UNIT 12 LIQUIDITY Vs PROFITABILITY

Objectives

The objectives of this unit are to:

- Explain the concepts of liquidity and profitability
- Discuss the measures of liquidity and profitability
- Highlight the relation between profitability and working capital
- Examine the significance of liquidity and profitability in taking working capital decisions.

Structure

12.1 INTRODUCTION

As per the accountants, working capital is a liquidation concept. Whether the firm will be able to pay off its debts using its cash flows is more important than what level of current or non-current assets it maintains. Viewed thus, the difference between current assets and current liabilities is more important than the size of investment either in current assets or current liabilities. The efficiency of working capital management finally depends upon the liquidity that is maintained by the firm. Though several other factors may decide the liquidity of a firm, changes in the cash flows consequent upon the changes in working capital items are highly pertinent. If cash flows were certain, less working capital would be required, usually, the problem stems from the difficulty in forecasting inflows, vis-à-vis outflows.

12.2 CONCEPT OF LIQUIDITY

By the term 'liquidity' it is meant the debt-repaying capacity of an undertaking. It refers to the firm's ability to meet the claims of suppliers of goods, services and capital. According to Archer and D'Ambrosio, liquidity means cash and cash availability, and it is from current operations and previous accumulations that cash is available, to take care of the claims of both the short-term suppliers of capital and the long-term ones. It has two dimensions; the short-term and the long-term liquidity.

Short-term liquidity implies the capacity of the undertaking, to repay the short-term debt, which means the same as the ability of the firm in meeting the currently maturing obligations form out of the current assets. The purpose of the short-term analysis is to derive a picture of the capacity of the firm to meet its short-term

obligations out of its short-term resources, that is, to estimate the risk of supplying short-term capital to the firm.

Analysis of the firm's long-term position has for its rationale, the delineation of the ability of a firm to meet its long-term financial obligations such as interest and dividend payment and repayment of principal. Long-term liquidity refers to the ability of the firm to retire long-term debt and interest and other long-run obligations. When relationships are established along these lines, it is assumed that in the long-run assets could be liquidated to meet the financial claims of the firm. Quite often the expression 'liquidity' is used to mean short-term liquidity of the companies.

In the present study, liquidity is taken to mean the short-term liquidity which refers to the ability of the undertakings to pay of current liabilities. This is chosen because the study is related to the management of short-term assets and liabilities. Further, the concept of short-term liquidity is more suited to enterprises that have a remote possibility of becoming insolvent. In other words, the long-run success of an undertaking lies in its ability to survive in the immediate future. Further, a company may have tremendous potential for profitability in the long-run, but may languish due to inadequate liquidity. It is, therefore, short-term liquidity that has been considered crucial to the very existence of an enterprise.

12.3 MEASUREMENT OF LIQUIDITY

Liquidity of an enterprise can be studied in two ways, namely (i) Technical liquidity, and (ii) operational liquidity. The difference between the two methods of liquidity measurement depends upon whether one assumes the 'liquidation concept' of business as in case of the technical liquidity or the 'going concern concept' of business as in the case of the operational liquidity.

The first method of computation of liquidity is based on the assumption that the firm might become insolvent at any time and whether, in such an event, the current assets held by the undertakings would be sufficient to pay-off the current liabilities. On the other hand, the computation of 'operational liquidity' attempts the measurement of the firm's potential to meet the current obligations on the basis of net cash flows originating from out of its own operations; with the view that a manufacturing enterprise cannot pay off current liabilities from it current assets when it is in the run. It is assumed under this approach the firms are going firms and hence the liabilities are met through the net cash flows arising out of their operations.

Technical Liquidity: Technical liquidity is normally evaluated on the basis of the following ratios in a business enterprise.

Current Ratio

Current ratio expresses the precise relation between current assets and current liabilities. It is calculated by dividing current assets with current liabilities.

Current Ratio = Current assets/Current liabilities.

It indicates the availability of current assets in rupees for every one rupee of current liabilities. A high ratio means that the firm has more investment in current assets. While a low ratio indicates that the firm in question is unable to retire its current liabilities, In fact, a satisfactory current ratio for any given firm is difficult to judge. For most manufacturing undertakings, a ratio of 2 : 1 is traditionally considered a bench-mark of adequate liquidity. However, in some of the undertakings like public utilities and service firms, this standard ratio is not particularly useful as they carry no inventories for sale.

