9

Working Capital Management

Learning Objectives

- *To know the meaning of working capital*
- *To study various components of working capital*
- *To observe the factors affecting working capital requirements*
- *To realise the importance of adequacy and inadequacy of working capital*
- *To explore the need of working capital management.*

9.1 Introduction

In preceding chapters, we have studied that different aspects of financial management. Starting from managing funds from different long-term sources, to determining the cost of capital and selecting the best one to make investment of funds in most profitable avenues, etc. with objective to maximise the wealth of shareholders. Firms, generally, have two type of capital *viz.,* fixed capital and working capital. Working capital management is a topic of funds allocation as well as assets allocation in an appropriate manner. If finance is blood of the business, then working capital is an organ which propels and generates new blood in the body of the business. A glimpse of Balance Sheet may be referred to understand the position of working capital therein as shown in Table 9.1. Working capital management is concerned with management of firm's current accounts i.e., current assets and current liabilities.

Table 9.1: Glimpse of a Balance Sheet

Capital and Liabilities	Assets
Equity Reserves Long-term Liabilities	Fixed Assets: – Tangible – Intangible Long-term Investments
Current Liabilities	**Current Assets**

Working capital refers to funds and assets used in production of goods or services. The operating cycle of the business has been explained earlier under chapter 4, in figure 4.2. The full process of operating cycle of the business may also be referred as working capital cycle. The lives of these funds are up to either operating cycle or one year which ever is shorter.

9.2 Concepts and Components of Working Capital

Working capital management is the administration of the firm's current assets and current liabilities. There are two concepts involved in working capital:

(i) Gross Working Capital

(ii) Net Working Capital

Gross Working Capital

Gross Working Capital refers to a firm's current assets used in business operations, including cash and marketable securities, inventory, accounts receivable. These assets are always discussed in terms of their turnover into sales. Shorter the period of turnover indicates more rotation of the business operating cycle. It can be understood in another way, the heart of body pumps blood in human body. Pumping of blood in an appropriate and continuous quantity maintain the life. On the other hand, a heart pumping blood at very slow speed may create problem. Similarly, working capital move and make cash from the given resources, an adequate rotation of working capital cycle leads to profit, otherwise may create solvency crises.

Let's have a bird view of components of current assets and current liabilities in a Balance Sheet.

Table 9.2: Glimpse of Current Assets and Current Liabilities

Current Liabilities	Current Assets
Creditors	Debtors
Bills Payable	Bills Receivable
Out-standing expenses	Pre-paid expenses
Bank overdraft	Cash in hand and at Bank
Short-term liabilities	Short-term marketable securities
Provisions for taxation	Inventories
	Accrued incomes

Net Working Capital

Net Working Capital refers to excess amount of current assets over current liabilities. In simple words, net-working capital is current assets *minus* current liabilities. As long as current assets exceeds current liabilities, the firm has net working capital. Underlying the use of net working capital, it is belief that greater the margin of firm's current assets over its short-term obligations, better the ability to pay bills as they come due.

For example, if current assets of a company are ₹540000 and current liabilities are ₹310000, then gross capital will be 540000, and net working capital is ₹230000 (₹540000 – ₹310000).

Deficit Working Capital

Excess of current liabilities over current assets is deficit working capital. The deficit working capital is not a theoretical rather it occurs when a firm is nearly in crisis of some magnitude. This is a situation where the level of current assets is lower as compared to current liabilities. This situation occurs when the realisable value of current assets is significantly less than book value. For example, when the stock appear in books of accounts at higher level but actually realised at a substantially lower level.

The gross working capital is the capital invested in total current assets of the firm with an aim to convert into sales within a short period, normally, of one year. On the other, hand current liabilities are source of cash, which provide funds to current assets, and aimed to be paid back within a shorter time duration, normally, less than a year. The concepts gross working capital, and net working capital, mostly, discussed with reference to each other. At the same point of time, they have their own applications in decision making. It is generally considered that gross working capital is a financial management concept, and net working capital is an accounting concept, both have equal importance in decision making.

The gross working capital indicates the following:

- Total funds required to revolve its business operations than the source from where they are funded.
- The gross working capital provide help in determining the rate of return on investments in working capital.
- The level of gross working capital is a signal for management in two ways. Firstly, in case of shortage of funds, sources may be generated at short-notice, secondly, an excessive working capital is an alarm of slow movement of turnover.
- In manufacturing firms, seasonal industries, bulk items producing industries, fast moving consumable goods industries, gross working capital is a significant part of their total investments.

The net working capital is the qualitative indicator of the business operations, it shows:

- It shows the ability of a firm to pay off current liabilities in short-term period.

- Since it's a qualitative check, thus, a difference between current assets and current liabilities also helps in studying types of assets involved in total current assets. Especially when payments to creditors are not being made, despite having high amount of current assets.
- It is a helping device of every creditor to check the liquidity soundness of the firm before making any contract to deliver goods or services on credit basis.
- It is a signal of short-term solvency of the firm.
- It shows how much funds should be used to funds current assets from long-term sources.
- Net working capital is not an amount of current assets excess over current liabilities, rather it shows that portion of current assets financed with long-term funds.

9.3 Classification of Working Capital

For every firm, it is necessary to classify working capital according to situations under which such firm works. Figure 9.1, shows classification of working capital besides above stated gross and net working capital.

