Financial Accounting and Management

Unit 2

Financial Statements Analysis

Financial statement analysis is the process of examining relationships among financial statement elements and making comparisons with relevant information. It is a valuable tool used by investors and creditors, financial analysts, and others in their decision-making processes related to stocks, bonds, and other financial instruments. The goal in analysing financial statements is to assess past performance and current financial position and to make predictions about the future performance of a company. Investors who buy stock are primarily interested in a company's profitability and their prospects for earning a return on their investment by receiving dividends and/or increasing the market value of their stock holdings. Creditors and investors who buy debt securities, such as bonds, are more interested in liquidity and solvency: the company's short-and long-run ability to pay its debts. Financial analysts, who frequently specialize in following certain industries, routinely assess the profitability, liquidity, and solvency of companies in order to make recommendations about the purchase or sale of securities, such as stocks and bonds.

Types of Financial Statements Analysis

Analysts can obtain useful information by comparing a company's most recent financial statements with its results in previous years and with the results of other companies in the same industry. Three primary types of financial statement analysis are commonly known as horizontal analysis, vertical analysis, and ratio analysis.

Horizontal Analysis

When an analyst compares financial information for two or more years for a single company, the process is referred to as horizontal analysis, since the analyst is reading across the page to compare any single line item, such as sales revenues.

Vertical Analysis

When using vertical analysis, the analyst calculates each item on a single financial statement as a percentage of a total. The term vertical analysis applies because each year's figures are listed vertically on a financial statement. The total used by the analyst on the income statement is net sales revenue, while on the balance sheet it is total assets.

Ratio Analysis

Ratio analysis enables the analyst to compare items on a single financial statement or to examine the relationships between items on two financial statements. After calculating ratios for each year's financial data, the analyst can then examine trends for the company across years. Since ratios adjust for size, using this analytical tool facilitates inter-company as well as intra-company comparisons.

Classification of Ratios

The accounting ratios are classified into various categories, *viz.*

1. On the basis of financial statements
2. On the basis of functions

On the basis of Financial Statements

1. ***Income statement ratios:*** These ratios are computed from the statements of Trading, Profit & Loss account of the enterprise. Some of the major ratios are as following GP ratio, NP ratio, Expenses Ratio and so on.

2. ***Balance sheet or positional statement ratios:*** These types of ratios are calculated from the balance sheet of the enterprise which normally reveals the financial status of the position i.e. short-term, long-term financial position, share of the owners on the total assets of the enterprise and so on.

3. ***Inter statement or composite mixture of ratios:*** Theses ratios are calculated by extracting the accounting information from both financial statements, in order to identify stock turnover ratio, debtor turnover ratio, return on capital employed and so on.

On the basis of Functions

1. ***On the basis of solvency position of the firms:*** Short-term and long-term solvency position of the firms.

2. ***On the basis of profitability of the firms:*** The profitability of the firms are studied on the basis of the total capital employed, total asset employed and so on.

3. ***On the basis of effectiveness of the firms:*** The effectiveness is studied through the turnover ratios — Stock turnover ratio, Debtor turnover ratio and so on.

4. ***Capital structure ratios:*** The capital structure position are analysed through leverage ratios as well as coverage ratios.

Short-term Solvency Ratios

To study the short-term solvency or liquidity of the firm, the following are various ratios:

1. Current Assets Ratio
2. Acid Test Ratio or Quick Assets Ratio

Current Assets Ratio

It is one of the important accounting ratios to find out the ability of the business fleeces to meet out the short financial commitment. This is the ratio establishes the relationship in between the current assets and current liabilities.

What is meant by current assets?

Current assets are assets that are available in the form of cash, equivalent to cash or easily convertible into cash.

What is meant by the current liabilities?

Current liabilities are nothing but short-term financial resources or payable in short span of time within a year.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

