# FINANCIAL MANAGEMENT

# SEMESTER IV

# B.B.A (IB)

# TOPIC: WORKING CAPITAL MANAGEMENT AND DIVIDEND DECISIONS

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# WORKING CAPITAL

## Concepts of Working Capital

Working capital or circulating capital indicates circular flow of funds in the day-to-day or routine activities of business. However, this term is used in two ways; in the gross and in the net concept. In the broad sense, the term 'working capital is used to denote the 'total current assets'. The following are some definitions of this group.

"Working Capital means current assets". -Mead, Baker, Malott.

"The sum of the current assets is working capital of a business". -J.S. Mill.

"Any acquisition of funds which increases the current assets increases working capital also, for they are one and the same". - Bonneville

"Working capital refers to a firm's investment in short-term assets-cash, marketable securities, accounts receivable and inventories". - Weston & Brigham

## Types of Working Capital

Working capital can be classified either on the basis of its concept or on the basis of periodicity of its requirements.

(a) On the Basis of Balancesheet Concept. On the basis of its concept, it may be either gross working capital or net working capital. Gross working capital is represented by the total current assets. The net working capital is the excess of current assets over current liabilities.

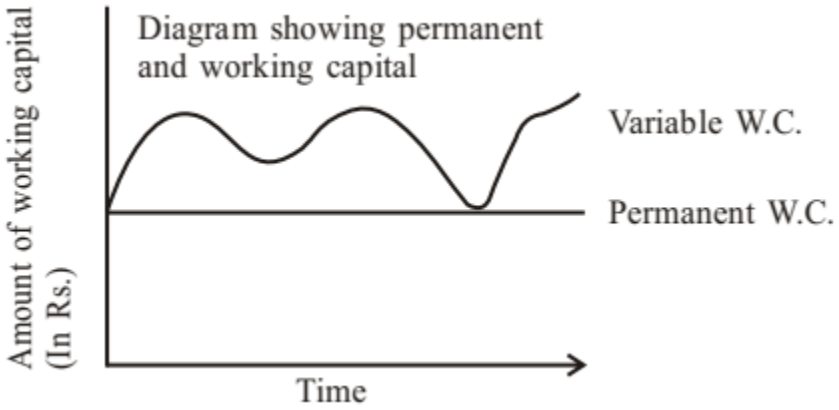
(i) Gross Working Capital = Total Current Assets

(ii) Net Working Capital = CA-CL (Current Assets-Current Liabilities)

(b) On the Basis of Requirements. According to Gerstenbergh, the working capital can be classified into two categories on the basis of time and requirement:

(i) Permanent Working Capital. It refers to the minimum amount of investment which should be there in the fixed or minimum current assets like inventory, accounts receivable, or cash balance etc., in order to carry out business smoothly. This investment is of a regular or permanent type and as the size of the firm expands, the requirement of permanent working capital also increases. Tandon Committee has referred to this type of working capital as "hard core working capital".

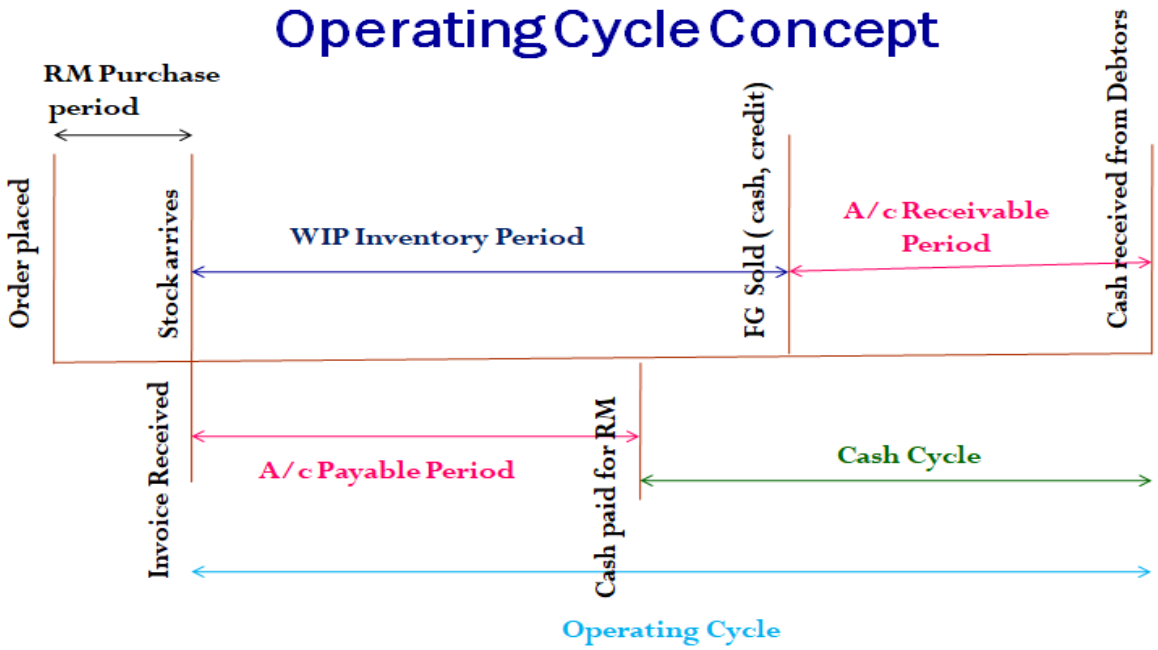
(ii) Variable Working Capital. The excess of working capital over permanent working capital is known as variable working capital. The amount of (144) such working capital keeps on fluctuating from time to time on the basis of business activities. It may again be sub-divided into seasonal and special working capital. Seasonal Working Capital is required to meet the seasonal demands of busy periods occuring at stated intervals. On the other hand, special working capital is required to meet extra-ordinary needs for contingencies. Events like strike, fire, unexpected competition, rising price tendencies or initiating a big advertisement campaign require such capital. The following diagram illustrates the difference between permanent and variable working capital.




**Operating Cycle Concept**

Every business undertaking requires funds for two prupose-investments in fixed assets and investment in current assets. Funds required investing in inventories; debtors and other current assets keep on changing shape and volume. For example, a company has some cash in the beginning. This cash may be paid to the suppliers of raw-materials, to meet labour costs and other overheads. These three combined would generate work-in-progress which will be converted into finished goods on the completion of the production process. On sale, these finished goods get converted into debtors and when debtors pay, This cash will again be used for financing raw materials, work-in-progress, finished goods and debtors etc. So the cycle is completed on the conversion of these currents assets into cash. This time period is simply known as the working capital cycle of the firm. In other words, Working Capital Cycle indicates the length of time between a firm's paying for materials entering into stock and receiving the cash

from the sale of finished goods. In a manufacturing firm, the duration of time required to complete the sequence of events is called operating cycle. In case of a manufacturing company, the operating cycle is the length of time necessary to complete the following cycle of events :- (i) Conversion of cash into raw materials. (ii) Conversion of raw materials into work-in-progress; (iii) Conversion of work-in-progress into finished goods; (iv) Conversion of finished goods in accounts receivable, and (v) Conversion of accounts receivable into cash. This cycle is repeated again and again. This operating cycle is clear from the following chart :




## MEANING OF WORKING CAPITAL

Working capital is the amount of funds needed by an enterprise to finance its day to day operation. It is the part of capital employed in short-term operation such as raw materials, semi finished products, sundry debtors. Because of its variable nature, the working capital is also referred to as circulating capital. It may be pointed out that the total working capital is composed of two parts.

- **Regular Capital**
- **Variable Capital**

## ADEQUATE WORKING CAPITAL:

The firm should maintain a sound working capital position. It should have adequate working capital to run its business operations. Both excessive as well as inadequate working capital positions are dangerous from firm's point of view. Excessive working capital means holding costs and idle funds which earn no profit for the firm. Paucity of working capital not only impairs the firm's profitability but also results in production interruptions and inefficiencies and sales disruption

## Importance/Need/Advantage of Adequate Working Capital:

- **Availability of Raw Materials Regularly:-**

Adequacy of working capital makes it possible for a firm to pay the suppliers of raw materials on time. As a result it will continue to receive regular supplies of raw materials and thus there will be no disruption in production process.

- **Full Utilization of Fixed Assets:-**

Adequacy of working capital makes it possible for a firm to utilize its fixed assets fully and continuously. For example, if there is inadequate stock of raw material, the machines will not be utilized in full and their productivity will be reduced.

- **Cash Discount:-**

A firm having the adequate working capital can avail the cash discount by purchasing the goods for cash or by making the payment before the due date.

- **Increase in Credit Rating:-**

Paying its short-term obligations in time leads to a strong credit rating which enables the firm to purchase goods on credit on favorable terms and to maintain its line of credit with banks etc. it facilities the taking of loan in case of need.

- **Exploitation of Favorable Market conditions:-**

Whenever there are chances of increase in prices of raw materials, the firm can purchase sufficient quantity if it has adequate of working capital. Similarly, if a firm receives a bulk order for the supply of goods it can take advantage of such opportunity if it has sufficient working capital.

- **Facility in Obtaining Bank Loans:-**

Banks do not hesitate to advance even the unsecured loan to a firm which has the sufficient working capital. This is because the excess of current assets over current liabilities itself is a good security.

- **Increase in Efficiency of Management:-**

Adequacy of working capital has a favorable psychological effect on the managers. This is because no obstacle arises in the day-to-day business operations. Creditors, wages and all other expenses are paid on time and hence it keeps the morale of manager's high

- **Ability to face crisis:-**

Adequate working capital enables a concern to face business crisis in emergencies such as depression, because during such periods, generally, there is much pressure on working capital.

- **Solvency of the business:-**

Adequate working capital helps in maintaining solvency of the business by providing uninterrupted flow of production.

- **Good will**

Sufficient working capital enables a business concern to male prompt payments and hence helps in creating and maintaining good will.

## EXCESSIVE AND INADEQUATE WORKING CAPITAL:

A business enterprise should maintain adequate working capital according to the needs of its business operations. The amount of working capital should neither be excessive nor inadequate. If the working capital is in excess if its requirements it means idle funds adding to the cost of capital but which earn nom profits for the firm. On the contrary, if the working capital is short of its requirements, it will result in production interruptions and reduction of sales and, in turn, will affect the profitability of the business adversely.

### Disadvantage of Excessive Working Capital:-

- **Excessive Inventory:-**

Excessive working capital results in unnecessary accumulation of large inventory. It increases the chances of misuse, waste, theft etc.

- **Excessive Debtors:-**

Excessive working capital will results in liberal credit policy which, in turn, will results in higher amount tied up in debtors and higher incidence of bad debts.

- **Adverse Effect on Profitability:-**

Excessive working capital means idle funds in the business which adds to the cost of capital but earns no profits for the firm. Hence it has a bad effect on profitability of the firm.

- **Inefficiency of Management:-**

Management becomes careless due to excessive resources at their command. It results in laxity of control on expenses and cash resources.

**Disadvantage of Inadequate Working Capital:**

- **Difficulty in Availability of Raw-Material:-**

Adequacy of working capital results in non-payment of creditors on time. As a result the credit purchase of goods on favorable terms becomes increasingly difficult. Also, the firm cannot avail the cash discount.

- **Full Utilization of Fixed Assets not Possible:**

Due to the frequent interruption in the supply of raw materials and paucity of stock, the firm cannot make full utilization of its machines etc.

- **Difficulty in the Maintenance of Machinery:**

Due to the inadequacy of working capital, machines are not cared and maintained properly which results in the closure of production on many occasions.

- **Decrease in Credit Rating:**

Because of inadequacy of working capital, firm is unable to pay its short-term obligations on time. It decays the firm's relations with its bankers and it becomes difficult for the firm to borrow in case of need.

- **Non Utilization of Favorable Opportunities:**

For example, a firm cannot purchase sufficient quantity of raw materials in case of sudden decrease in the prices. Similarly, if the firm receives a big order, it cannot execute it due to shortage of working capital.

- **Decrease in Sales:**

Due to the shortage of working capital, the firm cannot keep sufficient stock of finished goods. It results in the decrease in sales. Also, the firm will be forced to restrict its credit sales. This will further reduce the sales.

- **Difficulty in the Distribution of Dividends:**

Because of paucity of cash resources, firm will not be able to pay the dividend to its shareholders.

- **Decrease in the Efficiency of Management:**

It will become increasingly difficult for the management to pay its creditors on time and pay its day-to-day expenses. It will also be difficult to pay the wages regularly which will have an adverse effect on the morale of managers.

**DETERMINANTS OF WORKING CAPITAL:**

A firm should have neither too much nor too little working capital. A large number of factors, each has a different importance, influencing working capital needs of firms. The importance of factors also changes for a firm over time.

Therefore, an analysis of relevant factors should be made in order to determine total investment in working capital. The following is the description of factors which generally influence the working capital requirements. The working capital requirement is determined by a large number of factors

but, in general, the following factors influence the working capital needs of an enterprise:

- **Nature of Business :-**

Working capital requirements of an enterprise are largely influenced by the nature of its business. For instance, public utilities such as railways, transport, water, electricity etc. have a very limited need for working capital because they have invested fairly large amounts in fixed assets. Their working capital need is minimal because they get immediate payment for their services and do not have to

maintain big inventories. On the other extreme are the trading and financial enterprises which have to invest fewer amounts in fixed assets and a large amount in working capital. This is so because the nature of their business is such that they have

to maintain a sufficient amount of cash, inventories and debtors. Working capital needs of most of the manufacturing enterprises fall between these two extremes, that is, between public utilities and trading concerns.