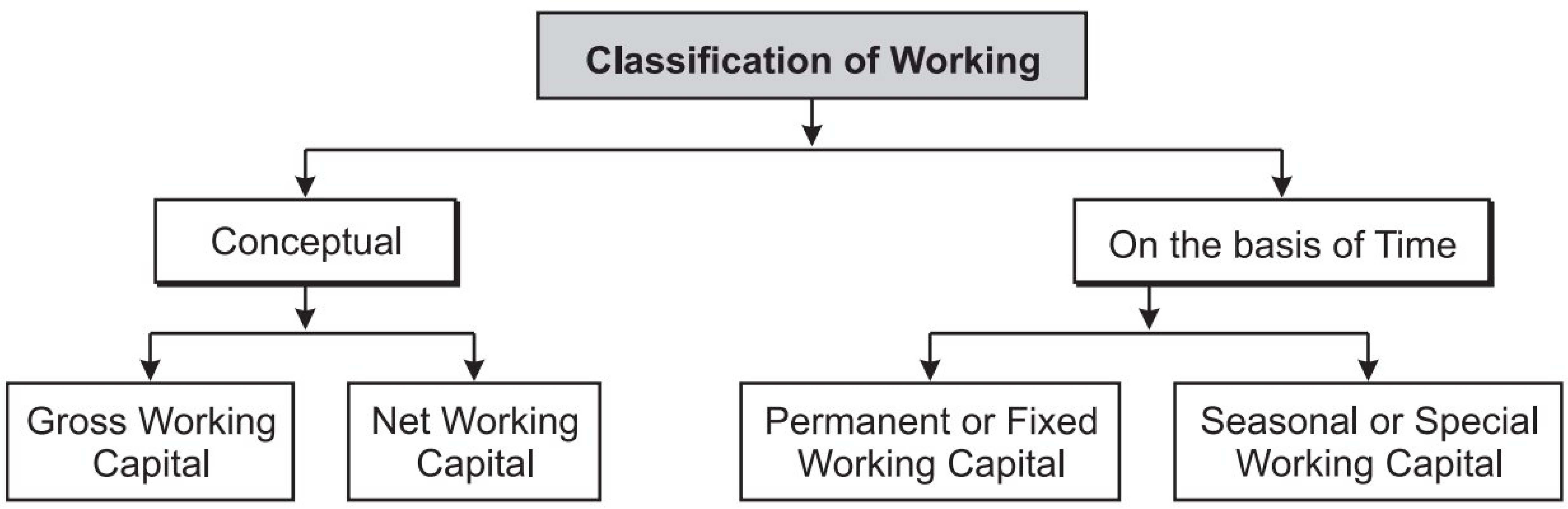

Figure 9.1: Classification of Working Capital

The classification of working capital on the basis of concepts has already been discussed above. The classification on the basis of time involves permanent or fixed working capital, or seasonal or special working capital. The classification of working capital is discussed in following points with relevant examples.

No firm put working capital at the stake of current liabilities. Of course, current liabilities are substantial source of funds to current assets, but a portion of current assets is also funded by long-term sources of funds. This portion generally kept at minimum as working capital always required. For example, in case of firm whose supplier generally takes long-time to make supply of raw material, in such firm they have to maintain an optimum level of stock of raw material in order to put factory in working conditions on continuous basis, this minimum investment is fixed working capital.

On the other hand, in few firms, working capital is kept as reserve for difficult times. It provides extra cushion to production facility to maintain the availability of free flow of funds. In case of permanent or temporary working capital, a portion of working capital is always ensured, however above that point, short-term sources may be used for temporary working capital. Figure 9.2, given below, shows two situations, first [figure 9.2(a)] indicates the fixed working capital over a period of time, and second [figure 9.2(b)], signifying a constant increase in fixed working capital symbolising constant growth in firms gross working capital.

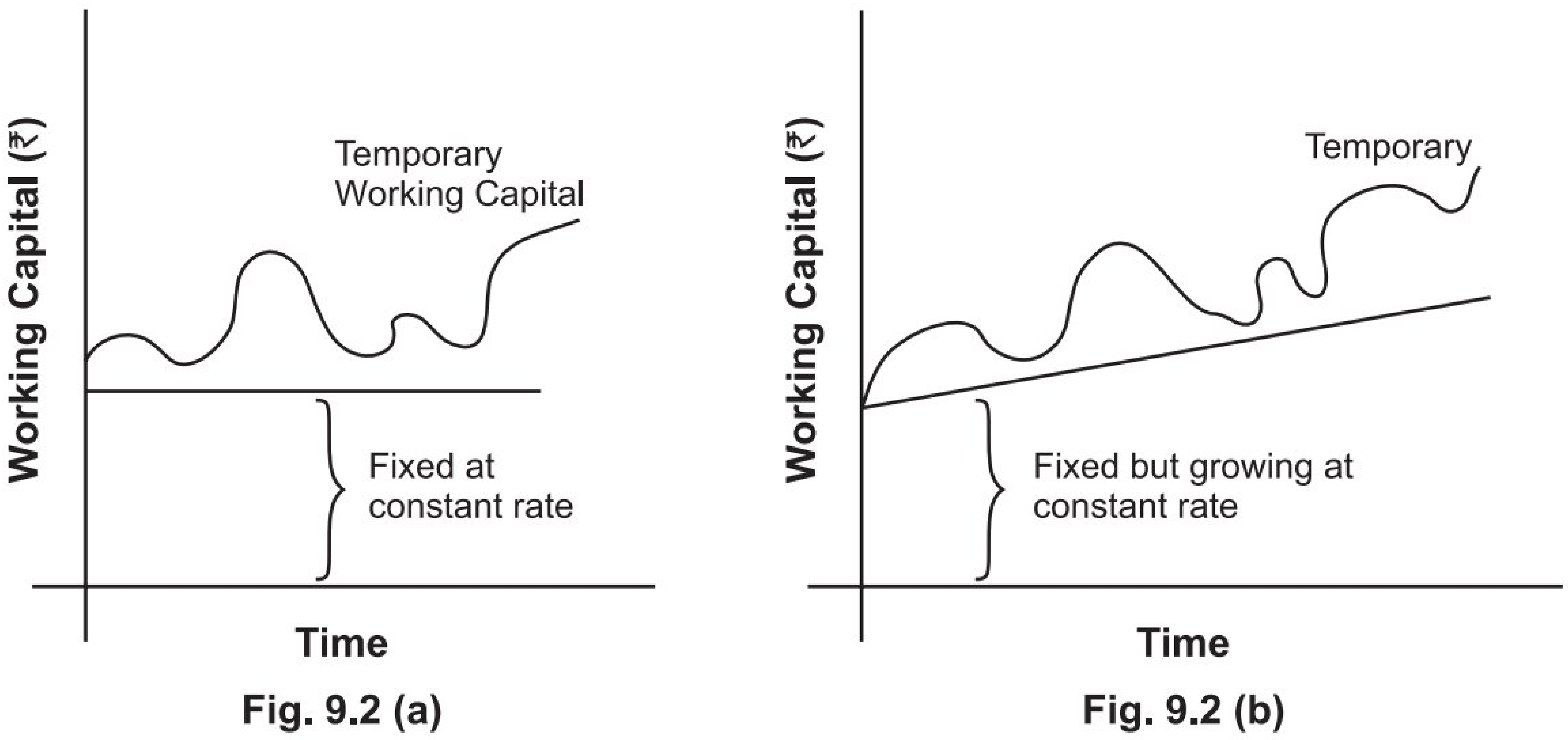

Figure 9.2: Fixed and Temporary Working Capital

In case of seasonal working capital, a firm dealing in seasonal goods, has to purchase raw material in advance so they can manufacture goods during the off-seasons and may sell in boom-seasons. Similarly, some industries are of nature that they have to make extra provision for working capital known as reserve capital due to its nature of production. For example, food beverages are sold across the year, but the availability of raw fruits are according to their seasons, therefore, making extra provision is necessity in such industries.