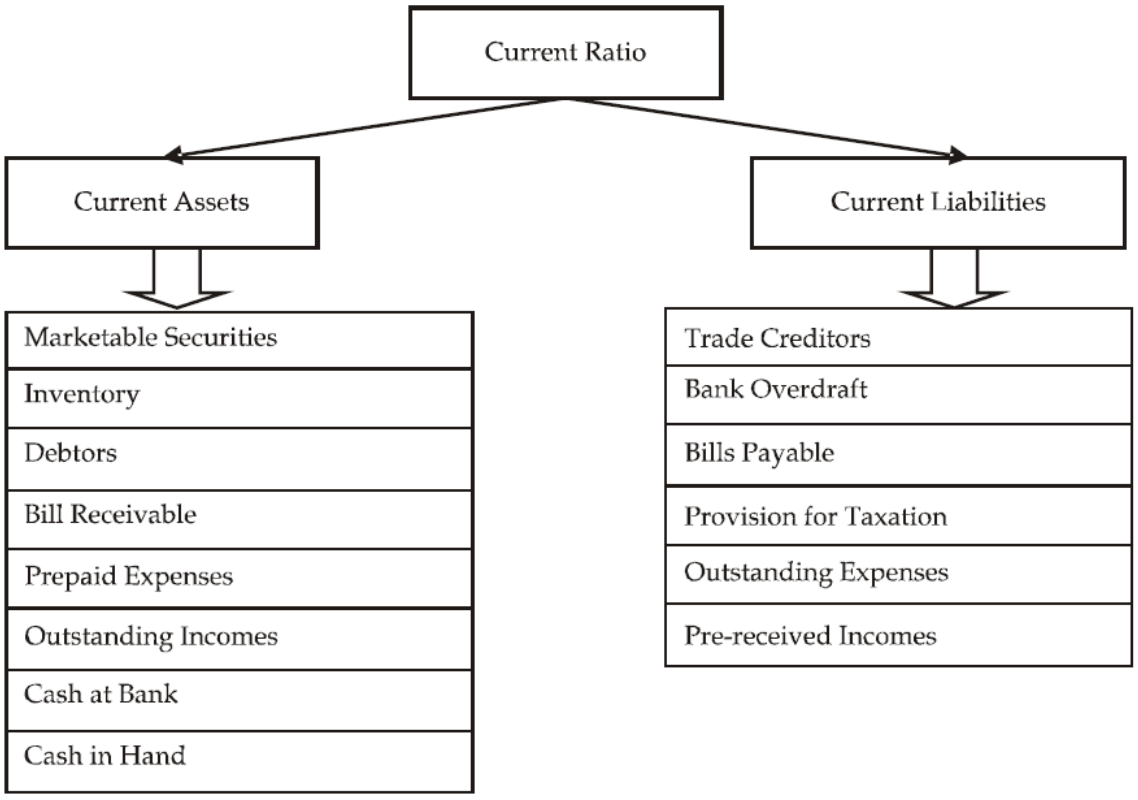
Example: Company XYZ has current assets worth of ₹5 lac, while the liabilities amount to

₹3 lac. What is the current ratio of the firm?

Solution:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$= 5/3 = 1.666 \text{ approx}$$



Standard norm of the current ratio: The ideal norm is 2:1; which means that every one rupee of current liability is appropriately covered by two rupees of current assets.

High ratio leads to greater the volume of current assets more than the specified norm denotes that the firm possesses excessive current assets than the requirement portrays idle funds invested in the current assets.

A big limitation of current ratio is that under this ratio, the current assets are equally weighed against each other to match the current liabilities. One rupee of cash is equally weighed at par with the one rupee of closing stock, but the closing stock and prepaid expenses cannot be immediately realized like cash and marketable securities.

Acid Test Ratio/Quick Assets Ratio

It is a ratio expresses the relationship in between the quick assets and current liabilities. This ratio is to replace the bottleneck associated with the current ratio. It considers only the liquid assets which can be easily translated into cash to meet out the financial commitments.

$$\text{Acid Test Ratio (Quick Assets Ratio)} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

$$\text{Liquid Asset} = \text{Current Assets} - (\text{Closing Stock} + \text{Prepaid Expenses})$$

Example: A company has a closing stock of ₹30,000 while its prepaid expenses are ₹5,000. What will be its quick assets ratio if the current assets are worth ₹50,000 while current liabilities are worth ₹15,000?

Solution:

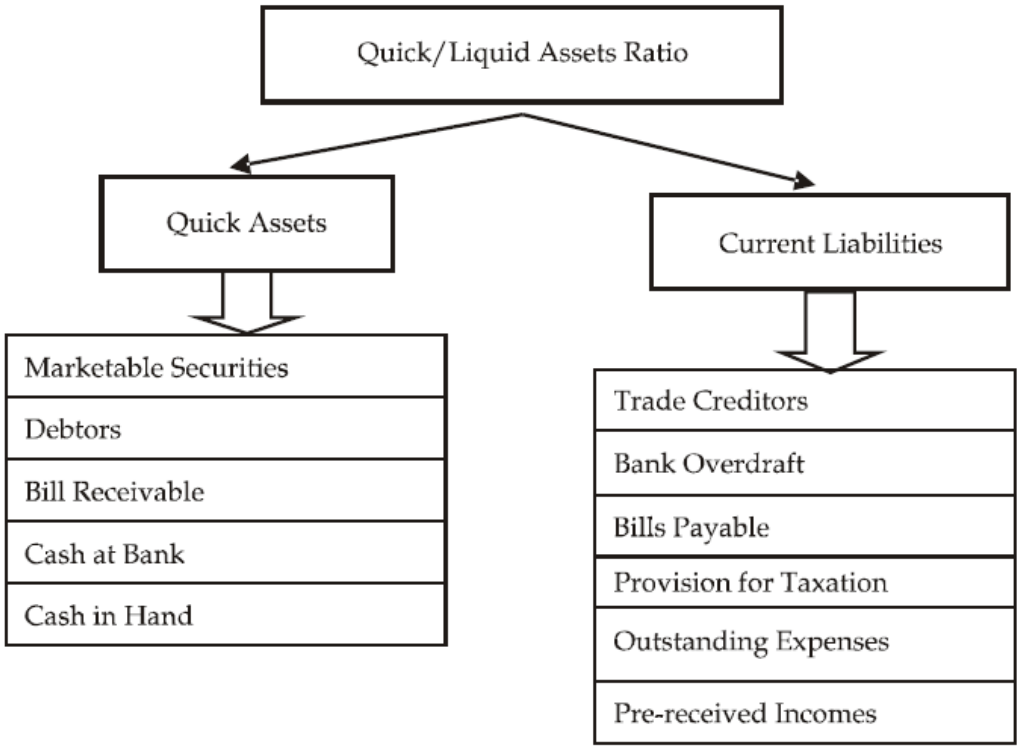
Liquid Asset = Current Assets – (Closing Stock + Prepaid Expenses)

= 50000 – (30000 + 5000)

= 15000

$$\text{Acid Test Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}}$$

= 15000/15000 = 1:1



Standard norm of the ratio: The ideal norm is 1:1 which means that one rupee of current liabilities is matched with one rupee of quick assets.

Capital Structure Ratios or Long-Term Solvency Ratios

The capital structure ratios are classified into two categories:

1. ***Leverage Ratios:*** Long-term solvency position of the firm — Principal repayment.
2. ***Coverage Ratios:*** Fixed commitment charge solvency of the firm — Dividend coverage and Interest coverage.

Under the capital structure ratios, the composition of the capital structure is analysed only in the angle of long-term solvency of the firm.

Leverage Ratios

Debt-equity Ratio

It is the ratio expresses the relationship between the ownership funds and the outsiders' funds. It is more specifically highlighted that an expression of relationship in between the debt and shareholders' funds. The debt-equity ratio can be obviously understood into two different forms:

1. Long-term debt-equity ratio
2. Total debt-equity ratio

Long-term Debt-equity Ratio

It is a ratio expressing the relationship in between the outsiders' contribution through debt financial resource and shareholders' contribution through equity share capital, preference share capital and past accumulated profits. It reveals the cover or cushion enjoyed by the firm due to the owners' contribution over the outsiders' contribution.

$$\text{Debt equity Ratio} = \frac{\text{Debt (Long} - \text{term Debt } = \text{ Debentures/Term Loans)}}{\text{Net Worth or Equity (Shareholders' Fund)}}$$

Example: The long-term debt of company ABC is ₹3 crores and the net worth of the company is ₹5 crores. What is the long-term debt-equity ratio of ABC?

Solution:

$$\text{Debt equity Ratio} = \frac{\text{Debt}}{\text{Net Worth}} = 3/5 = 0.6$$

Higher ratio indicates the riskier financial status of the firm which means that the firm has been financed by the greater outsiders' fund rather than that of the owners' fund contribution and vice-versa.

Standard norm of the Debt-Equity Ratio: The ideal norm is 1:2 which means that every one rupee of debt finance is covered by two rupees of shareholders' fund.

The firm should have a minimum of 50% margin of safety in meeting the long-term financial commitments. If the ratio exceeds the specification, the interest of the firm will be ruined by the outsiders' during the moment at when they are unable to make the payment of interest in time as per the terms of agreement reached earlier. During the moment of liquidation, the greater ratio may facilitate the creditors to recover the amount due lesser holding held by the owners.

