CHAPTER ONE

WORKING CAPITAL MANAGEMENT

INTRODUCTION

Working capital management is also one of the important parts of the financial management. It is concerned with short-term finance of the business concern which is a closely related trade between profitability and liquidity. Efficient working capital management leads to improve the operating performance of the business concern and it helps to meet the short term liquidity. Hence, study of working capital management is not only an important part of financial management but also is overall management of the business concern.

Working capital is described as the capital which is not fixed but the more common uses of the working capital is to consider it as the difference between the book value of current assets and current liabilities.

This chapter deals with the following important aspects of working capital management.

- Meaning of Working Capital
- Types (classification) of Working Capital
- Needs of Working Capital
- Working capital position/balanced working capital position
- Factors determining Working Capital
- Approaches (Methods) of estimating working capital requirements
- Working Capital Management Policy
- Determining the financing mix

MEANING OF WORKING CAPITAL

Capital of the business concern may be divided into two major headings.

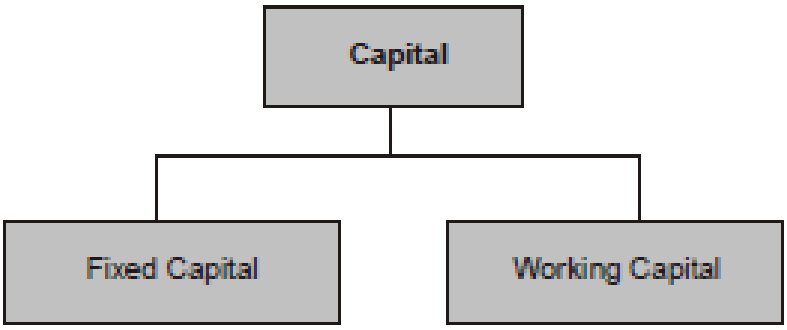


Fig 1.1 Capital of the business

Fixed capital means that capital, which is used for long-term investment of the business concern. For example, purchase of permanent assets. Normally it consists of **non-recurring** in nature. **Working Capital** is another part of the capital which is needed for meeting day to day requirement of the business concern. For example, payment to creditors, salary paid to workers, purchase of raw materials etc., normally it consists of **recurring in nature**. It can be easily converted into cash. Hence, it is also known as **short-term capital**.

TYPES (CLASSIFICATION) OF WORKING CAPITAL

Working capital can be classified on the basis of concept and periodicity.

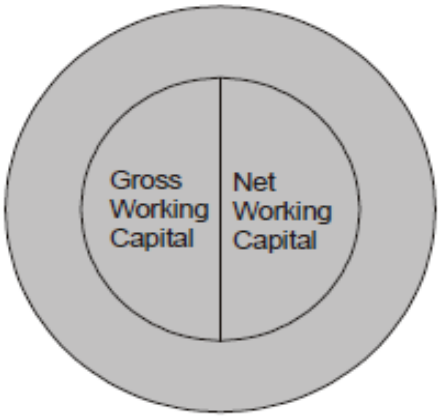


Fig 1.2 Working capital concept

A. On the basis of concept:

i. ***Gross working capital***: Gross Working Capital is the **general concept** which determines the working capital concept. Thus, the gross working capital is the capital invested in total current assets of the business concern. Gross Working Capital is simply called as the total current assets of the concern.

$$GWC = CA$$

ii. ***Net working capital***: Net Working Capital is the **specific concept**, which considers both current assets and current liability of the concern. Net Working Capital is the excess of current assets over the current liability of the concern during a particular period. If the current assets exceed the current liabilities, it is said to be **positive working capital**; it is reverse, it is said to be **negative working capital**.

$$NWC = C A - CL$$

B. **On the basis of periodicity(time)**:

Working Capital may be classified into three important types on the basis of time.