The most suited classification of working capital resembles with operating cycle approach. It begins with acquisition of raw material and ends on debtors collection. The process has been explained in chapter 4. The major stages of this process are as follows:

1. Raw material and storage
2. Work-in-progress
3. Finished inventory and inventory storage to sale on credit
4. Receivable stage.

Symbolically it is written as:

$$\mathbf{O = R + W + F + D - C}$$

Where,

O = Duration of operating cycle,

R = Raw material period (Average stock of Raw Material/Average Raw Material & storage consumption per day)

W = Work-in-Progress period (Average Work-in-Progress Inventory/Average cost of production per day)

F = Finished goods inventory storage period (Average Finished Stock Inventory/ Average cost of goods sold per day)

D = Receivable Stage,

C = Creditors payment period.

9.4 Working Capital: Importance of Adequacy and Inadequacy

The financial managers need to understand how to develop effective working capital policies to ensure growth, profitability, and long-term success for their firms. The need of effective working capital management arises due to three reasons. First, a major portion of the time of business management is devoted on issues related with working capital e.g., purchase of raw material, production facility, storage, distribution, creditors, etc. Any lack in management of working capital may amount to collapse of total business management as the financial results are ultimately depend upon it. Second, working capital seeks frequent attention due to high frequency of recording of transactions. Third, current liabilities serve as the major source of short-term external financing especially for small companies, creditors payment, and payment period, wages salaries, etc. are the important issues to manage in order to maintain smooth supply of raw material, and stimulate to run factory shop in order, respectively.

Now, the extent of funding to working capital management is another critical issue. Excessive investments in current assets may diminish profitability and lower the firm value. Short-term assets may lower down the firm's profitability, if these are managed in appropriately, and result into increase in opportunity cost. Thus, determining the firm's optimal investment in working capital involves a trade off between liquidity and profitability. In this section we will study the different nooks and corners those are affected by adequacy and inadequacy of working capital.

Importance of Adequacy

1. Adequate working capital ensure the liquidity position of the firm, as well as indicates the short-term solvency position of the firm.
2. A sufficient amount of working capital ensures regular and timely payment to creditors and other short-term lenders which increases the goodwill of the firm.
3. Timely payment to creditors or bankers enables the firm to get regular supply of goods and availability of short-term loans, as it also increases creditworthiness of the firms in the records of banking institutions.
4. Availability of cash and early payments to creditors gives opportunity to a firm to avail cash discounts.
5. Making payment of wages to labour on time is also crucial for turnover of raw material into sales, thus, increase in overall productivity of the firm. It is possible if firm has adequate source of funds.

6. An adequate working capital enables firm to compete with rivals, and to face difficult situations, e.g., an increase in prices of raw material etc.
7. To increase the profitability of a concern, increase in total revenues is must, and to increase revenue, adequate working capital is much needed. Thus adequate working capital contributes in profit making.

Risk of Inadequate Working Capital

The inadequacy of working capital has two dimensions. First, excessive working capital, and second, shortage of working capital. These are discussed below.

(i) Risk of Excessive Working Capital

1. Excessive working capital is a curse for a firm. If among other inventories carry a high amount then it indicates either slow sales turnover of the firm or having obsolete stocks in its inventories.
2. Excessive investment in working capital means keeping funds ideal for a period, at least up to one operations cycle of the business.
3. This also shows, the long-term funds which otherwise could have been used in allocating long-term assets or investments are put on hold, thus carrying an implied cost on the business profitability.
4. This is also an indication of managerial inefficiencies.
5. The immediate effects may account low inventory, high cost of inventory storage, higher bad debt and losses.
6. Excessive use of working capital points out the weak position of debtors-collection, and loose credit policy.
7. Excessive use of working capital symbolizes weak working capital management, lower profitability and results into decline in share price of the firm.

(ii) Risk of Shortfall of Working Capital

A deficit is equally bad as having excessive working capital. The key risks or disadvantageous of lower working capital are as given below.

1. Lower working capital is an indication of decrease in liquidity position of the firm. Hence, shows short-term solvency under risk.
2. Inappropriate policy of working capital management, challenge in production, timely payment to creditors, and overall decline in credit-worthiness are few risks evolved due to deficit in working capital.
3. Due to shortage of funds, firm will be unable to purchase stock on time to avail discount.
4. The rate of return will also fall down due to shortage of working capital.
5. It shows that firm has made huge investments in either long-term assets or investments and left with no funds for working capital management. It leads to loss in fixed assets as well due to shortage of working capital, efficient utilization of fixed assets e.g., machinery, plant etc. is not possible.

6. A firm may lose its reputation and goodwill. Once the creditworthiness comes down takes time to repose the position in market.
7. The morale of employee and labour may decline due to irregular payment of their remunerations due to insufficiency of liquid funds.

From the above it can be observed that the management of working capital is as much important as taking capital budgeting decisions. Though no time value of money is involved in working capital decisions, but it impacts are severe and last for time to come.

9.5 Factors Affecting the Requirements of Working Capital[1]

The working capital requirements is dependent upon various factors, few are controllable by firm, and other are beyond to control. To determine an optimum level of working capital, a financial manager has to go through various factors and shortlist the most applicable to his firm. Though there is not set formula to determine exact requirement of working capital but though industry experience one can learn the importance and magnitude of such factors. Moreover, the impact of these factors is not static, it varies from time to time, situation to situation. The factors mainly affect the size and nature of industry and firm. These factors are also changing from time to time. In general, following factors are affecting the requirement of working capital.

