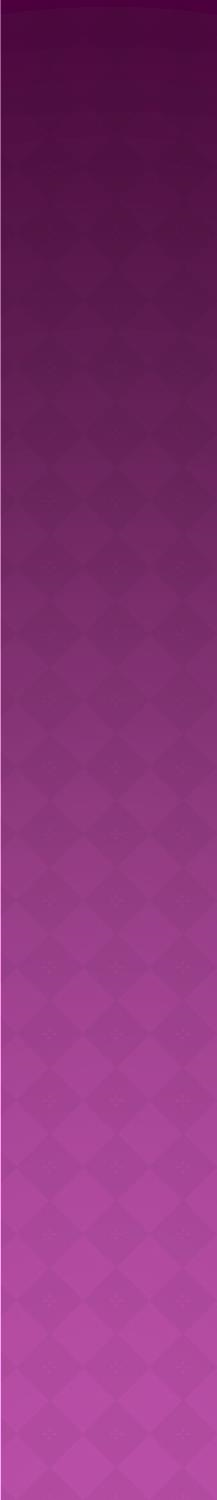
Accrued expenses

Misslaneous sources

**Long-Term Sources of Finance**

Long-term financing means capital requirements for a period of more than 5 years to 10, 15, 20 years or maybe more depending on other factors.

Capital expenditures in fixed assets like plant and machinery, land and building, etc of business are funded using long-term sources of finance. Part of working capital which permanently stays with the business is also financed with long-term sources of funds.



**Medium term financing** means financing for one to five years.

**Short term financing** means financing for a period of less than 1 year. The need for short-term finance arises to finance the current assets of a business like an inventory of raw material and finished goods, debtors, minimum cash and bank balance etc. Short term financing is also named as working capital financing.

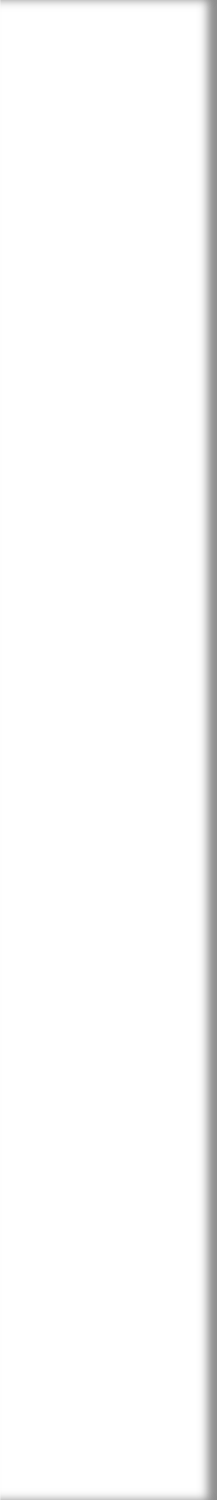
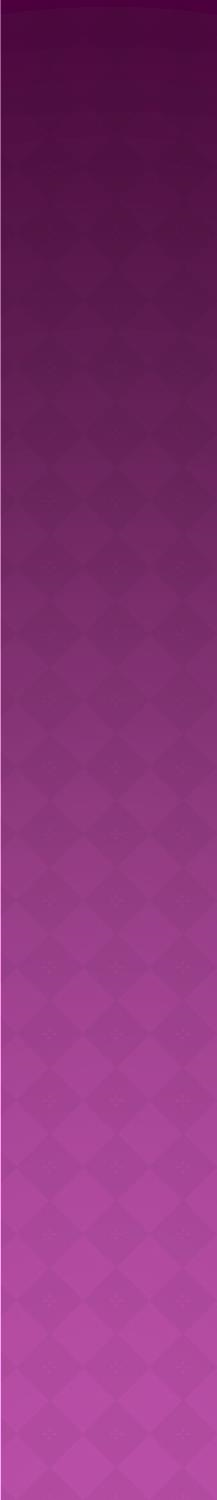
Long-term financing sources can be in the form of any of them:

**1. Equity Share Capital:**

It is the main sources of finance, which any organization would look before beginning the business. Equity share capital is the best alternative when looking for permanent sources of capital. It expresses the ownership rights of an organization. A public company may raise assetsor funds from promoters, investors or individuals by issuing common equity shares of a company. These shareholders / investors are paid dividends just when there are distributable earnings. The risk of value investors is restricted up to the worth of the shares face value.

**2. Preference Share Capital:**

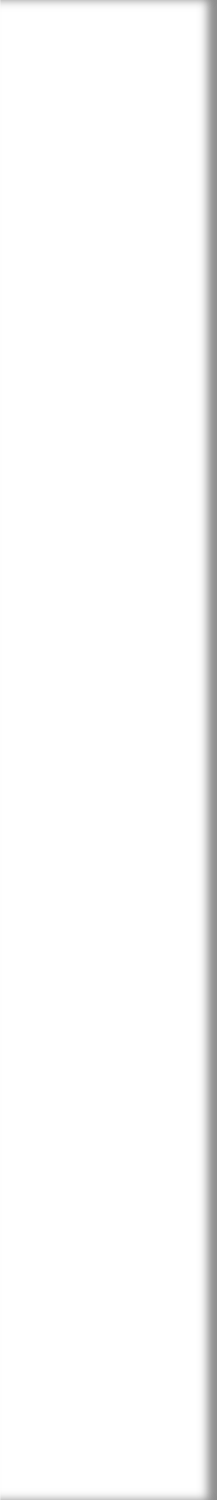
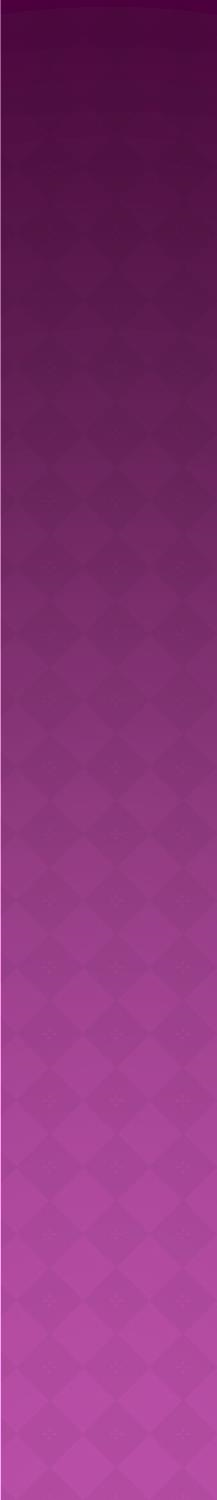
Those individuals who are more keen towards payment of dividends at regular intervals rather than appreciation of capital value. In case of liquidation, preference shareholders are paid initially and then equity shareholders are been paid. Long term sources of funds from preference shares are raised by offering public issue of shares. It does not require any security as well as they do not have ownership privilege in an organization. It has a few attributes of debt capital as well as some of equity capital. There are different types of preference share capital issued by a company as a long term sources of finance, they are:



1. Convertible Preference Shares.
2. Non-convertible Preference Shares.
3. Non-participating Preference Shares.
4. Participating Preference Shares.
5. Non-participating Preference Shares.
6. Redeemable Preference Shares.
7. Irredeemable Preference Shares.
8. Cumulative Preference Shares.
9. Non-cumulative Preference Shares.

**3. Retained Earnings:**

That income which the organization has accumulated throughout the years and in this manner, it tends to be known as reserve funds of the organization. These undistributed profits kept as a reserve fund are then utilized by the organization at specific point for specified purpose. For example: business expansion, investing in research of new products, diversification programmes etc. In spite of the fact, it is one of the essential methods for long term sources of finance mostly for improvement, development or expansion of an organization.

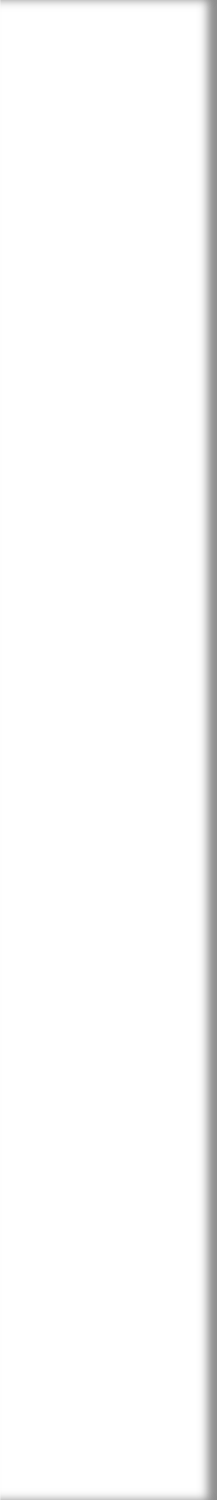
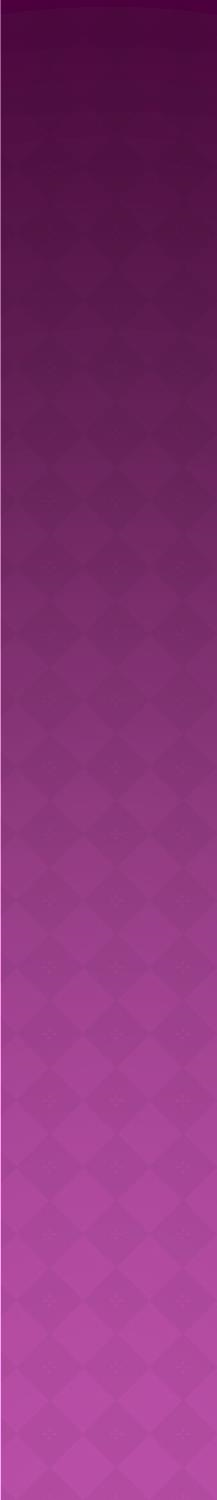


**Conclusion:**

Here we have seen various different types of long term sources of finance. One should analysis these types carefully before selecting or making your decision. As all these types have its unique characteristics with respect to dilution of ownership, requirement of any pledge or mortgage, cheapest method, liquidation rights, privilege of dividends and more. Check it out.