Current ratio is equally useful to both the outsiders and the management. To an outsider, it is a measure of the firm's ability to meet its short-term claims. So far as the management is concerned, the ratio discloses the magnitude of the current assets that the firm carries in relation to its current liabilities. As regards the outsider, the larger the ratio, the more liquid is the firm. But, from the management point of view, a larger ratio indicates excess investment in less profit-generating assets. On the contrary, a low current ratio or downward trend in the ratio indicates the inefficient management of working capital.

Nevertheless, the current ratio is a crude and quick measure of the firm's liquidity as it is only a test of the quantity and not the quality. The limitation of this ratio as an indicator of liquidity lies in the size of the inventory of the enterprise. If inventory forms a high proportion of current assets, the 2:1 ratio might not be adequate, as a meaningful measure of liquidity.

Quick or Acid-test Ratio

Recognising that inventory might not be very liquid or slow moving, this ratio takes the quickly realisable assets and measures them against current liabilities. This is a more refined of somewhat conservative estimate of the firm's liquidity, since it establishes a relation between quick or liquid assets and current liabilities. To be precise, a quick asset is one that can be converted into cash immediately or reasonably soon without loss of value, for instance, cash is the most liquid of all assets. The other assets which are considered to be relatively liquid and included in the quick category are accounts and bills receivable and marketable securities. Inventory and period expenses are considered to be less liquid. Inventories normally require some time for realising into cash. The quick ratio is, then, expressed as a relation between quick assets and current liabilities, as:

Quick Ratio = Quick assets/Current liabilities ; or

= Current assets — Inventories/Current liabilities.

Conventionally, a quick ratio of 1 : 1 is considered to be a more satisfactory measure of liquidity position of an enterprise. In fact, this ratio does not entirely supplant the current ratio; rather, it partially supplements current ratio and when used in conjunction with it, tends to give a better picture of the firm's ability to meet its claims out of short-term assets.

Absolute Liquidity Ratio

Absolute liquidity ratio is the refinement of the concept of eliminating inventory as liquid asset in the acid-test ratio, because of their uncertain value at the time of liquidation. Although receivables are generally much more liquid in nature than inventories, some doubt may exist concerning their liquidity as well. So, by eliminating receivables and inventories from the current assets, another measure of liquidity is derived by relating the sum of cash and marketable securities to the current liabilities. Generally, an absolute liquidity ratio of 0.5 : 1 is considered appropriate in evaluating liquidity.

Operational Liquidity

Operational liquidity which is based on the going concern concept of business, is determined by expressing cash flows as a percentage of current liabilities. It is verified here whether the enterprises included in the study would be able to discharge its current liabilities from the cash flows generated from the operations.

12.4 DETERMINANTS OF LIQUIDITY

The measurement of liquidity was accomplished by comparing current assets with current liabilities. But, focus has not been thrown on the factors that determine liquidity. Several factors influence the liquidity position of an undertaking. Significant among them are:

a) the nature and volume of business;

b) the size and composition of current assets and current liabilities:

c) the method of financing current assets;

d) the level of investment in fixed assets in relation to the total long-term funds; and

e) the control over current assets and current liabilities.

Firstly, the nature and volume of business influence the liquidity of an enterprise. Depending upon the nature of the units, some firms require more of working capital than others. For some of the concerns like public utilities, less proportion of working capital is needed, vis-à-vis, manufacturing organizations. Besides, an increasing volume of business also enhances the funds needed to finance current assets. In these situations, if the firm does not divert some funds form the long-term sources, the liquidity ratios would be adversely affected.

Secondly, the size and the composition of current assets and current liabilities were the basic factors that determine the liquidity of an enterprise. If a higher investment is made in the current assets in relation to current liabilities, there would be a corresponding rise in the current ratio. While quick and other ratios depend on the composition of current assets.

Thirdly, the method of financing current assets causes changes in the liquidity ratios. If greater part of the current assets is financed form long-term sources, greater also would be the current ratio. On the other hand, if the concern depends much on the outside sources for financing current assets, the ratio would fall.

Fourthly, the absorption of funds by fixed assets is one of the major causes of low liquidity. As more and more of the firm's total funds are absorbed in this process, there will be little left to finance short-term needs and therefore liquidity ratios fall. Hence, the degree of liquidity is determined by the attitude of the management in the allocation of permanent funds between fixed and current assets.