- **Size of Business:-**

Larger the size of the business enterprise, greater would be the need for working capital. The size of a business may be measured in terms of scale of its business operations.

- **Growth and Expansion:-**

As a business enterprise grows, it is logical to expect that a larger amount of working capital will be required. Growing industries require more working capital than those that are static.

- **Production cycle:-**

Production cycle means the time-span between the purchase of raw materials and its conversion into finished goods. The longer the production cycle, the larger will be the need for working capital because the funds will be tied up for a longer period in work in process. If the production cycle is small, the need for working capital will also be small.

- **Business Fluctuations:-**

Business fluctuations may be in the direction of boom and depression. During boom period the firm will have to operate at full capacity to meet the increased demand which in turn, leads to increase in the level of inventories and book debts. Hence, the need for working capital in boom conditions is bound to increase. The depression phase of business fluctuations has exactly an opposite effect on the level of working capital requirement.

- **Production Policy:-**

The need for working capital is also determined by production policy. The demand for certain products (such as woolen garments) is seasonal. Two types of production policies may be adopted for such products. Firstly, the goods may be produced in the months of demand and secondly, the goods may be produces throughout the year. If the second alternative is adopted, the stock of finished goods will accumulate progressively upto the season of demand which requires an increasing amount of working capital that remains tied up in the stock of finished goods for some months.

- **Credit Policy Relating to Sales:-**

If a firm adopts liberal credit policy in respect of sales, the amount tied up in debtors will also be higher. Obviously, higher book debts mean more working capital. On the other hand, if the firm follows tight credit policy, the magnitude of working capital will decrease

- **Credit Policy Relating to Purchase:-**

If a firm purchases more goods on credit, the requirement for working capital will be less. In other words, if liberal credit terms are

available from the suppliers of goods (i.e., creditors), the requirement for working capital will be reduced and vice versa.

- **Availability of Raw Material:-**

If the raw material required by the firm is available easily on a continuous basis, there will be no need to keep a large inventory of such materials and hence the requirement of working capital will be less. On the other hand, if the supply of raw material is irregular, the firm will be compelled to keep an excessive inventory of such raw materials which will result in high level of working capital. Also, some raw materials are available only during a particular season such as oil seeds, cotton, etc. They would have to be necessarily purchased in that season and have to be kept in stock for a period when supplies are lean. This will require more working capital.

- **Availability of Credit from Banks:-**

If a firm can get easy bank facility in case of need,

it will operate with less working capital. On the other hand, if such facility is not available, it will have to keep large amount of working capital.

- **Volume of Profit:-**

The net profit is a source of working capital to the extent it has been

earned in cash. Higher net profit would generate more internal funds thereby contributing the working capital pool.

- **Level of Taxes:-**

Full amount of cash profit is not available for working capital purpose. Taxes have to be paid out of profits. Higher the amount of taxes less will be the profits for working capital.

- **Dividend Policy:-**

Dividend policy is a significant element in determining the level of working capital in an enterprise. The payment of dividend reduces the cash and thereby, affects the working capital to that extent. On the contrary, if the company does not pay dividend but retains the profits, more would be the contribution of profits towards capital pool.

- **Depreciation Policy:-**

Although depreciation does not result in outflow of cash, it affects the working capital indirectly. In the first place, since depreciation is allowable expenditure in calculating net profits, it affects the tax liability. In the second place, higher depreciation also means lower disposable profits and, in turn, a lower dividend payment. Thus, outgo of cash is restricted to that extent.

- **Price Level Changes:-**

Changes in price level also affect the working capital requirements. If the price level is rising, more funds will be required to maintain the existing level of production. Same level of current assets will need increased investment when prices are increasing. However, companies that can immediately their product prices with rising price levels will not face a severe working capital problem. Thus, it is possible that some companies may not be affected by rising prices while others may be badly hit.

- **Efficiency of Management:-**

Efficiency of management is also a significant factor to determine the level of working capital. Management can reduce the need for working capital by the efficient utilization of resources. It can accelerate the pace of cash cycle and thereby use the same amount working capital again and again very quickly

**Significance of Working Capital**

- Conversion of cash into inventory.
- Conversion of inventory into receivable.
- Conversion of receivable into cash.

These events constitute
operating cycle of business. If all these events could happen simultaneously, there would not arise any need for working capital. Since cash inflows and cash outflows do not match, an
organization need necessary cash and liquidity tobe able to meet its obligations. Thus adequate capital is required for smooth operation of any business concern.
Sound working capital management results in maximization
of productivity and Profits. It requires the
maintenance of proper balance between working and fixed capital, so as to
maintain both profitability and
solvency. Proper management synchronizes cash receipts and cash outlays.
For small concerns, efficient working capital management is still more essential to ensure purchase of inputs
at competitive prices and timely payment to factors of production. It may be noted that shorter the gap
between spending of money on production of goods and the recovery of money through rapid sales turnover, the better shall be the quality of working capital management.

**Factors Affecting Working Capital Requirements**

In case of a small enterprise, the various factors affecting its working capital requirements.

- **Size of Business**.

Size of unit and the volume of business.

- **Nature of Process.**

Nature of production process i.e. lengthier the duration of production, higher shall be the working capital needs and vice-versa.

- **Proportion of Raw Materials and Total Cost.**

Proportion of raw material to total cost must be decided.

- **Terms of Sale & Purchase.**

Terms of sale and purchase e.g. sales are on cash terms, lesser working capital will be sufficient.

- **Turnover of Inventories.**

If inventories are large and their turnover is slow, larger working capital would be needed.

- **Labour Vs. Capital Intensive.**

Labour vs. capital intensive, the former requiring higher amounts of working capital.

- **Cash Requirements.**

Cash requirements will have direct impact on working capital quantum.

- **Banking Facilities.**

Availability of goods and dependable banking facilities reduces working capital needed.

- **Seasonal Requirements.**

Seasonal requirements may push up the amount of working capital needed.

- **Contingencies.**

If the demand and prices for small concerns products are subject to
wide fluctuation, contingency provision will have to
be made for arranging higher amounts of working capital

**Determination of Working Capital Needs**

Working capital requirements of small enterprise varies from unit to unit and in accordance with the difference on the nature of the enterprise. Broadly speaking, working capital should be adequate to meetoperating expenses like raw materials, labour, factory and other overhead s etc. Operating expenses can beascertained from the final accounts ofthe firm. But the worki ng capital requirements needs not be equal to the level of expenses. Operating cycle is of primary significance in every case.

**Working Capital Requirement Formula =**
**Operating Exp in Previous Year/Number of operating Cycles in Year**

**Working Capital Sources:**

Every concern has to finance its Working Capital out of various sources. Fixed Working Capital of the business is financed out of the long-term capital employed in the business, whereas temporary Working Capital of the business is arranged out of short-term capital employed in the business. Different sources of permanent and temporary Working Capital are written as follows:

## Sources of Permanent Working Capital

**External sources:**

- Issue of shares
- Issue of debentures; and
- Raising of long-term loans.

**Internal sources:**

Ploughing back of profit or reinvestment of profit.

## Sources of Temporary Working Capital

**External sources:**

- Trade creditors;
- Advance from customers;
- Short-term borrowings;
- Bank overdraft;
- Outstanding wages and expenses; and
- Short-term public deposits.

## Sources

**Long-Term Loans**

A loan is the amount of money that is given to an individual or a company on the agreement they will repay the amount borrowed in a period that exceeds 12 months and at predetermined interest rates. Long-term loans are usually secured against certain assets and are offered by commercial banks, the government and financial institutions. This type of loan provides the long-term working capital for the business.

**Short-Term Loans**

Short-term loans are loans that are to be repaid within a year from the time they are borrowed. Savings banks, cooperatives and the government through the Small Business Administration are some of the institutions that offer these loans. Bank overdraft is one such

source of business finance. A bank overdraft is a withdrawal made by a business that exceeds the amount of balance in its bank account, although the amount of money does not exceed a set limit.

**Line of Credit**

This is a form of a loan agreement between the bank and the borrower that enables the borrower to acquire some amount of the funds on demand, but the borrower does not have to take the loan. A business may secure working capital through this service if it has recurring expenses at regular intervals.

**Trade Credit**

This credit service offered by suppliers allows businesses to get goods and pay for them later. This is a source of working capital that may be acquired from all suppliers depending on the business arrangements, the type of business you conduct and the worth of the credit to be offered.

**Asset-Based Financing**

A business may use its assets to secure working capital from financial institutions that offer asset based loans. The asset includes machinery, vehicle or accounts receivable. Accounts receivable are financial documents of people or companies that owe money to the business and they may be traded in to finance working capital at discounting companies.

**Inventory Financing**

These loans are secured with the business` inventory acting as the security. Finance for working capital may be acquired through its inventory although the business cannot sell it until the loan is repaid because the lender has the right to the inventory until the loan has been repaid.

## COMPONENTS OF WORKINC CAPITAL MANAGEMENT

Often the interrelationships among the working capital components create real challenges for the financial managers. Inventory is purchased from suppliers, sale of which generates accounts

receivable and collected in cash from customers to pay off those suppliers. Working capital has to be managed because the firm cannot always control how quickly the customers will buy, and once they have made purchases, exactly when they will pay. That is why; controlling the "cash-to-cash" cycle is paramount.

The different components of working capital management of any organization are:

• Inventory (Inventory Management)

• Debtors / accounts receivables (Receivables Management)

• Cash and Cash equivalents. (Cash and Credit Management)

## INVENTORY MANAGEMENT

**Effective inventory management is all about knowing what is on hand, where it is in use, and how much finished product results.**

Inventory management is the process of efficiently overseeing the constant flow of units into and out of an existing inventory. This process usually involves controlling the transfer in of units in order to prevent the inventory from becoming too high, or dwindling to levels that could put the operation of the company into jeopardy. Competent inventory management also seeks to control the costs associated with the inventory, both from the perspective of the total value of the goods included and the tax burden generated by the cumulative value of the inventory.

Balancing the various tasks of inventory management means paying attention to three key aspects of any inventory. The first aspect has to do with time. In terms of materials acquired for inclusion in the total inventory, this means understanding how long it takes for a supplier to process an order and execute a delivery. Inventory management also demands that a solid understanding of how long it will take for those materials to transfer out of the inventory be established. Knowing these two important lead times makes it possible to know when to place an order and how many units must be ordered to keep production running smoothly.

Calculating what is known as buffer stock is also key to effective inventory management. Essentially, buffer stock is additional units above and beyond the minimum number required to maintain production levels. For example, the manager may determine that it would be a good idea to keep one or two extra units of a given machine part on hand, just in case an emergency situation arises or one of the units proves to be defective once installed. Creating this cushion or buffer helps to minimize the chance for production to be interrupted due to a lack of essential parts in the operation supply inventory.

Inventory management is not limited to documenting the delivery of raw materials and the movement of those materials into operational process. The movement of those materials as they go through the various stages of the operation is also important. Typically known as a goods or work in progress inventory, tracking materials as they are used to create finished goods also helps to identify the need to adjust ordering amounts before the raw materials inventory gets dangerously low or is inflated to an unfavorable level.

Finally, inventory management has to do with keeping accurate records of finished goods that are ready for shipment. This often means posting the production of newly completed goods to the inventory totals as well as subtracting the most recent shipments of finished goods to buyers. When the company has a return policy in place, there is usually a sub-category contained in the finished goods inventory to account for any returned goods that are reclassified as refurbished or second grade quality. Accurately maintaining figures on the finished goods inventory makes it possible to quickly convey information to sales personnel as to what is available and ready for shipment at any given time.

In addition to maintaining control of the volume and movement of various inventories, inventory management also makes it possible to prepare accurate records that are used for accessing any taxes due on each inventory type. Without precise data regarding unit volumes within each phase of the overall operation, the company cannot accurately calculate the tax amounts. This could lead to underpaying the taxes due and possibly incurring stiff penalties in the event of an independent audit.

**The purposes of inventories are:**

- To maintain independence of operations
- To meet variation in product demand
- To allow flexibility in production scheduling
- To provide a safeguard for variation in raw material delivery time
- To take advantage of economic purchase order size

## INVENTORY COSTS

Five types of costs need to be considered when analyzing inventory decisions:

- Holding (or carrying) costs: storage facilities, handling, insurance, pilferage, breakage, obsolescence, depreciation, taxes, and the opportunity cost of capital.
- Setup (or production change) costs: line conversion, equipment change-over, report preparation, etc.
- Ordering costs: typing, calling, transportation, receiving, etc. This cost does not depend or vary on the number ordered.
- Shortage costs (stockout costs): the loss due to losing a specific sale, customers' goodwill, or future business.
- Cost of the item

## INDEPENDENT VERSUS DEPENDENT DEMAND

Independent demand (i.e., the demand by consumers) is influenced by market conditions outside the control of operations. Independent demand calls for a replenishment philosophy. Orders are made to replenish inventory.

