
UNIT 3 DETERMINATION OF WORKING CAPITAL

Objectives

The objectives of this unit are to:

- Provide a framework for assessing the working capital requirements of a firm.
- Explain the concept of operating cycle and its utility in the determination of working capital requirements.
- Examine the theoretical basis for the determination of Working Capital needs.
- Highlight the recommendations of Tandon committee.
- Discuss the present policy of the commercial banks in determining working capital requirements of their borrowers.

Structure

- 3.1 Introduction
- 3.2 Determination of Working Capital Needs: Different Approaches
- 3.3 Factors Influencing Determination
- 3.4 Tandon Committee Norms
- 3.5 Present Policy of Banks
- 3.6 Summary
- 3.7 Key Words
- 3.8 Self-Assessment Questions
- 3.9 Further Readings

3.1 INTRODUCTION

In the previous unit, we have learnt about the crucial issues affecting the working capital decisions. A survey of the policy aspects pertaining to monetary and credit policies has been attempted. These developments are considered to affect the quantum and availability of working capital in the country. More particularly, the recent changes in the economic liberalization of the country are expected to produce a tremendous impact on the working of Indian industries.

Indian Industries today have value maximization as the major objective & to achieve it one should be capable of estimating the requirements precisely. Both excessive and inadequate investment in working capital items may lead to unnecessary strain on the objective function. Therefore, the finance manager has to examine all the factors that determine the working capital requirements within the theoretical and practical points of view. For, the theoretical considerations sometimes dominate the methodology of assessment; while the firms are constrained to follow the restrictions imposed by the borrowers. The finance manager, therefore, should consider all the factors that have a bearing on the working capital including cash, receivables and inventories. Though certain models are developed to determine the optimum investment in each of the working capital items, an aggregate approach is yet to be formulated. In the mean time, firms are basing their computations on the concept of operating cycle. These and other related issues are discussed in detail in this unit.

3.2 DETERMINATION OF WORKING CAPITAL NEEDS : DIFFERENT APPROACHES

The question that what is the adequate amount of working capital required to run a business, is attempted to be answered in several ways. Theoreticians, by their natural inclination to construct models, have based their analogy on certain foundations and constructed models to estimate the optimum investment in working capital. Whereas, lenders such as banks, financial institutions have based their decisions on production schedules and industry practices. In between, a new point of view was developed calling for the adoption of a strategic approach to the decision-making. Let us now discuss these theoretical issues to further our understanding of the subject matter.

3.2.1 Industry Norm Approach

This approach is based on the premise that every company is guided by the industry practice. If a majority of the units constituting a particular industry adopt a type of practice, other units may also follow suit. This may finally, turn out to be an industry practice. This practice decides the normal level of investment in different current asset items. As a matter of fact, optimum level of investment in receivables is to a great extent influenced by the industry practices. If majority of the firms of a particular industry have been granting say three months credit to a customer, others will have no other way except to follow the majority; due to the fear of losing customers. Though there is no basis for such a type of fear in fixing norms for other items of current assets, units generally prefer to follow majority.

- a) However, the problems in following this type of an approach are obvious: The classification of units into a particular industry is not that easy. Firms may not be susceptible for such a neat classification; when the units are multi-product firms.
- b) Deciding an average to represent a particular industry is highly difficult. The norms, thus, developed can be less of a reality and more of a myth.
- c) Averages have no meaning to many firms, since the nature of firms differ.
- d) Industry norm approach may result in imitative behaviour resulting in damage to innovation.
- e) This approach may also promote 'hard mentality', thus limiting the scope for excellence. For example, if X unit is able to maintain its production schedule with only one month requirement of raw material, while the industry norm being 2 months, there is no wisdom as to why X should also keep 2 months.

For the above reasons, industry norm approach is not suggested by many as a benchmark for making investment in current assets. Nevertheless, this has been a practice followed by many as a tradition, even the Tandon Committee has developed norms for maintenance of current assets on industry basis.

3.2.2 Economic Modelling Approach

Model building, of late, has become a crucial exercise in many disciplines. Theoreticians are making efforts to be as much precise as possible. Widespread use of quantitative techniques has helped theoreticians to develop a framework to test their hypotheses. Models attempt to suggest an optimum solution to a given problem. As in the case of many disciplines, in the area of finance also model building has been attempted. As far as working capital is concerned, optimum investment in inventory is sought to be decided with the help of EOQ model.

This has turned out to be an important concept in the purchase of raw materials and in the storage of finished goods and in-transit inventories.