Total Debt-equity Ratio

The ultimate purpose of the ratio is to express the relationship total volume of debt irrespective of nature and shareholders' funds. If the owners' contribution is lesser in volume in general irrespective of its nature leads to worse situation in recovering the amount of outsiders' contribution during the moment of liquidation.

$$\text{Total Debt equity Ratio} = \frac{\text{Short} - \text{term Debt } + \text{ Long} - \text{term Debt}}{\text{Equity (Shareholders' Fund)}}$$

Example: The long-term debt of company ABC is ₹3 crores, and the net worth of the company is ₹5 crores. If the company has a short-term debt of ₹1 crore, what is the total debt-equity ratio of ABC?

Solution:

$$\text{Total Debt equity Ratio} = \frac{\text{Short} - \text{term Debt} \ + \ \text{Long} - \text{term Debt}}{\text{Equity (Shareholders}' \text{ Fund)}} = \frac{1+3}{5} = 4:5$$

Proprietary Ratio

The ratio illustrates the relationship in between the owners' contribution and the total volume of assets. In simple words, how much funds are contributed by the owners in financing the assets of the firm. Greater the ratio means that greater contribution made by the owners' in financing the assets.

$$\text{Proprietary Ratio} = \frac{\text{Owners}' \text{ Funds or Equity or Shareholders}' \text{ Funds}}{\text{Total Assets}}$$

Standard Norm of the ratio: Higher the ratio, better is the position.

Higher ratio is better position for the firm as well as safety to the creditors.

Example: The net worth of company ABC is ₹30 crores, and the total assets are worth ₹10 crores. What is the proprietary ratio of the firm?

Solution:

$$\text{Proprietary Ratio} = \frac{\text{Owners}' \text{ Funds or Equity or Shareholders}' \text{ Funds}}{\text{Total Assets}} = \frac{30}{10} = 3:1$$

The ratio shows that the firm is in quite a good financial position.

Fixed Assets Ratio

The ratio establishes the relationship in between the fixed assets and long-term source of funds. Whatever the source of long-term funds raised should be used for the acquisition of long-term assets; it means that the total volume of fixed assets should be equivalent to the volume of long-term funds i.e. the ratio should be equal to 1.

$$\text{Fixed Assets Ratio} = \frac{\text{Shareholders}' \text{ Funds} \ + \ \text{Outsiders}' \text{ Funds}}{\text{Net Fixed Assets}}$$

If the ratio is lesser than one means that the firm made use of the short-term fund for the acquisition of long-term assets. If the ratio is greater than one means that the acquired fixed assets are lesser in quantum than that of the long-term funds raised for the purpose. In other words, the firm makes use of the excessive funds for the built of current assets.

Standard norm of the ratio: The ideal norm of the ratio is 1:1, which means that the long-term funds raised are utilised for the acquisition of long-term assets of the enterprise.

It facilitates to understand obviously about the over capitalization or under capitalization of the assets of the enterprise.

Example: The net worth of company ABC is ₹30 crores, and the net fixed assets are worth

₹100 crores. If the outsider's funds are worth ₹70 crores, what is the fixed assets ratio of the firm?

Solution:

$$\text{Fixed Assets Ratio} = \frac{\text{Shareholders}' \text{ Funds } + \text{ Outsiders}' \text{ Funds}}{\text{Net Fixed Assets}} = \frac{30 + 70}{100} = 1:1$$

Since the ratio is 1:1, it shows that the firm raises the long-term funds utilises them only for the acquisition of long-term assets of the enterprise.

Coverage Ratios

These ratios are computed to know the solvency of the firm in making the periodical payment of interest and preference dividends. The interest and preference dividends are to be paid irrespective of the earnings available in the hands of the firm. In other words, these are known as fixed commitment charge of the firm.

Interest Coverage Ratio

The firms are expected to make the payment of interest on the amount of borrowings without fail. This ratio facilitates the prospective lender to study the strength of the enterprise in making the payment of interest regularly out of the total income. To study the capacity in making the payment of interest is known as interest coverage ratio or debt service coverage ratio.

The ability or capacity is analysed only on the basis of Earnings Before Interest and Taxes (EBIT) available in the hands of the firms.

Greater the ratio means that better the capacity of the firm in making the payment of interest as well as greater the safety and vice-versa.

$$\text{Interest Coverage Ratio} = \frac{\text{Earnings before Interest and Taxes}}{\text{Interest}}$$

Lesser the times the ratio means that meagre the cushion of the firm which may lead to affect the solvency position of the firm in making payment of interest regularly.

