Unit V

FINANCIAL ANALYSIS THROUGH RATIOS

Concept of Ratio Analysis:

Ratio analysis is the mathematical form of expressing the numerical or arithmetical relationship between two figures. It is a widely used financial analysis tool which is expressed when one figure is divided by another. It is the systematic use of ratios that determines and interprets the numerical relationship between two financial items. Ratio analysis assesses the strength and weakness as well as evaluates the historical performances and current financial conditions of a firm.

According to Kohler, "A ratio is the relationship of one amount to another expressed as the ratio of or as a simple, fraction, integer, decimal fraction, or percentage."

According to Hunt, William and Donaldson, "Ratios are simply a means of highlighting in arithmetical terms of the relationship between figures draw from financial statements."

There are different financial ratios to analyze different aspects of a business' financial position, performance, and cash flows. Financial ratios calculated and analyzed in a particular situation depend on the user of the financial statements. For example, a shareholder is primarily concerned about a business's profitability and solvency; a debt-holder is concerned about its solvency, liquidity, and profitability in the descending order of importance; a creditor/supplier is worried mainly about the business' liquidity, etc.

Importance of Ratio Analysis

- Current ratio and Quick ratio helps in assessing the short-term solvency / liquidity of the firm.
- Profitability ratios help in evaluating the financial performance of the firm.
- Ratios show the degree of efficiency in the management and the utilization of resources and assets.
- Capital structure ratios help in indicating the financial strength or the long-term solvency of the firm.
- Ratios throw light on the firm's current status on the use of debt funds or whether the firm is exposed to any serious financial strain.
- Trend analysis of ratios over a period of years will indicate the direction of the firm's financial policies.
- Ratios help with the planning and forecasting of the firm's business activities for periods as ratios tend to have predictor values.

I. Liquidity Ratios:

Liquidity ratios asses a business's liquidity, i.e. its ability to convert its assets to cash and pay off its obligations without any significant difficulty (i.e. delay or loss of value). Liquidity ratios are particularly useful for suppliers, employees, banks, etc. Important liquidity ratios are

1. Current ratio
2. Quick ratio (also called acid-test ratio)
3. Cash ratio
4. Cash conversion cycle

1. Current Ratio:

Current ratio is one of the most fundamental liquidity ratio. It measures the ability of a business to repay current liabilities with current assets. Current assets are assets

that are expected to be converted to cash within normal operating cycle, or one year. Examples of current assets include cash and cash equivalents, marketable securities, short-term investments, accounts receivable, short-term portion of notes receivable, inventories, and short-term prepayments.

Current liabilities are obligations that require settlement within normal operating cycle or next 12 months. Examples of current liabilities include accounts payable, salaries and wages payable, current tax payable, sales tax payable, accrued expenses, etc. Current ratio is calculated using the following formula:

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

Analysis

Current ratio matches current assets with current liabilities and tells us whether the current assets are enough to settle current liabilities. A current ratio of 1 or more means that current assets are more than current liabilities and the company should not face any liquidity problem. A current ratio below 1 means that current liabilities are more than current assets, which may indicate liquidity problems. In general, higher current ratio is better.

A more meaningful liquidity analysis can be conducted by using current ratio in conjunction with other meas

Example

Calculate and analyze current ratios for The Coca Cola Company (NYSE: KO) and PepsiCo. Inc. (NYSE: PEP) based on the information given below:

		2014	2013	2012
Coca Cola	Current assets	32,986	31,304	30,328
	Current liabilities	32,374	27,811	27,821
PepsiCo	Current assets	20,663	22,203	18,720
	Current liabilities	18,092	17,839	17,089

All amounts are in USD in million.

Solution

$$\text{Current ratio for Coca Cola for 2014} = \frac{32{,}986}{32{,}374} = 1.02$$

The following table shows current ratios for both companies for all three years:

	2014	2013	2012
Coca Cola	1.02	1.13	1.09
PepsiCo	1.14	1.24	1.10

We see that PepsiCo. has higher current ratios than Coca Cola in each of the three years which means that PepsiCo is in a better position to meet short-term liabilities

with short-term assets. However, current ratios for Coca Cola too have stayed above 1 in all periods, which is not bad.
Both companies experienced improvement in liquidity moving from 2012 to 2013, however this trend reversed in 2014.