EOQ is given by a simple equation:

$$Q^* = \frac{\sqrt{2SO}}{C}$$

Where Q^* = Optimum order quantity

S = Annual usage of material

O = Ordering costs per order

C = Carrying costs per unit

William J. Baumol has attempted to apply this inventory model to the determination of optimum cash balances that can be held by an enterprise. The transactions demand for money is sought to be analysed from this point of view. As per the model, the optimum level of cash is decided by the carrying cost of holding cash and the cost of transferring marketable securities to cash and vice-versa.

His equation is as follows:

$$C^* = \frac{\sqrt{2bT}}{i}$$

C^* = Optimum cash balance

b = Transaction costs per transaction

T = Total demand for cash

i = Interest rate

Similarly, the decision to sell to a particular account should be based objectively upon the application of profit maximising model. In this regard, Robert M. Soldofsky developed a model for Accounts receivable management. He has laid down the following formula for making a credit decision, leading to optimum investment in receivables.

$$\text{Sell, when } M - (b + Ti + c/o) \geq 0$$

where M = Profit Margin

b = Probability of a credit sale becoming a bad debt

i = Interest rate

c = Costs per order of selling on credit as an implicit function of risk,

o = Order size

T = Time period

Though models are available to decide optimum investment in case of some important components of working capital, for many other items, no such modeling is attempted; nor is there an attempt at the aggregate level. Moreover, these models are subject to certain assumptions and conditions. Their utility comes under scrutiny for want of these assumptions turning out to be far from reality. For this and several other reasons, economic modelling is not much popular with Indian companies.

3.2.3 Strategic Choice Approach

Unlike industry norm approach and economic modelling approach, this is not a standard method which suggests certain benchmarks to work with. The earlier

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methods suggest the use of certain yardsticks or guidelines, irrespective of the differences in size of the business units, nature of industry, business structure or competition. For example, optimum investment in inventory can be had by applying the equation and it is almost universal for every business unit. Similarly, industry norm approach suggests the same yardstick for every unit constituting that industry, in spite of variations in the size, nature of business, terms of sale and purchase, and competition.

In contrast, the strategic choice approach recognises the variations in business practice and advocates the use of 'strategy' in taking working capital decisions. The spirit behind this approach is to prepare the unit to face challenges of competition and take a strategic position in the market place. The emphasis is on the strategic behaviour of the business unit. The firm is independent in choosing its own course of action; not necessarily guided by the rules of the industry. This makes it obligatory on the part of the firm to set its own targets for achievement in the area of working capital. For instance, if the firm has set an objective like increasing market share from the present level of 20 percent to 40 percent, it can think of devising a suitable credit policy. Such a policy may involve variations in the terms followed at present such as extending the credit period, enhancing the credit limit or increasing the percentage of cash discount, etc.

Thus, the strategic choice approach presupposes a highly competitive environment and the willingness of the management to take risks. The success of the approach also depends on the ability of the management to set realistic goals and prepare suitable strategy to achieve them. Any wrong planning will lead the firm into trouble; much worse than what it was when either of the earlier methods were being followed.

Activity 3.1

1. Giving reasons indicate the approach suitable for determining optimum inventory.
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2. Mention 2/3 points about relevance of strategic choice approach in practical business decision making.
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3.3 FACTORS INFLUENCING DETERMINATION

The working capital requirements of a firm depend on a number of factors. It is a common proposition that the size of working capital is a function of sales. Sales alone will not determine the size of the working capital, but instead it is constantly affected by the criss-crossing economic currents flowing in a business. The nature of the firm's activities, the industrial health of the country, the

availability of materials, the ease or tightness of the money market, are all parts of these shifting forces. Of them, the influence of operating cycle is considered paramount.

3.3.1 Operating Cycle

Since working capital is represented by the sum of current assets, the investment in the same is determined by the level of each current asset item. To a large extent, the investment in current asset items is decided by the 'Operating Cycle' (OC) of the enterprise. The concept of operating cycle is very significant for computation of working capital requirements. The size of investment in each component of working capital is decided by the length of O.C.

The term operating cycle can be understood to represent the length of time required for the completion of each of the stages of operation involved in respect of working capital items. This helps portray different stages of manufacturing activity in its various manifestations, such as peaks and troughs, along with the required supporting level of investment at each stage in working capital. The sum of these stage-wise investments is the total amount of working capital required to support the manufacturing activity at different stages of the cycle. The four important stages of that can be identified as:

- 1) Raw materials and stores inventory stage
- 2) Work-in-progress stage
- 3) Finished goods inventory stage
- 4) Book Debts stage

The following is the formula used to arrive at the OC period in an enterprise.

't' = (r-c) + w + f + b, where

't' = stands for the total period of the operating cycle in number of days;

'r' = the number of days of raw materials and stores consumption requirements held in raw materials and stores inventory;

'c' = the number of days purchases, included in trade creditors;

'w' = the number of days of cost of production held in work-in-progress;

'f' = the number of days cost of sales included in finished goods; and

'b' = the number of days sales in book debts.