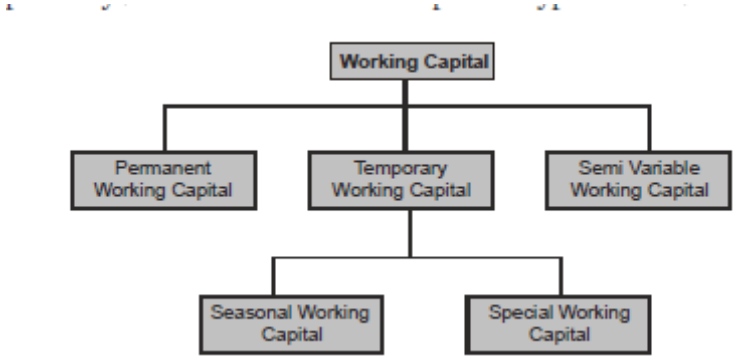


Fig 1.3 Working capital on the basis of time

1. **Permanent Working Capital**

It is also known as **Fixed Working Capital**. It is the capital; the business concern must maintain certain amount of capital at minimum level at all times. The level of Permanent Capital depends upon the nature of the business. Permanent or Fixed Working Capital will not change irrespective of time or volume of sales.

The need for working capital fluctuates from time to time. However, to carry on day-to-day operations of the business without any obstacles, a certain minimum level of raw materials , work in process, finished goods and cash must be maintained on a continues basis. The amount needed to maintain current assets on this minimum level is called **permanent** or **regular** working capital. The amount involved as permanent working capital has to be met from long-term sources of finance, e.g., capital, debentures and long-term loans.

2. **Temporary Working Capital**

Any amount over and above the permanent working capital is called **temporary**, **fluctuating** or **variable** working capital. Due to **seasonal changes**, level of business activities is higher than normal during some months of year and therefore additional working capital will be required along with the permanent working capital. It is so because during peak season, demand rises and more stock is to be maintained to meet the demand. Both types of working capital are necessary to run the business.

Temporary working capital is the amount of capital which is required to meet the **Seasonal demands** and some special purposes. It can be further classified into Seasonal Working Capital and Special Working Capital. The capital required to meet the **seasonal needs** of the business concern is called as Seasonal Working Capital. The capital required to meet the special exigencies such as launching of extensive marketing campaigns for conducting research is called as special working capital.

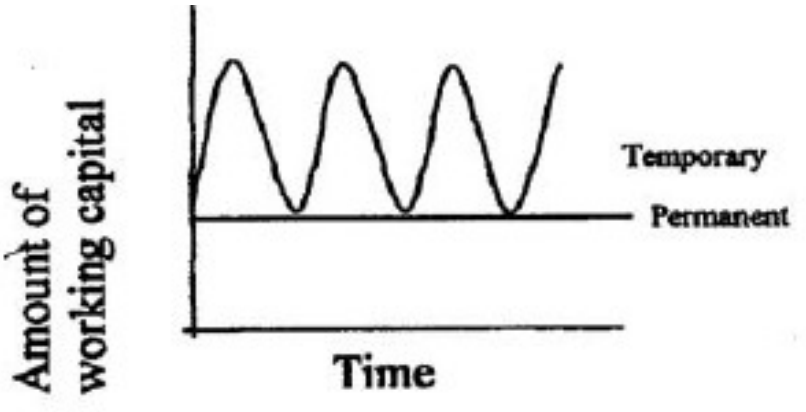


Fig 1.4 Permanent and Temporary working capital

- The **Permanent is constant** and **temporary is fluctuating** according to seasonal demand.

3. Semi Variable Working Capital

Certain amount of Working Capital is in the field level up to a certain stage and after that it will increase depending upon the change of sales or time.

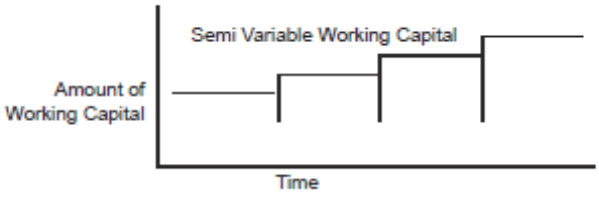


Fig 1.5 Semi variable working capital

NEEDS OF WORKING CAPITAL

Working Capital is an essential part of the business concern. Every business concern must maintain certain amount of Working Capital for their day-to-day requirements and meet the short-term obligations.

Working Capital is needed for the following purposes:

- **Purchase of raw materials and spares:** The basic part of manufacturing process is raw materials. It should purchase frequently according to the needs of the business concern. Hence, every business concern maintains certain amount as Working Capital to purchase raw materials, components, spares, etc.
- **Payment of wages and salary:** The next part of Working Capital is payment of wages and salaries to labor and employees. Periodical payment facilities make employees perfect in their work. So a business concern maintains adequate amount of working capital to make the payment of wages and salaries.
- **Day-to-day expenses:** A business concern has to meet various expenditures regarding the operations at daily basis like fuel, power, office expenses, etc.
- **Provide credit obligations:** A business concern responsible to provide credit facilities to the customer and meet the short-term obligation. So the concern must provide adequate Working Capital.