Dependent (or derived) demand is related to the demand for another item. For example, parts, intermediate goods, and raw materials face a demand dependent on the demand for the final goods. Dependent demand calls for a requirements philosophy. Orders are made if there is a demand or requirement for the final product.

## INVENTORY CONTROL TECHNIQUES

**Inventory Control Techniques:**

It refers to the techniques for efficiently maintaining the flow of materials.

**The following are the important inventory control techniques:**

a) Economic order quantity b) Fixation of stock levels c) ABC Analysis d) Just in Time (JIT)

**Economic Order Quantity (EOQ):**

The economic order quantity or EOQ is the certain amount to be ordered at specific intervals. It gives the perfect sawtooth pattern in a graph of inventory versus time.

EOQ is simple to understand and use but it has several restrictive assumptions which are also disadvantages in practice. Even with these weaknesses, EOQ is a good place to start to understand inventory systems. EOQ assumes:

- Demand rate is constant, uniform, recurring, and known.
- Lead time is constant and known.
- Price per unit of product is constant; no discounts are given for large orders.
- Inventory holding cost is based on average inventory.
- Ordering or setup costs are constant.
- All demands will be satisfied; no stockouts are allowed.

D = demand rate, units per year

S = cost per order placed, or setup cost, dollars per order

C = unit cost, dollars per unit

i = holding or carrying rate, percent of dollar value per year

Q = lot size, units

TC = total or ordering cost plus carrying cost, dollars per year

Annual purchase cost = DC

Annual ordering cost = (D/Q)S

Annual holding cost per year = HQ/2 = iCQ/2

TC = total annual cost = DC + (D/Q)S + iCQ/2

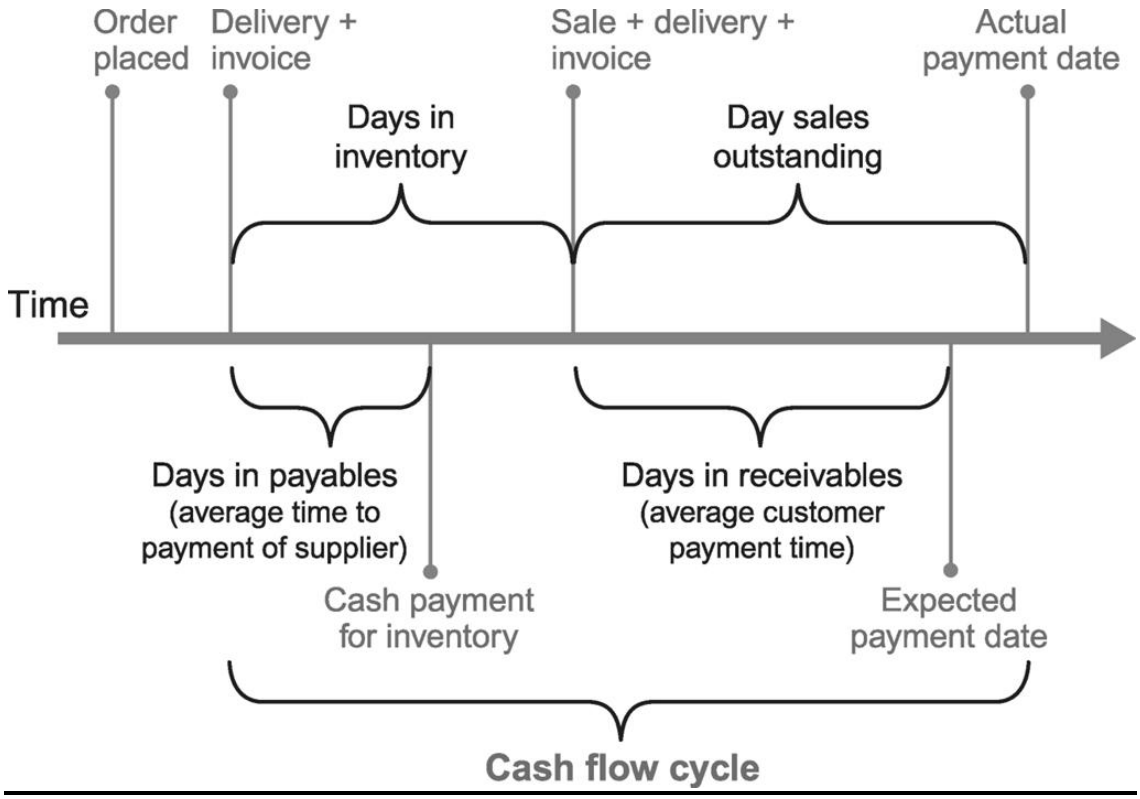
Solving for minimum TC yields the economic order quantity:

$$EOQ = \sqrt{2SD / iC}$$

Number of orders per year = D/Q

Number of months between orders = 12 / (D/Q)

**OPERATING CYCLE**




**Example:**

The estimated annual production is 2, 00,000 units. The set-up cost per production run is Rs 200 and carrying cost per unit per year is Rs 5. Calculate the optimum production size by applying EOQ formula.

**Solution:** Economic Production Lot Size (EPLS) = $\sqrt{\frac{2QA}{K}}$

Here, $Q = 2{,}00{,}000$, $A = \text{Rs } 200$, $K = \text{Rs } 5$

$$\therefore \quad EPLS = \sqrt{\frac{2 \times 2{,}00{,}000 \times 200}{\text{Rs } 5}} = 4{,}000 \text{ units}$$

**Stock Levels:**

Efficient inventory management requires an effective stock control system. One of the important aspects of inventory control is stock level. Level of stock has a significant bearing on the profitability. Over-stocking requires large capital investments whereas under-stocking affects flow of the production process. The following are the levels of stock fixed for efficient management of inventory.

**Re-order Level:**

It is the level which indicates when to place an order for purchase of raw materials. This is also termed as the ordering level. Following formula is used for calculating Re-order level:

Reorder Level = Lead time x Average usage

Or = Minimum stock level + (Average consumption x normal delivery period)

Or = Safety stock + Lead time consumption

= Maximum consumption x Maximum reorder period

**Minimum Stock Level:**

It indicates the minimum level of stock below which the quantity of an item should not be allowed to fall. This level is also called safety stock or buffer stock level. It is calculated by using following formula:

Minimum Stock Level = Re-order Level – [Normal consumption x Normal re-order period]

**Maximum Stock Level:**

The maximum stock level indicates the maximum level of inventory beyond which the quantity of any item is not allowed to increase in order to ensure that unnecessary working capital is not blocked.

**It is calculated by using following formula:**

Maximum Stock Level = Reorder level + Reorder quantity – (Minimum consumption X Minimum reorder period)

Or = Economic Order Quantity + Safety Stock

**Average Stock Level:**

Average stock level is fixed by taking the average of maximum stock level and minimum stock level.

Average Stock Level = 1/2 (Maximum Stock Level + Minimum Stock Level)

**Example:**

**The following information is available in respect of a particular material:**

Reorder Quantity: 3,600 units Maximum Consumption: 900 units per week Minimum Consumption: 300 units per week Normal Consumption: 600 units per week Re-order period: 3 to 5 weeks  Calculate (i) Re-order level (ii) Maximum stock level (iii) Minimum stock level (iv) Average stock level

**Solution:**

(i) Re-order Level = Maximum Consumption × Maximum Reorder Period

$= 900 \times 5 = 4{,}500$ units

(ii) Minimum Stock Level = Re-order level – (Normal Consumption × Normal Re-order period)

$= 4{,}500 - \left(600 \times \frac{3+5}{2}\right)$

$= 4{,}500 - 2{,}400 = 2{,}100$ units

(iii) Maximum Stock Level = Re-order Level + Re-order Quantity – (Minimum Consumption × Minimum re-order period)

$= 4{,}500 + 3{,}600 - (300 \times 3)$

$= 7{,}200$ units

(iv) Average Stock Level = $\frac{1}{2}$ (Maximum Stock Level + Minimum Stock Level)

$= \frac{1}{2}(7{,}200 + 2{,}100) = 4{,}650$ units

## ABC Analysis:

ABC Analysis is one of the important inventory control techniques. In a big manufacturing concern it is not always possible to pay equal attention to each and every raw material. In such cases raw materials are classified according to their value so that proper control may be exercised on materials having high value. ABC Analysis is an analytical technique that tries to group materials into three categories on the basis of cost involved.

**The categories are:**

A – High value materials

B – Medium value materials

C – Low value materials

Items that are high value and less than 10% of the total consumption of inventory are grouped under Category A. This category requires most attention. Category C consists of low cost items but having large number of units. Category B lies between Category A and Category C. ABC analysis can be represented as:

| Category | Percentage of Usage | Percentage Value of Consumption |
|---|---|---|
| A | 5–10 | 70–80 |
| B | 20–30 | 15–20 |
| C | 60–70 | 5–10 |

**The following steps are to be adopted for computation of ABC analysis:**

i. Compute the consumption value of each item of material.

ii. Rank them as per their consumption values.

iii. Classify them in A. B and C categories as per their consumption values.

**Example 8.6:**

**From the information given below, prepare an ABC Analysis chart:**

| Name of Material | I | II | III | IV | V | VI | VII | VIII | IX | X |
|---|---|---|---|---|---|---|---|---|---|---|
| Consumption in units | 200 | 2,300 | 20 | 1,300 | 35 | 1,700 | 130 | 750 | 700 | 90 |
| Unit price | 12 | 16 | 18 | 4 | 6 | 15 | 8 | 5 | 12 | 12 |

**Solution:** Computation of annual consumption and ranking of materials

| Name of Material | Consumption [a] | Unit Price [b] | Consumption Value [a × b] | Rank |
|---|---|---|---|---|
| I | 200 | 12 | 2,400 | 6 |
| II | 2,300 | 16 | 36,800 | 1 |
| III | 20 | 18 | 360 | 9 |
| IV | 1,300 | 4 | 5,200 | 4 |
| V | 35 | 6 | 210 | 10 |
| VI | 1,700 | 15 | 25,500 | 2 |
| VII | 130 | 8 | 1,040 | 8 |
| VIII | 750 | 5 | 3,750 | 5 |
| IX | 700 | 12 | 8,400 | 3 |
| X | 90 | 12 | 1,080 | 7 |
| Total | | | 84,740 | |

**Statement showing classification of material as per ABC analysis**

| Rank | Name of Material | Value of Consumption | % of Consumption | Cumulative % of Consumption | Category as per ABC |
|---|---|---|---|---|---|
| 1 | II | 36,800 | 43 | | |
| 2 | VI | 25,500 | 30 | 73 | A |
| 3 | IX | 8,400 | 9.9 | | |
| 4 | IV | 5,200 | 6.1 | 16 | B |
| 5 | VIII | 3,750 | 4.6 | | |
| 6 | I | 2,400 | 2.9 | | |
| 7 | X | 1,080 | 1.4 | | |
| 8 | VII | 1,040 | 1.3 | | |
| 9 | III | 360 | 0.5 | | |
| 10 | V | 210 | 0.3 | 11 | C |

**i. Just in Time:**

Just in time (JIT) inventory control system was developed by Taiichi Okno of Japan and was first introduced in Toyata Manufacturing Company of Japan. So it is also known as Toyata Production Method. The basic idea behind this system is that a firm should keep minimum level of inventory on the assumption that suppliers will deliver the raw materials as and when required. This system tries to make inventory carrying cost as zero.

Three important elements of JIT are Just in time purchasing, just in time production and just in time supply. Just in time purchasing, just in time production and just in time delivery can be effectively applied through adoption of advanced manufacturing technology.

## RECEIVABLES MANAGEMENT

Management of trade credit is commonly known as Management of Receivables. Receivables are one of the three primary components of working capital, the other being inventory and cash, the other being inventory and cash. Receivables occupy second important place after inventories and thereby constitute a substantial portion of current assets in several firms. The capital invested in receivables is almost of the same amount as that invested in cash and inventories. Receivables thus, form about one third of current assets in India. Trade credit is an important market tool as it acts like a bridge for mobilization of goods from production to distribution stages in the field of marketing. Receivables provide protection to sales from competitions. It acts no less than a magnet in attracting potential customers to buy the product at terms and conditions favourable to them as well as to the firm. Receivables management demands due consideration not financial executive not only because cost and risk are associated with this investment but also for the reason that each rupee can contribute to firm's net worth.

**MEANING AND DEFINITION:** When goods and services are sold under an agreement permitting the customer to pay for them at a later date, the amount due from the customer is recorded as accounts receivables; So, receivables are assets accounts representing amounts owed to the firm as a result of the credit sale of goods and services in the ordinary course of business. The value of these claims is carried on to the assets side of the balance sheet under titles such as accounts receivable, trade receivables or customer receivables.

This term can be defined as "debt owed to the firm by customers arising from sale of goods or services in ordinary course of business."

According to Robert N. Anthony, "Accounts receivables are amounts owed to the business enterprise, usually by its customers. Sometimes it is broken down into trade accounts

receivables; the former refers to amounts owed by customers, and the latter refers to amounts owed by employees and others".

Generally, when a concern does not receive cash payment in respect of ordinary sale of its products or services immediately in order to allow them a reasonable period of time to pay for the goods they have received. The firm is said to have granted trade credit. Trade credit thus, gives rise to certain receivables or book debts expected to be collected by the firm in the near future. In other words, sale of goods on credit converts finished goods of a selling firm into receivables or book debts, on their maturity these receivables are realized and cash is generated.