**4. Loans from Financial Institutions:**

When the firm either takes loan / finance from banks or from non-banking **financial institutions** which are repayable following 3, 5 or under 10 years then it is represented as long term sources of finance. Financial Institutions give long-term loans for financial needs to private as well as public firms. For the most part company’s get long-term sources of finance by raising term loans. Below are some of the financial institutions that provides such types of term loans, they are: Nationalize



Commercial Banks.

Development Banks.

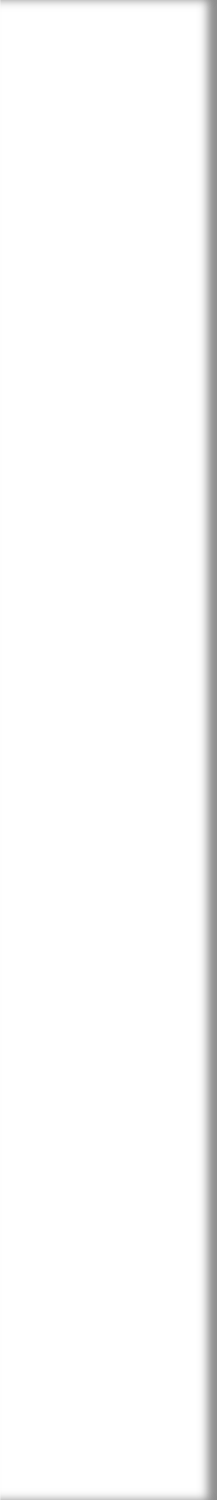
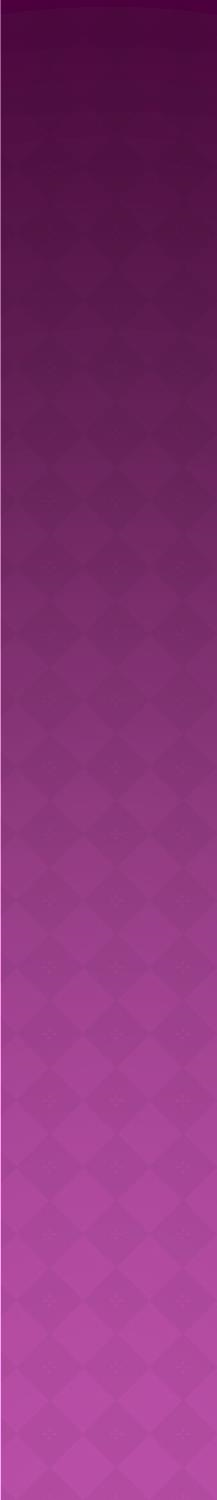
Government Financial Institutions.

Other **Investment** Organizations.

**5. Debentures:**

A debenture is a debt record of declaration with a typical seal of an organization. It contains terms and conditions of debt repayment, rate of interest payments, redemption / maturity of debt and more and the information related to security offered by an organization. There are various different types of debentures issued by a company for long term sources of finance, they are:

1. Secured or Mortgage Debenture.
2. Simple or Naked Debentures.
3. Bearer Debentures.
4. Convertible Debentures.



1. Non-Convertible Debentures.
2. Redeemable Debentures.
3. Registered Debentures.
4. Irredeemable Debentures.
5. Right Debentures

Medium term financing is mostly raised from :

1.Public deposits: A company can accept deposits from the public to finance its medium- and short-term requirements of funds. This source has become very popular off late because companies offer higher interest than the interest offered by banks.

#### Features of Public Deposits:

1. Total public deposits cannot exceed 25 per cent of the paid up capital and free reserves of the company.

2. It is an uncertain source of financing.

3. There are legal restrictions on the acceptance and renewal of public deposits.

#### Advantages of Public Deposits:

1. Acquisition of finance through public deposits is very easy
2. . Interest paid on public deposits is tax deductible expenditure.
3. Administrative cost of issuing a public deposit is lower than the cost involved in issuing shares and debentures.
4. Since the rate of interest paid on a public deposit is fixed, it helps the company play trading on equity.
5. It does not dilute the control of shareholders.

#### Disadvantages of Public Deposits::

i. They are uncertain forms of financing.

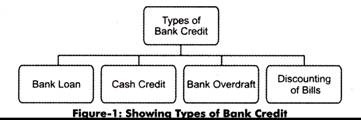
ii. Public deposits are available for short periods only.

iii. The management may misuse the deposit as these deposits are not secured.

**Types of Credit Offered by Commercial Banks:**

A commercial bank offers short-term loans to individuals and organizations in the form of bank credit, which is a secured loan carrying a certain rate of interest.

**There are various types of bank credit provided by a commercial bank, as shown in Figure-2:**

**[](http://cdn.economicsdiscussion.net/wp-content/uploads/2015/01/clip_image0119.jpg)**

**Bank Loan:**

Bank loan may be defined as the amount of money granted by the bank at a specified rate of interest for a fixed period of time. The commercial bank needs to follow certain guidelines to extend bank loans to a client. For example the bank requires the copy of identity and income proofs of the client and a guarantor to sanction bank loan. The banks grant loan to clients against the security of assets so that, in case of default, they can recover the loan amount. The securities used against the bank loan may be tangible or intangible, such as goodwill, assets, inventory, and documents of title of goods.

**The advantages of the bank loan are as follows:**

a. Grants loan at low rate of interest

b. Involves very simple process of loan granting

c. Requires minimum document and legal formalities to pass the loan

d. Involves good customer relationship management

e. Consumes less time because of modern techniques and computerization

f. Provides door-to-door facilities

**In addition to advantages, the bank loan suffers from various imitations, which are as follows:**

a. Imposes heavy penalty and legal action in case of default of loan

b. Charges high rate of interest, if the party fails to pay the loan amount in the allotted time

c. Adds extra burden on the borrower, who needs to incur cost in preparing legal documents for procuring loans

d. Affects the goodwill of the organization, in case of delay in payment

**Cash Credit:**

Cash credit can be defined as an arrangement made by the bank for the clients to withdraw cash exceeding their account limit. The cash credit facility is generally sanctioned for one year but it may extend up to three years in some cases. In case of special request by the client, the time limit can be further extended by the bank.

The extension of the allotted time depends on the consent of the bank and past performance of the client. The rate of interest charged by the bank on cash credit depends on the time duration for which the cash has been withdrawn and the amount of cash.

**The advantages of the cash credit are as follows:**

a. Involves very less time in the approval of credit

b. Involves flexibility as the cash credit can be extended for more time to fulfill the need of the customers.

c. Helps in fulfilling the current liabilities of the organization

d. Charges interest only on the amount withdrawn by the customer. The interest on cash credit is charged only on the amount of cash withdrawn from the bank, not on the total amount of credit sanctioned.

The cash credit is one of the most important instruments of short-term financing but it has some limitations.

**These limitations are mentioned in the following points:**

a. Requires more security for the approval of cash

b. Imposes very high rate of interest

c. Depends on the consent of the bank to extend the credit amount and the time limit

**Bank Overdraft:**Bank overdraft is the quickest means of the short-term financing provided by the bank. It is a facility in which the bank allows the current account holders to overdraw their current accounts by a specified limit. The clients generally avail the bank overdraft facility to meet urgent and emergency requirements. Bank overdraft is the most popular form of borrowing and do not require any written formalities. The bank charges very low rate of interest on bank overdraft up to a certain time.

**The advantages of the bank overdraft are as follows:**

a. Involves no documentation for the extension of overdraft amount

b. Imposes nominal interest on the overdraft amount

c. Charges fee only on the amount exceeding the account limit

**The disadvantages of the bank overdraft are as follows:**

a. Incurs high cost for the clients, if they fail to pay the amount of overdraft for a longer period of time

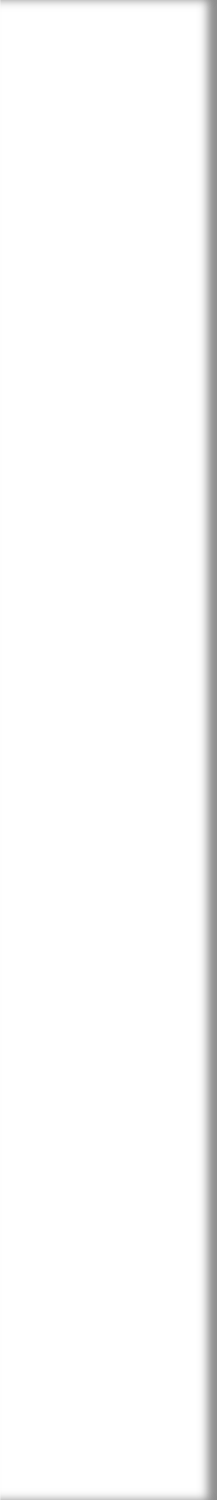
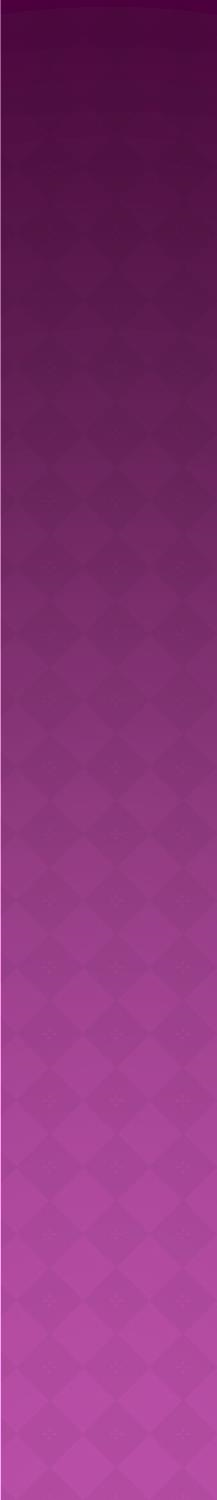
b. Hampers the reputation of the organization, if it fails to pay the amount of overdraft on time

c. Allows the bank to deduct overdraft amount from the customers’ accounts without their permission

Short term finances are available in the form of:

***Commercial paper***.:Quite inexpensive, but only available to large firms with a high rating from a credit rating agency.