WORKING CAPITAL POSITION/ BALANCED WORKING CAPITAL POSITION.

A business concern must maintain a sound working capital position to improve the efficiency of business operation and efficient management of finance. Both **excessive** and **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 (inadequate) of working capital not only impairs profitability but also results in production interruptions and inefficiencies and sales disruption.

Advantages of Adequate working capital:

- ❖ Availability of raw materials regularly
- ❖ Full utilization of fixed assets
- ❖ Cash discount
- ❖ Increase in credit rating
- ❖ Advantage of favorable business opportunities
- ❖ Facility in obtaining bank loans
- ❖ Increase in efficiency of management
- ❖ Meeting unseen contingencies

Disadvantages of Excessive working management:

- ✓ Excessive inventory
- ✓ Excessive debtors
- ✓ Adverse effect on profitability
- ✓ Inefficiency of management

Disadvantages of Inadequate working management:

- ➢ Difficulty in availability of raw materials
- ➢ Full utilization of fixed assets not possible
- ➢ Difficulty in maintenance of machinery
- ➢ Decrease in credit rating
- ➢ Non utilization of favorable opportunities
- ➢ Decrease in sales
- ➢ Difficulty in the distribution of dividends
- ➢ Decrease in the efficiency of management

FACTORS DETERMINING WORKING CAPITAL REQUIREMENTS

Working Capital requirements depends upon various factors. There are no set of rules or formula to determine the Working Capital needs of the business concern. The following are the major factors which are determining the Working Capital requirements.

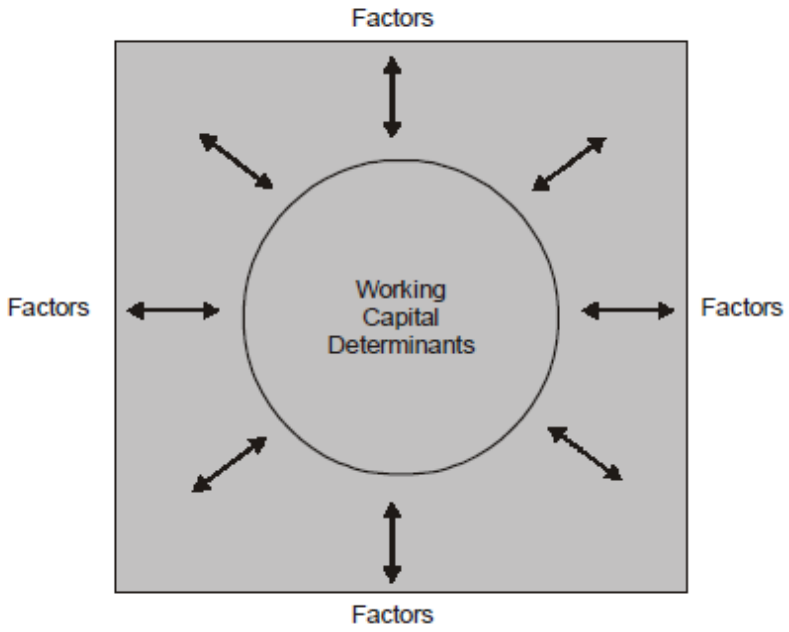


Fig 1.6 Factors determining working capital requirements

- Nature of business
- Production cycle
- Business cycle
- Production policy
- Credit policy
- Growth and expansion
- Availability of raw materials
- Earning capacity
- Availability of credit from banks
- Volume of profit
- Level of taxes
- Dividend policy
- Depreciation policy
- Price level changes
- Efficiency of management

APPROACHES (METHODS) OF ESTIMATING WORKING CAPITAL REQUIREMENTS

Working Capital requirement depends upon the number of factors, which are already discussed in the previous parts. Now the discussion is on how to calculate the Working Capital needs of the business concern. A number of methods are used to determine working capital needs of a business. The important among them are:

A. Estimation of components of working capital method

Working capital consists of various current assets and current liabilities. Hence, we have to estimate how much current assets as inventories required and how much cash required meeting the short term obligations. Finance Manager first estimates the assets and required Working Capital for a particular period.