(i) **Nature of Industry:** The main factor which affects the requirement is the nature of the industry i.e. if the industry is of small type there may be less need of cash, investment. On the other hand, if the industry is of large type, the block cash etc. are kept on large basis. Even the goods and raw materials are purchased and supplied on credit basis. Investing huge amount in fixed assets, have the lowest needs for current assets, partly because of the cash nature of their business and partly because of selling services instead of products. Thus, no funds will be tied up in accounts receivables and inventories. On the other hand, trading and financial firms have a very low investment in fixed assets but huge amount to be invested in working capital.

(ii) **Demand of Creditors:** Creditors are the liability of any organization. They have interested in the assets of a company and security of loans. They want their advances should be sufficiently covered. This can only be possible when the assets are greater than its liabilities so that they may easily get money as and when needed and at the time of maturity.

(iii) **Cash Requirements:** Cash is a part of current assets. The company should maintain the minimum cash level. It helps in the smoother functioning of business operation. It should be adequate and properly utilized. It is both the means and end of enterprise. Just as blood, gives life to the human body, in the same way cash gives profit and solvency to the working capital structure of an enterprise.

1 *https://shodhganga.inflibnet.ac.in*

(iv) **General Nature of Business:** The general nature of business is also as important determinant of working capital. Working capital requirements are depend upon general nature and its activity to work. In public utility services, the working capital requirement is relatively slow as the inventories and goods rapidly change into cash. The large concerns that are engaged in production maintenance, a big part of investment consists of working capital. They have to maintain cash, inventory at very large level. Manufacturing organization, however face problems of slow turnover of inventories and receivable and invest large amount in working capital. The industrial concern should have a fairly large amount of working capital though it varies from industry to industry depending on their assets structure.

(v) **Time:** This is also an important factor that affects the requirement of working capital. If the time required in manufacturing goods is more (large), the investment in working capital is also greater and if the time is less than the amount invested in working capital is also less. Moreover, the amount of working capital depends upon inventory turnover and the unit cost of goods that are sold. The greater the cost the larger is amount of working capital.

(vi) **Volume of Sales:** This is the most important factor affecting the requirement of working capital. A firm maintains current assets because they are needed to support the operational activation, which result in sales. The volume of sale and the size of the working capital are directly related to each other. As the volume of sale increases the working capital investment increases and vices versa.

(vii) **Terms of Purchase and Sale:** If the credit terms of purchases are more favourable and those of sales less liberal, less cash is invested in inventory. With more favourable credit terms, working capital requirements can be reduced as the firms do get more time for payment to creditors or suppliers. The credit granting policy of a firm affects the working capital requirement by influencing the size of account receivables.

(viii) **Inventory Turnover**: If it is high, the working capital requirement will be low. If it is low, working capital requirement reduces. Managing working capital is synonymous with controlling inventories. Good inventory management is helpful for the structure of working capital.

(ix) **Receivable Turnover:** It is necessary to have an effective control over receivables. Prompt collection of receivables and good facilities for setting payables result into low working capital requirements obtain maximum sales, keep bad debt losses to minimum. Minimize the cost of investment etc. are the objectives of receivables management.

(x) **Business Cycle:** More working capital is required in the prosperity of business expansion and less working capital required at the time of depression. In the period of prosperity, additional funds are required to invest in plant and machinery to meet the increased demand. The depression phase lead to fall in the level of inventories and book debts and so less working capital is required.

Business fluctuation influences the size of working capital mainly through the effect of inventories.

(xi) Variation in Sales: A seasonal business requires the maximum amount of working capital for a relatively short period of time.

(xii) Production Cycle: The time to convert raw material into finished goods is referred to as the production cycle or operating cycle. The longer the duration, more working capital is required and lesser the duration less working capital is required. So it is an important factor, which affects the working capital requirement more working capital is required to finance the production cycle.

(xiii) Liquidity and Profitability: If firm is interested in maintaining the liquidity and wants to improve the liquidity, more working capital is required. If a firm desires to take a greater risk for bigger gains and losses, it reduces the size of its working capital in relation to its sales. A firm therefore should choose between liquidity and profitability and decides about its working capital requirement accordingly.

(xiv) Profit Planning and Control: Adequate profit assists in generation of cash. It makes it possible for management to plough back a part of earning into the business and substantially build up internal financial resources.

(xv) Activities of the Firms: A firm' policy regarding the sale also depends upon the requirement of working capital. If a firm's sells its goods to customer on credit basis, it requires more working capital as compared to cash sales.

(xvi) Production Policy: There are two options open to the enterprise, either they confine their production only to periods when goods are purchased or they follow a steady production policy throughout the year. In former case, there will be serious production problems. During the slack season, the firm will have to maintain the working force and physical facilities without adequate production or sale. The programme accumulation of stock will naturally require an increasing amount of working capital, which will remain tied up for some months.

(xvii) Turnover of Circulating Capital: Conversion of cash to inventory, inventory to finished goods, finished good to book debts of account receivables, book debt to cash account play an important role in judging the working capital requirement.

(xviii) Inherent Hazards and Contingencies: An enterprise operating an industry subject to wide fluctuation in demand and prices for its products, periodic operating losses or rapidly changing technology, requires additional working capital.

(xix) Repayment Ability: Enterprise repayment ability determines the level of its working capital.

(xx) Availability of Credit: An enterprise which can get credit from bank and suppliers easily on favourable conditions will operate with less working capital than an enterprise with such a facility.

(xxi) Operational and Financial Efficiency: Working capital turnover can only be improved with a better operational and financial efficiency of a firm.

(xxii) Dividend Policy: A shortage of working capital often acts as powerful reason for reducing or shipping a cash dividend.

(xxiii) Value of Current Assets: A decrease in the real value of current assets compared to their book value reduces the size of the working capital. If real value of current assets increases, there will be an increase in working capital.

(xxiv) Price Level Changes: The rise price level will require an enterprise to maintain a higher amount of working capital. The companies, which can immediately reverse their product prices with rising price level, will not face a severe working capital problem.