The computations involved are:

$$r = \frac{\text{Average inventory of raw materials and stores}}{\text{Average materials and stores consumption per day}}$$

$$c = \frac{\text{Average trade creditors}}{\text{Average purchase per day}}$$

$$w = \frac{\text{Average work in progress}}{\text{Average cost of production per day}}$$

$$f = \frac{\text{Average inventory of finished goods}}{\text{Average cost of sales per day}}$$

$$b = \frac{\text{Average book debts}}{\text{Average sales per day}}$$

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The average inventory or book debts level can be arrived at by finding the mean between the relevant opening and closing balances for the year. The average consumption or output or cost of sales or sales per day can be obtained by dividing the respective annual figures by 365.

The first comprehensive and coherent exposition of the OC concept seems to be that of Park and Gladson. They attempted to establish how current assets and liabilities were — the two determinants of working capital. This search led them to the conclusion that the prevailing one-year temporal standard applied in classifying assets or liabilities as current' was not universally valid. What was current or non current depended on the nature of the core business activity. Thus, for a fruit processing business two to three months would be the correct criterion of currentness. For lumbering or wine-making business, however, a period of longer than one year would be the standard. Between such extremes, the currentness of period for each business would be a function of the nature of its basic activity as dictated by the technological requirements and trading conventions.

Instead they used the term 'natural business year' within which an activity cycle is completed. Later, the accounting principles board of the American Institute of the Certified Public Accountants while defining working capital used this concept.

3.3.2 Determination of Working Capital Using O.C.

Now, we may attempt to determine the amount of working capital required for a firm using the above concept.

Illustration 3.1

ABC company plans to achieve annual sales of 1,00,000 units for the year 2005. The following is the cost structure of the company as per the previous figures.

Materials	..	50%
Labour	..	20%
Overheads	..	10%

The following further particulars are available from the records of the company.

- 1) Raw materials are expected to remain in stores for an average period of one month before issue to production.
- 2) Finished goods are to stay in the warehouse for two months on an average before being sold and sent to customers.
- 3) Each unit of production will be in process for one month on the average.
- 4) Credit allowed by the suppliers of raw material is one month from the date of delivery of materials.
- 5) Debtors are allowed credit for two months from the date of sale of goods.
- 6) Selling price per unit is Rs.9 per unit.
- 7) Production and sales follow a consistent pattern and there are no wide fluctuations.

Determine the quantum of working capital required to finance the activity level of 1,00,000 units for the year 2005.

SOLUTION:**STATEMENT OF WORKING CAPITAL REQUIRED****Current Assets:**

	Amount (Rs.)
1. Raw Material Inventory (1 month) $(1,00,000 \times 9 \times \frac{1}{12} \times \frac{50}{100})$	= 37,500
2. Work-in-progress Inventory (1 month) $(1,00,000 \times 9 \times \frac{1}{12} \times \frac{80}{100})$	= 60,000
3. Finished goods Inventory (2 months) $(1,00,000 \times 9 \times \frac{2}{12} \times \frac{80}{100})$	= 1,20,000
4. Debtors (2 months) $(1,00,000 \times 9 \times \frac{2}{12} \times \frac{100}{100})$	= 1,50,000
	3,67,500

Less: Current Liabilities:

1. Creditors (1 month) $(1,00,000 \times 9 \times \frac{1}{12} \times \frac{50}{100})$	= 37,500
Working capital required	= 3,30,000

- Notes:**
- 1) Raw material inventory is expressed in raw material consumption.
 - 2) Work-in-progress inventory is expressed in cost of production (COP) where, COP is deemed to include materials, labour and overheads.
 - 3) Finished goods inventory is supposed to have been expressed in terms of cost of sales. Since separate details are not given, the figures are worked out on COP.
 - 4) Debtors are expressed in terms of total sales value.
 - 5) Creditors are expressed in terms of raw material consumption, since separate figures are not available for purchases.

Illustration 3.2

A company plans to achieve annual sales of Rs.1,00,000. What would be its working capital requirements under the following conditions:

- 1) The average period during which raw materials are kept in stock before being issued to factory - 2 months.
- 2) The length of the production cycle i.e., the period from the date of receipt of raw materials by factory to the date of completion of goods - or say stock-in-process - 1/2 month.
- 3) Average period during which finished goods are stocked pending sale- 1 month.
- 4) The period of credit allowed to customers - 1 month.
- 5) The period of credit granted by suppliers of raw materials - 1 month.
- 6) The analysis of cost as a percentage of sales:

Raw materials..	..	..	..	45%
Manufacturing expenses including wages & depreciation				30%
Overheads (Excluding depreciation)	..	..		10%
Net Profit	..	..	..	15%
Total			..	100%
- 7) Cash available in business to meet urgent requirements is Rs.5,000.