***Customer advances*.** It may be possible to successfully alter customer payment terms to require customers to pay all or a portion of their ordered amounts in advance. However, this approach can also send customers toward competitors who offer looser credit terms.



***Factoring*.** Funding based on accounts receivable. Decidedly expensive, but it can dramatically accelerate cash flows.

**Promissory Note** :It is a negotiable instrument where the maker or issuer makes an issue-less promise in writing to pay back a pre-decided sum of money to the payee at a fixed maturity date or on demand of the payee, under specific terms.

**Discounting of bill**: It is a process of settling the bill of exchange by the bank at a value less than the face value before maturity date. According to Sec. 126 of Negotiable Instruments, “a bill of exchange is an unconditional order in writing addressed by one person to another, signed by the person giving it, requiring the person to whom it is addressed to pay on demand or at fixed or determinable future time a sum certain in money to order or to bearer.”

The facility of discounting of bill is used by the organizations to meet their immediate need of cash for settling down current liabilities.

UNIT-2 CAPITAL BUDGETING

**Topic covered:** Meaning of capital budgeting, need and objective, Method of capital budgeting: Average rate of return(ARR), Net income (NI), Net operating income(NOI),Net present value method(NPV),Internal rate of return(IRR), and Profitability index (PI) method.

**Introduction:** Capital budgeting, which is also called "investment appraisal," is the planning process used to determine which of an organization's long term investments such as new machinery, replacement machinery, new plants, new products, and research development projects are worth pursuing. It is to budget for major capital investments or expenditures. It is a required managerial tool. One duty of a financial manager is to choose investments with satisfactory cash flows and rates of return. Therefore, a financial manager must be able to decide whether an investment is worth undertaking and be able to choose intelligently between two or more alternatives. To do this, a sound procedure to evaluate, compare, and select projects is needed which is capital budgeting

What is Capital Budgeting?

**Meaning** : Capital budgeting is the technique of making decision for investment in long term asset. it is a process of deciding whether to invest or not to invest the funds in particular asset, the benefit of which will be appear over a period of time longer than one year.

**Need and Importance of Capital Budgeting**

(i)  Capital budgeting decision normally involves huge capital. If wrong decision is taken by the firm, it may affect the survival of the firm. So, it is very important for the firm to plan and control capital expenditure.

(ii)  Funds involved in capital expenditure are not only huge but more or less permanently blocked in the organisation. In this respect, it involves longer time and greater risk. So careful planning is essential.

**Objectives of capital budgeting**

**Identify Opportunities :** As a business owner or entrepreneur, you are often presented with many different potential opportunities. You could go in a number of different directions as a company. The first step in the capital budgeting process is identifying which opportunities are available to you at the time. Before you can make a decision he have to know what is available first.

**Assess Opportunities:** Once you have identified the possible opportunities for your business, the next step in the process is to assess each opportunity individually. You to compare each opportunity against your vision for the company and the mission statement. Look at the values of each opportunity and see if they match with your own values. Many of the potential opportunities can be eliminated in the step before you can get into the FINANCIAL information. You want only pursue opportunities that match your business plan.

**Making Decisions** :Ultimately, the objective of capital budgeting is to help you make decisions that are smart for your business.

Taking the necessary steps to evaluate each opportunity can help you avoid disastrous consequences for your business. If these steps are not taken, you can take on a project that does not bring any value to your company. Ultimately, it could prove to be the last mistake your company remakes. Therefore, the capital budgeting process is crucial to consider before making any big decisions for any type of project.

Capital budgeting is a multi-step process businesses use to determine how worthwhile a project or investment will be. A company might use capital budgeting to figure out if it should expand its warehouse facilities, invest in new equipment, or spend money on specialized employee training.

**Capital budgeting process:** it consists of five steps:

**1. Identify and evaluate potential opportunities:**The process begins by exploring available opportunities. For any given initiative, a company will probably have multiple options to consider. For example, if a company is seeking to expand its warehousing facilities, it might choose between adding on to its current building or purchasing a larger space in a new location. As such, each option must be evaluated to see what makes the most financial and logistical sense. Once the most feasible opportunity is identified, a company should determine the right time to pursue it, keeping in mind factors such as business need and upfront costs.

**2. Estimate operating and implementation costs:**The next step involves estimating how much it will cost to bring the project to fruition. This process may require both internal and external research. If a company is looking to upgrade its computer equipment, for instance, it might ask its IT department how much it would cost to buy new memory for its existing machines while simultaneously pricing out the cost of new computers from an outside source. The company should then attempt to further narrow down the cost of implementing whichever option it chooses.

**3. Estimate cash flow or benefit:** Now we determine how much cash flow the project in question is expected to generate. One way to arrive at this figure is to review data on similar projects that have proved successful in the past. If the project won't directly generate cash flow, such as the upgrading of computer equipment for more efficient operations, the company must do its best to assign an estimated cost savings or benefit to see if the initiative makes sense financially.

**4. Assess risk:** This step involves estimating the risk associated with the project, including the amount of money the company stands to lose if the project fails or can't produce its previously anticipated results. Once a degree of risk is determined, the company can evaluate it against its estimated cash flow or benefit to see if it makes sense to pursue implementation.

**5. Implement**If a company chooses to move forward with a project, it will need an implementation plan. The plan should include a means of paying for the project at hand, a method for tracking costs, and a process for recording cash flows or benefits the project generates. The implementation plan should also include a timeline with key project milestones, including an end date if applicable.

There are a number of **Capital Budgeting Techniques** that can be used to determine the viability and profitability of capital budget and INVESTMENT decisions.

These techniques include (capital expenditure decesions)

* **(based on accounting profit criteria)**
* The Accounting Rate of Return Method
* **(based on cash flow criteria)**

• The Payback Period Method

• · The Net Present Value Method

• · The Profitability Index Method

• · The Internal Rate of Return Method

**1.(ARR) Accounting rate of return** (also known as simple rate of return) is the ratio of estimated accounting profit of a project to the average INVESTMENTmade in the project. ARR is used in INVESTMENTappraisal.

• **Decision Rule:** Accept the project only if its ARR is equal to or greater than the required accounting rate of return. In case of mutually exclusive projects, accept the one with highest ARR.

***ARR= AVG. ANNUAL PROFITS AFTER TAXES \*100***

***AVG. INVESTEMENT***

***Avg. annual profits after taxes=***

***Total of after tax profits of all years***

***NO. OF YEARS***

***AVG. INVESTEMENT=***

***ORIGNAL INVESTEMENT+SALVAGE VALUE***

***2***

ARR = Average Accounting Profit Average INVESTMENT ,

**Example:** ABC Ltd is proposing to take up a project which will need an investment of $ 40,000. The net income before depreciation and tax is estimated as follows.

Year                                        $

1                                              10,000

2                                              12,000

3                                              14,000

4                                              16,000

5                                              20,000

Evaluate the project proposal under Accounting Rate of Return Method.

**Solution:**

|  |  |  |
| --- | --- | --- |
| Year          Net Income             Less                  Profit after  before Depreciation    Depreciation      Depreciation  and Tax                                          before Tax  $                            $                             $  1           10,000                        8,000                     2,000  2            12,000                       8,000                     4,000  3            14,000                      8,000                      6,000  4           16,000                       8,000                       8,000  5           20,000                        8,000                      12,000 | Less tax  50%    $  1,000  2,000  3,000  4,000  6,000 | Profit after  Tax and  Depreciation  $  1,000  2,000  3,000  4,000  6,000 |

**Accounting Rate of Return**

(i) Return on Average Investment Method

Return = Average profit

= i.e., Total Profit/ No . of Years

=16, 000/5 = 3,200

Average investment =Original investment /2 =40,000 /2

= 20,000

Return on Average investment = 3,200  x 100  20,000

= 16%

**Payback Period:** The payback period is the most basic and simple decision tool. Wih this method, you are basically determining how long it will take to pay back the initial investment that is required to undergo a project. In order to calculate this, you would take the total cost of the project and divide it by how much cash inflow you expect to receive each year;

 .A project costs $ 5,00,000 and yields annually a profit of $ 80,000 after depreciation at 12% p.a. but before tax of 50%. Calculate pay back period.