According to prasanna Chandra, "The balance in the receivables accounts would be; average daily credit sales x average collection period." 3 The book debts or receivable arising out of credit has three dimensions:

- It involves an element of risk, which should be carefully assessed. Unlike cash sales credit sales are not risk less as the cash payment remains unreceived.
- It is based on economics value. The economic value in goods and services passes to the buyer immediately when the sale is made in return for an equivalent economic value expected by the seller from him to be received later on.
- It implies futurity, as the payment for the goods and services received by the buyer is made by him to the firm on a future date.

The customer who represent the firm's claim or assets, from whom receivables or book-debts are to be collected in the near future, are known as debtors or trade debtors. A receivable originally comes into existence at the very instance when the sale is affected. But the funds generated as a result of these ales can be of no use until the receivables are actually collected in the normal course of the business.

Receivables may be represented by acceptance; bills or notes and the like due from others at an assignable date in the due course of the business. As sale of goods is a contract, receivables too get affected in accordance with the law of contract e.g. Both the parties (buyer and seller) must have the capacity to contract, proper consideration and mutual assent must be present to pass the title of goods and above all contract of sale to be enforceable must be in writing. Moreover, extensive care is needed to be exercised for differentiating true

sales form what may appear to be as sales like bailment, sales contracts, consignments etc. Receivables, as are forms of investment in any enterprise manufacturing and selling goods on credit basis, large sums of funds are tied up in trade debtors. Hence, a great deal of careful analysis and proper management is exercised for effective and efficient management of Receivables to ensure a positive contribution towards increase in turnover and profits.

**Instruments Indicating Receivables**

Harry Gross has suggested three general instruments in a concern that provide proof of receivables relationship. They are briefly discussed below: -

Open Book Account This is an entry in the ledger of a creditor, which indicates a credit transaction. It is no evidence of the existences of a debt under the Sales of Goods.

Negotiable Promissory Note It is an unconditional written promise signed by the maker to pay a definite sum of money to the bearer, or to order at a fixed or determinable time. Promissory notes are used while granting an extension of time for collection of receivables, and debtors are unlikely to dishonor its terms.

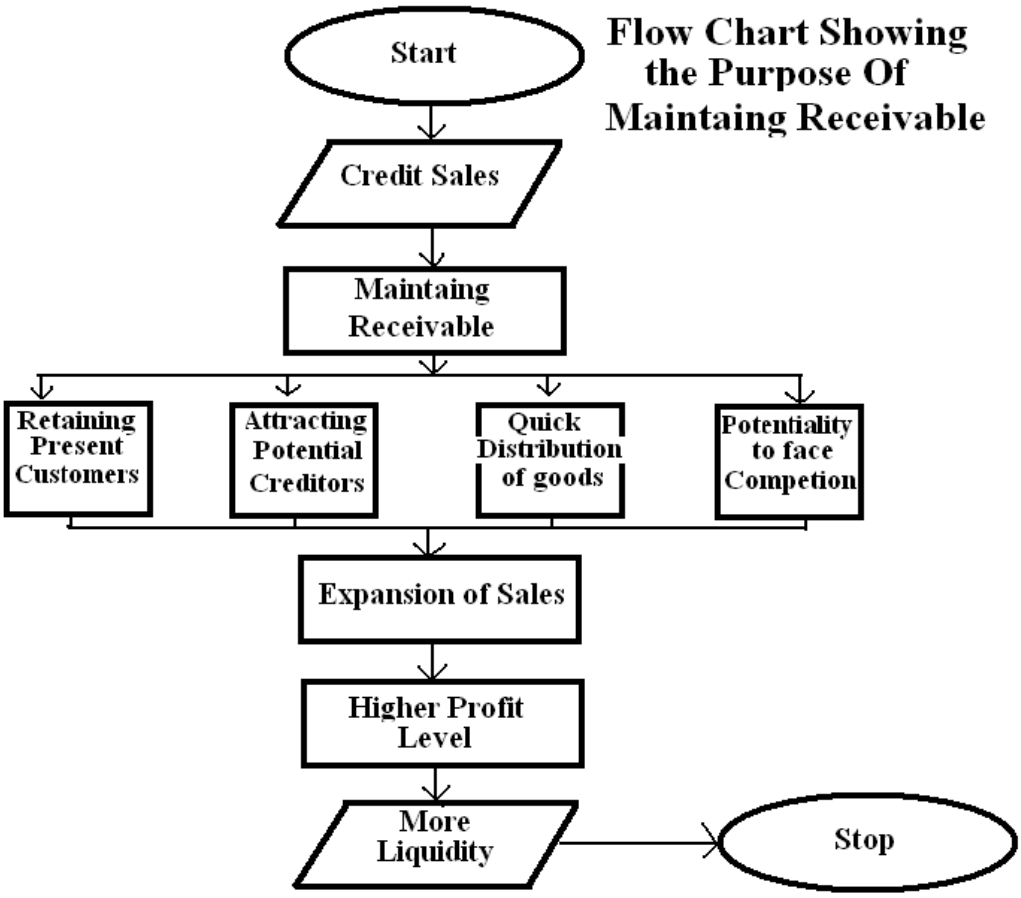
Increase in Profit As receivables will increase the sales, the sales expansion would favorably raise the marginal contribution proportionately more than the additional costs associated with such an increase. This in turn would ultimately enhance the level of profit of the concern.

Meeting Competition A concern offering sale of goods on credit basis always falls in the top priority list of people willing to buy those goods. Therefore, a firm may resort granting of credit facility to its customers in order to protect sales from losing it to competitors. Receivables acts as an attracting potential customers and retaining the older ones at the same time by weaning them away firm the competitors.

Augment Customer's Resources Receivables are valuable to the customers on the ground that it augments their resources. It is favoured particularly by those customers, who find it expensive and cumbersome to borrow from other resources. Thus, not only the present customers but also the Potential creditors are attracted to buy the firm's product at terms and conditions favourable to them. Speedy Distribution

Receivables play a very important role in accelerating the velocity of distributions, As a middleman would act quickly enough in mobilizing his quota of goods from the productions place for distribution without any hassle of immediate cash payment. As, he can pay the full

amount after affecting his sales. Similarly, the customers would hurry for purchasing their needful even if they are not in a position to pay cash instantly. It is for these receivables are regarded as a bridge for the movement of goods form production to distributions among the ultimate consumer.




**Cost of Maintaining Receivables:** Receivables are a type of investment made by a firm. Like other investments, receivables too feature a drawback, which are required to be maintained for long that it known as credit sanction. Credit sanction means tie up of funds with no purpose to solve yet costing certain amount to the firm. Such costs associated with maintaining receivables are detailed below: -

**Administrative Cost:** If a firm liberalizes its credit policy for the good reasons of either maximizing sales or minimizing erosion of sales, it incurs two types of costs:

**Credit Investigation and Supervision Cost:** As a result of lenient credit policy, there happens to be a substantial increase in the number of debtors. As a result the firm is required to analysis and supervises a large volume of accounts at the cost of expenses related with acquiring credit information either through outside specialist agencies or form its own staff.

**Collection Cost:** A firm will have to intensify its collection efforts so as to collect the outstanding bills especially in case of customers who are financially less sound. It includes additional expenses of credit department incurred on the creation and maintenance of staff, accounting records, stationary, postage and other related items.

**Capital Cost** There is no denying that maintenance of receivables by a firm leads to blockage of its financial resources due to the tie log that exists between the date of sale of goods to the customer and the date of payment made by the customer. But the bitter fact remains that the firm has to make several payments to the employees, suppliers of raw materials and the like even during the period of time lag. As a consequence, a firm is liable to make arrangements for meeting such additional obligations from sources other than sales. Thus, a firm in the course of expanding sales through receivables makes way for additional capital costs.

**Production and Selling Cost:** These costs are directly proportionate to the increase in sales volume. In other words, production and selling cost increase with the very expansion in the quantum of sales. In this respect, a firm confronts two situations; firstly when the sales expansion takes place within the range of existing production capacity, in that case only variable costs relating to the production and sale would increase. Secondly, when the production capacity is added due to expansion of sales in excess of existing production capacity. In such a case incremental production and selling costs would increase both variable and fixed costs.

**Delinquency Cost:** This type of cost arises on account of delay in payment on customer's part or the failure of the customers to make payments of the receivables as and when they fall

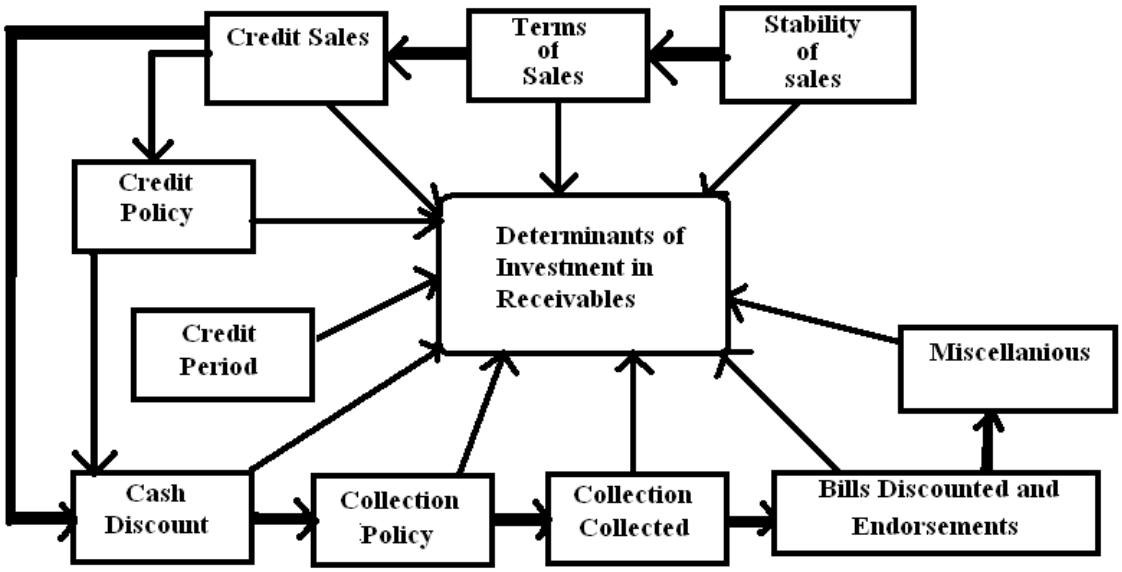
due after the expiry of the credit period. Such debts are treated as doubtful debts. They involve: -

- Blocking of firm's funds for an extended period of time,
- Costs associated with the collection of overheads, remainders legal expenses and on initiating other collection efforts.

**Default Cost** Similar to delinquency cost is default cost. Delinquency cost arises as a result of customers delay in payments of cash or his inability to make the full payment from the firm of the receivables due to him. Default cost emerges a result of complete failure of a defaulter (customer) to pay anything to the firm in return of the goods purchased by him on credit. When despite of all the efforts, the firm fails to realize the amount due to its debtors because of him complete inability to pay for the same. The firm treats such debts as bad debts, which are to be written off, as cannot be recovers in any case.

**FACTORS AFFECTING THE SIZE OF RECEIVABLES:** The size of receivables is determined by a number of factors for receivables being a major component of current assets. As most of them varies from business the business in accordance with the nature and type of business. Therefore, to discuss all of them would prove irrelevant and time consuming. Some main and common factors determining the level of receivable are presented by way of diagram in figure given below and are discuses below :

Figure. 6.2




**Stability of Sales** Stability of sales refers to the elements of continuity and consistency in the sales. In other words the seasonal nature of sales violates the continuity of sales in between the year. So, the sale of such a business in a particular season would be large needing a large a size of receivables. Similarly, if a firm supplies goods on installment basis it will require a large investment in receivables.

**Terms of Sale** A firm may affect its sales either on cash basis or on credit basis. As a matter of fact credit is the soul of a business. It also leads to higher profit level through expansion of sales. The higher the volume of sales made on credit, the higher will be the volume of receivables and vice-versa.

**The Volume of Credit Sales** It plays the most important role in determination of the level of receivables. As the terms of trade remains more or less similar to most of the industries. So, a firm dealing with a high level of sales will have large volume of receivables.

**Credit Policy** A firm practicing lenient or relatively liberal credit policy its size of receivables will be comparatively large than the firm with more rigid or signet credit policy. It is because of two prominent reasons: -

- A lenient credit policy leads to greater defaults in payments by financially weak customers resulting in bigger volume of receivables.

- A lenient credit policy encourages the financially sound customers to delay payments again resulting in the increase in the size of receivables.

**Terms of Sale** The period for which credit is granted to a customer duly brings about increase or decrease in receivables. The shorter the credit period, the lesser is the amount of receivables. As short term credit ties the funds for a short period only. Therefore, a company does not require holding unnecessary investment by way of receivables.

**Cash Discount** Cash discount on one hand attracts the customers for payments before the lapse of credit period. As a tempting offer of lesser payments is proposed to the customer in this system, if a customer succeeds in paying within the stipulated period. On the other hand reduces the working capital requirements of the concern. Thus, decreasing the receivables management.