SOLUTION:

Current Assets:

	Amount (Rs.)
1. Raw material inventory (2 months) $(1,00,000 \times \frac{45}{100} \times \frac{2}{12})$	= 7,500.00
2. Work-in-progress inventory $(\frac{1}{2} \text{ month}) (1,00,000 \times \frac{75}{100} \times \frac{1}{24})$	= 3,125.00
3. Finished goods Inventory (1 month) $(1,00,000 \times \frac{85}{100} \times \frac{1}{12})$	= 7,083.33
4) Receivables (1 month) $(100,000 \times \frac{100}{100} \times \frac{1}{12})$	= 8,333.33
	26,041.66
5) Cash available in the firm	= 5,000.00
	31,041.66
Less: Current Liabilities:	
1. Creditors (1 month) $(1,00,000 \times \frac{45}{100} \times \frac{1}{12})$	= 3,750.00
Working capital required	27,291.66

Notes: (1) Workings are made as per assumptions given in Illustration- 3.1 excepting that the finished goods inventory is expressed in terms of cost of sales, which is considered to be inclusive of raw materials, manufacturing expenses and overheads.

3.3.2 Other Factors

In addition to the influence of operating cycle, there are a variety of factors that influence the determination of working capital. A brief explanation of the same is provided hereunder:

Nature of Business

A company's working capital requirements are directly related to the type of business operations. In some industries like public utility services the consumers are generally asked to make payments in advance and the money thus received is used for meeting the requirements of current assets. Such industries can carry on their business with comparatively less working capital. On the contrary, industries like cotton, jute etc. may have to purchase raw materials for the whole of the year only during the harvesting season, which obviously increases the working capital needs in that period.

Management's Attitude Towards Risk

Management's attitude towards risk also influences the size of working capital in an undertaking. It is, of course, difficult to give a very precise and determinable meaning to the management's attitude towards risk, but as suggested by Walker, the following principles involving risk may serve as the basis of policy formulation:

- i) If working capital is varied relative to sales the amount of risk that firm assumes also varies and the opportunity for gain or loss is increased;
- ii) Capital should be invested in each component of working capital as long as the equity position of the firm increases;
- iii) The type of capital used to finance working capital directly affects the amount of risk that a firm assumes as well as the opportunity for gain or loss and cost of capital; and

- iv) The greater the disparity between the maturities of a firm's short-term debt instruments and flow of internally generated funds, the greater the risk and vice-versa.

Briefly, these principles imply that the policies governing the size of the working capital are determined by the amount of risk, which the management is prepared to undertake.

Growth and Expansion of Business

It is logical to expect that larger amounts of working capital are needed to support the increasing operations of a business concern. But, there is no simple formula to establish the link between growth in the company's volume of business and the growth of working capital. The critical fact is that the need for increased working capital funds does not follow the growth in business activity but precedes it. *Ceteris paribus*, growth industries require more working capital than those that are static.

Product Policies

Depending upon the kind of items manufactured by adjusting its production schedules a company may be able to off-set the effects of seasonal fluctuations upon working capital. The choice rests between varying output in order to adjust inventories to seasonal requirements and maintaining a steady rate of production and permitting stocks of inventories to build up during off-season period. In the first instance, inventories are kept to minimum levels; in the second, the uniform manufacturing rate avoids high fluctuations of production schedules but enlarged inventory stocks create special risks and costs.

Position of the Business Cycle

Besides the nature of business, manufacturing process and production policies, cyclical and seasonal changes also influence the size and behaviour of working capital. During the upswing of the cycle and the busy season of the enterprise, there will be a need for a larger amount of working capital to cover the lag between increased need and the receipts. The cyclical and seasonal changes mainly influence the size of the working capital through the inventory stock. As regards the behaviour of inventory during the business cycles, there is no unanimity of opinion among economists. A few say that inventory moves in conformity with business activity. While others hold the view that business activity depends upon the behaviour of the inventory of finished goods which is determined by the credit mechanism and short-term rate of interest. Whatever be the view points, the fact remains that the cyclical changes do influence the size of the working capital.

Terms of Purchase and Sale

The magnitude of the working capital of a business is also affected by the terms of purchase and sale. If, for instance, an undertaking purchases its materials on credit basis and sells its finished goods on cash basis, it requires less working capital over an undertaking which is following the other way of purchasing on cash basis, and selling on credit basis. It all depends on the management's discretion to set credit terms in consideration with the prevailing market conditions and industry practices.