**Solution:**

Payback period =Original Cost/Annual Cash Inflows

Initial investment = $ 5, 00,000

Cash inflows = Profit after tax plus Depreciation

|  |  |
| --- | --- |
| Profit before Tax =  Less : Tax 50% =  profit after Tax =  Add : Depreciation =  Annual cash inflows =  Pay back period  = | $  80,000  40,000  40,000  60,000  1,00,000  5,00,000 /1 00 000  5 years |

**NPV** : The difference between the present value of cash inflows and the present value of cash outflows. NPV is used in capital budgeting to analyze the profitability of an INVESTMENT or project

NPV=PV of Inflow-PV of Outflow

NPV= [(Cash inflow in 1ST year \*PVF1)+(Cash inflow in 2ndyear\*PVF2)+(Cash inflow in 3rd year\*PVF3)+……………(Cash inflow in *n*th year\*PVFn)] - [Initial cash outflow \*Pvfn]

. Rank the following projects on the basis of

(a) Pay back

(b) Accounting rate of return method

(c) Net present value

|  |  |
| --- | --- |
| Particulars                     Year                         Project A  $                                  $ $  Investment                     0                                 30,000  Annual savings              I                                  13,800  II                                  13,800  III                                  13,800 | Project B                     Project C             $                      $  30,000                       30,000  36,150                           –  –                                –         –                46,827 |

Discount factor for the year

|  |  |
| --- | --- |
| I | 0.909 |
| II | 0.826 |
| III | 0. 751 |

**Solution:**

(a) Pay Back

|  |  |  |
| --- | --- | --- |
| Year                       Project A  Cash Inflows  1                           13,800  2                             13,800  3                              13,800 | Cumulative  Cash Inflows  13,800  27,600  41,400 | Project B                        Project C  Cash Inflows               Cash Inflows  36,150                             –  –                                       –  –                                    46,827 |

**Pay back period**

A.    I year 13,800 + II year 13,800 = 27,600

Balance = 2,400

30,000

12/13,800  x 2,400 = 2 months 8 days i.e., 2 years 2 months 8 days.

12 /36,150 x 30,000 = 10 months

12/46,827 x 30,000 = 7 months 23 days

(b) **Accounting Rate of Return Method**

Return /Original cost investment x 100

Project : A = 13,800 /30,000 x 100 =46%

Project : B = 12,050 /30,000 x 100  =40.16%

Project : C =15,609/ 30,000 x 100 = 52.03%

(c) **Net Present value**

If cost of capital detail is not given in the problem, we have to assume 10% as cut off rate.

Project A         P.V.     Discounted      Project B      Discounted      Project C      Discounted

Year    Cash              Factor      Cash                Cash             Cash              Cash                   Cash

Inflows            at 10%     Inflows         inflows          Inflows            Inflows             Inflows

$                        $             $                     $                  $                        $                      $.

1      13,800               0.909       12,54 .20      36,150           32,860                   –                      –

2        13,800              0.826       11,398.80      –                   –                           –                        –

3         13,800            0.751        10,363.80       –                    –                      46,827             35,167

Total present value           34,306.80                           32,860                                      35,167

Less : Initial cost             30,000.00                             30,000                                        30,000

Net Present value              4,306.80                            2,860                                          5,167

**Profitability index** is an INVESTMENT appraisal technique calculated by dividing the present value of future cash flows of a project by the initial INVESTMENT required for the project.

Explanation: Profitability index is actually a modification of the net present value method. While present value is an absolute measure (i.e. it gives as the total dollar figure for a project), the profibality index is a relative measure (i.e. it gives as the figure as a ratio).

**Decision Rule** :Profitability Index = Present Value of Future Cash Flows Initial INVESTMENT Required = 1 + Net Present Value Initial INVESTMENT Required

Accept a project if the profitability index is greater than 1,

stay indifferent if the profitability index is zero and

don't accept a project if the profitability index is below 1.

Profitability index is sometimes called **benefit-cost ratio** too and is useful in capital rationing since it helps in ranking projects based on their per dollar return.

**Example**  A Ltd company is considering to invest in a project requiring a capital outlay of $  2,00,000. Forecast for annual income after depreciation but before tax is as follows

Year                            $

1                                  1,00,000

2                                  1,00,000

3                                  80,000

4                                  80,000

5                                  40,000

Depreciation may be taken as 20% on original cost and taxation at 50% of net income.

 Discounted cash flow method [Cost of capital @ 10%]

Find out the PI of project.

Year                Cash Inflows              Discount Factor                       Present Value

At 10% p.a.                                         $

1                      90,000                         0.909                                                   81,810

2                      90,000                         0.826                                                  74,340

3                      80,000                         0.751                                                   60,080

4                      80,000                        0.683                                                   54,670

5                      60,000                         0.621                                                  37,260

Total present value                              3,08,130  **Note:** (for calculating PI firstly you have to

  Calculate NPV then PI)

Initial Investment                                2,00,000

Net Present value                                1,08,130

Net present value index (PI profitability index)

Total present value of cash inflows = Total present value of cash outflows

=3, 08,130 /2,00,000 = 1.541

1.541 X 100 = 154.1%

• A Net Present Value (NPV) that is positive is good (and negative is bad).

**Internal Rate of Return (IRR)** The internal rate of return is a discount rate that is commonly used to determine how much of a return an investor can expect to realize from a particular project. Strictly defined, the internal rate of return is the discount rate that occurs when a project is break even, or when the NPV equals 0.

• Here, the decision rule is simple: choose the project where the IRR is higher than the cost of financing.

For the **IRR**, the decision rules are as follows:

If IRR > hurdle rate, accept the project

If IRR< hurdle rate, reject the project Profitability index

**Example**  A Ltd company is considering to invest in a project requiring a capital outlay of $  2,00,000. Forecast for annual income after depreciation but before tax is as follows

Year                            $

1                                  1,00,000

2                                  1,00,000

3                                  80,000

4                                  80,000

5                                  40,000

Depreciation may be taken as 20% on original cost and taxation at 50% of net income.

 Discounted cash flow method [Cost of capital @ 10%]

Internal Rate of Return method. The annual cash inflows are not uniform. We have to apply the following formula to determine the approximate rate of return.

F          = I/C

F          = Factor to be located

I           = Initial investment

C         = Average annual Cash inflow

F          = 2,00,000 /80,000

= 2.5

Showed Table No II at this factor rate of return in the column for 5 years is 28%.

**Discounted cash flow [cost of capital @ 28%]**

Year                       Cash Inflows               Discount Factor                      Discounted Cash

$                      At 28% Inflows                                  $

1                                  90,000                                    .781                                        70,290

2                                  90,000                                     .610                                        54,900

3                                  80,000                                     .477                                        38,160

4                                  80,000                                    .373                                         29,840

5                                  60,000                                     .291                                        17,460

Total Present values                            2,10,650

Less : Initial investment                      2,00,000

Excess Present Value                          10,650

**NOTE:** The present value is higher on the level of $ 10,650. Now we apply higher discount rate i.e., taking 30% as cost of capital.

**Discounted cash flow at cost of capital is 30%**

Year                Cash Inflows               Discount Facto                       Discounted Cash

$.                      At 28%                                   Inflows $

1                       90,000                        0.769                                       69,210

2                      90,000                         0.592                                       53,280

3                      80,000                         0.455                                       36,400

4                      80,000                         0.350                                       28,000

5                      60,000                         0.269                                      16,140

Total present value                  2,03,030

Less : Initial investment          2,00,000

Excess Present value               3,030

**UNIT-3**

**Capital Structure**

**Meaning:** The term capital structure is used to represent the proportionate relationship between debt and equity. Capital Structure is the way a company finances its assets through a combination of equity and liabilities. The combination of a company's long-term debt, specific short-term debt, common equity, and preferred equity; the capital structure is the firm's various sources of funds used to finance its overall operations and growth.

Example :A firm's capital structure is the composition or 'structure' of its liabilities. For example, a firm that sells 20 billion dollars in equity and 80 billion dollars in debt is said to be 20% equity financed and 80% debt-financed. The firm's ratio of debt to total financing, 80% in this example, is referred to as the firm's leverage.

**FORMS OF CAPITAL**

**Equity Capital:** This refers to money put up and owned by the shareholders (owners). Typically, equity capital consists of two types: 1.) contributed capital, which is the money that was originally invested in the business in exchange for shares of stock or ownership and

2.) retained earnings, which represents profits from past years that have been kept by the company and used to strengthen the balance sheet or fund growth, acquisitions, or expansion.

**Debt Capital:** The debt capital in a company's capital structure refers to borrowed money that is at work in the business. The safest type is generally considered long term bonds because the company has years, if not decades, to come up with the principal, while paying interest only in the meantime.

**Optimal Capital Structure:** The optimal or the best capital structure implies the most economical and safe ratio between various types of securities. It is that mix of debt and equity which maximizes the value of the company and minimizes the cost of capital.

Essentials of optimal Capital structure

1. Minimum Cost of Capital
2. Minimum Risk
3. Maximum Return
4. Maximum Control Safety
5. Simplicity
6. Flexibility
7. Attractive Rules Commensurate to Legal Requirements

**Theories of Capital structure**

* + Net Income (NI) Theory
  + Net Operating Income (NOI) Theory
  + Traditional Theory
  + Modigliani-Miller (M-M) Theory

1. **Net Income (NI) Approach:** Net Income Approach was presented by Durand. The theory suggests increasing value of the firm by decreasing overall cost of capital which is measured in terms of Weighted Average Cost of Capital. This can be done by having higher proportion of debt, which is a cheaper source of finance compared to equity finance..