(xxv) Gestation Period: Certain industries have a long gestation period with a result that a considerable number of years must elapse before production, operation can be carried on profitably. During this period income is insufficient and working capital is greater.

(xxvi) Other Factors:

(i) In addition, absence of coordination in production and distribution policies in a company results in a high demand for working capital.

(ii) The absence of specialization in the distribution of products may enhance the need of working capital.

(iii) If the means of transport and communication in a country like India are not well developed, the industries may face a great demand for working capital by keeping raw materials.

(iv) The import policy of the government may also affect requirement of working capital for the companies as they have to arrange the funds for importing the goods at specified times.

(v) The greater the amount of working capital lowers the amount of risk of liquidity.

9.6 Management of Working Capital

The prime objective of working capital management is to manage both current assets and current liabilities, of a firm, in such a way that an acceptable level of net working capital is maintained. Working capital management is concerned with all decisions and acts that influence the size and effectiveness of the working capital. It aims to determine the appropriate level of current asset and efficient use thereof besides suitable financing mix for raising the current resources.

The management of working capital is essential because if a firm fails to maintain a satisfactory level of working capital, it is likely to become insolvent and may even be forced into bankruptcy. The current assets should be large enough to cover its current liabilities in order to ensure a reasonable margin of safety. Each of the current assets must be managed efficiently in order to maintain liquidity of the firm while not keeping too high level of any one of them. Each of the short-term sources of financing must be managed continuously to ensure that they are obtained and used in the best possible way.

Aspects of Working Capital Management

The key aspects of working capital management are:

(i) Estimation of the working capital vis-à-vis considering the substantial influencing factors into account while making estimation.

(ii) Raising the source for working capital

(iii) Management of individual current assets.

The first part of working capital management, we have studied in above part of this chapter. The second issue pertaining to raising the source of working capital is discussed under four approaches. A firm usually select anyone of them depending upon nature of business and management policy. These approaches are:

1. Matching Approach or Hedging Approach
2. Conservative Approach
3. Aggressive Approach
4. Zero Working Capital Approach

1. Matching or Hedging Approach

Under this approach a portion of long-term sources of finance is used to fund working capital requirement, a growth in business over the time requires additional investment in fixed assets as well as working capital, the additional raised demand is also meet out from long-term sources. The temporary working capital is matched against short-term sources of finance or in other words against current liabilities. Under this approach, the maturity of debtors is matched with creditors due period, so that finance can be raised and paid off at same point of time. This approach has been presented in figure 9.3 below.

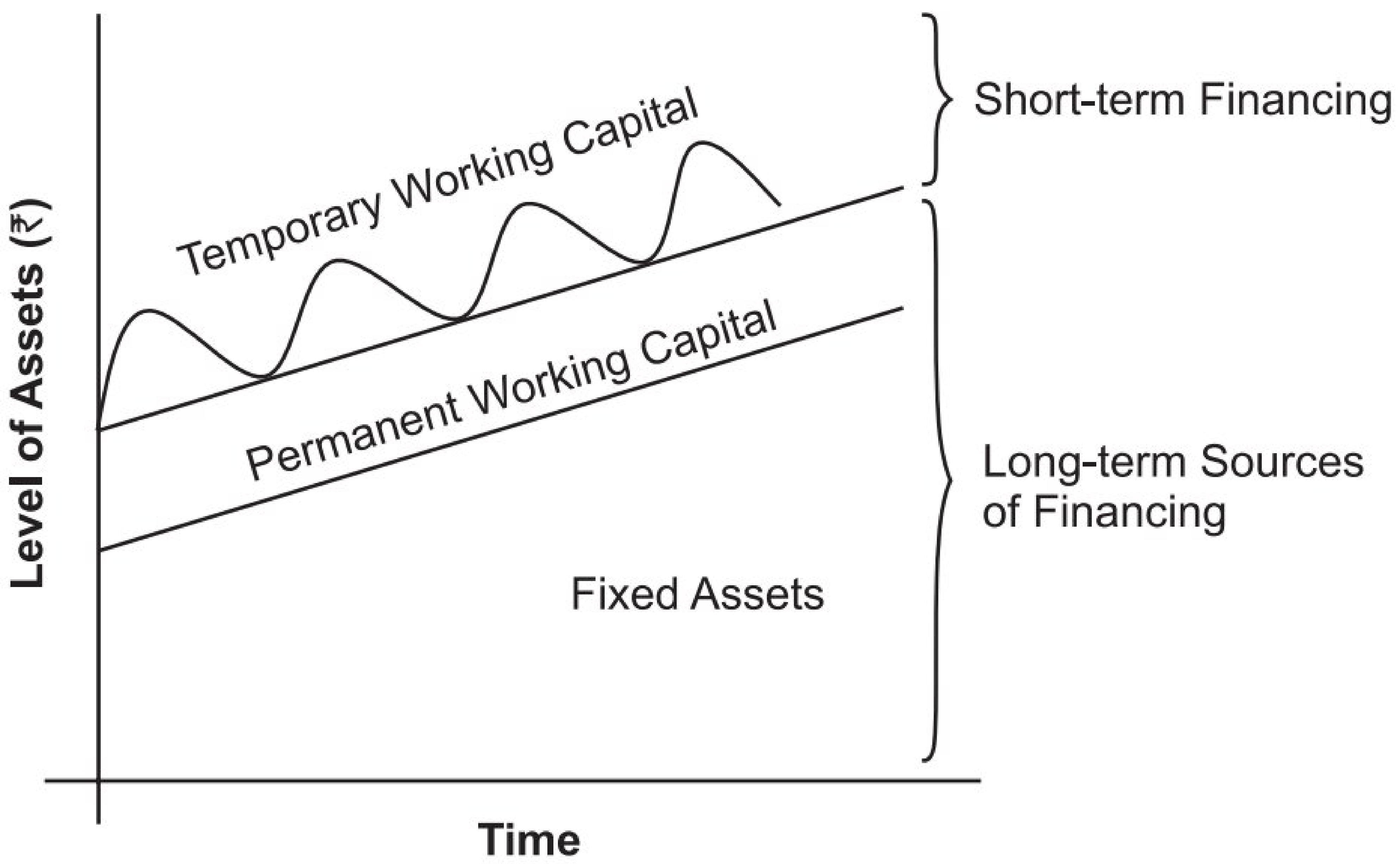

Figure 9.3: Matching Approach

2. Conservative Approach

Under this approach firms behave like risk averse, therefore, a portion o temporary working capital is also financed through long-term funds. This policy is applicable either in case of new firms, or where huge amount of working capital is required or gestations period are long. Figure 9.4 below shows the conservative approach of working capital.

