

# **WORKING CAPITAL MANAGEMENT**

Working capital management (WCM) is also known as **short term financial management** and is mainly concerned with the decisions relating to current assets and current liabilities.

It is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelationship that exist between them.

Thus WCM answers following questions –

- what should be the level of current assets?
- what should be the level of current liabilities?
- what should be the level of individual current assets and individual current liabilities?
- what should be the total investment in working capital of the firm?

There are two concepts of working capital :

- i) **Gross working capital** – refers to the firm's investments in all the current assets taken together. Thus it total of investments in all the current assets. Also called as *total working capital*
- ii) **Net working capital** – it refers to the excess of total current assets over current liabilities.

Current assets and current liabilities are –

Current Assets

Inventories – r/m, wip, fg, others  
Trade debtors  
Loans and advances  
Cash and bank balances

Current Liabilities

Sundry creditors  
Trade advances  
Borrowings (short term)  
Provisions

The net working capital may be positive or negative.

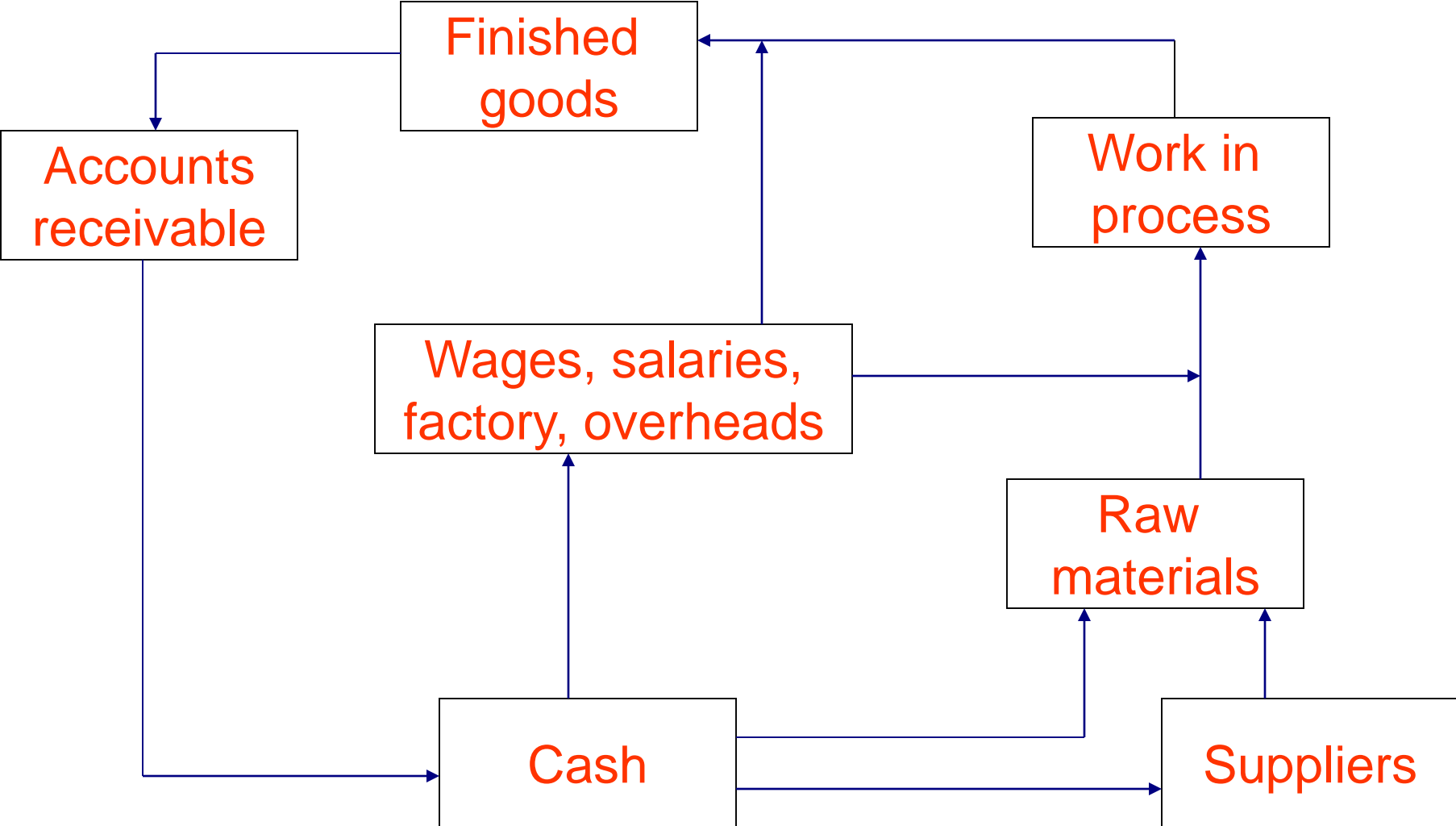
The net working capital measures the liquidity of the firm. The greater the margin the better liquidity will be.