**Assumptions of Net Income Approach**

* Increase in debt will not affect the confidence levels of the investors.
* The cost of debt is less than cost of equity.
* There are no taxes levied.

**Net Income (NI) Approach example:**

**i) Computation of Earnings per Share when EBIT is $ 40,000 p.a**

Particulars         Present                                                Proposed

Capital structure                                Capital structure

All Equity              (i) All Equity     (ii) Equity + Pre    (iii) Equity + Debt

$                                $                          $                               $

EBIT                              40,000                  40,000             40,000                         40,000

Less : Interest              –                                  –                       –                           5,000

PBT                              40,000                   40,000             40,000                         35,000

Less : Tax                    20,000              20,000            20,000                        17,500

PAT                             20,000                   20,000             20,000                       17,500

Less : Pref. Dividend }           –                             –                    6,000                                –

Profit available for

Equity Shareholders 20,000                     20,000           14,000                      17,500

 Amount Available

for Equity shareholders      20,000                    20,000             14,000                         22,500

No. of Equity shares             10,000                    15,000          10,000                         10,000

EPS                                 2                           1.33                 1.40                           1.75

Dilution against

Initial EPS o f R s. 2                 –                        . 67                   .60                                  .25

The above solution shows that dilution of earning per share has been the least when the funds have been raised by issue of debentures.

**ANOTHEREXAMPLE**

(i) Abc & Co expects a net income of $ 80,000. It has 8% Debentures worth $ 2,00,000. The equity capitalisation rate of the company is 10%. Calculate the value of the firm and overall cost of capital rate according to the Net Income approach. (Ignoring income tax)

(ii) If Debenture debt is increased to $ 3,00, 000 what shall be the value of firm and the

overall cost of capital ?

**Solution :**

(i) Calculate the value of the firm :

V = S + B

V = Value of the firm

S = Market value of equity

B =NI /Ke  =  64,000 /10/100    i.e., 64,000 x 100 /10 =6,40 ,000

**NOTE :**

|  |  |
| --- | --- |
| (i) Computation of NI (Net Income)  Net Income =  Less : Interest on 8% Debentures of $ 2,00,000         =  Amount available for Equity share holders  Ke : Equity capitalisation rate = 10%  Value the firm = $ 8,40,000 [6,40,000 + 2,00,000] [Value of Debenture 2,00,000]    (ii) Computation of overall capitalisation Rate :  Overall cost of capital (K) = EBITN  EBIT = Earnings before Interest and Tax  V = Value of the firm= 80,000 / 8,40,000 x 100= 9.52%    (iii) Computation of value of the firm when debentures raised to $ 3,00,000  Net income  Less : Interest on 8% Debentures of $ 3,00,000  Equity Capitalisation  Rate 10%  Market Value of Equity 56,000 x 10/100  Market Value of Debentures  Value of the Firm  Overall Cost of Cap1tal Rate = EBIT / V x 100  EBIT Earnings before interest and taxes  V :Value of the firm  i.e., 80,000  V  : 8,60,000 | $  80,000    16,000  64,000                      80,000  24,000  56,000    56,000  5,60,000  3,00,000  8,60,000 |

Therefore, Overall Cost of Capital Rate = 80,000 /8,60,000  x  100 = 9.3%

**Findings :**

In the above computation there is increase in the debt financing and the value of the firm also increased so the overall cost of capital has decreased.

1. **NET OPERATING INCOME APPROACH** :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.

**Assumptions of Net Operating Income Approach:**

• The overall capitalization rate remains constant irrespective of the degree of leverage

• Value of equity is the difference between total firm value less value of debt

• WACC (Weightage Average Cost of Capital) remains constant; and with the increase in debt, the cost of equity increases.

SLM Ltd expects a net operating income of $ 2, 00,000. It has 6% Debentures worth $ 10,00,000. The overall capitalisation rate is 10%. Calculate the value of the firm and the equity capitalisation rate according to NOI  approach.

(ii) If the debenture debt is decreased to $ 7,50,000 what will be effect on the value of the firm and the equity capitalization rate ?

**Solution :**

(i) Value of the firm : NOI approach

Here,   S = V – B

S = Value of Equity

V = Value of the Firm

B = Value of Debt.

First Step :

v = EBIT = 2, 00, 000 /10/100 = 2 00 000 x 100 /10 = 20, 00, 000

EBIT = Earning before interest and taxes 2,00,000

Ke = Equity capitalization Rate 10%

B = Market value of Debenture: $ 10,00,000

Second Step :

S = V – B = 20,00,000 – 10,00,000 = 10,00,000

After arriving at the value of V & B, we can easily find the value of S

Ke = Equity Capitalisation Rate

K = EBIT – I /V-B  x 100 e

= 2,00,000 – 60,000  /20,00,000 – 10,00,000 x 100 = 14

(ii) If the debenture debt is increased to $ 7,50,000, the value of the firm remains unchanged at $. 10,00,000. The equity capitalisation rate will be as follows.

(1) Value of the firm

S = V – B

v = 20,00,000

B = 7,50,000

S = 12,50,000

(2) Equity Capitalisation Rate (Ke) = EBIT – I /V-B  x 100

2,00,000 – 45,000 x  100/ 20,00,000 – 7,50,000

= 12.4%

**Traditional approach:** The Net Income theory and Net Operating Income theory stand in extreme forms. Traditional approach stands in the midway between these two theories. This Traditional theory was advocated by financial experts Ezta Solomon and Fred Weston. According to this theory a proper and right combination of debt and equity will always lead to market value enhancement of the firm. This approach accepts that the equity shareholders perceive financial risk and expect premiums for the risks undertaken. This theory also states that after a level of debt in the capital structure, the cost of equity capital increases.

The traditional approach to capital structure advocates that there is a right combination of equity and debt in the capital structure, at which the market value of a value of a firm is maximum. As per this approach, debt should exist in the capital structure only up to a specific point, beyond which, any increase in leverage would result in the reduction in value of the firm.

It means that there exists an optimum value of debt to equity ratio at which the WACC is the lowest and the market value of the firm is the highest. Once the firm crosses that optimum value of debt to equity ratio, the cost of equity rises to give a detrimental effect to the WACC.

**Shortly** According to this  approach, the value of the firm can be increased initially. The cost of capital can be decreased by using more debt as the debt is a cheaper source of funds than equity. The optimum capital structure can be reached by an appropriate debt equity mix.

**ASSUMPTIONS UNDER TRADITIONAL APPROACH:**

1. The rate of interest on debt remains constant for a certain period and thereafter with an increase in leverage, it increases.
2. The expected rate by equity [shareholders](https://efinancemanagement.com/sources-of-finance/shareholders-vs-stakeholders) remains constant or increase gradually. After that, the equity shareholders starts perceiving a financial risk and then from the optimal point and the expected rate increases speedily.
3. As a result of the activity of rate of interest and expected rate of return, the WACC first decreases and then increases. The lowest point on the curve is optimal capital structure.

## Miller and Modigliani approach(without taxes) : This approach was devised by Modigliani and Miller during the 1950s. The fundamentals of the Modigliani and Miller Approach resemble that of the Approach. Modigliani and Miller advocate capital structure irrelevancy theory, which suggests that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has a lower debt component in the financing mix has no bearing on the value of a firm.

The Modigliani and Miller Approach further states that the market value of a firm is affected by its operating income, apart from the risk involved in the investment. The theory stated that the value of the firm is not dependent on the choice of capital structure or financing decisions of the firm.

ASSUMPTIONS OF MODIGLIANI AND MILLER APPROACH

* There are no taxes.
* Transaction cost for buying and selling securities, as well as the bankruptcy cost, is nil.
* There is a symmetry of information. This means that an investor will have access to the same information that a [corporation](https://efinancemanagement.com/financial-accounting/corporation) would and investors will thus behave rationally.
* The cost of borrowing is the same for investors and companies.
* There is no floatation cost, such as an underwriting commission, payment to merchant bankers, advertisement expenses, etc.

There is no corporate dividend tax.

The Modigliani and Miller Approach indicates that the value of a leveraged firm (a firm that has a mix of debt and equity) is the same as the value of an unleveraged firm (a firm that is wholly financed by equity) if the operating profits and future prospects are same. That is, if an investor purchases shares of a leveraged firm, it would cost him the same as buying the shares of an unleveraged firm

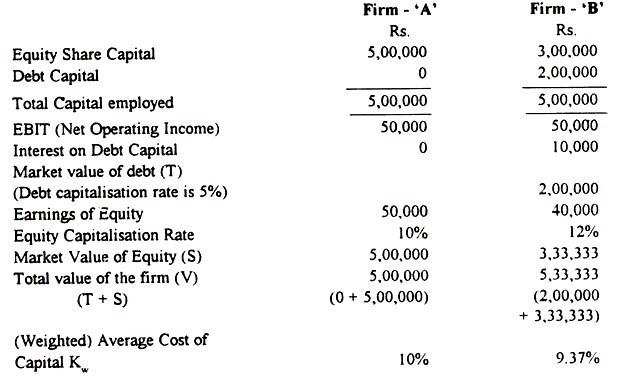
**Interpretation of M-M Approach**:

The MM Hypothesis reveals that if more debt is included in the capital structure of a firm, the same will not increase its value as the benefits of cheaper debt capital are exactly set off by the corresponding increase in the cost of equity, although debt capital is less expensive than the equity capital.

So, according to M-M, the total value of a firm is absolutely unaffected by the capital structure (debit-equity mix) when corporate tax is ignored.