Miscellaneous

Apart from the above mentioned factors some others like the operating efficiency, profit levels, management's policies towards dividends, depreciation and other reserves, price level changes, shifts in demand for products competitive

conditions, vagaries in supply of raw materials, import policy of the government, hazards and contingencies in the nature of business, etc., also determine the amount of working capital required by an undertaking.

Activity 3.2

1. Highlight few important factors on which the working capital requirement of your organisation depends.

2. Give your views on the method of assessment being used in your organisation for working capital determination

3.4 TANDON COMMITTEE NORMS

Since mid-sixties, the issue of financing working capital has been engaging the attention of industry and the policy makers. The measures taken by the Reserve Bank of India included the introduction of Credit Authorisation Scheme in November 1965, Constitution of the Dahejia Committee in October 1968, Tandon Committee in July 1974 and the Chore Committee in March 1979. Over the years, attempt has been made to streamline the flow of credit from the banking sector to the industry. The link between financing of working capital and the recommendations of various committees is that the latter tried to make out a case for fixing norms for the maintenance of various current assets; thus leading to the determination of optimum working capital.

In this regard, Tandon Committee, for the first time, made an attempt to prescribe norms for holding diverse current asset items. The committee wanted the commercial banks to quantify the desirable level of net working capital and the maximum permissible lending by the banks. In its approach to the methods of lending, the Committee sought to identify the ‘Reasonable level of current assets’ as the basis of its calculation of different methods. In other words, the total of current assets is based on the norms suggested by them rather than the actual current assets held by the undertakings. For this purpose, the Committee suggested norms for carrying raw materials, work-in-progress, finished goods, and receivables in respect of 15 major industries. The norms for the four kinds of assets are related in the following manner:

<i>Type of Asset</i>	<i>Relation to</i>
1. Raw Materials	Month’s consumption of raw materials
2. Work-in-progress	Month’s cost of production
3. Finished goods	Month’s cost of sales
4. Receivables	Month’s sales

The norms represent the maximum levels of inventories and receivables in each type of industry. It is further laid down that, if the holding of any kind of asset is higher than the level fixed by the relative norms, the surplus would be treated ‘excess’ holding to be shed off, failing which an amount equal to the value thereof would be treated as excess borrowing and a levy of penal rate of interest is suggested on such excess borrowing. Again, it is not permitted to set off such excess against any shortfall in the holding of other current assets, as the norms represent the maximum permissible levels of holdings. The list of fifteen industries

included cotton textiles, synthetic textiles, jute, pharmaceuticals, rubber, fertilisers, vanaspati, paper and engineering. This system of lending continued with little variations almost upto the beginning of the present decade. But there is no change in the basic philosophy as to the assessment of working capital norms, based on the industry norm approach.

3.5 PRESENT POLICY OF BANKS

After the implementation of a phased liberation programme since 1991, the RBI decided to allow full operational freedom to the banks in assessing the working capital requirements of the borrowers. All the instructions relating to Maximum Permissible Bank Finance (MPBF) have been withdrawn. As an alternative, a revised system of assessing working capital limits has been evolved. Accordingly, one of the following three methods has been suggested for adoption by the commercial banks.

- a) Turnover method
- b) Eligible working capital limit method
- c) Cash-flow method

Under the 'Turnover method', working capital requirements of all the borrowers enjoying aggregate fund based working capital limits up to Rs.2 crore from the banking system are being assessed on the basis of a minimum of 25% of their projected annual turnover. Of this, 5% of the annual turnover should be brought by way of promoter's contribution. Thus, the remaining 20 % is only financed by the banks.

As is evident, this calls for a change in the approach of the RBI in assessing working capital needs of the industrial units. The industry norm approach followed so far yields a place to the simple turnover method and norms have no role to play. Higher the turnover, higher would be the credit facility available. In the earlier system, (industry norm approach), maintenance of a high level of current assets or any other assets has no significance to the computation of working capital needs, excepting the industry norms fixed on some practical basis. On the contrary, units having higher turnover are permitted to hold higher current assets, though as per norms it is excess. Moreover, this type of a practice encourages firms to stock materials and finished goods with lax inventory control. Small firms lag in competition to large firms, as there is an inherent advantage to the latter.

Alternatively banks may also follow 'Cash-flow method' to finance the working capital needs of the industrial units. Under this method, banks will meet the deficit if any due to payments being higher than the receipts in that month. For this purpose, borrowers are instructed to prepare monthly cash flow statements and impose certain control measures to ensure smooth operation of the system.

This method too abandons the industry norm approach in assessing working capital needs. This method takes into account only the difference between receipts and payments. This difference may arise for several reasons and may not be entirely due to changes in working capital items. Though care is expected to be taken by the industrial units in preparing cash flow statements, implementation of the method in practice will only highlight its suitability.