Finally, stringent control over the current items causes fluctuations in the liquidity ratios. If investment in current assets is not taken care of properly, the firm may accumulate excess liquidity, which may adversely affect the profitability. On the contrary, unduly strict control of the investment in all types of current assets may eventually endanger the existence of the firm; owing to noncompliance of claims because of the shortage of funds. Similarly, control over current liabilities also plays an important role in determining liquidity of an enterprise by requiring the firm to contribute necessary funds from long-term sources to keep up the liquidity position.

12.5 EFFECTS OF LIQUIDITY

Liquidity of a business is one of the key factors determining its propensity to succeed or fail. Both excess and shortage of liquidity affect the interests of the firm. By excess liquidity in a business enterprise, it is meant that it is carrying higher current assets than are warranted by the requirements of production. Hence, it indicates the blocking up of funds in current assets without any return. Besides, the firm has to incur costs to carry them overtime. Further, the value of such assets would

depreciate in times of inflation, if they are left idle. Owing to the cornering of capital, the firm may have to resort to additional borrowing even at a fancy price.

On the other hand, the impact of inadequate liquidity is more severe. The losses due to insufficient liquidity would be many. Production may have to be curtailed or stopped for want of necessary funds. As the firm will not be in a position to pay off the debts, the credit worthiness of the firm is badly affected. In general, the smaller the amount of default, the higher would be the damage done to the image of the unit. In addition, the firm will not be able to secure funds from outside sources, and the existing creditors may even force the firm into bankruptcy. Further, insufficient funds will not allow the concern to launch any profitable project or earn attractive rates of return on the existing investment.

Between the excess and inadequate liquidity, the latter is considered to be more detrimental, since the lack of liquidity may endanger the very existence of the business enterprise. Besides, both the excess and inadequate liquidity adversaly affect the profitability. If the firm is earning very low rates of return or incurring losses, there would be no funds generated by the operations of the company, which are essential to retire the debts. In fact, there is a tangle between liquidity and profitability, which eventually determines the optimum level of investment in current assets. Of the liquidity and profitability, the former assumes further importance since profits could be earned with ease in subsequent periods, once the image of the unit is maintained. But, if the firm losses its face in the market for want of liquidity, it requires Qerculean efforts to restore its position. Instances are not lacking of great industrial giants, with comfortable book profits coming to grief for want of liquidity.

12.6 CONCEPT OF PROFIT

Profits are essential for the working of a private free-enterprise economy. Unfortunately, there is no general agreement about the meaning of the term ‘corporate profits’, and this has led to diversity of opinions on the subject of profits. The controversy seems to be prevailing in respect of what constitutes ‘profit’; how profit should be measured and how profit contributes towards a healthy and vigorous economy. As such it is not surprising to find people coming up with different interpretations of profits while analyzing the same set of financial data. These differences may arise simply because people apply different values to the data or bring different insights into their interpretations. One of the examples of this problem is the difference in the concept of the profits as per economists and accountants. The differences get manifested in their concern for future and the past while viewing the profits. Like wise, the business manager and the trade union leader quite obviously emphasize interpretations of profits that represent their best interests. Academicians differ among themselves about theoretical concepts of profits and the process of decision-making. The term ‘profits’ can also be used by any of these people with respect to a single firm and to the aggregate of many firms.

The meaning attributed to the word ‘profit’ ranges form the view point that it is the entire return received by the business to the view that ‘pure’ profit is residual in nature as it is arrived at after deductions are made form total income for wages, interest and rent. Clark argued that profit results exclusively from dynamic change e.g., inventions, which yield temporary profit to entrepreneurs. Hawley holds that risk bearing is the essential function of the entrepreneur and is the basis for profit. While differing in their views about the causes of profits, proponents of both these views regard profit as residual. It is to be recalled that profit has been connected by F.H. Knight with uncertainity, by Schumpeter with innovations, by Hawley with risk-bearing, and by Mrs. Robinson, Chamberlin and Kalecki with the degree of monopoly power.

The relationship between business, profit and economic growth is basically very simple. Profit determines investment and investment is essential to growth. Thus, a steep and continuing decline in profit is likely to mean a serious drop in the investment stances, higher profit would mean higher investment and faster growth. Further, it is by no accident that business profits, business investment, and unemployment form three important economic indicators that depict the level of economic activity. More business investment is needed to provide more jobs for the rapidly growing labour force and one of the very dependable ways to get more investment is to plough back adequately from the profits.