**Collection Policy** The policy, practice and procedure adopted by a business enterprise in granting credit, deciding as to the amount of credit and the procedure selected for the collection of the same also greatly influence the level of receivables of a concern. The more lenient or liberal to credit and collection policies the more receivables are required for the purpose of investment. **Collection Collected** If an enterprise is efficient enough in encasing the payment attached to the receivables within the stipulated period granted to the customer. Then, it will opt for keeping the level of receivables low. Whereas, enterprise experiencing undue delay in collection of payments will always have to maintain large receivables.

**Bills Discounting and Endorsement:** If the firm opts for discounting its bills, with the bank or endorsing the bills to the third party, for meeting its obligations. In such circumstances, it would lower the level of receivables required in conducting business.

**Quality of Customer** If a company deals specifically with financially sound and credit worthy customers then it would definitely receive all the payments in due time. As a result the firm can comfortably do with a lesser amount of receivables than in case where a company deals with customers having financially weaker position.

## PRINCIPLES OF CREDIT MANAGEMENT:

Joseph L. Wood is of the opinion, "The purpose of any commercial enterprise is the earning of profit, credit in itself is utilized to increase sale, but sales must return a profit." The primary objective of management or receivables should not be limited to expansion of sales but should involve maximization of overall returns on investment. So, receivables management should not be confined to mere collection or receivables within the shortest possible period but is required to focus due attention to the benefit-cost trade-off relating to numerous receivables management. In order to add profitability, soundness and effectiveness to receivables management, an enterprise must make it a point to follow certain well-established and duly recognized principles of credit management."The first of these principles relate to the allocation of authority pertaining to credit and collections of some specific management. The second principle puts stress on the selection of proper credit terms. The third principles emphasizes a through credit investigation before a decision on granting a credit is taken. And the last principle touches upon the establishment of sound collection policies and procedures."In the light of this quotation the principles of receivables management can be stated as: -

### Allocation or Authority

The determination of sound and effective credit collection policies management. The efficiency of a credit management in formulation and exestuation of credit and collection policies largely depends upon the location of credit department in the organizational structure f the concern. The aspect of authority allocation can be viewed under two concepts. As per the first concept, it is placed under the direct responsibility of chief finance officer for it being a function primarily financed by nature. Further, credit and collection policies lay direct influence on the solvency of the firm. "For these reasons the credit and collection function should be placed under the direct supervision of the individuals who are responsible for the firm's financial position." "There are other who suggest that business firms should strictly enforce upon their sales departments the principles that sales are insolate until the value thereof is realsied Those favoring this aspect plead to place the authority of allocation under the direct charge of the marketing executive or the sales department. To conclude "the reasonability to administer credit and collections policies may be assigned either to a

financial executive or to a marketing executive or to both of them jointly depending upon the organizational structure and the objectives of the firm."

**Selection of Proper Credit Terms** The receivables management of an enterprise is required to determine the terms and conditions on the basis of which trade credit can be sanctioned to the customers are of vital importance for an enterprise. As the nature of the credit policy of an enterprise is decided on the basis of components of credit policy. These components include; credit period, cash discount and cash discount period. In practice, the credit policy of firms, vary within the range of lenient and stringent. A firm that tends to grant long period credits and its debtors include even those customers whose financial position is doubtful. Such a firm is said to be following lenient credit policy. Contrary to this, a firm providing credit sales for a relatively short period of time that too on highly selective basis only to those customers who are financially strong and have proven their credit worthiness is said to be following stringent credit policy.

**Credit Investigation** A firm if desires to maintain effective and efficient receivables management of receivables must undertake a thorough investigation before deciding to grant credit to a customer. The investigation is required to be carried on with respect to the credit worthiness and financial soundness of the debtors, so as to prevent the receivables for falling into the category of bad debts later on at the time of collection. Credit investigation is not only carried on beforehand. But in the case of firms practicing liberal credit policy such investigation may be required to be conducted when a debtors fails to make payments of receivables due on him even after the expiry of credit sale so as to save doubtful debts from becoming bad debts.

**Sound Collection Policies and Procedures**

Receivables management is linked with a good degree of risk. As a few debtors are slow payers and some are non-payers. How-so-ever efficient and effective a receivables management may be the element of risk cannot be avoided altogether but can be minimized to a great extent, it is for this reason the essence of sound collection policies and procedures arises. A sound collection policy aims at accelerating collection form slow payer and reducing bad debts losses. As a good collection polices ensures prompt and regular collection by adopting collection procedures in a clear-cut sequence.

**OBJECTIVES OF CREDIT MANAGEMENT:** The objective of receivables management is to promote sales and profit until that is reached where the return on investment in further finding of receivable is less than the cost of funds raised to finance that additional credit (i.e., cost of capital). The primary aim of receivables management vet in minimizing the value of the firm while maintaining a reasonable balance between risk (in the form of liquidity) and profitability. The main purpose of maintain receivables is not sales maximization not is for minimization of risk involved by way of bad debts. Had the main objective being growth of sales, the concern, would have opened credit sales for all sort of customers. Contrary to this, if the aim had been minimization of risk of bad debts, the firm would not have made any credit sale at all. That means a firm should indulge in sales expansion by way of receivables only until the extent to which the risk remains within an acceptably manageable limit. All in all, the basic target of management of receivables is to enhance the overall return on the optimum level of investment made by the firm in receivables. The optimum investment is determined by comparing the benefits to be derived from a particular level of investment with the cost of maintaining that level. The costs involve not only the funds tied up in receivables, but also losses from accounts that do not pay. The latter arises from extending credit too leniently. A brief inference of objectives of management of receivables may be given as under: -

- To attain not maximum possible but optimum volume of sales.
- To exercise control over the cost of credit and maintain it on a minimum possible level.
- To keep investments at an optimum level in the form or receivables.
- To plan and maintain a short average collection period.

Granting of credit and its proper and effective management is not possible without involvement of any cost. These costs are credit administrative expenses bad debts losses, opportunity costs etc. As mentioned before these costs cannot be possibly eliminated altogether but should essentially be regulated and controlled. Elimination of such costs simply mean reducing the cost of zero i.e. no credit grant is permitted to the debtors. In that case firm would no doubt escape form incurring there costs yet the other face of coin would

reflect that the profits foregone on account of expected rise in sales volume made on credit amounts much more than the costs eliminated. Thus, a firm would fail to materialize the objective of increasing overall return of investment. The period goal of receivables management is to strike a golden mean among risk, liquidity and profitability turns out to be effective marketing tool. As it helps in capturing sales volume by winning new customers besides retaining to old ones.

**CREDIT CONTROL:** Credit control is a complex process, which costs both time and administrative costs. Broadly, speaking, the function of credit control incorporates the following elements: -

- Checking customer's credit worthiness.
- Prompt invoicing and follow up
- Credit insurance,
- Financial statements, and
- Use of electronic data processing equipment.

**Checking Customers Credit Worthiness** This step relates to applicants ability to pay for the goods or services opted by him. The decision pertaining to credit grant and its volume largely depends upon this assessment. The assessment can be done on the basis of financial soundness, general behavior, past records, business habits and traits. Trade reference, banker's records available with the geriatric etc. are a few of certain elements that provide relevant information for conducting this assessment.

**Prompt Invoicing and Follow-up** This is an executive action involving prompt issue of invoice and equally close follow-up action. A continuous personal attention is required for reviewing amounts of bills receivables. Methods are selected among the various possible alternatives available to ensure that the time period is minimum between realization of payments and converting it into bank's credit account.

**Credit Insurance** This point pertains to credit exports. As credit sales does not fall under any credit insurance policy coverage in India. It is export credit guarantee department, which formulates

appropriate rules and issues credit insurance policies for exports on payments of a nominal premium. These facilities are of high importance for credit control of exports.

**Financial Statements** Financial statement is an important document that presents desirable sources of information to the seller regarding the financial position of customer for credit control. For the companies carrying out seasonal business, interim statements instead of financial statements are preferred. For acquiring authenticated information audited financial statement should be favoured rather than unaudited figures enclosing possibility of fraud.

**Use of Electronic Data Processing Equipment** In the modern world, the importance of computers cannot be possibly denied. Electronic data processing equipment holds its own individual importance in providing timely and accurate information pertaining to the status of accounts. The computer can provide a vast array of detailed information, previously impractical to obtain that may be useful not only to the credit manager but to other management as well. In addition to processing data the computer can be programmed to make certain routine credit decisions.

## CASH MANAGEMENT

Cash is one of the important components of current assets. It is needed for performing all the activities of a firm, i.e. from acquisition of raw materials to marketing of finished goods. Therefore it is essential for a firm to maintain an adequate cash balance. One of the important functions of a finance manager is to match the inflows and outflows of cash so as to maintain adequate cash.

### i. Meaning of Cash:

With reference to cash management cash has two meanings—ready cash and near cash. Currency notes, coins, bank balances are the examples of ready cash where as marketable securities, treasury bills, etc. are the examples of near cash. Management of cash means management of both ready cash as well as near cash.

### ii. Reasons for Holding Cash:

John Maynard Keynes identified the following three reasons for holding cash:

**Transaction Motive:**

This refers to holding of cash to meet routine payments such as purchases, wages, operating expenses, etc.

**Precautionary Motive:**

This refers to holding of cash to meet unexpected demands for cash such as to meet the extra cash payment for purchase of raw materials due to increase in cost of raw materials.

**Speculative Motive:**

This refers to holding of cash to take advantage of favorable market conditions such as to purchase excess quantity of raw materials for getting a handsome discount.

**iii. Models of Cash Management:**

A fund manager is responsible for maintaining adequate cash balances so that the liquidity position of the firm remains strong. It is necessary for him/her to know what should be the optimum cash balance and in what quantity marketable securities should be purchased or sold. There are several models of cash management to determine the optimum level of cash balances.

**These are described below:**

**i. Baumol Model:**

This Model, also known as Inventory Model was developed by William J. Baumol, and is based on the combination of Inventory Theory and Monetary Theory. According to this model, the optimum level of cash is that level of cash where the cost of carrying and transaction cost are minimum. Here, carrying cost means the interest foregone on marketable securities and transaction cost refers to cost of liquidating marketable securities.

**The optimum cash balance according to this model is:**

$$C = \sqrt{\frac{2Df}{O}}$$

Where, C = Optimum cash balance,

D = Annual cash disbursement,

F = Fixed cost per transaction, and

O = Opportunity cost of one rupee per annum.

**Example:**

A firm maintains a separate account for cash disbursement. Total disbursements are Rs 2, 10,000. Administration and transaction cost of transferring cash to disbursement account is Rs 25 per transfer Marketable securities' yield is 5% p.a. Determine the optimum cash balance as per the Baumol Model.

**Solution:** The optimum cash balance as per the Baumol Model will be:

$$C = \sqrt{\frac{2Df}{O}}$$

where $D$ = Annual cash disbursement = Rs 2,10,000
$f$ = Fixed cost per transaction = Rs 25
$O$ = Opportunity cost of one rupee per annum = 5%

$$\therefore \quad C = \sqrt{\frac{2 \times 2,10,000 \times 25}{0.05}}$$
$$= \text{Rs } 14,491$$

**i. Miller-Orr Cash Management Model:**

This model sets two levels for cash—an upper limit h and a lower limit z. Upper limit is three times the lower limit. As per this model, if the cash balance reaches the upper limit, excess cash balance, i.e. h-z should be invested in marketable securities and in the reverse case, marketable securities should be liquidated.

**The lower limit of cash balance, i.e. z is calculated by using the following formula:**

$$z = \sqrt[3]{\frac{3b\sigma^2}{4i}} + LL$$

Where, z is the lower limit,

b is the fixed cost per order,

$\sigma^2$ is the variance of daily changes in expected cash balance,

LL is the lower control limit, and i is the interest rate per day

Cash Budget an important technique of managing Cash:

A cash budget itemizes the projected sources and uses of cash in a future period. This budget is used to ascertain whether company operations and other activities will provide a sufficient amount of cash to meet projected cash requirements. If not, management must find additional funding sources.

The inputs to the cash budget come from several other budgets. The results of the cash budget are used in the financing budget, which itemizes investments, debt, and both interest income and interest expense.

The cash budget is comprised of two main areas, which are Sources of Cash and Uses of Cash. The Sources of Cash section contains the beginning cash balance, as well as cash receipts from cash sales, accounts receivable collections, and the sale of assets. The Uses of Cash section contains all planned cash expenditures, which comes from the direct materials budget, direct labor budget, manufacturing overhead budget, and selling and administrative expense budget. It may also contain line items for fixed asset purchases and dividends to shareholders.

If there are any unusually large cash balances indicated in the cash budget, these balances are dealt with in the financing budget, where suitable investments are indicated for them. Similarly, if there are any negative balances in the cash budget, the financing budget indicates the timing and amount of any debt or equity needed to offset these balances.