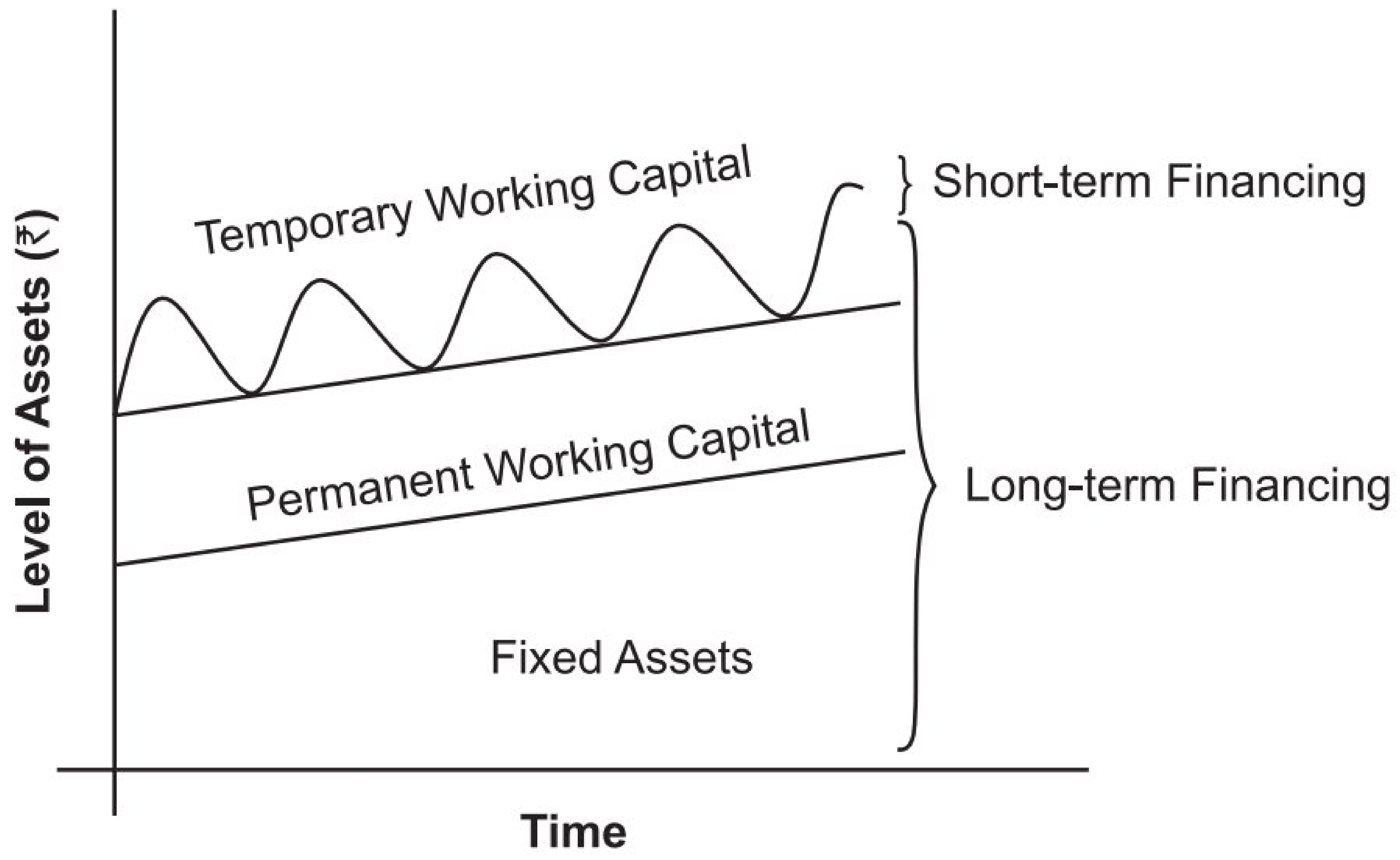

Figure 9.4: Conservative Approach

3. Aggressive Approach

Under this approach firms use short-term source of financing even in permanent working capital. This approach is applicable where the recovery from creditors is quick and fast, especially in case where goods are sold on cash basis only, e.g., a fast-food firm may follow such type of working capital approach, but it does not suit to heavy industries. The combination of permanent capital and temporary capital along with financing pattern has been stated in Figure 9.5 below.