Example: Mr Ashmit Ahuja had earnings of ₹3,00,000 before he paid the interests and taxes. What will be the interest coverage ratio if he pays ₹30,000 as an interest? What will it mean?

Solution:

$$\text{Interest Coverage Ratio} = \frac{\text{Earnings before Interest and Taxes}}{\text{Interest}} = \frac{3,00,000}{30,000} = 10:1$$

Since the interest coverage ratio is substantially high, it means that Mr. Ahuja has quite a good capacity in making the payment of interest and has a high safety.

Dividend Coverage Ratio

It illustrates the firms' ability in making the payment of preference dividend out of the earnings available in the hands of the firm after the payment of taxation. Greater the size of the profits after taxation, greater is the cushion for the payment of preference dividend and vice-versa.

The preference dividends are to be paid without fail irrespective of the profits available in the hands of the firm after the taxation.

$$\text{Dividend Coverage Ratio} = \frac{\text{Earnings after Taxation}}{\text{Preference Dividend}}$$

Example: Hindustan Manufacturers have to make a preference dividend of ₹60,000. The earnings after taxation is ₹3,00,000. What will be the Dividend coverage ratio? What does it mean?

Solution:

$$Dividend\ Coverage\ Ratio\ = \frac{\text{Earnings after Taxation}}{\text{Preference Dividend}} = \frac{3{,}00{,}000}{60{,}000} = 5:1$$

Since the value of the dividend coverage ratio is quite high, the company has a strong cushion for the payment of preference dividend.

Profitability Ratios

These ratios are measurement of the profitability of the firms in various angles, viz:

1. On sales
2. On investments
3. On capital employed and so on

While discussing the measure of profitability of the firm, the profits are normally classified into various categories:

1. Gross Profit
2. Net Profit
3. Operating Profit Ratio
4. Return on Assets Ratio
5. Return on Capital Employed

All profitability ratios are normally expressed only in terms of (%). The return is normally expressed only in terms of percentage which warrants the expression of this ratio to be also in percentage.

Gross Profit Ratio

The ratio elucidates the relationship in between the gross profit and sales volume. It facilitates to study the profit earning capacity of the firm out of the manufacturing or trading operations.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{100} \times 100$$

Example: Om enterprises has earned a gross profit of ₹6,00,000 in the first quarter. Calculate the gross profit ratio if the corresponding sales amounted to a value of ₹30,00,000. What does it imply?

Solution:

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{100} \times 100 = \frac{6{,}00{,}000}{30{,}00{,}000} \times 100 = 20\%$$

The ratio implies that the firm has earned good profits out of sales in the first quarter.

Standard norm of the ratio: Higher the ratio means that the firm has greater cushion in meeting the needs of preference dividend payment against Earnings After Taxation (EAT) and vice-versa.

Net Profit Ratio

The ratio expresses the relationship in between the net profit and sales volume. It facilitates to portray the overall operating efficiency of the firm. The net profit ratio is an indicator of overall earning capacity of the firm in terms of return out of sales volume.

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

Example: Om enterprises has earned a net profit of ₹3,00,000 in the first quarter. Calculate the net profit ratio if the corresponding sales amounted to a value of ₹30,00,000. What does it imply?

Solution:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \times 100 = \frac{3{,}00{,}000}{30{,}00{,}000} \times 100 = 10\%$$

The ratio implies that the firm has earned good profits out of sales in the first quarter.

Standard Norm of the Ratio: Higher the ratio, the better the position of the firm is, which means that the firm earns greater profits out of the sales and vice-versa.

Operating Profit Ratio

The operating ratio is establishing the relationship in between the cost of goods sold and operating expenses with the total sales volume.

$$\text{Operating Ratio} = \frac{\text{Cost of Goods Sold} + \text{Operating Expenses}}{\text{Net Sales}} \times 100$$

Example: The cost of goods sold by Mangamal operators is ₹2,00,000. What will be the operating ratio of the firm if the operating expenses are ₹50,000 and net sales is that of ₹5,00,000? What does it mean?

Solution:

$$Operating\ Ratio = \frac{\text{Cost of Goods Sold} + \text{Operating Expenses}}{\text{Net Sales}} \times 100$$
$$= \frac{2{,}00{,}000 + 50{,}000}{5{,}00{,}000} \times 100 = 50\%$$

Since the ratio is quite low, this means that the firm is in quite favourable position and thus has a high margin of operating profit.