**Example:**

**From the following forecast of income and expenditure, prepare a cash budget for the months January to April, 2020.**

| | Months | Sales (Credit) ₹ | Purchases (Credit) ₹ | Wages ₹ | Manufacturing expenses ₹ | Administrative expenses ₹ | Selling expenses ₹ |
|---|---|---|---|---|---|---|---|
| 2019 | Nov. | 30,000 | 15,000 | 3,000 | 1,150 | 1,060 | 500 |
| | Dec. | 35,000 | 20,000 | 3,200 | 1,225 | 1,040 | 550 |
| 2020 | Jan. | 25,000 | 15,000 | 2,500 | 990 | 1,100 | 600 |
| | Feb. | 30,000 | 20,000 | 3,000 | 1,050 | 1,150 | 620 |
| | March | 35,000 | 22,500 | 2,400 | 1,100 | 1,220 | 570 |
| | April | 40,000 | 25,000 | 2,600 | 1,200 | 1,180 | 710 |

**Additional information is as follows:**

1. The customers are allowed a credit period of 2 months.

2. A dividend of Rs 10,000 is payable in April.

3. Capital expenditure to be incurred: Plant purchased on 15th January for 15,000; a Building has been purchased on 1st March and the payments are to be made in monthly installments of Rs 2,000 each.

4. The creditors are allowing a credit of 2 months.

5. Wages are paid on the 1st of the next month.

6. Lag in payment of other expenses is one month.

7. Balance of cash in hand on 1st January, 2020 is Rs 15,000.

**Solution :**

**Cash Budget**

*For months from January to April, 20*

| Details | January ₹ | February ₹ | March ₹ | April ₹ |
|---|---|---|---|---|
| *Receipts* | | | | |
| Opening Balance of Cash | 15,000 | 18,985 | 28,795 | 30,975 |
| Cash realised from Debtors | 30,000 | 35,000 | 25,000 | 30,000 |
| Cash available | 45,000 | 53,985 | 53,795 | 60,975 |
| *Payments* | | | | |
| Payments to Creditors (for purchase) | 15,000 | 20,000 | 15,000 | 20,000 |
| Wages | 3,200 | 2,500 | 3,000 | 2,400 |
| Manufacturing Expenses | 1,225 | 990 | 1,050 | 1,100 |
| Administrative Expenses | 1,040 | 1,100 | 1,150 | 1,220 |
| Selling Expenses | 550 | 600 | 620 | 570 |
| Payment of Dividend | | | | 10,000 |
| Purchase of Plant | 5,000 | | | |
| Instalments of Building Loan | | | 2,000 | 2,000 |
| Total Payments | 26,015 | 25,190 | 22,820 | 37,290 |
| Closing Balance | 18,985 | 28,795 | 30,975 | 23,685 |

# DIVIDEND DECISIONS

## Dividend:

A **dividend** is a payment made by a corporation to its shareholders, usually as a distribution of profits. When a corporation earns a profit or surplus, it can either re-invest it in the business (called retained earnings), or it can distribute it to shareholders. A corporation may retain a portion of its earnings and pay the remainder as a dividend. Distribution to shareholders can be in cash (usually a deposit into a bank account) or, if the corporation has adividend reinvestment plan, the amount can be paid by the issue of further shares or share repurchase.

A dividend is allocated as a fixed amount per share, with shareholders receiving a dividend in proportion to their shareholding. For the joint stock company, paying dividends is not an expense; rather, it is the division of after tax profits among shareholders. Retained earnings (profits that have not been distributed as dividends) are shown in the shareholder equity section in the company's balance sheet - the same as its issued share capital. Public companies usually pay dividends on a fixed schedule, but may declare a dividend at any time, sometimes called a special dividend to distinguish it from the fixed schedule dividends. Cooperatives, on the other hand, allocate dividends according to members' activity, so their dividends are often considered to be a pre-tax expense.

The word "dividend" comes from the Latin word "*dividendum*" ("thing to be divided").

## Forms of Payment

**Cash dividends** are the most common form of payment and are paid out in currency, usually via electronic funds transfer or a printed paper check. Such dividends are a form of investment income and are usually taxable to the recipient in the year they are paid. This is the most common method of sharing corporate profits with the shareholders of the company. For each share owned, a declared amount of money is distributed. Thus, if a person owns 100 shares and the cash dividend is 50 pence per share, the holder of the stock will be paid GBP Rs.50. Dividends paid are not classified as an expense, but rather a deduction of retained earnings. Dividends paid does not show up on an income statement but does appear on the balance sheet.

**Stock or scrip dividends** are those paid out in the form of additional stock shares of the issuing corporation, or another corporation (such as its subsidiary corporation). They are usually issued in proportion to shares owned (for example, for every 100 shares of stock owned, a 5% stock dividend will yield 5 extra shares).

Nothing tangible will be gained if the stock is split because the total number of shares increases, lowering the price of each share, without changing the market capitalization, or total value, of the shares held. (See also Stock dilution.)

**Stock dividend distributions** are issues of new shares made to limited partners by a partnership in the form of additional shares. Nothing is split, these shares increase the market capitalization and total value of the company at the same time reducing the original cost basis per share.

Stock dividends are not includable in the gross income of the shareholder for US income tax purposes. Because the shares are issued for proceeds equal to the pre-existing market price of the shares; there is no negative dilution in the amount recoverable.

**Property dividends** or dividends ***in specie*** (Latin for "in kind") are those paid out in the form of assets from the issuing corporation or another corporation, such as a subsidiary corporation. They are relatively rare and most frequently are securities of other companies owned by the issuer, however they can take other forms, such as products and services.

**Interim dividends** are dividend payments made before a company's Annual General Meeting (AGM) and final financial statements. This declared dividend usually accompanies the company's interim financial statements.

**Other dividends** can be used in structured finance. Financial assets with a known market value can be distributed as dividends; warrants are sometimes distributed in this way. For large companies with subsidiaries, dividends can take the form of shares in a subsidiary company. A common technique for "spinning off" a company from its parent is to distribute shares in the new company to the old company's shareholders. The new shares can then be traded independently.

## Reliability of dividends:

Two metrics are commonly used to examine a firm's dividend policy.

***Payout ratio*** is calculated by dividing the company's dividend by the earnings per share. A payout ratio greater than 1 means the company is paying out more in dividends for the year than it earned.

***Dividend cover*** is calculated by dividing the company's cash flow from operations by the dividend. This ratio is apparently popular with analysts of income trusts in Canada. Dividends are payments made by a corporation to its shareholder members. It is the portion of corporate profits paid out to stockholders.

## FACTORS AFFECTING DIVIDEND DECISION

Dividend decision, one of the important aspects of company's financial policy, is not an independent decision. Rather, it is a decision that is taken after considering the various related aspects and factors. There are various factors influencing a firm's dividend policy. For example, some studies suggest that dividend policy plays an important role in determining firm capital structure and agency costs. Many studies have provided arguments that link agency costs with the other financial activities of a firm. Easterbrook (1984) argued that firms pay out dividends in order to reduce agency costs. Dividend payout keeps firms in the capital market, where monitoring of managers is available at lower cost. If a firm has *free cash flows*, it is better to share them with shareholders in the form of dividend in order to reduce the possibility of these funds being wasted on unprofitable (negative net present value) projects (Jensen, 1986).

Crutchley and Hansen (1989) examined the relationship between ownership, dividend policy, and leverage and concluded that managers make financial policy tradeoffs to control agency costs in an efficient manner. More recently, researchers have attempted to establish the link between firm dividend policy and investment decisions. Smith and Watts (1992) investigated the relations among executive compensation, corporate financing, and dividend policies and concluded that a firm's dividend policy is affected by its other corporate policy choices. Also, Jensen, Solberg and Zorn (1992) linked the interaction between financial policies and insider ownership to informational asymmetries between insiders and external investors. Despite this rich literature, most prior work recognizes differences in determinants of financial decisions between different firms.

**Basic Factors Affecting Dividend Decision**

Theoretically, over the past number of years, it has been believed by the academicians that the dividend decision is influenced by number of factors. Some of the factors that affect the dividend decision of a firm are listed as follows:

- ***Legal Provisions*:** Indian Companies Act, 1956 has given the guidelines regarding legal provisions as to dividends. Such guidelines are required to be followed by the companies whenever the dividend policy is to be formulated. As per the guidelines, a company is required to transfer a certain percentage of profits to reserves in case the dividend to be paid is more than 10 percent. Further, a company is also required to pay dividend only in cash but only with the exception of bonus shares.
- ***Magnitude of Earnings*:** Another important aspect of dividend policy is the extent of company's earnings. It serves as the introductory point for framing the dividend policy. This is so because a company can pay dividends either from the current year's profit or the past year's profit. So, if the profits of a company increase, it will directly influence the dividend declaration as the latter may also increase. Thus, the dividend is directly linked with the availability of the earnings with the company.
- ***Desire of Shareholders*:** The decision to declare the dividends is taken by Board of Directors but they are also required to consider the desire of the shareholders, which depend on the latter's economic condition. The shareholders, who are economically weak, prefer regular dividend policy while the rich shareholders may prefer capital gains as compared to dividends. However, it is very difficult for the board to reconcile the conflicting interests of different shareholders yet the dividend policy has to be framed keeping in view the interest of all the interested parties.
- ***Nature of Industry*:** The nature of industry in which a company is operating, influences the dividend decision. Like the industries with stable demand throughout the year are in a position to have stable earnings, thus, should have the stable dividend policy and vice-versa.
- ***Age of the Company*:** A company's age also determine the quantum of profits to be declared as dividends. A new company should restrict itself to lower dividend payment due to saving funds for the expansion and growth as compared to the already existing companies who can pay more dividends. Grullon et al. (2002) suggested that as firms mature, they

experience a contraction in their growth which results in a decline in their capital expenditures. Consequently, these firms have more free cash flow to pay as dividends. Similarly, Brav et al. (2005) suggested that more mature firms are more likely to pay dividends. In contrast, younger firms need to build up reserves to finance the future growth opportunities, thus, making them to retain the earnings.

- ***Taxation Policy*:** The tax policy of a country also influences the dividend policy of a company. The rate of tax directly influences the amount of profits available to the company for declaring dividends.
- ***Control Factor*:** Yet another factor determining dividend policy is the threat to loose control. If a company declares high rate of dividend, then there is the possibility that a company may face liquidity crunch for which it has to issue new shares, resulting in dilution of control. Keeping this threat in view, a company may go for lower level of dividend payments and more ploughing back of profits in order to avoid any such threat.
- ***Liquidity Position*:** A company's liquidity position also determines the level of dividend. If a company does not have sufficient cash resources to make dividend payment, then it may go for issue of bonus shares.
- ***Future Requirements*:** A company while faming dividend policy should also consider its future plans. If it foresees some profitable investment opportunities in near future then it may go for lower dividend and vice-versa.
- ***Agency Costs*:** The separation of ownership and control results in agency problems. Agency costs can be reduced by distributing dividends (Rozeff, 1982, Easterbrook, 1984, Jensen et al., 1992). In this stratum, dividends are paid out to stockholders in order to prevent managers from building unnecessary empires to be used in their own interest. In addition, dividends reduce the size of internally generated funds available to managers, forcing them to go to the capital market to obtain external funds (Easterbrook, 1984). As explained in Rozeff (1982), firms with a larger percentage of outside equity holdings are subject to higher agency costs. The more widely spread is the ownership structure, the more acute the free rider problem and the greater the need for outside monitoring. Hence, these firms should pay more dividends to control the impact of widespread ownership.
- ***Business Risk*:** Business risk is a potential factor that may affect dividend policy. High levels of business risk make the relationship between current and expected future profitability

less certain. Consequently, it is expected that firms with higher levels of business risk will have lower dividend payments. Many researchers argued that the uncertainty of a firm's earnings may lead it to pay lower dividends because volatile earnings materially increase the risk of default. In addition, field studies using survey data (e.g., Lintner, 1956) reported compelling evidence that risk can affect dividend policy. In these surveys, managers explicitly cited risk as a factor that influences their dividend choice.

## Financial Factors Affecting Dividend Decision

The above mentioned factors are not limited and many more can be there that affect the determination of dividend. Keeping in view the above-mentioned factors and the review f literature, some variable has been identified within the arena of the theoretical factors. Those variables include both the dependent and independent variables. However, their interpretation depends upon their measurement. The present study covers the following set of variables:

- ***DPS to Face Value***: This ratio evaluates the relationship between dividend per share and face value of the share. It is calculated as:

**Dividend Yield ratio= Dividend per share/Face value per share**

- ***DPS to Market Value (Yield ratio)***: This ratio evaluates the relationship between dividend per share and market value of the share. It is calculated as:

**Dividend Yield ratio= Dividend per share/Market value per share**

- ***Dividend Payout Ratio***: It indicates the extent to which the earnings per share have been retained by a company. It enables the company to plough back the profits which will result in more profits in future and hence, more dividends. It is calculated as:

**Dividend Pay-Out Ratio= Dividend per equity share/Earnings per share**

The higher the ratio, lower is the dividend payment and vice-versa.

- ***Current Ratio***: It is a measure of firm's liquidity and is basically used for measuring the short-term financial position or liquidity of the firm. It indicates the ability of the firm to meet its current liabilities. It is calculated as:

**Current Ratio= Current assets/Current liabilities**

A high ratio indicates that firm's liquidity position is good and it has the ability to honor its obligations while a low ratio implies that firm's liquidity position is not so good so as to honor all its obligations. However, a ratio of 2:1 is considered satisfactory. The expected relation between current ratio and dividend payment is positive.