3.5.1 Revised Policy Guidelines for Assessment of Working Capital - A Case Study

In this section, an attempt has been made to provide readers with the insight of actual guidelines under operation in one of the nationalised banks.

A. Methodology

The following methods shall be adopted hereafter, depending on the quantum of finance requested for assessing working capital requirements of the borrowers.

Quantum of limits requested (Rs. in lacs)	Method
i) Upto Rs.200.00 lacs from the Banking system	Turnover Method
ii) Rs.200.00 lacs and above from the banking system but upto & inclusive of Rs.2000.00 lacs from the Bank.	Eligible Working Capital Limit (EWCL) Method
iii) For limits above Rs.2000.00 lacs	EWCL or Cash Budget Method as may be decided by the Bank.

B. TURNOVER METHOD:

In the case of SSI borrowers who are seeking fund-based limits upto Rs.200.00 lacs from the banking system, it is made mandatory by the RBI to assess the working capital limits as under:

- a) Projected Gross Sales .. Rs.....
- b) Working Capital requirements at 25% of A .. Rs.....
- c) Margin to be provided by the borrower at 5% of A
(Corresponding to a Current ratio of 1.25) or the actual net working capital available, whichever is higher Rs.....
- d) Eligible Working Capital finance (b-c) Rs.....

In the case of Non-SSI borrowers, seeking fund based limits up to Rs.200.00 lacs from the banking system, the assessment methodology, remains the same as in the case of SSI borrowers except that minimum margin to be brought in by the borrower shall be 6.25% of the Projected Gross Sales which corresponds to a Current Ratio of 1.33, which can be relaxed upto 5% of the Projected Gross Turnover which corresponds to a current ratio of 1.25 subject to other Financial Parameters being satisfactory.

While arriving at Eligible Working Capital Finance under the Turnover Method, for SSI and Non-SSI borrowers, if the available NWC is higher than the required minimum, the higher available NWC shall be reckoned with. Also, the unpaid stocks in excess of unfinanced eligible receivables shall not be taken into account for the purpose of computation of drawing power. The inventory margin requirement shall be 20% in the case of SSI borrowers and 20% to 25% in the case of Non-SSI borrowers depending on the stipulated current ratio. While the limit shall be assessed and sanctioned on the basis of 25% of projected gross sales less prescribed margin to be provided by the borrower, the actual release under the sanctioned limit shall be on the basis of drawing power.

Like SSI borrowers, in the case of non-SSI borrowers also, if any borrower requests for working capital limits higher than what he would have been eligible if assessed under the Turnover Method, his requirements can be assessed under EWCL method and limits to the extent he is eligible under EWCL method may be made available.

In the case of borrowers seeking fund based working capital limits less than Rs.10.00 lacs from the Bank, the need based requirement for credit facilities may

be arrived at adopting a holistic approach, instead of Turnover Method, taking into account the applicant's business potential, business plans, past dealings, credit-worthiness, market standing, collateral wherever available and ability to repay, etc.

The limits assessed through simplified procedure shall be secured by current assets primarily wherever the credit facilities are extended for procuring against the current assets. In addition the collateral security to an extent of at least 150% of the value of advance shall be obtained from the borrowers assessed through simplified procedure. However, the Zonal Heads are empowered to reduce the cover of collateral security, but not below 100% of value of the advance, on merit of the case. In the case of borrowers seeking fund based limits less than Rs.10.00 lakhs where the assessment is done under the Turnover method, the stipulation as above for the collateral security will not be applicable as the borrowers assessed under Turnover Method will have to comply with the security cover as under Basic Financial Parameters.

The Working Capital limits less than Rs.10.00 lacs may also be extended by way of short term loan of not more than one year maturity. This short term loan repayable in instalments (i.e., balloon form) or in one lump sum (i.e. bullet form). is available for renewal/rollover at the end of expiry, if the sanctioning authority, after a review is satisfied to continue the advance. The short term loan is permitted to be arranged for the part amount of the limit assessed while the balance is permitted to be extended by way of overdraft.

To ensure continued use in the case of short term loans extended as above, the stock statement shall be obtained at the end of every calendar quarter, within 7 days from the end of the quarter and for any drawings beyond the drawing Power (DP), penal interest as in force shall be recovered on the drawings beyond the DP. The drawings beyond the DP shall not be recovered immediately but the loan shall be allowed to be repaid as per repayment programme specified.

The SSI borrowers seeking working capital limits less than Rs.10.00 lacs shall be assessed under Turnover Method but they will be eligible to avail the advance by way of short term loan as above and/or overdraft. The short term loans as above will be eligible for 0.5% p.a. less interest (net of tax) subject to a minimum of PLR, as compared to the interest chargeable on overdraft.