**It can be explained with the help of the following illustration:**

Let there are two firms, viz., Firm-‘A’ and Firm-‘B’. They are similar in all respects except in the composition of capital structure. Assuming that Firm-‘A’ is financed only by equity whereas Firm-‘B’ is financed by a debt-equity mix.

[](http://cdn.accountingnotes.net/wp-content/uploads/2016/06/clip_image030_thumb3.jpg)

From the table presented above, it is learnt that value of the levered firm ‘B’ is higher than the unlevered firm ‘A’. According to MM, such situation cannot persist long as the investors will dispose of their holding 01 firm ‘B’ and purchase the equity from the firm ‘A’ with personal leverage. This process will be continued till both the firms will have same market value.

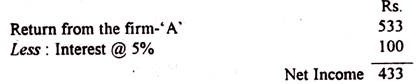
**Suppose, Ram, an equity shareholder, has 1% equity of firm-‘B’. He will do the following:**

(i) At first, he will dispose of his equity of firm-‘B’ for Rs. 3,333.

(ii) He will take a loan of Rs. 2,000 at 5% interest from personal account.

(iii) He will purchase by having Rs. 5,333 (i.e., Rs. 3,333 + Rs. 2,000) 1.007% of equity from the firm ‘ A’.

**By this, his net income will be increased as under:**

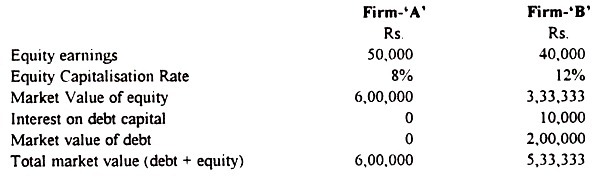
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Obviously, this net income of Rs. 433 is higher than that of the firm ‘B” by disposing of 1% holding.

It is needless to say that when the investors will sell the shares of the firm ‘B’ and will purchase the shares from the firm ‘A’ with personal leverage, this market value of the share of firm ‘A” will decline and consequently the market value of the share of firm ‘B’ will rise and this will be continued till both of them attain the same market value.

We have explained that the value of the levered firm cannot be higher than that of the unlevered firm (other thing being equal) due to the arbitrage process. We will now highlight the reverse direction of the arbitrage process.

**Consider the following illustration:**



In the above circumstances, equity shareholders of the firm ‘A’ will sell his holdings and by the proceeds he will purchase some equity from the firm ‘B’ and invest a part of the proceeds in debt of the firm ‘B’.

**For instance, an equity shareholder holding 1% equity in the firm ‘A’ will do the following:**

(i) He will dispose of his 1% equity of firm ‘A’ for Rs. 6,250.

(ii) He will buy 1 of equity and debt of the firm ‘B’ for the like amount.

(iii) As a result, he will have an additional income of Rs. 86.

Thus, if the investors prefer such a change, the market value of the equity of the firm ‘ A” will decline and consequently the market value of the shares of the firm-‘B’ will tend to rise and this process will be continued till both the firms attain the same market value i.e., the arbitrage process can be said to operate in the opposite direction.

#### 

**5. Criticisms of the M-M Approach**:

We have seen (while discussing M-M Hypothesis) that M-M Hypothesis is based on some assumptions. There are some authorities who do not recognise such assumption as they are quite unrealistic, viz. the assumption of perfect capital market. We also know that most significant element in this approach is the arbitrage process forming the behavioural foundation of the M-M Hypothesis.

As the imperfect market exist, the arbitrage process will be of no use and as such, the discrepancy will arise between the market value of the unlevered and levered firms. The followings are the shortcomings for which arbitrage process fails to bring the equilibrium condition.

**(i) Existence of Transaction Cost**:

The arbitrage process is affected by the transaction cost. While buying securities, this cost is involved in the form of brokerage or commission etc. for which extra amount is to be paid which increase the cost price of the shares and requires a greater amount although the return is same. As such, the levered firm will enjoy a higher market value than the unlevered firm.

**(ii) Assumption of Borrowing and Lending by the Firms and the Individual at the Same Rate of Interest:**

The above proposition, that is, the firms and the individuals can borrow or lend at the same rate of interest, does not hold good in reality. Since a firm holds more assets and credit reputation in the open market in comparison with an individual, the former will always enjoy a better position than the later.

As such, cost of borrowing will be higher in case of individual than the firm. As a result the market value of both the firms will not be equal.

**(iii) Institutional Restriction**:

The arbitrage process is retarded by the institutional investor e.g., Life Insurance Corporation of India, Commercial bank. Unit Trust of India etc., i.e., they do not encourage personal leverage. At present these institutional investors dominate the capital market

**(iv)** **“Personal or Home-made, leverage”** is not the perfect substitute for **“Corporate leverage.”**

M-M Hypothesis assumes that **“personal leverage”** is a perfect substitute for **“corpo­rate”** leverage which is not true as we know a firm may have a limited liability whereas there is unlimited liability in case of individuals. For this purpose, both of them have a different footing in the capital market.

**(v) Incorporation of Corporate Taxes**:

If corporate taxes are considered (which should be taken into consideration) the M-M approach will be unable to discuss the relationship between the value of the firm and the financing decision. For example we know that interest charges are deducted from profit available for dividend i.e., it is tax deductible.

In other words, the cost of borrowing funds is comparatively less than the contractual rate of interest which allows the firm regarding tax advantage. Ultimately, the benefit is being enjoyed by the equity holders and debt holders.

According to some critics the arguments which were advocated by M-M, are not valid in the practical world. We know that cost of capital and the value of the firm are practically is the product of financial leverage.

#### 

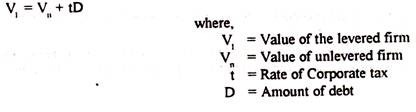
**6. M-M Approach with Corporate Taxes and Capital Structure**:

The M-M Hypothesis is valid if there is perfect market condition. But in the real world capital market, imperfection arises in the capital structure of a firm which affect the valuation. Because; presence of taxes invites imperfection.

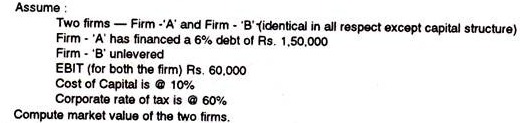
We are, now, going to examine the effect of corporate taxes in the capital structure of a firm along with the M-M Hypothesis. We also know that when taxes are levied on income, debt financing is more advantageous as interest paid on debt is a tax-deductible item whereas retained earnings or dividend so paid on equity share are not tax deductible.

Thus, if debt capital is used in the total capital structure, the total income which is available for equity shareholders and/or debt holders will be more. In other words, the levered firm will have a higher value than the unlevered firm for this purpose, or, it can alternatively be stated that the value of the levered firm will exceed the unlevered firm by an amount equal to debt multiplied by the rate of tax.

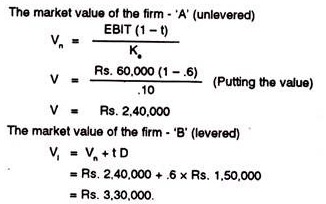
**The same can be explained in the form of the following equation:**



**Illustration:**

**[](http://cdn.accountingnotes.net/wp-content/uploads/2016/06/clip_image037_thumb2.jpg)**

**Solution:**

**[](http://cdn.accountingnotes.net/wp-content/uploads/2016/06/clip_image037_thumb2-1.jpg)**

Thus, a firm can lower its cost of capital continuously due to the tax deductibility of interest charges. So, a firm must use the maximum amount of leverage in order to attain the optimum capital structure although the experience that we realise is contrary to the opinion.

In real world situation, however, firms do not take a larger amount of debt and creditors/ lenders also are not interested to supply loan to highly levered firms due to the risk involved in it.

Thus, due to the market imperfection, after tax cost of capital function will be U- shaped. In answer to this criticism, M-M suggested that the firm would adopt a target debt ratio so as not to violate the limits of level of debt imposed by creditors. This is an indirect way of stating that the cost of capital will increase sharply with leverage beyond some safe limit of debt.

**Formulas for valuation of firms**

*1. Valuation of Firms : NI approach*

V = S+B

where,                          V = Value of the firm

S = Market value of the equity

B = Market val

Market value of Equity (S) can be ascertained as follows :

S = NI / Ke

S = Market value of the equity

NI = Earnings available for equity shareholders

Ke = Equity  Capitalisation  Rate

K = Overall cost of capital                  Formula for K =EBIT/V

**Net Income : Amount available for Equity Shareholder**

|  |  |
| --- | --- |
| Earnings before interest and Tax  Less : Interest  PBT  Less : Tax  PAT  Less : Pre-dividend (if any)  Amount available for equity shareholders | xx  xx  xx  xx  xx    xx |

**2. Valuation of firms : NO! approach**

S = V – B V = EBIT/ Ke

S = Value of equity

V = Value of firm

B = Value of debt

Ke = Equity Capitalisation Rate

Ke = EBIT-I/ x 100 V-B

K = Overall cost of capital

K = kd [B/V ]=KE [S/V]

Kd = Cost of Debt

B = Total debt

V = Total value of the firm

Ke = Cost of Equity Capital

S = Market value of Equity

**3. Valuation of firm : MM approach**

(i) Value of unlevered firm

Vu = Profits available for equity shareholders  / Equity Capitalisation Rate

Vu = (I- t)EBT/  Ke                            t =tax rate

(ii) Value of levered firm

Vi = Vu + Bt

Vi = Vu + Bt

Vu = Value of unlevered firm

B = Amount of debt

t = Tax rate

Vi = Value of levered firm

1. **NOTE :** The term levered firm means there is debt content in its capital structure. The term unlevered firm means there is no debt content in its capital structure.