B. Percent of sales method

Based on the past experience between Sales and Working Capital requirements, a ratio can be determined for estimating the Working Capital requirement in future. It is the simple and tradition method to estimate the Working Capital requirements. Under this method, first we have to find out the sales to Working Capital ratio and based on that we have to estimate Working Capital requirements. This method also expresses the relationship between the **Sales** and **Working Capital**.

C. Operating Cycle Method

Working Capital requirements depend upon the **operating cycle** of the business. The operating cycle begins with the **acquisition of raw materials** and ends with the **collection of receivables**. **Operating cycle** is the time span the firm requires in the purchase of raw materials, conversion of raw materials in to work in process and finished goods, conversion of finished goods in to sales and in collecting cash from debtors. Larger the time span of operating cycle, larger the investment in current assets. Hence, time period of each stage of operating cycle is estimated and then working capital needed in each stage is computed on the basis of cost of each item. Following factors should be taken in to consideration while forecasting working capital requirement on the basis of operating cycle method:

- Cost of raw materials, wages and overheads
- Period during which raw material remains in store before it is issued for production purpose

- Period of production cycle
- Period during which finished goods is stored before sale
- Period of credit allowed to debtors and period of credit allowed by suppliers
- Time lag in payment of wages and overheads
- Minimum cash balance required to be maintained.

Note: A certain percentage for **contingencies** may be added to the above estimates to determine the working capital requirement.

Generally, operating cycle consists of the following stages:

1. Raw Material and Storage Stage, (R)
2. Work in Process Stage, (W)
3. Finished Goods Stage, (F)
4. Debtors Collection Stage, (D)
5. Creditors Payment Period Stage. (C)

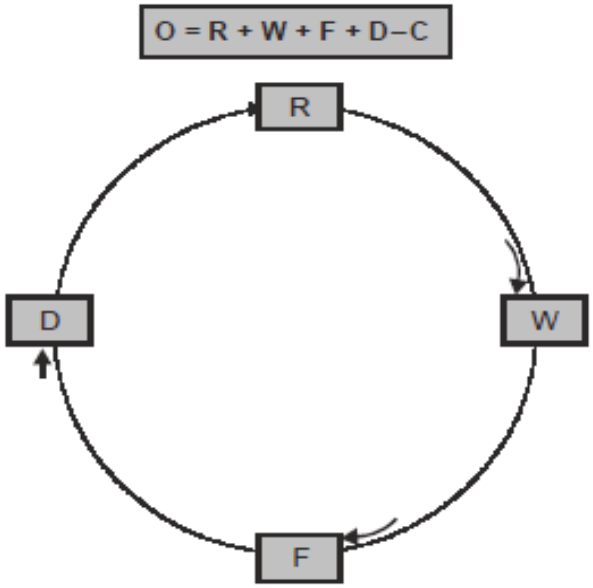


Fig 1.7 Working capital(operating/trading/cash)cycle

Each component of the operating cycle can be calculated by the following formula:

$$R = \frac{\text{Average Stock of Raw Material}}{}$$

$$W = \frac{\text{Average Work in Process Inventory}}{\text{Average Cost of Production per Day}}$$

$$F = \frac{\text{Average Finished Stock Inventory}}{\text{Average Cost of Goods Sold Per Day}}$$

$$D = \frac{\text{Average Book Debts}}{\text{Average Credit Sales per Day}}$$

$$C = \frac{\text{Average Trade Creditors}}{\text{Average Credit Purchase per Day}}$$

$$\text{Amount of WC required} = \frac{\text{Total operating cost}}{\text{No of operating cycle in a year}}$$

Note: Under this chapter we will see the operating cycle method only.

Exercise

From the following information extracted from the books of a manufacturing company, compute the operating cycle in days and the amount of working capital required:

Period Covered	365 days
Average period of credit allowed by suppliers	16 days
Average Total of Debtors Outstanding	Br 48000
Raw Material Consumption	440,000
Total Production Cost	1,000,000
Total Cost of Sales	1,050,000
Sales for the year	1,600,000
Value of Average Stock maintained:	
Raw Material	32,000
Work-in-progress	35,000
Finished Goods	26,000

Solution:

A. Raw Material and Storage Stage(R) = $\frac{Br\ 32{,}000}{Br\ 440{,}000}$ x 365days = 27 days

B. Work in Process Stage (W) = $\frac{Br\ 35{,}000}{Br\ 1{,}000{,}000}$ x 365 days = 13 days

C. Finished Goods Stage (F) = $\frac{Br\ 26{,}000}{Br\ 1{,}050{,}000}$ x 365 days = 9 days

D. Debtors Collection Stage (D) = $\frac{Br\ 48{,}000}{Br\ 1{,}600{,}000}$ x 365 days = 11 days

Gross operating cycle (GOC) = R+W+F+D = 27+13+9+11= **60 days**

Net operating cycle (NOC) = GOC less Creditors Payment Period= 60 days _16 days= **44 days**

Number of Operating cycles in a year = $\frac{Total\ number\ of\ days \in a\ year}{Net\ operating\ cycle} = \frac{365\ days}{44\ days}$ = **8.3 times**

Amount of Working Capital required = $\frac{Total\ operating\ cost}{Number\ of\ operating\ cycle \in a\ year}$ =

$\frac{Br\ 10{,}500}{8.3}$ = **Br 1,265**

WORKING CAPITAL MANAGEMENT POLICY

Working Capital Management formulates policies to manage and handle efficiently; for that purpose, the management established **three policies** based on the relationship between **Sales** and **Working Capital**.

1. Conservative Working Capital Policy.
2. Moderate Working Capital Policy.
3. Aggressive Working Capital Policy.

1. Conservative (relaxed) working capital policy: refers to minimize risk by maintaining a higher level of Working Capital. This type of Working Capital Policy is suitable to meet the **seasonal fluctuation** of the manufacturing operation. A policy under which relatively large amounts of cash, marketable securities, and inventories are carried and under which sales are stimulated by a **liberal credit policy**, resulting in a high level of receivables.

2. Moderate working capital policy: refers to the moderate level of Working Capital maintenance according to moderate level of sales. It means one percent of change in Working Capital that is Working Capital is equal to sales. Or a policy that is between the relaxed and restricted policies.

3. Aggressive (Restricted) working capital policy: Aggressive Working Capital Policy is one of the high risky and profitability policies which maintain low level of Aggressive Working Capital against the high level of sales, in the business concern during a particular period. Or a policy under which holdings of cash, securities, inventories, and receivables are minimized.

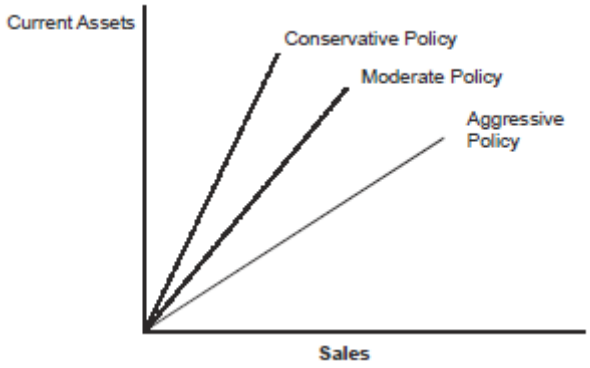


Fig 1.8 Working capital management policies

Determining the Finance Mix

Determining the finance mix is an important part of working capital management. Under this decision, the relationship among **risk, return** and **liquidity** are measured and also which type of financing is suitable to meet the Working Capital requirements of the business concern. There are three basic approaches for determining an appropriate Working Capital finance mix.

1. Hedging or matching approach
2. Conservative approach
3. Aggressive approach.

1. Hedging or Matching Approach

Hedging approach is also known as matching approach. Under this approach, the business concern can adopt a financial plan which matches the expected life of assets with the expected life of the sources of funds raised to finance assets. When the business follows matching approach, long-term finance shall be used to finance fixed assets, and permanent current assets and short-term finances to finance temporary or variable assets.