## Characteristics of Current Assets :

In management of working capital, two characteristics of current assets must be considered –

- i) **short life span** – normally it is less than one year.
- ii) **swift transformation into other asset forms** – each current asset is swiftly transformed into other assets, like – cash is used for acquiring raw materials, r/m is transformed into finished goods, finished goods generally sold on credit thus converted into a/r, and finally a/r, on realisation, generates cash.

Thus current asset cycle may be shown as -



# Factors Influencing Working Capital Requirement :

Different factors which will affect the working capital requirement of a firm, are –

- i) **Nature of Business** – for service / trading firm, lower to modest working capital is required; while for manufacturing concern, substantial WC is required.
- ii) **Seasonality of operations** – firms which have marked seasonality in their operations usually have high fluctuations in working capital requirement.
- iii) **Production policy** – adequate production policy may reduce the sharp fluctuations in WC requirement, even in seasonal firms.

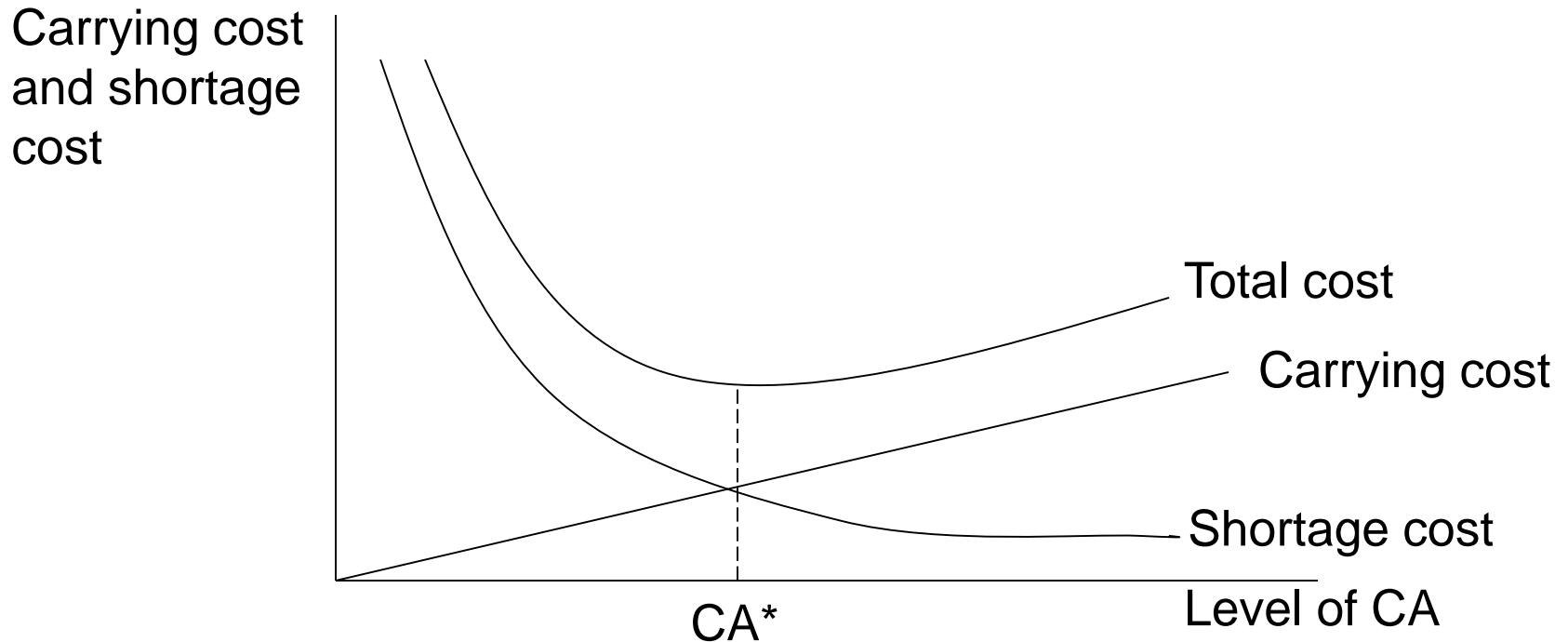
- iv) **Market conditions** – degree of competition in market place has a strong influence on WC requirement. If competition is strong, higher amount of WC required, otherwise if competition is weak low level of WC will suffice.
  