- ***Net Profit Ratio***: This ratio establishes the relation between net profits and sales and indicates the management's efficiency. It is calculated as:

**Net Profit ratio= (Net Profit/Net sales)*100**

As dividends are declared from the net profits of a firm, so higher the net profit ratio, higher will be the expected dividend payment.

- ***Net Profit to Net worth***: This ratio indicates the relation between net profits earned by a company and the net worth which is represented by shareholder's capital. It is composed of equity share capital, preference share capital, free reserves and surpluses, if any. It is also referred to as return on investment and is calculated as:

**Return on shareholder's investment= Net Profit/Net Worth**

This ratio is an indication of company's ability to earn profits. If the earning capacity of the company is more, more dividend payment can be expected and vice-versa.

- ***Debt Equity Ratio***: This ratio measures the claims of outsiders and owners against the firm's assets. It indicates the relation between outsider funds and shareholders funds. It is calculated as:

**Debt-equity ratio= Outsiders funds/Shareholders funds**

This ratio tells the solvency position of the firm. Higher the ratio, better will be the solvency as well as the ability of firm to pay dividends. The vice-versa will hold true in case of low ratio.

- ***Lagged Profits***: The dividend is not only influenced by the past year's dividend but also by the past year's profits. This is so because a company can follow the stable dividend policy if it has sufficient current year's profit or the past year's profit.

- ***Behavior of Share Prices***: The prevailing share prices also influence the dividend payment by a company. If the share prices of a company are unfavorable, then it may increase the dividend in order to boost up the share prices.

- ***Growth in Earnings***: If the earnings of a company increase, then the chances of increase in dividend payment are also there. Growth is must for the survival of a company. This ratio can be calculated as:

**Growth in Earnings= EPSt- EPSt-1 / EPSt-1**

Where, EPSt= Current earnings per share
EPSt-1= Previous earnings per share

- ***Growth in Working Capital***: This ratio indicates increase in the working capital of a company.

Growth in Working Capital= WCt- WCt-1 / WCt-1

Where, WCt= Current working capital
WCt-1= Previous working capital
Higher ratio indicates the increase in the capacity of a company to pay dividends but this is interrelated with other factors also. Like, if a company has increase the working capital to match the increased level of operations, then this ratio will not be useful in studying the impact on the dividend payments.

- ***Lagged Dividends***: A company may consider the past year's dividend as a benchmark. If a company prefers stability of dividend payments, it may consider the past year's dividend rate and can act accordingly.

- ***Investment Opportunity Set (Market to Book Value)***: It represents the availability of investment opportunities to the company and generally is believed to have negative relationship with dividend payout.

- ***Free Cash Flow*:** This variable is used to measure the availability of cash with the company. It is calculated as

(Cash flow from Operations-Cash flow from investment activities)/Total assets

- ***Cash Holdings***: It is another financial variable to analyse the liquidity position of the firm. It is calculated as

(Cash + Short-term investment)/Total assets

- ***Solvency Ratio***: This ratio is a small variant of equity ratio. It indicates the relationship between total liabilities to outsiders to total assets of a firm. It can be calculated as:

**Solvency ratio= Total Liabilities to Outsiders/Total Assets**

- ***Return on Net worth***: This ratio is also termed as return on investment. This ratio indicates the relationship between net profits (after interest and tax) and the shareholders funds. It can be calculated as

Net profit (after interest and taxes)/Shareholders funds

- ***Return on Capital Employed***: This ratio establishes the relationship between profits and capital employed. It can be calculated as

(Adjusted Net Profits/Gross Capital Employed)*100

Or

(Adjusted Net Profits/Net Capital employed)*100

# DIVIDEND POLICY

A dividend policy dictates how much cash is returned to shareholders. When deciding what dividend to pay, if any, a company must look at the profits it has made and weigh up how much should be retained in the business to fund future growth and how much should be returned to investors. If it has had a bad year and it doesn't have enough profit to cover its investment needs and the dividend, but expects the poor performance to be a one-off, then it may still make a payout to investors by either dipping into any surplus cash it has or using debt. The dividend policy dictates how the value of the dividend is calculated and when it is paid. It also clarifies who gets what if a business has multiple share classes. For example, preference shares are usually entitled to dividends before common shareholders while American depositary receipts (ADRs) often earn a different dividend to other investors. Some share classes may not be entitled to dividends at all. Some companies also choose to add what is known as a 'scrip alternative' dividend programme, which allows shareholders to receive the value of their dividends in new shares in the business rather than cash. Dividend policies may also include clauses that detail how bonus payments may work, such as special dividends or share buybacks.

**Types of dividend policies**

There is no definitive way of forming a dividend policy but there are four main types that are used by most publicly-listed businesses. However, there are additional ways to return cash to shareholders too.

1. Residual dividend policy
2. Stable dividend policy
3. Progressive dividend policy
4. Regular dividend policy
5. Irregular dividend policy (special dividends)
6. Share buybacks
7. Scrip dividends

**Residual dividend policy**

If a company has a residual dividend policy then it pays whatever cash is left in the business once all expenditure has been taken into account. This means that shareholders receive the sums left after the company has taken the likes of capital expenditure, investment and working capital into account.

This is regarded as the most sustainable and logical dividend policy to have as it means a business only pays out what it can afford each year. Although, it does mean that dividend payments can be volatile depending on the performance of the business and its spending requirements: if it suddenly needs to invest more money then there will be less left for shareholders, or if it under spends then investors will receive more. A residual dividend policy can be regarded as a form of zero-based budgeting for dividends, with the dividend being reviewed each year from a zero base and justified each year regardless of previous payouts.

A residual dividend policy provides greater flexibility to companies compared to other policies, as it puts growth needs and investment before distributions. However, it also means dividends will vary each year depending on how the business has performed.

**Stable dividend policy**

If a company has a stable dividend policy then it tries to make a consistent payout each year regardless of how the business has performed. Instead of basing the dividend on the company's performance over the short term, stable dividend policies are more closely linked with long-term prospects and forecasts. Ultimately, the policy aims to grow dividends at roughly the same rate as long-term earnings. A common way for a stable policy to be structured is to use a target payout ratio, which outlines what share of its earnings will be returned to shareholders over the medium to long term.

The benefit of a stable dividend policy is that payouts are reliable and consistent, even if the business suffers short-term turmoil. A company will try to honour the dividend even if it has had a bad year, dipping into cash reserves if profits are not enough to cover it, providing something of a safety net for shareholders. However, it may change the policy or rebase the dividend if it believes its sub-par performance will continue for longer. This also means that shareholders won't see a large rise in distributions when the company has a better than expected year either, with companies more likely to retain the cash.

A stable dividend policy comes with commitment. Investors expect dividends to remain consistent even if the business enters a downturn, although companies can hoard cash when things when are on the up as they are not obligated to return it to investors.

**Progressive dividend policy**

If a company commits to a progressive dividend policy then it is pledging to grow the dividend each year. Like stable dividends, the payout is linked to long-term earnings forecast for the business. The main difference is that, if earnings grow, then a progressive policy aims to raise the dividend by a similar amount, but if earnings fall the company will still raise the payout.

This is a popular policy for investors as it virtually guarantees higher dividends each year regardless of how the business performs. However, if a company has a progressive payout and is struggling then questions can be raised about how sustainable the policy is and the justification of spraying shareholders with cash if it doesn't have the resources to. A company's share price can find support if it demonstrates an ability to deliver a progressive payout over a longer period of time but it does severely limit a company's flexibility if business deteriorates.

**Regular dividend policy**

A regular dividend policy, also known as a constant dividend policy, sees payouts closely linked to the company's performance, both rising and falling in line with earnings. This often involves setting a payout rate. For example, a payout rate of 20% would mean shareholders will collectively receive 20% of the company's earnings each year, whether that be 20% of a £10,000 profit or 20% of a £10 million profit.

The main characteristic of a regular dividend policy is that payouts move in line with earnings: if the company reports a 50% rise in profit then dividends should follow suit, but if they fall 50% then so will the dividend. This means investors reap the reward of a stellar year but also lose out if times have become tough.

This can lead to volatile dividends for investors, but it does mean payouts are more sustainable because they are directly linked to earnings, and as the business is committing to a fixed rate of earnings it has more certainty when planning future budgets.

Irregular dividend policies: special dividends

Some companies will pay dividends without adopting a formal dividend policy. Some businesses come into large amounts of cash that they want to return to shareholders without having to

promise it will continue making payouts in the future. This can happen if a company sells a valuable asset and books a tidy profit. Similarly, if a business makes a large amount of profit one year but it doesn't expect that to repeat going forward then it may pay a dividend without adopting a policy.

There are two primary ways of making a one-off distribution to shareholders. The first is what is known as a 'special dividend'. These are one-off payments made to shareholders and often made in addition to 'ordinary dividends'. This ensures that the one-off special payout doesn't distort the ordinary dividend policy or raise expectations for the following year. If a special payout was combined with the ordinary one then there is a risk that shareholders will expect an even larger payout the following year, even if the driver of the special payout (such as an asset sale) doesn't repeat.

Special dividends are a way of making a one-off return to shareholders, which gives businesses great flexibility. Companies do not usually have a policy for special dividends but some regularly pay them on top of ordinary dividends.

**Share buybacks**

The second alternative way of making a distribution to shareholders is through a share buyback. A share buyback (also known as a share repurchase programme) involves a company repurchasing its own shares from investors at a pre-determined price, often close to the prevailing share price at the time. This allows a business to reduce the number of shares in issue – raising the value of each share left in the business – rather than just pay investors via a dividend.

Companies rarely have share buyback policies and often conduct them alongside ordinary or special dividends – although, if a business has a large amount of cash it wants to return under a one-off payment then they will usually only choose to make a special payout or repurchase its own shares, not both. Still, share buyback programmes can run for years and without a set deadline. For example, a company may pledge to return $5 billion within three years but it will usually retain flexibility by choosing as and when to buy back the shares depending on market conditions. The price paid to shareholders under the buyback will often move in line with the live share price. Companies often opt for share buybacks if it believes it is undervalued as it allows them to repurchase stock at a cheaper rate and to provide support to shares.

Share buybacks have numerous advantages over cash dividends. Share buybacks are usually one-offs, giving businesses flexibility. Repurchasing shares also offsets any dilution that has happened, such as new shares that have been issued to employees. Buybacks can also be used by a company to raise financial leverage as it removes equity from the business.

**Scrip dividends**

It is also worth mentioning scrip dividend programmes, which allow investors to receive new shares in the company rather than a cash payout. A business operating a scrip dividend will give investors the choice of receiving the cash dividend or new shares. The value of the cash dividend is usually higher than the scrip dividend price, but taking new shares is a cost-effective way of increasing your stake in the business and benefit further from future dividends or special payouts.

Scrip dividends, unless countered with a measure like a buyback, do dilute investors by releasing more equity. However, it allows businesses to make a return to shareholders without having to spend any cash. Scrip dividends can also have advantages.

**How to find out what a company's dividend policy is**

The best place to find a company's dividend policy is in its annual report. If a policy is in place then there will be a dedicated section that outlines the details. Information on share buyback programmes or scrip alternatives, if applicable, is likely to be included in their own sections nearby. Larger businesses often have a dividend section on their investor relations website. This usually focuses more on when dividends that have already been declared will be paid.

**Why is a company's dividend policy important?**

Dividends form a significant part of a company's strategy and investment case. Paying dividends is treated as a sign that a business is financially healthy - although, don't judge a company's financial strength solely based on dividends. Dividends provide a steady return to potential investors. Without dividends, shareholders must rely on share price appreciation as the sole the only way of turning a profit.

The attractiveness of some companies highly depends on the dividend. Take utility companies as an example. Supplying electricity and gas is a highly regulated industry and, although stable,

provides limited opportunity for growth. Revenue rarely experiences large movements year-on-year (YoY) and profits tend to be more stable. Although you could argue this means they have less potential than other stocks and are rather boring, they tend to be the most reliable dividend payers in the market. These types of stocks are referred to as income stocks.

Companies place a different priority on dividends. Some, such as investment companies, put shareholder returns at the top of the list while others only prioritise payouts once other needs are met, such as capex.

Dividend policies provide a clear path for investors to follow and tells the market what to expect. By adopting a policy, a company is committing to make some form of return to shareholders on a regular basis. Like any target, delivering dividends as promised suggests a business is meeting its goals, but if it fails to keep its promises then shareholders can be quick to turn on the business.

It is important to remember that companies are under no obligation to pay dividends to shareholders and that payouts can become vulnerable rather quickly. If a business is deteriorating and needs to tighten the purse strings then the dividend is a logical place to start to make savings. Equally, if business is booming then dividends are a logical way of returning excess cash to shareholders, which don't like to see money sat idle in the bank and not being spent.

Investors know what to expect if a dividend policy is in place and can forecast where future payouts are headed depending on the company's forecasts or prospects. A policy can also help businesses better plan their spending. However, if a company does not have a suitable policy in place then it can find itself unable to fulfil its promises, and shareholders do not take kindly to U-turns. Having said that, sticking to a policy when you can ill-afford it runs the risks of having to fund payouts using debt and delaying the problem.