The decline in profits during the postwar period has in fact been accompanied by a short decline in the business investment in many countries in the world. The idea that profit is good' is unacceptable to many people. The idea that higher profits are even better is still unpalatable. What the critics of profit erroneously perceive is that businessmen aim not at developing economic activities but on profiteering and fleecing the consumers. Probably their intention tells them that one man's profit is another man's loss and, as such the obvious conclusion is that profit means exploitation. But experience is a better guide than instinct and experience teaches that in a competitive economy business profit must accrue to those ventures that best serve the general economic welfare. The targets of private business are private profits. The great virtue of a free and competitive economy is that it stabilizes organic link between profits and economic welfare and therefore undermining one results in the undermining of both.

Profits may be increased by reducing corporate taxes. But tax cut is not a panacea and does not guarantee that profit will rise or the investment will continue to rise, Its benefits could be lost if rising business costs lead either to inflation or to the reduction of profits or both. Conversly, the benefit of tax reduction can be greatly enhanced if business costs can be reduced.

The responsibility for controlling the increase in the business costs rests on various agencies. It rests in part with the business management; in part with government, state and local; in part with employees and their unions and in part with the public. Thus it must certainly be recognized that the profits are one of the principal engines of economic growth, and it must be seen that the prospect for profits is bright enough in this country to assure continued economic expansion.

The profitability of an industry has obviously a direct bearing on its growth. This is principally due to the psychological incentives and the financial resources that the profitability provides. High profitability makes possible to plough back substantial resources, helps to raise equity capital in the investment market; and make it possible to raise loans. Thus, it is business confidence in the level of profitability which is the primary determinant of the decision to invest. Despite the vilification of profit by forces on the extreme left, a mixed economy will not undertake productive investment in plant and machinery unless management in reasonably assured of earning a rate of return at least commensurate with the risks involved.

12.7 MEASUREMENT OF PROFITABILITY

Profit is considered an indicator of operational efficiency of the firm. Profitability of a firm is measured on the following two bases:

1) Based on Sales
2) Based on Investment

Basing on sales, the following three ratios can be considered important in judging the profitability of an enterprise.

i) Gross profit ratio
ii) Operating profit ratio
iii) Net profit ratio

Gross Profit Ratio: This is calculated by comparing the Gross profit (sales - cost of goods sold) with the Net Sales of a firm

$$\therefore \text{ Gross Profit ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

This ratio indicates the profit generated by a firm for every one rupee of sale made. For example, a Gross profit ratio of 25 per cent indicates that for every one rupee sales, the firm makes a profit of 25 paise. Gross profit ratio depends upon the relationship between the selling price and the cost of production including direct expenses. The gross profit ratio reflects the efficiency with which the firm produces/purchases the goods. Given the constant level of selling price, cost price and raw material consumption per unit, the gross profit ratio would also remain same from one year to another. If there is a change in the gross profit ratio from one year to another then reasons must be looked for. If the efficiency of the firm is same then the change in gross profit ratio may result because of change in selling price or cost price or raw material consumption per unit.

The gross profit ratio should be analyzed and studied as a time series. For a single year, the gross profit ratio may not indicate much about the efficiency level of the firm. However, when studied as a time series, it may give the increasing or decreasing trend and hence an idea of the level of operating efficiency of the firm. A high gross profit ratio or a low gross profit ratio for a particular period does not have any meaning unless compared with some other firm operating in the same industry or compared with the industry average.

Operating Profit Ratio (OP Ratio): The operating profit refers to the pure operating profit of the firm i.e. the profit generated by the operation of the firm and hence is calculated before considering any financial charge (such as interest payment), non-operating income/loss and tax liability, etc. The operating profit is also termed as the Earnings Before Interest and Taxes (EBIT). The OP ratio may be calculated as follows:

$$\text{OP Ratio} = \frac{\text{EBIT}}{\text{Net Sales}} \times 100$$

The OP ratio shows the percentage of pure profit earned on every 1 rupee of sales made. The OP ratio will be less than the GP ratio as the indirect expenses such as general and administrative expenses, selling expenses and depreciation charge, etc. are deducted from the gross profit to arrive at the operating profits i.e. EBIT. Thus the OP ratio measures the efficiency with which the firm not only manufactures/ purchases the goods but also sells the goods. The OP ratio in conjunction with the GP ratio can depict whether changes in the profitability of the firm are caused by change in manufacturing efficiency or administrative efficiency. It can help to identify the corrective measures to improve the profitability.