**4. Valuation of firm : Traditional approach**

Traditional approach contains some features of NI approach and some features of NOI approach. So there is no need for a separate formula for the valuation of firms under this approach

UNIT-4 **Working Capital Management**

**Topic covered:Working capital:** Meaning, nature and planning of working capital, permanent and variable working capital, determinates of working capital, issues of working capital management.

Management of cash: Meaning, motives of holding cash and problems of cash management.

**Introduction**: Working capital management involves the relationship between a firm's short-term assets and its short-term liabilities. The goal of working capital management is to ensure that a firm is able to continue its operations and that it has sufficient ability to satisfy both maturing short-term debt and upcoming operational expenses. The management of working capital involves managing inventories, accounts receivable and payable, and cash.

Working capital is the INVESTMENT in current assets. Without this investment, we can not operate our fixed assets properly. For getting good profits from fixed assets, we need to buy some current assets or pay some expenses or INVEST our money in current assets. We keep some of cash which is the one of major part of working capital

**For ex.** At any time, our machines may need repair. Repair is revenue expense but without cash, we can not repair our machines and without machines, our production may delay. Like this, we need inventory or to INVEST in debtors and other short term securities

**Working capital importance**

" Working capital is an excess of current assets over current liabilities. In other words, The amount of current assets which is more than current liabilities is known as Working Capital. If current liabilities are nil then, working capital will equal to current assets. Working capital shows strength of business in short period of time . If a company have some amount in the form of working capital , it means Company have liquid assets, with this money company can face every crises position in market.

According to J.S.Mill, the sum of current assets is the working capital of a business. (Working capital is the amount of funds necessary to cover the cost of operating the

enterprise” says Shubin.

Gesterrberg defines, Working capital is the excess of current assets over current

liabilities.

Simply, Net Working Capital = Current Assets – Current Liabilities.

**Current assets** :Current assets are those assets which can be converted into cash within One year or less then one year . In current assets, we includes cash, bank, debtors, bill receivables, prepaid expenses, outstanding incomes .

**Current Liabilities**: Current Liabilities are those liabilities which can be paid to respective parties within one year or less than one year at their maturity. In current liabilities, we includes creditors, outstanding bills, bank overdraft, bills payable and short term loans, outstanding expenses, advance incomes.

**CONCEPTS OF WORKING CAPITAL**

(i) Gross Working Capital (ii) Net Working Capital

**(i) Gross Working Capital**

The Gross working capital refers to working capital which represents investment in current assets such as marketable securities, inventories and bills receivables.

**(ii) Net Working Capital**

Net working capital refers to working capital. It is the excess of current assets over current Liabilities. This is the most commonly accepted definition.

**TYPES OF WORKING CAPITAL**

Working capital can be divided into two categories on the basis of time.

(i) Permanent working capital or core current assets

(ii) Temporary or variable working capital

**(i) Permanent Working Capital**

Permanent working capital refers to that minimum amount of investment in all current assets which is required to carry out minimum level of business activities on a permanent basis. In other words, certain current assets which are retained by the organisation on a continuous basis is called permanent working capital or core current assets.

**(ii) Temporary or Variable Working Capital**

Temporary working capital is an investment in current assets which are fluctuating from time to time on the basis of the operations of the business. The capital, required to meet the seasonal needs of a firm, is called seasonal working capital or temporary working capita . In other words, the amount of working capital which will vary from time to time depending upon the level of business activities, is known as variable working capital.

**Determinates of Working Capital**

In working capital The following is the description of factors which generally influence the working capital requirements of firms.

1. **Small or Large Business:** It is the first determinant of working capital that it is affected with the nature of business. Business may be small or large. In small business, company need high working capital because, small business is relating to TRADING of goods, for starting small business, you need very small fixed capital but need high working capital for paying day to day expenses. But in large business, we require more fixed capital than working capital for purchasing fixed asset.
2. **Small or Large Demand :**Nature of demand also absolutely affects the working capital need. Some product can be easily sold by businessman, in that business; you need small amount of working capital because your EARNED MONEY FROM sale can easy fulfill the shortage of working capital. But, if demand is very less, it is required that you have to INVEST large amount of working capital because your all fixed expenses must be paid by you. For paying fixed capital you need working capital.
3. **Business Cycle :**There are two main part of business cycle, one is boom and other is recession. In boom, we need high money or working capital for development of business but in recession, we need only low amount of working capital.
4. **Production Policy:** Production policy is also main determinant of working capital requirement. Different company may different production policy. Some companies stop or decrease the production level in off seasons, in that time, company may also reduce the number of employees or decrease the purchasing of new raw material, so, it will certainly decrease the amount of working capital but on the side, some company may continue their productions in off season, in that case, they need definitely large amount of working capital.
5. **Credit Policy:** Credit policy is relating to purchasing and selling of goods on credit basis. If companypurchases all goods on credit and sells on cash basis or advance basis, then it is certainly company need very low amount of working capital. But if in company, goods are purchased on cash basis, and sold on credit basis, it means, our EARNED MONEY will receive after sometime and we require large amount of working capital for continuing our business.
6. **Price Level:** Changes If there is increasing trend of products prices, we need to store high amount of working capital, because next time, it is precisely that we have to pay more for purchasing raw material or other service expenses. Inflation and deflation are two major factors which decide the next level of working capital in business.
7. **Effect of External Business Environmental Factors:** There are many external business environmental factors which affect the need of working capital like fiscal policy, monetary policy and bank policies and facilities.
8. **Nature of Business.** Working capital of the organisation basically depends upon the nature of business. Public utility concerns like Railways, Electricity etc would need only very little amount of working capital. On the other hand, manufacturing and trading concerns need huge amount of working capital in their operations.
9. **Production Policies.** Production policy of the organisation is also an important factor for determining working capital. In case of labour intensive industry the quantum of working capital is required only in smaller amount. But highly automatic plants require huge amount of working capital.
10. **Length of the Manufacturing Cycle.** The amount of working capital needed is highly influenced by the length of manufacturing cycle. If the manufacturing process is long, huge amount of working capital will be required and vice versa.   so utmost care should be taken to shorten the period of cycle in order to minimize the working capital requirements.
11. **Terms of Purchase and Sales.** If an organisation provides liberal credit facilities to its customers, large amount of working capital gets locked up in sundry debtors and bills receivable. And at the same time if continuous credit is allowed by the suppliers, it tends to cause not only postponement of payment but also payment out of sale proceeds of the goods produced. The period of credit allowed and received also determines the working capital requirements of the company.
12. **Seasonal Variations.** Seasonal changes in the economy also affect the quantum of working capital. Huge amount of working capital is required during the periods of inflation and depression and the requirement declines during the other periods of economic cycle.
13. **Fluctuations in Supply.** Certain industries purchase raw material at huge level due to their irregular supply throughout the year. It is specifically applicable to the manufacturing organisation which requires an unusual type of raw material that can be purchased only with limited sources.
14. **Dividend Policy.** According to the new provisions of the SEBI, all the companies are compulsorily to declare the dividend to the shareholders. So the dividend policy has a dominant influence on the working capital position of the organisation. As per the new provisions, need for the working capital is met with retained earnings. Once dividend is declared and the same has to be paid in cash requires large amounts from the pool of working capital.
15. **Requirements of Cash.** Need for the working capital depends upon the amount of cash required by the company for its various purposes. If greater the requirements of cash, the higher will be the working capital needs of the company and vice versa.
16. **Other Factors.** Apart from the above points, some other factors also affect the working capital requirements. For example, lack of transport and communication facilities, tariff policies of government etc. also influence the requirements of working capital.

**The working capital cycle**

The working capital cycle measures the time between paying for goods supplied to you and the final receipt of cash to you from their sale. It is desirable to keep the cycle as short as possible as it increases the effectiveness of working

The working capital cycle is the time that elapses between INVESTING in a product or service and receiving payment for that product or service. The starting point of the working capital cycle is usually when the business purchase raw materials or hires people for the service. The ending point of the working capital cycle is when the customer makes the payment, regardless of whether such payment comes pre-paid for the service or purchase, payment takes place at time of purchase or obtaining the service, or the payment comes later owing to sale on credit.

For instance, if a company purchase raw material on day 1, manufactures the product on day 7, and sells it on day 15, receiving payment on day 23, the working capital cycle is 23 days. If the company sells the same product on cash basis, the working capital cycle is 15 days. A Negative Working Capital cycle basically means that the company is having higher Current Liabilities when compared with its Current Assets. Negative Working Capital essentially means that the company is able to presell its products and gets a decent Credit from its Suppliers which help it to grow its Business without any Capital requirements.

A Negative Working Capital cycle where the company is able to pre-sell its products (or) get advances from its customers is a huge positive for the Company’s shareholders. This indicates the Huge Customer demand for its products or a very Strong Brand. Only a few companies have this favorable situation and all these Shares have been Huge Multi bagger in the past. (Eg: Colgate, VST Industries, HUL etc)

**Advantages or Importance of Working Capital**

(i)   Adequate working capital ensures the regular supply of raw materials and continued production.

 (ii)  Easy to get the loan from the banks and other financial institutions on easy and convenient terms

(iii)    It enables the firm to avail cash discount facilities on the purchases, thus it reduces the costs.

(iv)  To follow as a prompt payment policy helps in establishment of goodwill.