- v) **Supply conditions** – if supply of raw materials, spares, other goods, is prompt, adequate and predictable, the firm can manage with small inventory (or working capital).

## Level of Current Assets :

Determining the optimal level of current assets involves a trade-off between costs that rise with current assets (*carrying costs*) and the costs that fall with current assets (*shortage costs*).

Carrying costs are mainly in the nature of the cost of financing higher level of current assets, and shortage costs are mainly in the form of disruption in production schedule, loss of sales, loss of customer goodwill etc.

These two costs will determine the total costs, and the level of current assets at which total cost is minimum, will be the optimal level of current asset. It is shown as -





Generally, the total cost curve is fairly flat around the optimal level hence, it may be difficult to precisely identify the optimal level.

## Working Capital Policy :

The working capital management need not necessarily have a target of increasing the wealth of the shareholders, but it helps in attaining the objective by providing sufficient liquidity to the firm.

Thus, efficient WCM is important from the point of view of both the liquidity and profitability. Poor and inefficient WCM means that funds are unnecessarily tied up in idle assets.

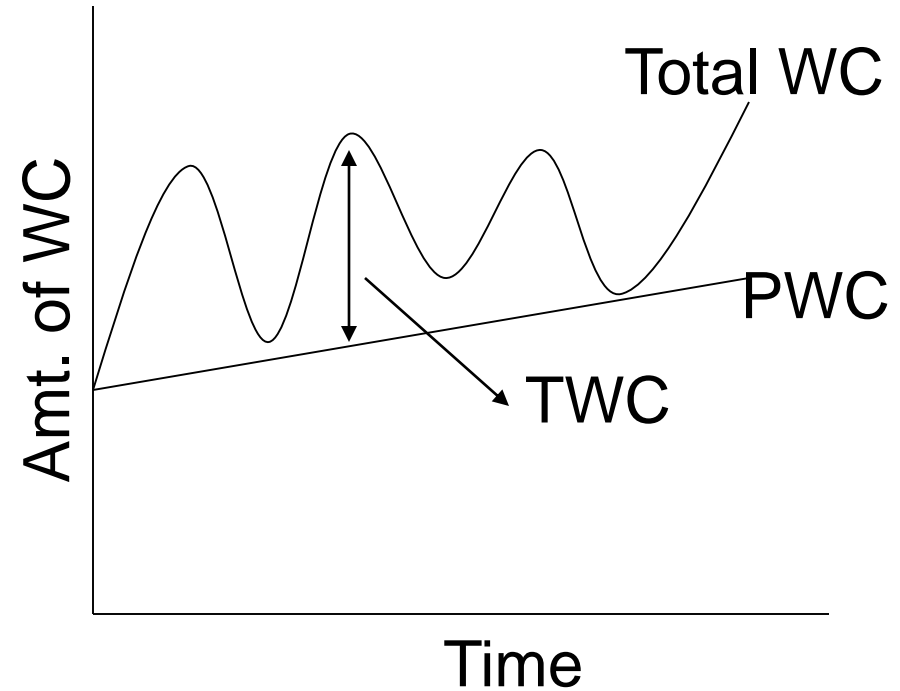
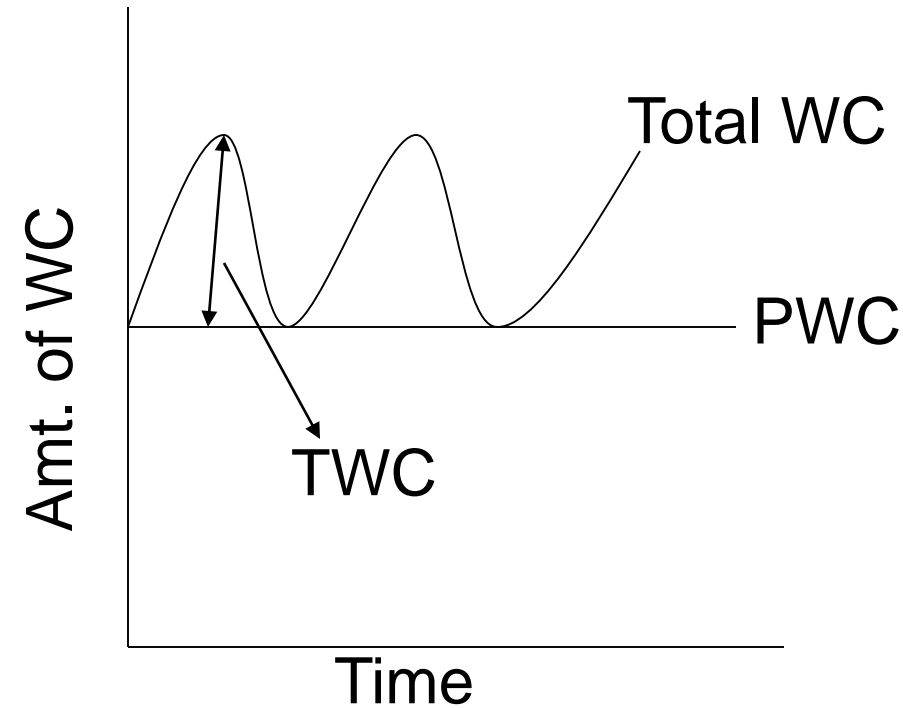
Keeping these views in mind, working capital policy is framed.