Standard norm of the ratio: Lower the ratio, the more favourable and better the firm's position is, which highlights the percentage of absorption, cost of goods sold and operating expenses out of sales and vice versa. The lower ratio leads to a higher margin of operating profit.

Return on Assets Ratio

This ratio portrays the relationship in between the earnings and total assets employed in the business enterprise. It highlights the effective utilization of the assets of the firm through the determination of return on total assets employed.

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

Example: If one company has an income of ₹1 crore and total assets of ₹10,00,000, what will be the return on assets if net profit after taxes is ₹5,00,000?

Solution:

$$\text{Return on Assets } = \frac{\text{Net Profit After Taxes}}{\text{Average Total Assets}} \times 100 = \frac{5,00,000}{10,00,000} \times 100 = 50\%$$

Standard norm of the ratio: Higher the ratio illustrates that the firm has greater effectiveness in the utilization of assets, means greater profits reaped by the total assets and vice-versa.

Return on Capital Employed

The ratio illustrates that how much return is earned in the form of Net profit after taxes out of the total capital employed. The capital employed is nothing but the combination of both non-current liabilities and owners' equity. The ratio expresses the relationship in between the total earnings after taxation and the total volume of capital employed.

$$\text{Return on Total Capital Employed } = \frac{\text{Net Profit After Taxes}}{\text{Total Capital Employed}} \times 100$$

Standard norm of the ratio: Higher the ratio is better the utilization of the long-term funds raised under the capital structure means that greater profits are earned out of the total capital employed.

Example: In the previous example, if the total capital employed is worth ₹25,00,000, what is the return on total capital employed?

Solution:

$$\text{Return on Total Capital Employed } = \frac{\text{Net Profit After Taxes}}{\text{Total Capital Employed}} \times 100 = \frac{5,00,000}{25,00,000} \times 100 = 20\%$$

Activity Turnover Ratio

It highlights the relationship in between the sales and various assets. The ratio indicates that the rate of speed which is taken by the firm for converting the assets into sales.

Stock Turnover Ratio

The ratio expresses the speed of converting the stock into sales. In other words, how fast the stock is being converted into sales in a year. The greater the ratio of conversion leads to lesser the number of days/weeks/months required to convert the stock into sales.

$$\text{Stock Turnover Ratio } = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} \text{ or } \frac{\text{Sales}}{\text{Closing Stock}}$$

Standard norm of the ratio: Higher the ratio is better the firm in converting the stock into sales and vice-versa.

The next step is to find out the number of days or weeks or months taken or consumed by the firm to convert the stock into sales volume.

$$\text{Stock Velocity} = \frac{365 \text{ days } /52 \text{ weeks } /12 \text{ months}}{\text{Stock Turnover Ratio}}$$

Standard norm of the ratio: Lower the duration is better the position of the firm in converting the stock into sales and vice-versa.

Debtors Turnover Ratio

This ratio exhibits the speed of the collection process of the firm in collecting the overdue amount from the debtors and against Bills receivables. The speediness is being computed through debtors' velocity from the ratio of Debtors Turnover Ratio.

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Debtors}} \text{ or } \frac{\text{Net Credit Sales}}{\text{Debtors} + \text{Bills Receivable}}$$

Standard norm of the ratio: Higher the ratio is better the position of the firm in collecting the overdue means the effectiveness of the collection department and vice-versa.

Debtors' velocity: This is an extension of the earlier ratio to denote the effectiveness of the collection department in terms of duration.

$$\text{Debtors Velocity} = \frac{365 \text{ days } /52 \text{ weeks } /12 \text{ months}}{\text{Debtor Turnover Ratio}}$$

Standard norm of the ratio: Lesser the duration shows greater the effectiveness in collecting the dues which means that the collection department takes only minimum period for collection and vice-versa.

Creditors Turnover Ratio

It shows effectiveness of the firm in making use of credit period allowed by the creditors during the moment of credit purchase.

$$\text{Creditors Turnover Ratio} = \frac{\text{Credit Purchase}}{\text{Average Creditors}} \text{ or } \frac{\text{Credit Purchase}}{\text{Creditors} + \text{Bills Payable}}$$

Standard norm of the ratio: Lesser the ratio is better the position of the firm in liquidity management means enjoying the more credit period from the creditors and vice-versa.

$$\text{Creditors Velocity} = \frac{365 \text{ days } /52 \text{ weeks } /12 \text{ months}}{\text{Creditor Turnover Ratio}}$$

Standard norm of the ratio: Greater the duration is better the liquidity management of the firm in availing the credit period of the creditors and vice versa.