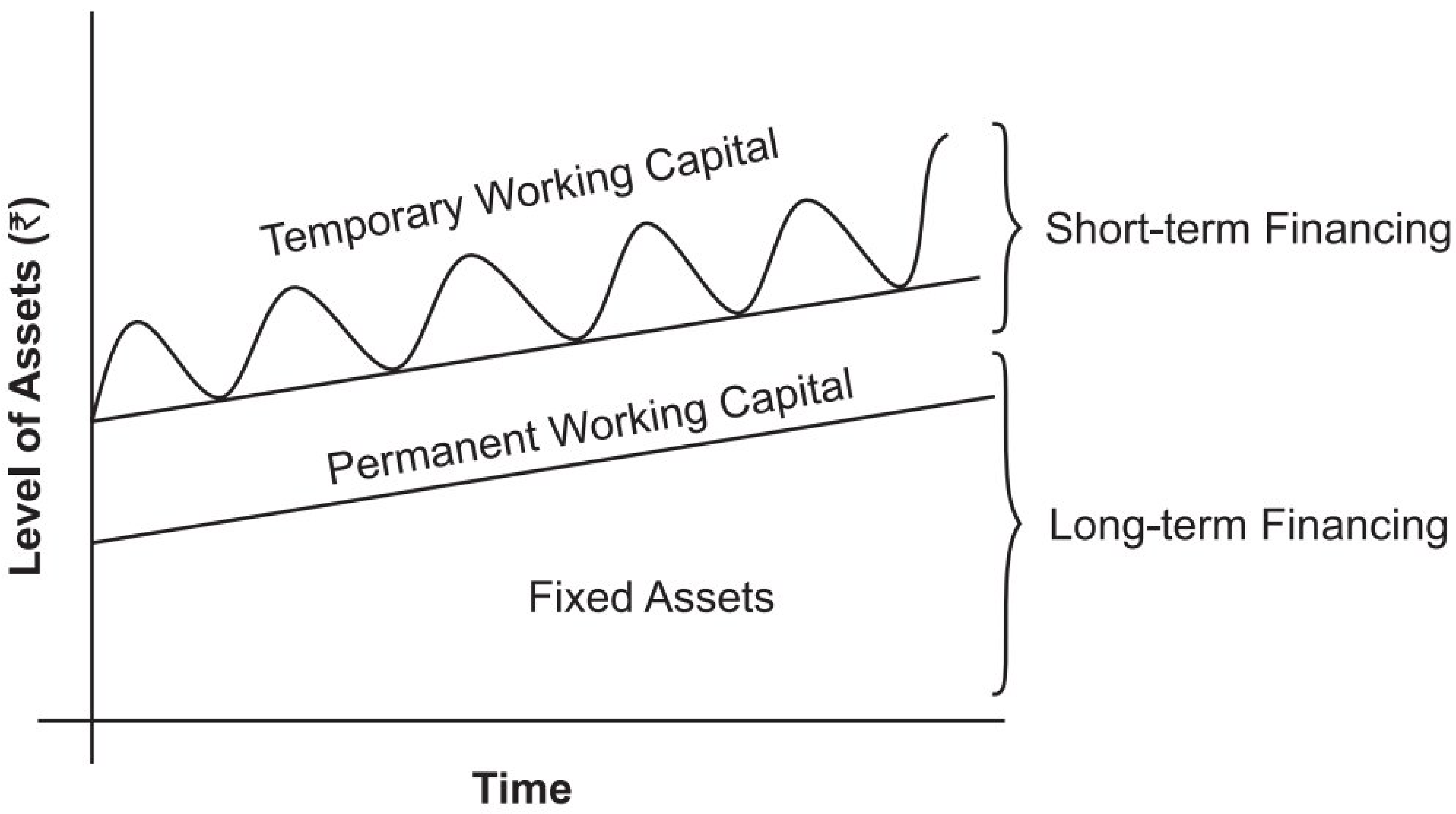

Figure 9.5: Aggressive Approach

4. Zero Working Capital Approach

Under this approach, firms do not finance their working capital from long-term funds, in fact there is no permanent working capital under such cases. The temporary working capital is funded from short-term source of finance. This approach is applicable to service industries, where there is a remote need of working capital, e.g., transportation industry has very less investment in working capital, but huge investment in fixed assets. Their business runs on cash basis, in most of cases. Therefore, no need is raised to funds from long-term sources to fund temporary working capital. This has been shown in Figure 9.6.

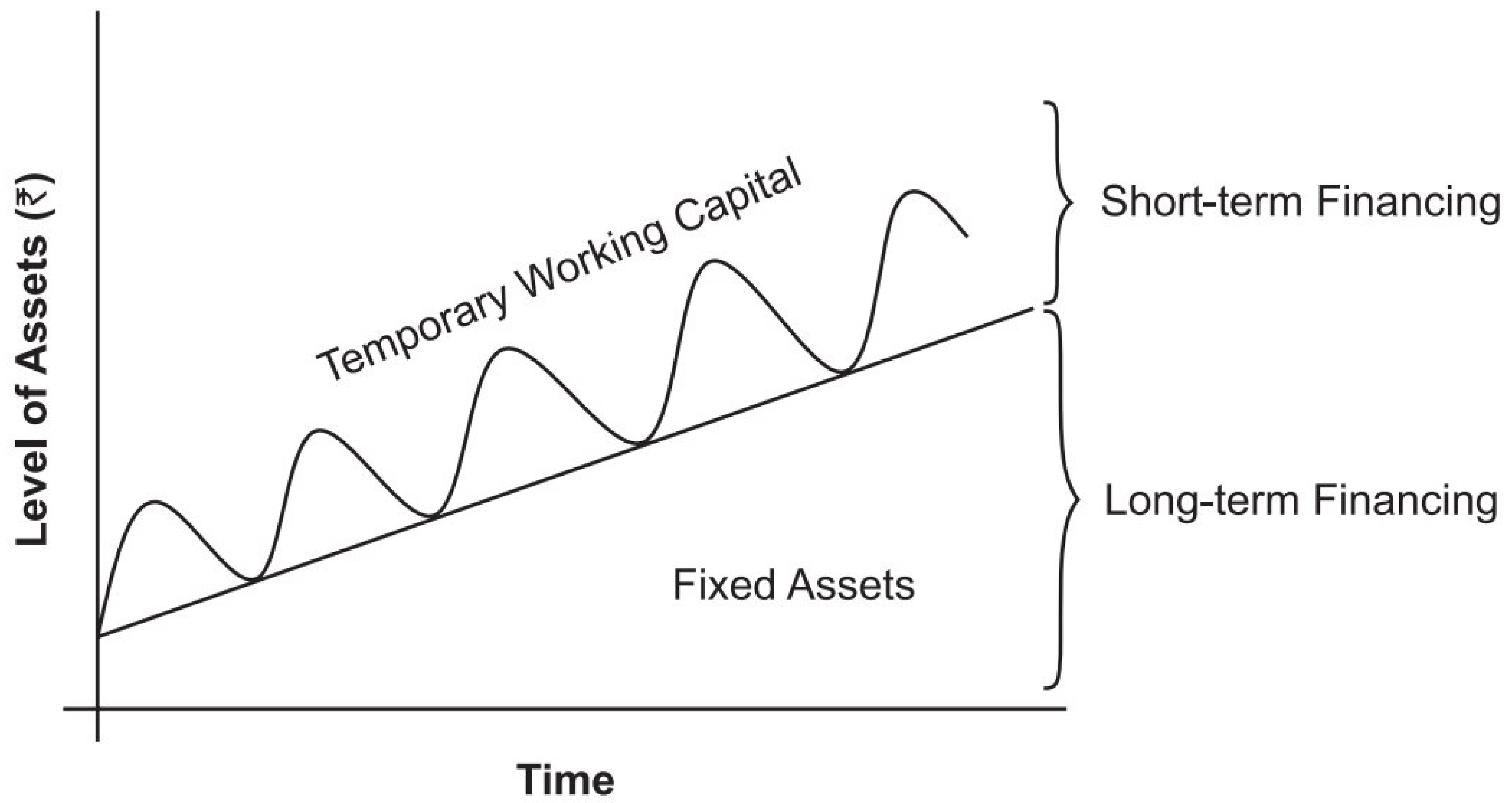

Figure 9.6: Zero Working Capital Approach

From the above discussion, it can be concluded that firms adopt different types of working capital approaches, as shown in figure 9.7, to fund their assets, including fixed as well as current assets.