## Types of Working Capital Needs :

For any business, two kinds of working capital may be required.  
It is –

- i) **Permanent WC** – this refers to minimum amount of investment in current assets which is required at all times to carry out minimum level of business operations
  
- ii) **Temporary WC** – apart from PWC, the firm may also require additional working capital in order to meet the requirement arising out of fluctuations in sales volume. This extra working capital needed to support the increased volume of sales is called as TWC.

The difference between permanent and temporary working capital can be shown as -



Normally the permanent working capital is increasing with time in of growing concern. Thus PWC line I not horizontal with base line. This is shown in second graph.

## Current Assets Financing Policy :

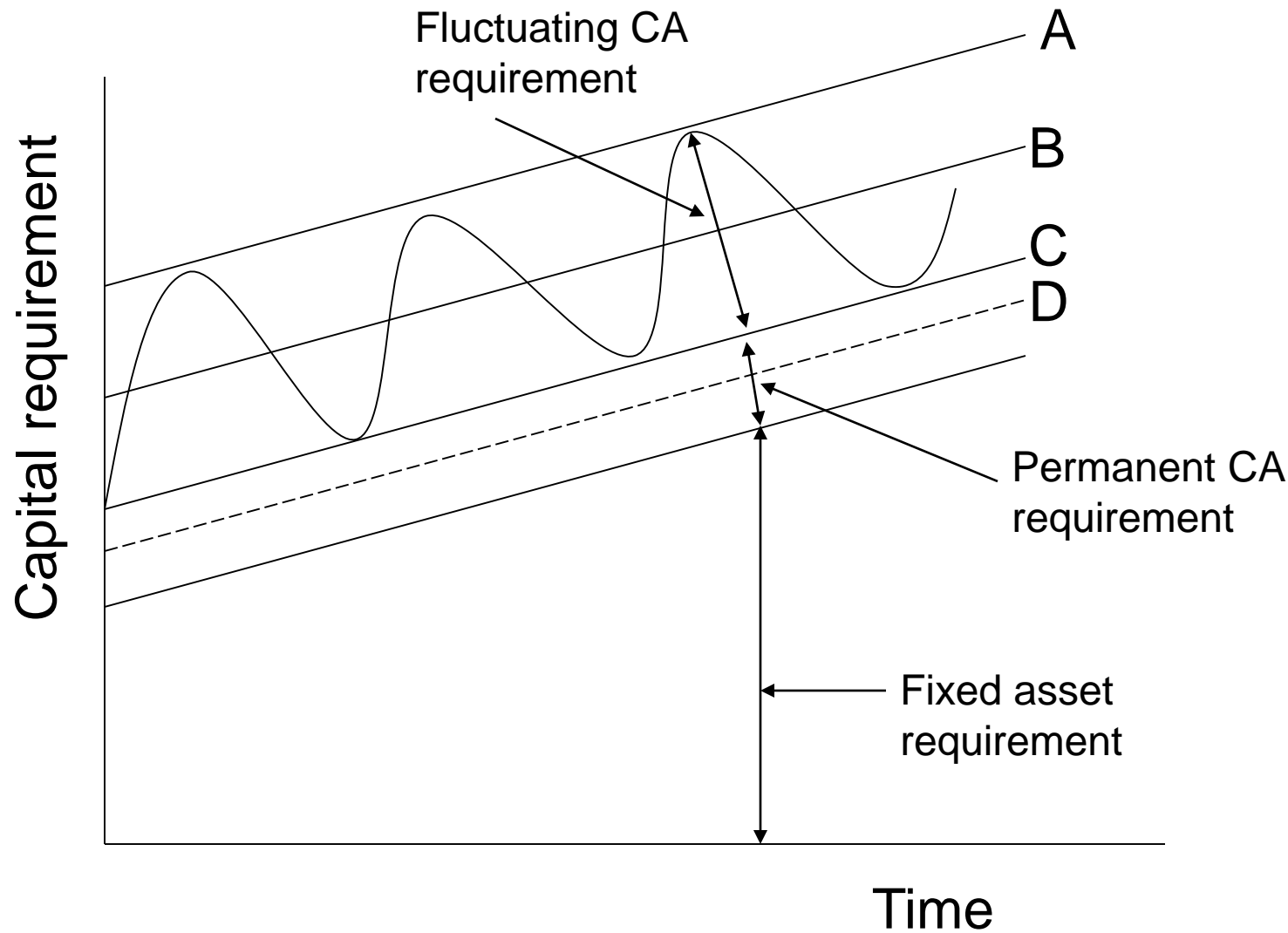
After establishing the level of current assets, the firm must determine how these should be financed. What mix of short term and long term debt should the firm employ to support its current assets.

Working capital can be financed by different source like – long term sources, short term sources or transactionary sources (like credit allowances, outstanding labour and other expenses).

In general, **the short term assets should be financed through short term funds and long term assets through long term funds.**

As far as financing of working capital is concerned it depends on the policy of the firm that what sources (and mix) of finance the firm want to use.

Several strategies are available to a firm for financing its working capital requirement. Four strategies are illustrated here by lines A, B, C and D; as -



## Strategy A / Conservative Approach :

Long term financing is used to meet fixed asset requirement as well as peak working capital requirement.

In case the WC requirement is less than the peak value, the surplus will be invested in liquid assets like cash and marketable securities.

Here the firm do not want to take any risk. Larger the portion of long term sources used to finance the working capital, more conservative the firm will be.

## Strategy B / Moderate Approach :

Long term financing is used to meet fixed asset requirements, permanent WC requirement an a portion of fluctuating WC.

During seasonal upswings, short term financing is used; during seasonal downswing, surplus is invested in liquid assets.

### Strategy C / Hedging Approach / Matching Approach :

According to this approach, **the maturity of sources of financing should match the maturity of assets being financed.**

Thus, long-term financing is used to meet fixed asset requirement and permanent working capital requirement. Short-term financing is used to meet fluctuating WC requirement.

### Strategy D / Aggressive Approach :

**Long term financing is used to meet fixed asset requirement and a part of Permanent WC requirement. Rest of the part of PWC and all fluctuating WC will be financed by short term financing.**

This policy seeks to minimize excess liquidity while meeting short term requirement.