Net Profit Ratio (NP Ratio): The NP ratio establishes the relationship between the net profit (after tax) of the firm and the net sales and may be calculated as follows:

$$\text{NP Ratio} = \frac{\text{Profit (After Tax)}}{\text{Net Sales}} \times 100$$

The NP ratio measures the efficiency of the management in generating additional revenue over and above the total cost of operations. The NP ratio shows the overall efficiency in manufacturing, administration, selling and distribution of the product. This ratio also shows the net contributions made by every 1 rupee of sales to the

owners funds. The NP ratio indicates the proportion of sales revenue available to the owners of the firm and the extent to which the sales revenue can decrease or the cost can increase without inflicting a loss on the owners. So, the NP ratio shows the firm's capacity to face the adverse economic situations.

The NP ratio can be meaningfully employed to study the profitability of the firm when this ratio is used together with the GP ratio and the OP ratio. A time series analysis of the GP ratio, OP ratio and the NP ratio can help to identify the reasons for variations in the profitability. Since the difference between the operating profit and the net profit arises only because of financial charges and the taxes, an insight into their comparison may show as to how efficiently the firm is financed and how well the finance manager is able to hold down taxes.

Basing on Investment, the following **TWO** ratios may be considered significant.

i) Return on Assets

ii) Return on Capital Employed

Return on Assets (ROA): This ratio measures the profitability of the firm in terms of assets employed in the firm. The ROA is calculated by establishing the relationship between the profits and the assets employed to earn that profit. Usually the profit of the firm is measured in terms of the net profit after tax and the assets are measured in term of total assets or total tangible assets or total fixed assets. Conceptually, the ROA is measured as follows:

$$\text{ROA} = \frac{\text{Net Profit After Taxes}}{\text{Average Total Assets}} \times 100$$

There are many other versions of the ROA to how much is the profit earned by the firm per rupee of assets used. Sometimes, the amount of financial charges (interest, etc.) is added back to the net profit figure to relate the net operating profit with the operating assets of the firm. By separating the financing effect form the operating effect, the ROA provides a cleaner measure of the profitability of these assets. In such a case, the ROA can be calculated as follows:

$$\text{ROA} = \frac{\text{EBIT} - \text{Interest}}{\text{Total Assets}} \times 100$$

Thus, the ROA measures the overall efficiency of the management in generating profits for a given level of assets. The ROA essentially relates the profits to the size of the firm (which is measured in terms of the assets). If a firm increases its size but is unable to increase its profits proportionately, then the ROA will decrease. In such a case increasing the size of the assets i.e. the size of the firm will not by itself advance the financial welfare of the owners. The ROA of a particular firm should be compared with the industry average as the amount of assets required depends upon the nature and characteristics of the industry.

Return on Capital Employed (RCE): The profitability of the firm can also be analyzed from the point of view of the total funds employed in the firm. The term funds employed or the capital employed refers to the total long term sources of funds. It means that the capital employed comprises of shareholders funds plus long term debts. Alternatively, it can also be defined as fixed assets plus net working capital.

This ratio may be calculated as shown below:

$$\text{RCE} = \frac{\text{Net Profit After Taxes}}{\text{Average Capital Employed}} \times 100$$

12.8 PROFITABILITY AND WORKING CAPITAL

There has been an attempt made to highlight the nexus between liquidity, profitability and working capital. A further examination can be thought of with the following indicators.

i) **Net Working Capital:** As a general rule, current obligations or current liabilities are paid off by reducing current assets, which are assets that can be converted into cash on short notice. The arithmetic difference between current assets and current liabilities is called net working capital and it represents a cushion for creditors. Although this measure is not a ratio, it is commonly included in the liquidity ratios while analysing companies. It is widely used by creditors and credit rating agencies as a measure of liquidity. More working capital is preferred to less. In other words, creditors like a 'big' cushion to protect their interest. However, too much working capital can act to the detriment of the company because they may not be utilizing the funds effectively.