**FACTORS DETERMINING DIVIDEND POLICY**

**Profitable Position of the Firm**

Dividend decision depends on the profitable position of the business concern. When the firm earns more profit, they can distribute more dividends to the shareholders.

**Uncertainty of Future Income**

Future income is a very important factor, which affects the dividend policy. When the shareholder needs regular income, the firm should maintain regular dividend policy.

**Legal Constrains**

The Companies Act 1956 has put several restrictions regarding payments and declaration of dividends. Similarly, Income Tax Act, 1961 also lays down certain restrictions on payment of dividends.

**Liquidity Position**

Liquidity position of the firms leads to easy payments of dividend. If the firms have high liquidity, the firms can provide cash dividend otherwise, they have to pay stock dividend.

**Sources of Finance**

If the firm has finance sources, it will be easy to mobilise large finance. The firm shall not go for retained earnings.

**Growth Rate of the Firm**

High growth rate implies that the firm can distribute more dividend to its shareholders.

**Tax Policy**

Tax policy of the government also affects the dividend policy of the firm. When the government gives tax incentives, the company pays more dividend.

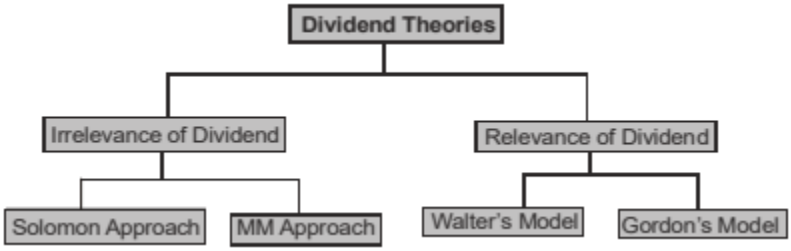
**Capital Market Conditions**

Due to the capital market conditions, dividend policy may be affected. If the capital market is prefect, it leads to improve the higher dividend.

## DIVIDEND DECISION

Dividend decision of the business concern is one of the crucial parts of the financial manager, because it determines the amount of profit to be distributed among shareholders and amount of profit to be treated as retained earnings for financing its long term growth. Hence, dividend decision plays very important part in the financial management. Dividend decision consists of

two important concepts which are based on the relationship between dividend decision and value of the firm.




**Irrelevance of Dividend** : According to professors Soloman, Modigliani and Miller, dividend policy has no effect on the share price of the company. There is no relation between the dividend rate and value of the firm. Dividend decision is irrelevant of the value of the firm. Modigliani and Miller contributed a major approach to prove the irrelevance dividend concept.

**Modigliani and Miller's Approach**

According to MM, under a perfect market condition, the dividend policy of the company is irrelevant and it does not affect the value of the firm. "Under conditions of perfect market, rational investors, absence of tax discrimination between dividend income and capital appreciation, given the firm's investment policy, its dividend policy may have no influence on the market price of shares". **Assumptions**

MM approach is based on the following important assumptions:

1. Perfect capital market.
2. Investors are rational.
3. There are no tax.
4. The firm has fixed investment policy.
5. No risk or uncertainty.

Proof for MM approach MM approach can be proved with the help of the following formula:

$$P_o = \frac{D_1 + P_1}{(1 + K_e)}$$

Where,

Po = Prevailing market price of a share.

Ke = Cost of equity capital.

D1 = Dividend to be received at the end of period one.

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

P1 can be calculated with the help of the following formula.

$$P1 = Po\ (1+Ke) – D1$$

The number of new shares to be issued can be determined by the following formula:

$$M \times P1 = I – (X – nD1)$$

Where, M = Number of new share to be issued.

P1 = Price at which new issue is to be made.

I = Amount of investment required.

X = Total net profit of the firm during the period.

nD1= Total dividend paid during the period.

**Example :**

X Company Ltd., has 100000 shares outstanding the current market price of the shares Rs. 15 each. The company expects the net profit of Rs. 2,00,000 during the year and it belongs to a rich class for which the appropriate capitalisation rate has been estimated to be 20%. The company is considering dividend of Rs. 2.50 per share for the current year. What will be the price of the share at the end of the year

(i) if the dividend is paid and

(ii) if the dividend is not paid.

Solution:

$$P_o = \frac{D_1 + P_1}{(1 + K_e)}$$

(i) If the dividend is paid

$$P_o = \text{Rs.}15$$
$$K_e = 20\%$$
$$D_1 = 2.50$$
$$P_1 = ?$$
$$15 = \frac{2.50 + P_1}{1 + 20\%}$$
$$15 = \frac{2.50 + P_1}{1.2}$$
$$2.50 + P_1 = 15 \times 1.2$$
$$P_1 = 18 - 2.50$$
$$P_1 = \text{Rs. } 15.50$$

(ii) If the dividend is not paid

$$P_o = 15$$
$$K_e = 20\%$$
$$D_1 = 0$$
$$P_1 = ?$$
$$15 = \frac{0 + P_1}{1 + 20\%}$$
$$15 = \frac{0 + P_1}{1.20}$$
$$0 + P_1 = 15 \times 1.20$$
$$P_1 = \text{Rs. } 18.$$

**Criticism of MM approach**

MM approach consists of certain criticisms also. The following are the major criticisms of MM approach:

- MM approach assumes that tax does not exist. It is not applicable in the practical life of the firm.
- MM approach assumes that, there is no risk and uncertain of the investment. It is also not applicable in present day business life.
- MM approach does not consider floatation cost and transaction cost. It leads to affect the value of the firm.
- MM approach considers only single decrement rate, it does not exist in real practice.

- MM approach assumes that, investor behaves rationally. But we cannot give assurance that all the investors will behave rationally.

**RELEVANCE OF DIVIDEND** According to this concept, dividend policy is considered to affect the value of the firm. Dividend relevance implies that shareholders prefer current dividend and there is no direct relationship between dividend policy and value of the firm. Relevance of dividend concept is supported by two eminent persons like Walter and Gordon.

**Walter's Model**

**Prof. James E. Walter** argues that the dividend policy almost always affects the value of the firm.

Walter model is based in the relationship between the following important factors:

• Rate of return I

• Cost of capital (k)

According to the Walter's model, if r > k, the firm is able to earn more than what the shareholders could by reinvesting, if the earnings are paid to them. The implication of r > k is that the shareholders can earn a higher return by investing elsewhere.

If the firm has r = k, it is a matter of indifferent whether earnings are retained or distributed. **Assumptions**

Walters model is based on the following important assumptions:

1. The firm uses only internal finance.
2. The firm does not use debt or equity finance.
3. The firm has constant return and cost of capital.
4. The firm has 100 recent payout.
5. The firm has constant EPS and dividend.
6. The firm has a very long life.

Walter has evolved a mathematical formula for determining the value of market share.

$$P = \frac{D + \frac{r}{K_e}(E - D)}{K_e}$$

Where,

P = Market price of an equity share

D = Dividend per share

r = Internal rate of return

E = Earning per share

Ke = Cost of equity capital

Example:

From the following information supplied to you, ascertain whether the firm is following an optional dividend policy as per Walter's Model?

Total Earnings Rs. 2,00,000

No. of equity shares (of Rs. 100 each 20,000)

Dividend paid Rs. 1,00,000

P/E Ratio 10

Return Investment 15%

The firm is expected to maintain its rate on return on fresh investments. Also find out what should be the E/P ratio at which the dividend policy will have no effect on the value of the share? Will your decision change if the P/E ratio is 7.25 and interest of 10 %?

Solution:

$$EPS = \frac{\text{Earnings}}{\text{No. of Shares}} = \frac{200000}{20000} = \text{Rs. } 10$$

$$\text{P/E Ratio} = 10$$

$$K_e = \frac{1}{\text{P/E Ratio}} \quad \frac{1}{10} = 0.10$$

$$DPS = \frac{\text{Total Dividends paid}}{\text{No. of Shares}}$$

$$= \frac{100000}{20000} = \text{Rs. } 5$$

The value of the share as per Walter's Model is

$$P = \frac{D + r/ke(E - D)}{K_e}$$

$$= \frac{5 + .15/.10\,(10 - 5)}{0.10}$$

$$= \frac{5 + 7.5}{0.10}$$

$$= \text{Rs. } 12.5$$

$$\text{Dividend Payout} = \frac{\text{DPS}}{\text{EPS}} \times 100$$

$$= \frac{5}{10} \times 100 = 60\%$$

$r > K_e$ therefore by distributing 60% of earnings, the firm is not following an optional dividend policy. In this case, the optional dividend policy for the firm would be to pay zero dividend and the Market Price would be:

$$P = \frac{5 + .15/.10\ (10-0)}{.10}$$

$$= \frac{5 + 15}{.10}$$

$$= \frac{20}{.10}$$

$$P = \text{Rs. } 200$$

So, the MP of the share can be increased by following a zero payout, of the P/E is 7.25 instead of 10 then the $K_e = 1 = 0.138$ and in this case $K_e > r$ and the MP of the share is 7.25.

$$P = \frac{5 + \frac{.15}{.138}\ (10-5)}{.138}\ .138$$

$$= 5 + 5.435$$

$$\boxed{P = \text{Rs. } 75.62}$$

**Criticism of Walter's Model**

The following are some of the important criticisms against Walter model:

Walter model assumes that there is no extracted finance used by the firm. It is not practically applicable.

There is no possibility of constant return. Return may increase or decrease, depending upon the business situation. Hence, it is applicable.

According to Walter model, it is based on constant cost of capital. But it is not applicable in the real life of the business.

**GORDON'S MODEL** Myron Gorden suggest one of the popular model which assume that dividend policy of a firm affects its value, and it is based on the following important assumptions:

1. The firm is an all equity firm.
2. The firm has no external finance.
3. Cost of capital and return are constant.
4. The firm has perpetual life.
5. There are no taxes.
6. Constant relation ratio (g=br).
7. Cost of capital is greater than growth rate (Ke >br).

Gordon's model can be proved with the help of the following formula:

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

Where,

P = Price of a share

E = Earnings per share

1 – b = D/p ratio (i.e., percentage of earnings distributed as dividends)

Ke = Capitalization rate

br = Growth rate = rate of return on investment of an all equity firm.

Example:

Raja company earns a rate of 12% on its total investment of Rs. 6,00,000 in assets. It has 6,00,000 outstanding common shares at Rs. 10 per share. Discount rate of the firm is 10% and it has a policy of retaining 40% of the earnings. Determine the price of its share using Gordon's Model. What shall happen to the price of the share if the company has payout of 60% (or) 20%?

Solution:

According to Gordon's Model, the price of a share is

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

Given: $E = 12\%$ of Rs. $10 =$ Rs. $1.20$

$r = 12\% = 0.12$

$K = 10\% = 0.10$

$t = 10\% = 0.10$

$b = 40\% = 0.40$

Put the values in formula

$$P = \frac{1.20\,(1-.40)}{10-(.40\times.12)}$$

$$= \frac{1.20\times(0.60)}{.10-0.048}$$

$$= \frac{0.72}{0.052}$$

$$= \text{Rs. } 13.85$$

If the firm follows a policy of 60% payout then b = 20% = 0.20

The price is $$P = \frac{1.20\ (1 \times 0.20)}{.10 - (.2 \times .12)}$$

$$= 0.05$$

r = 4% = 0.04, D = 25% of 10 = 2.50

$$= 2.50 + \frac{\frac{0.04}{0.12}(10 - 2.50)}{0.12}$$

$$= \frac{5}{0.12} = \text{Rs. } 41.67$$

If payout ratio is 50%, D = 50% of 10 = Rs. 5

r = 12% = 0.12, D = 50% of 10 = Rs. 5

$$= 5 + \frac{\frac{0.12}{0.12}(10 - 5)}{0.12}$$

$$= \frac{5 + 5}{0.12}$$

$$= \frac{10}{0.12} = \text{Rs. } 83.33$$

r = 8% = 0.08, D = 50% of 10 = 5

$$= \frac{5 + \frac{0.8}{0.12}(10 - 5)}{0.12}$$

$$= \frac{5 + 3.33}{0.12}$$

$$= \frac{8.33}{0.12} = \text{Rs. } 69.42$$

r = 4% = 0.04, D = 50% of 10 = 5

$$= 5 + \frac{0.04}{0.12}(10 - 5)$$

$$= \frac{5 + 1.67}{0.12}$$

$$= \frac{6.67}{0.12} = \text{Rs. } 55.58$$

**Criticism of Gordon's Model**

Gordon's model consists of the following important criticisms:

Gordon model assumes that there is no debt and equity finance used by the firm. It is not applicable to present day business.

Ke and r cannot be constant in the real practice.

According to Gordon's model, there are no tax paid by the firm. It is not practically applicable.

Management must also choose the *form* of the dividend distribution, generally as cash dividends or via a share buyback. Various factors may be taken into consideration: where shareholders must pay tax on dividends, firms may elect to retain earnings or to perform a stock buyback, in both cases increasing the value of shares outstanding. Alternatively, some companies will pay "dividends" from stock rather than in cash; see Corporate action. Financial theory suggests that the dividend policy should be set based upon the type of company and what management determines is the best use of those dividend resources for the firm to its shareholders. As a general rule, shareholders of growth companies would prefer managers to have a share buyback program, whereas shareholders of value or secondary stocks would prefer the management of these companies to payout surplus earnings in the form of cash dividends.

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