The firm may accept even greater risk of insolvency in order to save cost of long term financing.

### Hedging Approach (HA) Vs Conservative Approach (CA) :

These are the two most discussed approaches in WCM.

	<b>Hedging Approach</b>	<b>Conservative Approach</b>
<b>Advantages</b>	<ol style="list-style-type: none"><li>1. Cost of financing is reduced.</li><li>2. The investment in NWC is min.</li></ol>	<ol style="list-style-type: none"><li>1. Less risky and firm is able to bear shocks.</li><li>2. The firm does not face frequent financing problems.</li></ol>
<b>Disadvantages</b>	<ol style="list-style-type: none"><li>1. Frequent efforts are required to arrange funds.</li><li>2. The risk is high as the firm is vulnerable to shock</li></ol>	<ol style="list-style-type: none"><li>1. The cost of financing is definitely higher.</li><li>2. Large investment is blocked in temporary WC.</li></ol>



Thus the hedging approach suggest a low cost-high risk situation while the conservative approach attempts high cost-low risk situation.

Neither the conservative approach nor the hedging approach is used by the firm in the strict sense.

It depends between trade-off between the hedging and conservative approaches as well as the company policy and finance manager's attitude towards risk and return.

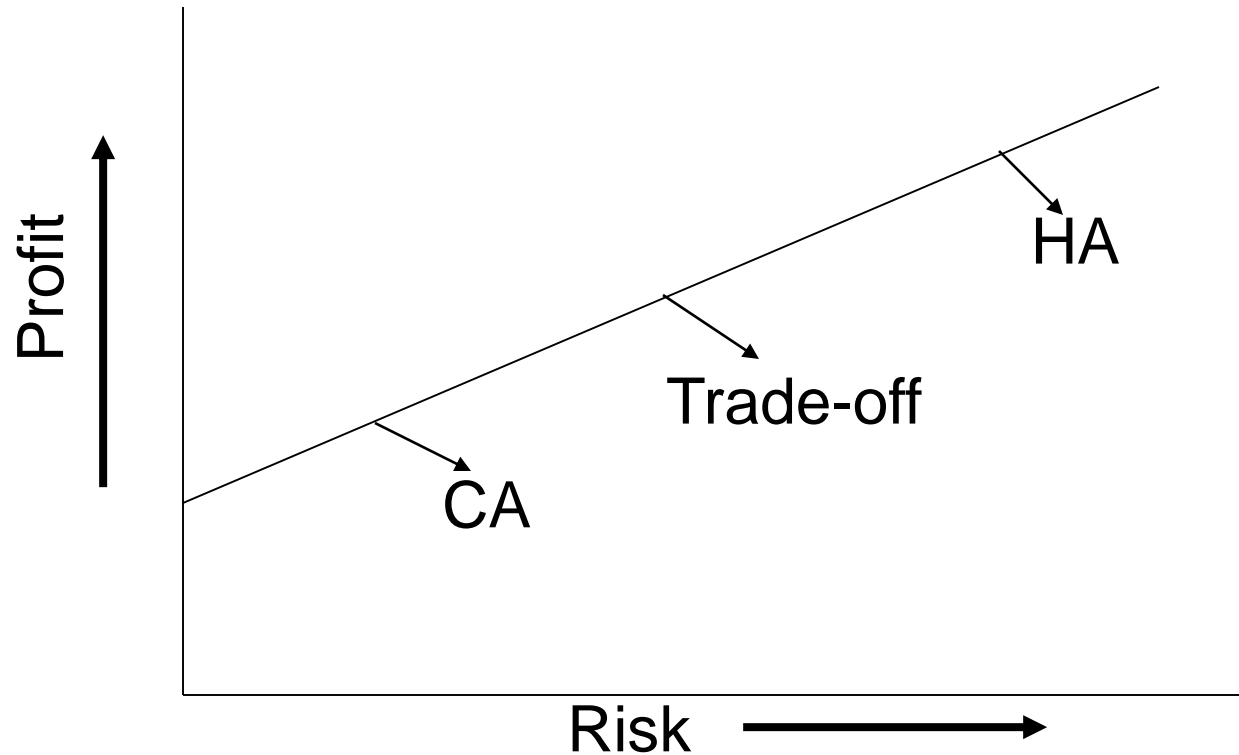
## **Risk-Return Trade-off :**

The discussion regarding the financing pattern of current assets point out a conflict between the short-term and long-term sources of finance.