   It has been found that in some cases, the net working capital turned out to be negative in some years. This implies the mobilization of more current liabilities compared to current assets. Judged from this point of view, the liquidity position and the consequent efficiency can be stated to be very low.

ii) **Working Capital Turnover:** The turnover of working capital, which indicates the frequency at which they were rotating is another measure of the efficiency of working capital management. Like any other turnover or activity ratio, a low ratio reflects a slow movement of the current assets, thereby implying a sub-optimum utilization of working capital.

iii) **Rate of Return on Current Assets:** The return on current assets is yet another useful economic indicator of the profitability of the enterprises and thus indicates the efficiency or otherwise with which the current assets are put to use. The rate of net profit to current assets is calculated to under line the efficiency. In case where current assets form more than half, this ratio becomes significant.

iv) **PAT as Percentage of Sales:** One of the important profitability ratios calculated for the purpose of measuring management's efficiency is the profits after tax as percentage of sales. This is the overall measure of firms ability to turn each rupee of sales into profit. If the net margin is inadequate, the firm will fail to achieve satisfactory return on owners equity. This ratio also indicates the firms capacity to withstand adverse economic conditions. A firm with a high net margin ratio would be in an advantageous position to survive in the face of falling sales, prices, rising cost of production, or declining demand for the product. It would really be difficult for a low net margin firm to withstand these adversities. Similarly, a firm with high net profit margin can make better use of favorable conditions, such as rising sales prices, falling costs of production, or increasing demand for the product. Such a firm will be able to accelerate its profits at a faster rate than a firm with low net profit margin.

v) **Assets Turnover:** Usually the turnover ratios are employed to determine the efficiency with which a particular asset is managed and also to consider the relationship between sales and various items of assets for this purpose. These ratios which are called activity ratios, indicate the speed with which the investment in the assets is getting rotated or converted into sales. A proper balance between sales and assets generally reflects that assets are managed well. Although fixed assets may not maintain close relation with sales, they are taken as important because of their contribution to production. Hence total assets turnover is taken as an indicator to measure the extent of sales generated for one rupee investment in assets.

vi) **Collection Period:** Another indicator which is considered to be important in judging the working capital efficiency is the collection period. This ratio indicates the total number of days that was taken by the firms in collecting their debts. A comparison of the norms fixed with the results obtained would show the positive or negative tendencies.

vii) **Interest as Percentage of Profits before Interest and Tax:** One of the ratios that is used to determine the debt capacity of a firm is this coverage ratio. This ratio reveals the ability of the company in servicing the debt undertaken. A high ratio speaks about the interest burden of the company and consequently the adverse impact of the same on profitability. In the same way, a high ratio enhances the financial risk of the firm.

12.9 LIQUIDITY Vs. PROFITABILITY IN WORKING CAPITAL DECISIONS

All decisions of the financial manager are assumed to be geared to maximization of shareholders wealth, and working capital decisions are no exception. Accordingly, risk-return trade-off characterizes each of the working capital decision. There are two types of risks inherent in working capital management, namely, liquidity risk and opportunity loss risk. Liquidity risk is the non-availability of cash to pay a liability that falls due. It may happen only on certain days. Even so, it can cause not only a loss of reputation but also make the work condition unfavorable for getting the best terms on transaction with the trade creditors. The other risk involved in working capital management is the risk of opportunity loss i.e. risk of having too little inventory to maintain production and sales, or the risk of not granting adequate credit for realizing the achievable level of sales. In other words, it is the risk of not being able to produce more or sell more or both, and, therefore, not being able to earn the potential profit, because there were not enough funds to support higher inventory and book debts. Thus, it would not be out of place to mention that it is only theoretical that the current assets could all take zero values. Indeed, it is neither practicable nor advisable. In practice, all current assets take positive values because firms seek to reduce working capital risks. However, if more funds are deployed in current assets, the higher would be the cost of funds employed, and therefore, lesser the profit.

If liquidity goes up, profitability goes down. The risk-return trade-off involved in managing the firm's liquidity via investing in marketable securities is illustrated in the following example. Firms A and B are identical in every respect but one Firm B has invested Rs. 5,000 in marketable securities, which has been financed with equity. That is, the firm sold equity shares and raised Rs.5,000. The balance sheets and net incomes of the two firms are shown in Table 12.1. Note that Firm A has a current ratio of 2.5 (reflecting net working capital of Rs. 15.000) and earns a 10 per cent return on its total assets. Firm B, with its larger investment in marketable securities has a current ratio of 3 and has net working capital of Rs. 20,000. Since the marketable securities earn a return of only 9 per cent before taxes (4.5 per cent after taxes with a 50 per cent tax rate), Firm B earns only 9.7 per cent on its total investment. Thus, investing in current assets and in particular in marketable securities, does have a favorable effect on firms liquidity but it also has an unfavorable effect on the firm's rate of return earned on invested funds. The risk-return trade-off involved in holding more cash and marketable securities, therefore, is one of added liquidity versus reduced profitability.