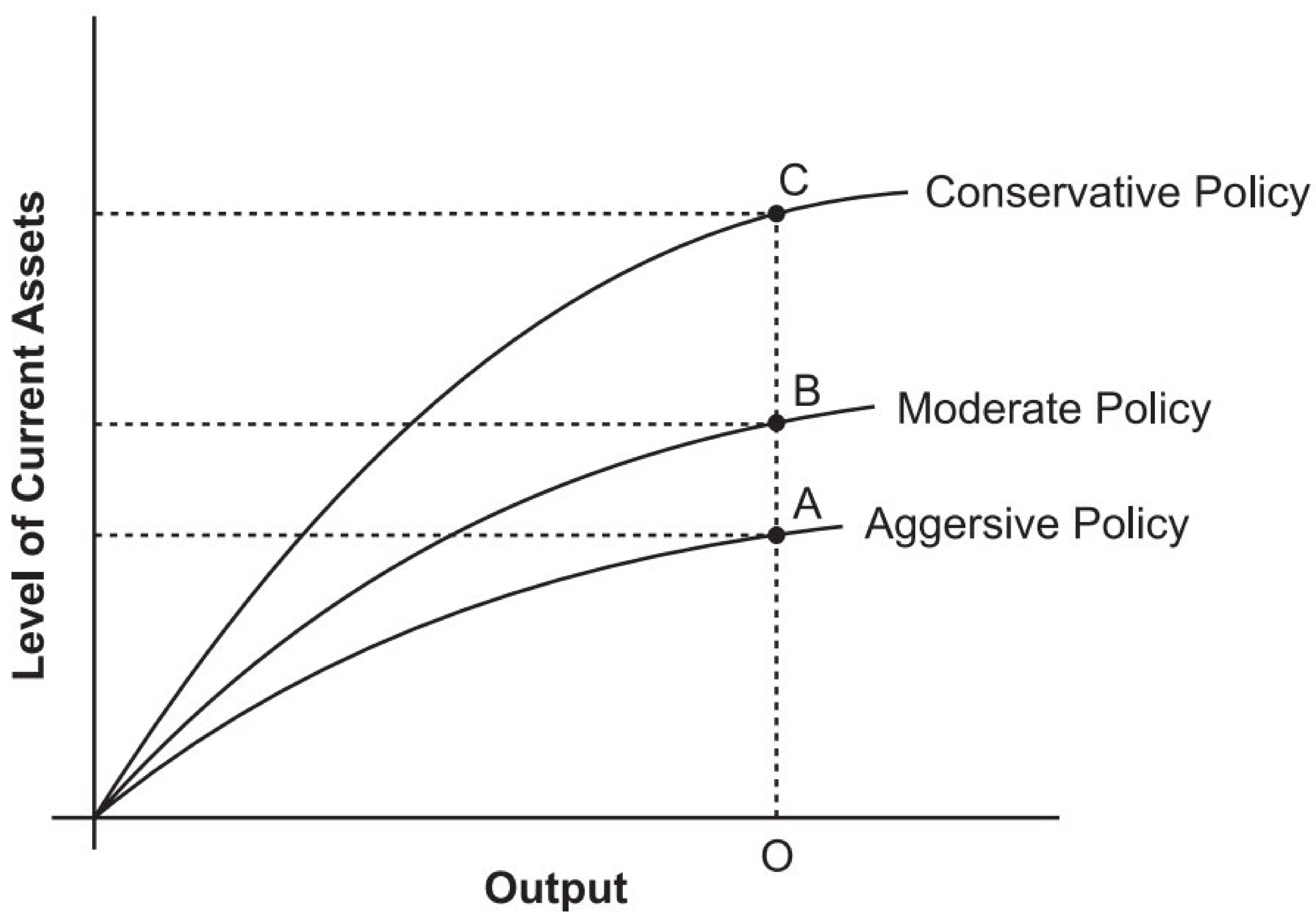

Figure 9.7: Approaches to Working Capital Policy

Under a conservative policy, the level of working capital tends to more, as shown at point C in figure 9.7, at a given level of output. On the other hand, the firms follow aggressive policy has lesser amount of current assets, as shown at point A in figure 9.7, in comparison of moderate and conservative policy. A moderate approach may be said as balanced approach.

The third step of working capital management, involves control of each current assets, e.g., cash management, inventory management, bills receivable, debtors' management. We have already discussed some ratios in respect of inventory and debtors, e.g., inventory turnover ratio, debtor's turnover ratio and collection period etc. Inventory, and cash management further includes various topics e.g., economic order quantity, store ledger, cash budget etc. These are not discussed here due to limited syllabi requirement.

Review Questions

1. Explain the importance of working capital in terms of liquidity and short-term solvency position of a firm.
2. What do you understand from working capital? What are its different forms?
3. 'Net working capital is much useful in taking decisions', do you agree with the statement? Comment and justify.
4. "Working capital is two-edged sword, its excessive and deficit availability are equally bad". Comment and justify your answer with appropriate examples.
5. What are the different factors affecting the requirements of working capital? Enumerate.
6. Illustrate the importance of working capital for a new manufacturing firm.
7. How are net working capital, liquidity, technical insolvency and risk related?
8. Briefly explain the essentials of sound working capital management.
9. Describe working capital management, and explain different approaches to finance working capital requirements.
10. List down the type of industries those, according to your understanding, follow working capital approaches: (i) conservative, (ii) aggressive, (iii) zero working capital approach.

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