This conflict arises because of two reasons, i.e., different cost of financing and different risk associated with them.

A finance manager should therefore, strive for a trade-off between the risk and return associated with the financing mix.

Such risk-return trade-off is shown as -

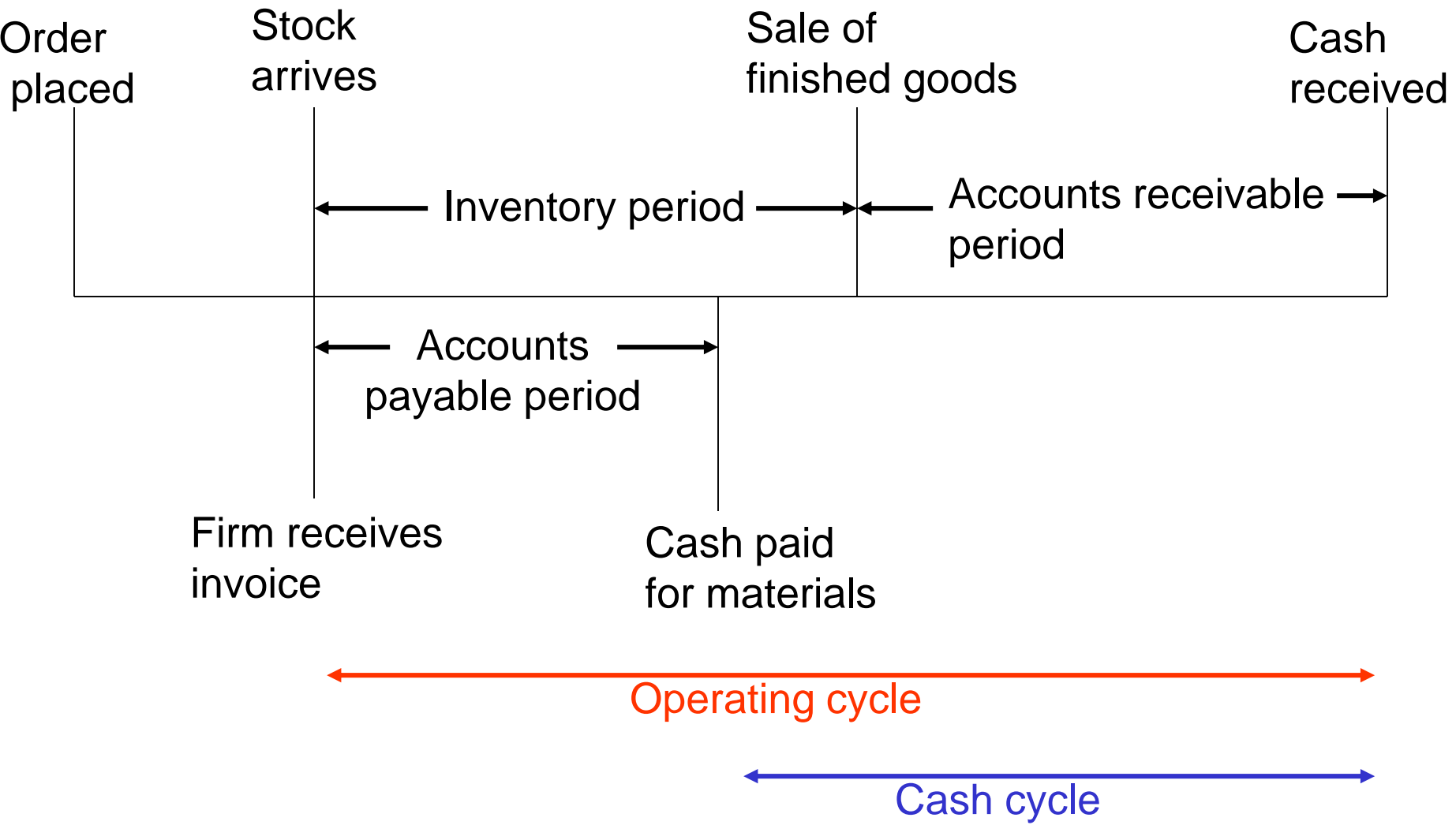


## Operating Cycle and Cash Cycle :

Investment in WC is influenced by four major events in production and sales cycle of the firm. They are :