In the use of current versus long-term debt for financing working capital needs also the firm faces a risk-return trade-off. Other things remaining the same, the greater its reliance upon short-term debt or current liabilities in financing its current asset investments, the lower will be its liquidity. On the other hand, the use of current

liabilities offers some very real advantages to the user in that they can be less costly than long-term financing as they provide the firm with a flexible means of financing its fluctuating needs for current assets.

Table 12.1 : The Effects of Investing in Current Assets on Liquidity and Profitability

Balance Sheets	**A**	**B**
Cash	Rs. 500	Rs.500
Marketable securities	-	5,000
Accounts receivable	9,500	9,500
Inventories	15,000	15,000
Current assets	25,000	30,000
Net fixed assets	50,000	50,000
Total	75,000	80,000
Current liabilities	10,000	10,000
Long-term debt	15,000	15,000
Capital Equity	50,000	55,000
Total	75,000	80,000
Net Income	7,500	7,725
Current ratio (Current assets/current liabilities)	$\frac{25,000}{10,000}$ = 2.5 times	$\frac{30,000}{10,000}$ = 3.0 times
Net working capital (Current assets — current liabilities)	15,000	20,000
Return on total assets (net income/total assets)	$\frac{7,500}{75,000}$ = 10 %	$\frac{7,725}{80,000}$ = 9.7 %

* During the year Firm B held Rs. 5,000 in marketable securities, which earned a 9 per cent return or Rs.450 for the year. After paying taxes at a rate of 50 per cent, the firm netted a Rs. 225 return on this investment.

If for example, a firm needs funds for a three-month period during each year to financé a seasonal expansion in inventories, then a three-month loan can provide substantial cost saving over a long-term loan (even if the interest rate on short-term financing should be higher). This results from the fact that the use of long term debt in this situation involves borrowing for the entire year rather than for the three month period when the funds are needed; this increases the interest cost for the firm. There exists a possibility for further saving because in general, interest rates on short-term debt are lower than on long-term debt for a given borrower. We may demonstrate the risk-return trade-off associated with the use of current versus long term liabilities with the help of an example given below:

Consider the risk-return characteristics of Firm X and Firm Y, whose balance sheets and income statements are given in Table 12.2. Both firms had the same seasonal

needs for financing throughout the past year. In December, they each required Rs.20,000 to finance a seasonal expansion in accounts receivable. In addition, during the four-month period beginning with August and extending through November both firms needed Rs. 10,000 to support a seasonal buildup in inventories. Firm X financed its seasonal financing requirements using Rs. 20,000 in long-term debt carrying an annual interest rate of 10 per cent. Firm Y, on the other hand, satisfied its seasonal financing needs using short-term borrowing on which it paid 9 per cent interest. Since Firm Y borrowed only when it needed the funds and did so at the lower rate of interest on short-term debt, its interest expense for the year was only Rs.450, whereas Firm X incurred Rs. 2,000 as annual interest expense.

The end result of the two firms financing policies is evidenced in their current ratio, net working capital, and return on total assets which appear at the bottom of Table 12.2. Firm X using long-term rather than short-term debt, has a current ratio of 3 times and Rs.20,000 in net working capital. Whereas Firm Y's current ratio is only 1, which represents zero net working capital. However, owing to its lower interest expense, Firm Y was able to earn 10.8 per cent on its invested funds, whereas Firm X produced a 10 per cent return. Thus, a firm can reduce its risk of illiquidity through the use of long-term debt at the expense of a reduction of its return on invested funds. Once again we see that the risk-return trade-off involves an increased risk of illiquidity versus increased profitability.