 (v)   It helps the organisation to meet the financial crisis during the· periods of depression or any emergencies.

 (vi)  The expansion programme of a concern is highly successful and obtains higher profitability.

 (vii)   It improves high morale among employees and executives in the organisation.

 (viii)  To encourage research programme

(ix)  To obtain the higher level of productivity due to effective utilisation of assets

(x) Enables to pay higher return to its owner. So automatically the firm possesses a financial soundness. In this way it helps to generate additional funds in future.

**Disadvantages or Danger of Inadequate Working Capital**

(i)    A concern cannot pay its short term liabilities because of inadequate working capital. This leads to borrowing funds at higher rates of interest.

(ii)   It may not take advantage of cash discount because the concern may find it difficult to buy its requirement in bulk quantities.

(iii)  Low level liquidity position of the concern may lead to winding up of the firm.

(iv)   Fixed assets could not be fully utilised on account of lack in sufficient working capital. So the rate of return on investment falls.

(v)   It is very difficult to obtain favourable market conditions and any of the profitable business opportunities.

(vi)  Credit worthiness and reputation of the organisation may be damaged.

 (vii)  It leads to under-utilisation of production facilities.

**Disadvantages of Excessive Working Capital**

(i)  Unnecessary purchases and accumulation of inventories lead to chances of more losses and waste.

(ii) Due to huge amount of idle funds the rate of return on its investment automatically goes down.

(iii)    It leads to overtrade and chances of heavy losses.

(iv)  Difficult to maintain the cordial relationship with the bank and other financial institutions

(v)   Large amount of bad debts arise

(vi)  It encourages mass production which may not have matching demand.

An efficient finance manager is always interested in maintaining the correct amount of working capital at the right time, at a reasonable cost and at the best possible favourable terms. The following are the important sources of working capital.

To obtain the working capital in the following two major divisions.

(A) Long term sources

(B) Short term sources

**(A) Long-term Sources**

(i) Share capital

(ii) Sale of debentures

(iii) Ploughing back of profits

(iv) Sale of fixed assets

(v) Term loans.

**(B) Short-term Sources**

I. Internal Sources :

(i) Depreciation Funds

(ii) Provision for Taxation

(iii) Accrued Expenses.

II. External Sources :

(i) Trade credit

(ii) Bank credit

(iii) Credit papers

(iv) Public deposits

(v) Government’s assistance

(vi) Loans from directors etc.

(vii) Factoring.

#### ****Issues in Working Capital Management****

Working capital management refers to the administration of all components of working capital cash, marketable securities, debtors (receivable) and stock (inventories) and creditors (payables). The financial manager must determine levels and composition of current assets. He must see that right sources are tapped to finance current assets, and that current liabilities are paid in time.

There are many aspects of working capital management which make it an important function of the financial manager.

o   Time working capital management requires much of the financial manager’s time.

o   Investment working capital represents a large portion of the total investment in assets.

o   Criticality Working capital represents a large portion of the total investment in assets.

o   Growth the need for working capital is directly related to the firm’s growth.

**Cash managment**

**Introduction:** Cash is the most liquid asset. Cash is common denominator to which all other current assets can be reduced because receivables and inventories get converted into cash. Cash is lifeblood of any firm needed to acquire supply resources, equipment and other assets used in generating the products and services. Marketable securities also come under near cash, serve as back pool of liquidity which provide quick cash when needed. It is concerned with management of cash in such a way as to achieve the generally accepted objectives of the firm- maximum profitability with maximum liquidity of the firm. It is the management's ability to recognize cash problems before they arise, to solve them when they arise.

**Meaning :**Cash management is the efficient collection, disbursement, and investment of cash in an organization while maintaining the company’s liquidity. In other words, it is the way in which a particular organization manages its financial operations such as investing cash in different short-term projects, collection of [revenues](https://www.myaccountingcourse.com/accounting-dictionary/revenue), payment of [expenses](https://www.myaccountingcourse.com/accounting-dictionary/expenses), and [liabilities](https://www.myaccountingcourse.com/accounting-dictionary/liabilities) while ensuring it has sufficient cash available for future use.

### ****Motives of holding cash****

Fixed assets are used to convert the raw materials into finished goods. Investment in current assets cannot be avoided due to constraints in technology, manufacturing process and customers’ behavior of demanding.

Firm is not dependent on this asset in manufacturing process nor is required for creating inventory or selling. Thus the basic question is why firms hold cash and [marketable securities](https://en.wikipedia.org/?title=Marketable_securities&redirect=no).

Some of the reasons for holding cash are listed below.

* Transaction Motive
* Precautionary or Hedging Motive
* Speculative Motive
* Managing uneven supply and demand for cash

#### ****Transaction Motive****

Money is required to settle customers bills, pay salary and wages to workers, pay duties and taxes, etc. some cash balance is to be maintained to complete these transactions. The amount to be maintained for the transaction motive depends on the cash inflows and outflows.

#### ****Precautionary or Hedging Motive****

The transaction motive takes into account the routine cash needs of the firms. It is also based on the assumption that inflows are as per estimation. However, the future cash needs for transaction purposes are uncertain.

The firm has to protect itself from such contingencies by holding cash balance. This is called as precautionary motive of holding cash balance. Precautionary cash balance is also maintained to meet the non-routine needs.

Generally, cash required for precautionary motive is held in the form of short-term securities with the objective to earn atleast some positive return.

#### ****Speculative Motive****

The term speculative motive to some extent is a misnomer since cash is not kept to conduct any speculation but merely to exploit opportunity. This is particularly relevant in commodity sector, where the prices of material fluctuate widely in different periods and the firm’s [business](https://www.timesdarpan.com/definition-and-importance-of-an-organization/) success depends on its ability to source the material at the right time.

#### ****Managing uneven supply and demand for cash****

Firms generally experience some seasonality in sales, which leads to excess cash flows in certain period of the year. This is not permanent surplus and cash is required at different points of time.

One possible solution to address this mismatch of cash flows is to pay off bank loans whenever there is excess cash and negotiate fresh loans to meet the subsequent demands.

**Importance of Cash Management**

1. Cash management ensures that the firm has sufficient cash during peak times for purchase and for other purposes.

2. Cash management helps to meet obligatory cash out flows when they fall due.

3. Cash management assists in planning capital expenditure projects. 4. Cash management helps to arrange for outside financing at favorable terms and conditions, if necessary

5. Cash management helps to allow the firm to take advantage of discount, special purchases and business opportunities.

6. Cash management helps to invest surplus cash for short or long-term periods to keep the idle funds fully employed.

**Problems of cash management**

## 1. Overestimating future sales.

Most companies can calculate their monthly expenses fairly well. But knowing exactly what their revenue will be next month can be more difficult.Consider looking at the historical accuracy of your forecast on a month-to-month basis. Try being more conservative by rounding down instead of rounding up.

## 2. Impulse spending.

Too many businesses invest spontaneously on the next solution that they think will make them millions of dollars. They reason that they must spend more money to increase their revenue. But this can create cash-flow problems in a business. we can address this by having a cash flow-based budget (not one that is accrual based) and stick to it. Make changes strategically and only after careful analysis, instead of treating them as a big reaction to something that just happened.

## 3. Little assessment of a customer's credit worthiness.

Credit is a privilege for customers, not a right. Collecting payments on time from customers starts with deciding who deserves credit.

Before giving terms to a new customer, consider either asking for payment references or checking a credit database.

## 4. Only using a monthly billing cycle.

Traditionally, many companies bill their customers monthly and then get paid 30 days later. But this can limit incoming cash receipts.

Try implementing billing on a bi-weekly or weekly basis—that can help bring cash flow into the business more quickly.

## 5. Buying instead of researching a lease.

Companies that only buy equipment, tools and application software often require a lot of cash.

Instead of paying for an asset upfront, find ways to lease these resources monthly—especially since some of these tools don't generate cash at the start. If possible, try to only buy or lease what the company can make good use of now and not what it needs sometime in the future.

## 6. High inventory reorder points and quantities.

Some companies pay little attention to when they reorder products and at what quantity. This can result in stockpiling slow-turning merchandise, which means using more cash.

You may want to consider setting your inventory reorder points and inventory reorder quantities as low as possible. This can help you meet a fill rate (how often the product is in stock) your customers accept and at the level to get the vendor discounts that are needed.

## 7. Low inventory turns.

The more inventory that sits on the shelves, the more cash it locks up in a business. If a stock vendor needs to be paid before that product is paid for by the customer, this hurts the company cash flow.

Analyze how each product sells (called turns) per year. Then, try to stock more inventory that moves quickly and less of slow-moving ones.

## 8. Not enough cash on hand or access to short-term loans.

Most companies hit a stretch where they need to draw from cash savings or want a short-term infusion of cash. It is important to have these resources even if it is rarely used.

With that in mind, I recommend keeping a cash cushion of 50 percent of sales for three months. You may also want to secure and keep a line of credit available from your credit card providers or other financial institutions.

## 9. High interest on too much debt.

Some companies' monthly payments on their high-interest, short-term debt can cause serious cash-flow problems in a business. While their company may be making a monthly cash profit, all of that is going to pay down short-term debt.

Consider looking into converting your current short-term debt to long-term debt by using the Small Business Administration or other traditional vendors.

## 10. Not focusing on profitability.

Finally, it is very difficult for companies to resolve cash-flow problems in a business over an extended period if they are not profitable. Businesses that always lose money eventually run out of cash unless there are consistent outside infusions of capital.