- purchase of raw materials
- payment for raw materials
- sale of finished goods
- collection of cash for sales

This is shown as -



The time elapses between the purchase of raw materials and the collection for sale is referred to as the *operating cycle*, whereas the time length between the payment for raw material purchases and the collection of cash for sales is referred to as the *cash cycle*.

The operating cycle is the sum of the inventory period and the account receivable period, whereas the cash cycle is equal to the operating cycle less the account payable period.

It is shown as –

$$OC = IP + ARP$$

$$CC = OC - APP$$

From the financial statement of the firm we can calculate different periods, as -

$$\text{Inventory period} = \frac{\text{Average inventory}}{\text{Annual cost of goods sold} / 365}$$

$$\text{Accounts receivable period} = \frac{\text{Average accounts receivable}}{\text{Annual sales} / 365}$$

$$\text{Accounts payable period} = \frac{\text{Average accounts payable}}{\text{Annual cost of goods sold} / 365}$$

To analyse the operating efficiency of the firm, both operating cycle and its individual component is analysed on the basis of either time-series analysis or cross-section analysis.

# Computation of Working Capital (Total Cost / Operating Cycle Approach)

Step1. Estimate different items of CA and CL

Step2. Add cash requirement, if any, in CA

Step3. Deduct CL from CA to get net working capital (NWC)

Step4. Add safety margin, if any, to get required NWC

## Estimation of Current Assets :

### 1. Raw material inventory

$$= \frac{\text{Budgeted Production (in units)}}{12 \text{ months} / 365 \text{ days} / 52 \text{ weeks}} \times \text{Cost of r/m per unit} \times \text{Av inventory holding period (m/d/w)}$$

## 2. Work-in-process inventory

$$\frac{= \text{Budgeted Production (in units)} \times \text{Estimated WIP cost per unit} \times \text{Av inventory holding period (m/d/w)}}{12 \text{ months} / 365 \text{ days} / 52 \text{ weeks}}$$

## 3. Finished goods inventory

$$\frac{= \text{Budgeted Production (in units)} \times \text{Cost of goods produced per unit (excluding Depr)} \times \text{F G holding period (m/d/w)}}{12 \text{ months} / 365 \text{ days} / 52 \text{ weeks}}$$

## 4. Debtors

$$\frac{= \text{Budgeted credit sales (in units)} \times \text{Cost of sales per unit (excluding Depr)} \times \text{Av debt collection period (m/d/w)}}{12 \text{ months} / 365 \text{ days} / 52 \text{ weeks}}$$



## 5. Cash and bank balances

This will be added in current assets.

## Estimation of Current Liabilities :

### 1. Trade creditors

$$= \frac{\text{Budgeted yearly Production (in units)} \times \text{r/m requirement per unit} \times \text{Credit period allowed by creditors (m/d/w)}}{12 \text{ months} / 365 \text{ days} / 52 \text{ weeks}}$$

## 2. Direct wages

$$= \text{Budgeted yearly Production (in units)} \times \text{direct labor cost per unit} \times \text{Av time lag in payment of wages (m/d/w)}$$

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12 months / 365 days / 52 weeks

## 3. Overheads (Other than Depreciation and Amortisation)

$$= \text{Budgeted yearly Production (in units)} \times \text{overhead cost per unit} \times \text{Av time lag in payment of overheads (m/d/w)}$$

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12 months / 365 days / 52 weeks

# Format of Determination of Working Capital :

## (I) Estimation of Current Assets

Amounts

### a) Inventories

Raw materials

Work-in-process

Finished goods

### b) Debtors

### c) Minimum desired cash and bank balances

**Total Current Assets**

## (II) Estimation of Current Liabilities

### a) Creditors

### b) Wages

### c) Overheads

**Total Current Liabilities**

(III) Net Working Capital ( I – II )  
Add margin money

(IV) Required Net Working Capital