Table 12.2

Balance Sheets

	Firm X	**Firm Y**
	Rs.	**Rs.**
Current assets	30,000	30,000
Net fixed assets	70,000	70,000
Total	1,00,000	1,00,000
Accounts payable	10,000	10,000
Notes payable	—-	20,000
Current liabilities	10,000	30,000
Long-term debt	20,000	0
Equity Capital	70,000	70,000
	1,00,000	1,00,000

Income Statements

	Firm X	**Firm Y**
	Rs.	**Rs.**
Net operating income	22,000	22,000
Less: Interest expense	2,000*	450**
Earnings before taxes	20,000	21,550
Less: Taxes (50%)	10,000	10,775
Net income	10,000	10,775

$$\text{Current ratio} = \frac{\text{current assets}}{\text{current liabilities}} = \frac{30{,}000}{10{,}000} = 3 \text{ times} \quad \frac{30{,}000}{30{,}000} = 1 \text{ times}$$

Net working capital
(current assets – current liabilities) 20,000 Rs. 0

$$\text{Return on total assets} = \frac{\text{Net income}}{\text{Total assets}} = \frac{10{,}000}{1{,}00{,}000} = 10\% \quad \frac{10{,}775}{1{,}00{,}000} = 10.8\%$$

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* Firm X paid interest during the entire year on 20,000 on long-term debt at a rate of 10 per cent. Its interest expenses for the year was 10% x 20,000 = 2,000.

** Firm Y paid interest on 20,000 for one month and on 10,000 for four months at 9 per cent interest during the year. Thus, Firm Y's interest expense for the year equals 20,000 X .09 X 1/12 plus 10,000 X .09 X 4/12 or 150+300 = 450.

12.10 SUMMARY

Attempt has been made in this unit to focus on the issues of liquidity and profitability. The dimensions of both the concepts are discussed in a great detail. There has been a realization that working per se as a liquidation concept. Whether the firm will be able to pay off its debts using cash flows is more important than what level of current assets or current liabilities, it maintains. The concepts of technical and operational liquidity are analysed for their significance. In the same way, the concept of profit was analysed to go deep into its mechanics. It may be rather obnoxious to mean profit as an engine of economic growth. But fair chance must be provided to an entrepreneur to compensate for his risks. At the end, the trade-off between liquidity and profitability is discussed with adequate numerical illustrations.

12.11 KEY WORDS

Liquidity means the short term debt repaying capacity of firm

Current ratio is the relationship between current assets and current liabilities

Technical liquidity is a measure of firm's capacity to meet current liabilities from its current assets

Operational liquidity is a measure of firm's ability to meet its obligations from its cash flows

Profitability is an indicator of efficiency of firm. Profitability of a firm can be measured with the help of sales or investment.

12.12 SELF ASSESSMENT QUESTIONS

1) Explain the concepts of Liquidity and Profitability
2) Bring out the effects of liquidity on the survival of a firm
3) Is profit equivalent to exploitation? Argue
4) Profitability and working capital are related in many ways; what are they?
5) Illustrate with examples the tradeoff between liquidity and profitability
6) The Balance Sheet of Cooptex Manufacturing Company is presented below for the year ended December 31, 2003.

Cooptex manufacturing Co.
Balance Sheet as on December 31, 2003.

Current Liabilities	Rs. 30,000	Net Fixed Assets		Rs. 50,000
Long-Term Liabilities	Rs. 20,000	Current Assets:		
Equity Capital	Rs. 50,000	Cash	5,000	
		Inventories	25,000	
		Accounts Receivable	20,000	Rs. 50,000
	1,00,000			1,00,000

During 2003, the firm earned net income after taxes of Rs. 10,000 based on net sales of Rs. 2,00,000.

a) Calculate Cooptex's current ratio, net working capital and return on total assets ratio (net income/total assets) using the above information.

b) The General Manager (Finance) of Coopetex is considering a Plan for enhancing the firm's liquidity. The plan involves raising Rs. 10,000 by issuing equity shares and investing in marketable securities that will earn 10 per cent before taxes and 5 per cent after taxes. Calculate Cooptex's current ratio, net working capital and return on total assets after the plan has been implemented.

(*Hint:* net income will now become Rs. 10,000 plus, 05 times Rs. 10,000 or Rs. 10,500.)

c) In what manner will the plan proposed in part b affect the firm's liquidity and profitability? Explain.

12.13 FURTHER READINGS

1. Van Horne, James C., 2002, *Financial Management and Policy*, Indian Reprint, Pearson, Delhi.
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3. Prasanna Chandra, 1988, *Financial Management*, Tata Mc Graw Hill, New Delhi.
4. Schall, L.D and Haley, C,W., 1986, *Introduction to Financial management*, New York, Mc.Graw hill.