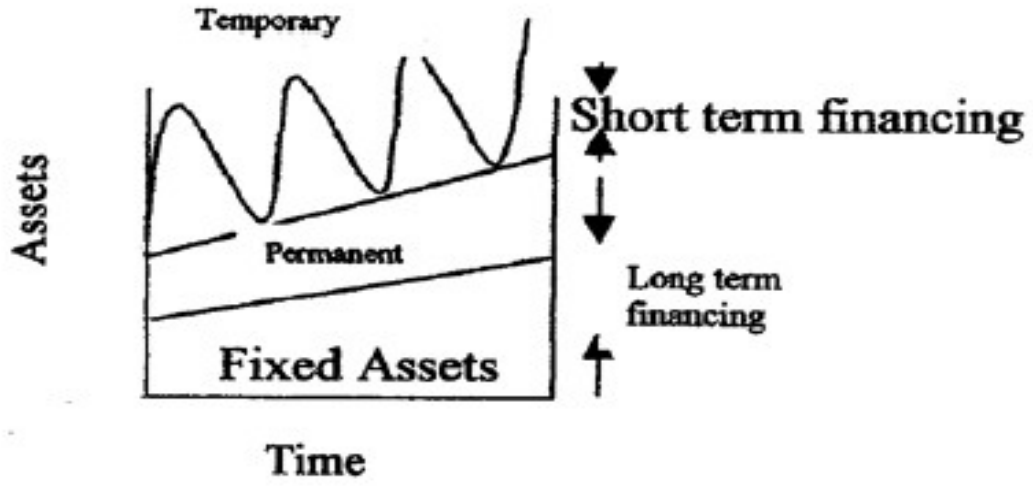


Fig 1.10 Financing under Matching Approach

2. Conservative Approach

Under this approach, the entire estimated finance in current assets should be financed from long-term sources and the short-term sources should be used only for emergency requirements. This approach is called as **"Low Profit – Low Risk"** concept.

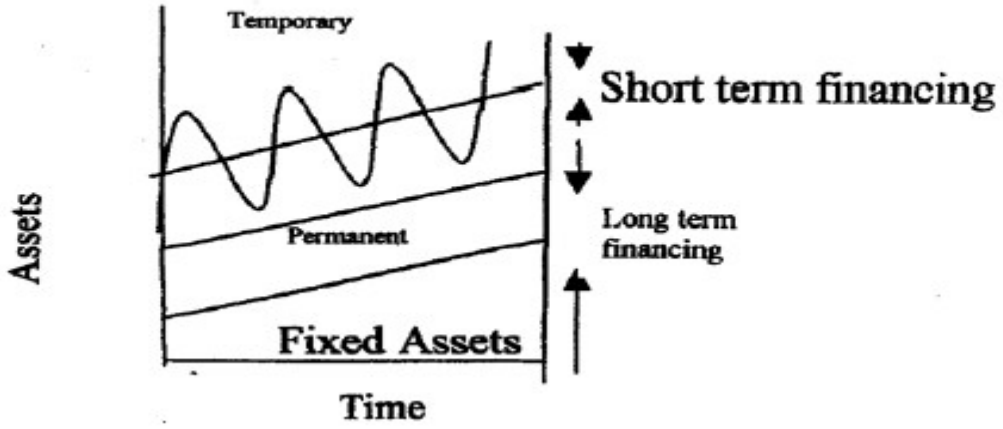


Fig. 1.11 Financing under Conservative Approach

3. Aggressive Approach

Under this approach, the entire estimated requirement of current assets should be financed from short-term sources and even a part of fixed assets financing be financed from short- term sources. This approach makes the finance mix **more risky, less costly** and more profitable.

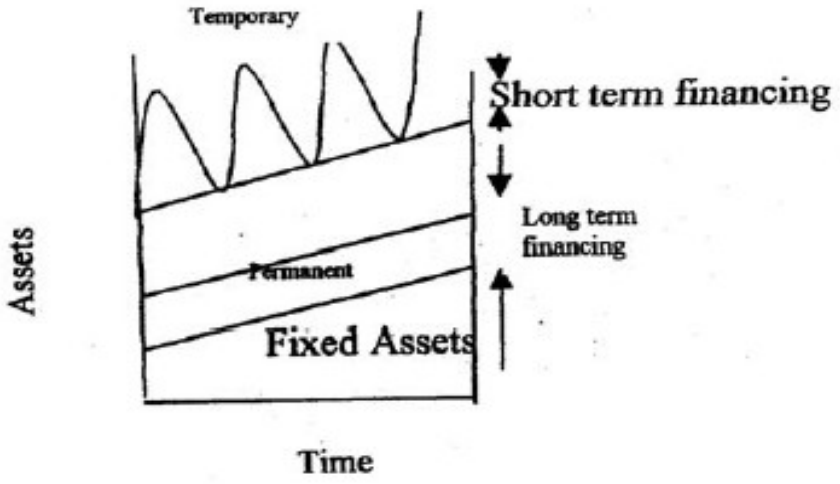


Fig. 1.12 Financing under Aggressive Approach