C. ELIGIBLE WORKING CAPITAL LIMIT METHOD (EWCL):

EWCL method, a suitably relaxed form of the erstwhile Maximum Permissible Bank Finance (MPBF) Method, shall be applied in the case of borrowers seeking fund based working capital limits of Rs.200.00 lacs and above (from the banking system) but upto (and inclusive of) Rs.2000.00 lacs from the Bank and the assessment shall be carried out as under:

	<u>Projections for ensuing year</u>
a) Total Current Assets ..	Rs.....
b) Less: Current Liabilities other than bank borrowings ..	Rs.....
v) Working Capital Gap (a-b)	Rs.....
d) Less: 25% (bench-mark) of Current Assets as Net Working Capital (NWC) or Projected NWC, whichever is higher ..	Rs.....
E) Eligible Working Capital Limit (c-d)	Rs.....

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The identification/treatment of Current Assets and Current Liabilities shall continue to be as before when the MPBF Method was practiced. The 25% of current assets as margin (NWC) corresponds to a Current Ratio of 1.33, which would be a benchmark current Ratio under this method of assessment. However, relaxation of current ratio under EWCL method may be allowed upto 1.1 selectively provided other basic financial parameters are satisfactory. To arrive at the current ratio, the term loan instalments falling due in next 12 months shall be reckoned with but the same to be excluded as a component of current liability to arrive at working capital gap under EWCL method. Similarly the export receivables shall continue to be excluded from the current assets to determine the required NWC.

D. CASH BUDGET METHOD

The working capital requirements of the borrowers seeking fund based limits of above Rs.2000.00 lacs shall be assessed either under CASH BUDGET Method or the EWCL Method discussed earlier, as may be decided by the Bank. The corporate borrowers whose management of finance is cash budget driven and the existing clients of the Bank who have a consistently good track record of fulfilling the specified norms/covenants - financial and performance related - can opt for assessment under Cash Budget Method.

The assessment methodology under Cash Budget Method is as under:

<u>Heads</u>	<u>Quarterly details</u>
I. Cash Flow from Business Operations:	
i) All inflows (receipts)	
ii) All outflows (payments)	
II. Cash Flow from Non-business operations:	
i) All inflows	
ii) All outflows	
III. Cash Flow from Capital Accounts:	
(i) All inflows	
(ii) All outflows	
IV. Cash Flow from sundry items:	
(i) All inflows	
(ii) All outflows	
V. Assessment of bank finance:	
(i) Cash Gap in the business-operations {I(ii) – I (i)}	
LESS:(ii) Amount brought/proposed to be brought from other sources i.e. cash surplus under II, III & IV above.	
(iii) Net Cash Gap {V(i) – V (ii)}	

The Highest (Peak) Cash Gap during the period under assessment is to be extended by way of eligible working capital limit. The following prerequisites are advised for the borrowers to be assessed under Cash Budget system. The borrower should:

- a) Preferably be a company under the Indian Companies Act, listed and quoted at one or more of the Stock Exchanges in India. This however may not be a restrictive parameter and if the Bank is satisfied on financial strengths, the partnership and proprietorship concerns may also be allowed under the system. The preference to listed/quoted companies is only with an intent to have access to their published data.
- b) Have in place a data base and system for doing the financial planning on cash budget basis.
- c) Have Inventory and Receivable management on the professional lines, adhering to Stock Audit norms with stores management, shop floor control and costing norms as provided in the industry. The Cash Budget method shall continue to be used in the case of seasonal industries like Sugar, Tea and others, and also in construction industry as before irrespective of the quantum of working capital finance sought.

Since the requirements of working capital finance is directly related to the levels of activity under production and sales and the inputs required to achieve these levels, it is necessary to obtain the above requirements in addition to the detailed Cash Budget. While the assessment to arrive at quantum of finance should be carried out on the basis of cash budget obtained from the borrower, the financial statements. CMA data with fund flows also are to be taken into account to ascertain the level of business activity for which the working capital finance is sought by the borrower. It may be also necessary to conduct a sensitivity analysis based on variance of major financial assumptions for a proper risk perception.

3.6 SUMMARY

Determination of adequate amount of working capital required for a business is of great significance in its prudent management. Value maximisation implies optimum investment in all types of assets. There are three approaches to decide the optimum investment in working capital. They are: industry norm approach, economic modeling approach, and the strategic choice approach. Under the first one, certain norms have been worked out taking the nature of operations into account. Each unit's requirements are assessed with respect to such 'industry bench mark' norm. Economic models are pressed into service to make certain projections, current asset items are projected on the basis of these models and an optimum quantum is arrived at. Under the strategic choice approach, business forms are advised to follow their own 'unique' approach basing on the circumstances prevailing; they need not be guided by the industry practices.

As against these theoretical considerations, operating cycle concept is widely followed in practice. Working capital requirements are assessed basing on this methodology. Various other factors such as nature of business, management's attitude towards risk, growth and expansion of business, product policies, position of the business cycle, terms of purchase and sale and operating efficiency also exert their influence on the determination of working capital. The methodology suggested by the Tandon Committee has particular relevance to the assessment of working capital requirements. Against this background, the approach followed by the commercial banks is also highlighted. The present policy of the banks is to fix up working capital limits basing on the three methods, viz., turnover method, eligible working capital limit method and the cash flow method. The effectiveness of these methods will be known in due course, as they are relatively new in implementation.

3.7 KEY WORDS

Operating cycle: Length of time required for the completion of each of the stages involved in the manufacturing process, covering working capital items.

Turnover method: It is a method of calculation of working capital requirements, basing on sales turnover.

Cash budget method: It is a method of calculation of working capital requirements using cash budget.

Industry norm: It is a method of taking industry practices into account while deciding working capital requirements.

Economic modelling: This refers to the use of quantitative techniques for assessing working capital requirements.

Strategic choice: It is a need based approach taking into account the circumstances prevailing in the industry to decide the optimum amount of working capital.

3.8 SELF ASSESSMENT QUESTIONS

- 1) Explain different approaches to the determination of working capital. As a new entrepreneur, which of the three broad approaches would you prefer and why?
- 2) What are the various factors influencing the determination of working capital?
- 3) Illustrate, using hypothetical data, how working capital requirements are assessed using operating cycle concept.
- 4) How is the methodology formulated by the Tandon Committee useful in determining working capital requirements?
- 5) Distinguish between turnover method and cash budget method which of them do you suggest to a banker?
- 6) Management of Infotech Limited seeks your assistance on assessing the working capital requirements for an activity level of 1,00,000 units of output for the year 2004. The cost details of the product are as follows:

<u>Particulars</u>		<u>Cost per Unit (Rs.)</u>
Raw materials	..	20
Direct labour	..	5
Overheads	..	<u>15</u>
	Total cost ..	40
Profit	.. ..	<u>10</u>
	Selling price ..	<u>50</u>

The other details are:

- 1) In order to ensure smooth flow of production 2 months raw material inventory is to be held in the stores.
- 2) Finished goods remain in stores for one month.
- 3) Credit allowed for purchase of raw material is one month.
- 4) Credit allowed to customers is 2 months.
- 5) Cash Balance to be maintained is Rs.25,000.
- 6) Assuming that the product process is uninterrupted and even, compute the amount of working capital required for the given level of activity.

- 7) The following information has been extracted from the accounts of Lupin Laboratories Ltd., for the year 1998-99.

Theories and Approaches

Statement of Cost Structure

S.No.	Particulars	(Rs. in crores)
1.	Raw materials stock (opening)	33.89
2.	Purchases	377.34
3.	Raw materials stock (closing)	39.76
4.	Raw Materials consumed (1+2-3)	371.47
5.	Personnel Expenses	45.32
6.	Other manufacturing Expenses	132.03
7.	Depreciation	11.92
8.	Total cost (4+5+6+7)	560.74
9.	Work-in-progress inventory (opening)	55.56
10.	Work-in-progress inventory (closing)	67.69
11.	Cost of production (8+9-10)	548.61
12.	Finished goods inventory (opening) (including stores and spares)	37.37
13.	Finished goods inventory (closing)	42.02
14.	Cost of Goods sold (11+12-13)	543.96
15.	Selling Expenses	8.71
16.	Cost of Sales (14+15)	552.67

The following additional information is as given:

Particulars	(Rs. in crores)
Accounts receivables (opening)	193.07
Accounts receivables (closing)	199.40
Accounts payable (opening)	127.72
Accounts payable (closing)	139.43
Sales (assumed to be credit sales)	715.73
Interest	51.58
PBT	26.80
PAT	25.30
Net Block	218.16

Using the above information compute operating cycle.

Hint: Use a 360-day year.

Ans: Q.6: Working capital required is Rs.44.00 lacs.

Ans: Q.7: Operating cycle = 107 days

3.9 FURTHER READINGS

- 1) V. K. Bhalla, 2003, *Working capital Management*; Anmol Publications, New Delhi
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- 4) Smith, Keith, V., 1977, *Guide to Working Capital Management*, Mc.Graw Hill Book Co., New York.
- 5) Michael Firth, 1976, *Management of Working Capital*, The Macmillan Press, London.