2. **Quick ratio** (also known as asset test ratio):

Quick Ratio is a liquidity ratio which measures the dollars of liquid current assets available per dollar of current liabilities. Liquid current assets are current assets which can be quickly converted to cash without any significant decrease in their value. Liquid current assets typically include cash, marketable securities and receivables. Quick ratio is expressed as a number instead of a percentage. Quick ratio is a stricter measure of liquidity of a company than its current ratio. While current ratio compares the total current assets to total current liabilities, quick ratio compares cash and near-cash current assets with current liabilities. Since near-cash current assets are less than total current assets, quick ratio is lower than current ratio unless all current assets are liquid. Quick ratio is most useful where the proportion of illiquid current assets to total current assets is high. However, quick ratio is less conservative than cash ratio, another important liquidity parameter.
Quick ratio is calculated by dividing liquid current assets by total current liabilities. Liquid current assets include cash, marketable securities, and receivables.
The following is the most common formula used to calculate quick ratio:

$$\text{Quick Ratio} = \frac{\text{Cash + Marketable Securities + Receivables}}{\text{Current Liabilities}}$$

Example

You are a Financial Analyst tasked to analyze liquidity position of Apple, Inc. (NYSE: AAPL) and Kiwi, Inc. (a fictional futuristic technology company) using quick ratio.
Following is an extract from balance sheet of Apple for the latest period:

	$ '000,000
Cash and cash equivalents	21,120
Short-term investments	20,481
Receivables	16,849
Inventories	2,349
Deferred income taxes	5,546
Other current assets	23,033
Total current assets	89,378
Total current liabilities	80,610

Following information is available regarding Kiwi for the latest complete financial year:

	$ '000,000
Total current assets	51,787
Deferred income taxes	1,242
Inventories	3,485
Prepaid expenses	1,116
Other current assets	4,148
Total current liabilities	42,191

Kiwi has an inventory turnover ratio higher than the industry average and a splendid growth rate. Apple's inventory turnover and growth are in line with industry average.

Solution

Amounts other than ratios are in million.

$$\text{Quick ratio of Apple} = \frac{21{,}120 + 20{,}481 + 16{,}849}{80{,}610} = 0.73$$

$$\text{Quick ratio of Kiwi} = \frac{51{,}787 - 1{,}242 - 3{,}485 - 1{,}116 - 4{,}148}{42{,}191} = 0.99$$

Kiwi has a quick ratio of 0.99 as compared to 0.73 in case of Apple. While Apple's quick ratio is quite safe, Kiwi has better overall liquidity particularly in a crunch situation. Analyzed together with its high growth rate and high inventory turnover ratio, Kiwi's high quick ratio does not indicate inefficiency either.

3. Cash Ratio:

Cash ratio is the ratio of cash and cash equivalents of a company to its current liabilities. It is an extreme liquidity ratio since only cash and cash equivalents are compared with the current liabilities. It measures the ability of a business to repay its current liabilities by only using its cash and cash equivalents and nothing else. Cash ratio is calculated using the following formula:

$$\text{Cash Ratio} = \frac{\text{Cash + Cash Equivalents}}{\text{Current Liabilities}}$$

Cash equivalents are assets which can be converted into cash quickly whereas current liabilities are those liabilities which are to be settled within 12 months or the business cycle. A cash ratio of 1.00 and above means that the business will be able to pay all its current liabilities in immediate short term. Therefore, creditors usually prefer high cash ratio. But businesses usually do not plan to keep their cash and cash equivalent at level with their current liabilities because they can use a portion of idle cash to generate profits. This means that a normal value of cash ratio is somewhere below 1.00.

Example

A company has following assets and liabilities at the year ended December 31, 2009:

Cash	$34,390
Marketable Securities	12,000
Accounts Receivable	56,200
Prepaid Insurance	9,000
Total Current Liabilities	73,780

Calculate cash ratio from the above information:

Solution

$$\text{Cash ratio} = \frac{34{,}390 + 12{,}000}{73{,}780} = \frac{46{,}390}{73{,}780} = 0.63$$

4. Cash Conversion Cycle

Cash conversion cycle is an efficiency ratio which measures the number of days for which a company's cash is tied up in inventories and accounts receivable. It is aimed at assessing how effectively a company is managing its working capital. A typical

business purchases raw materials (mostly on credit), converts them to finished products, sell those products (mostly on credit), recovers cash from customers and reuses the cash to purchase raw materials for further production and so on. Cash conversion cycle is an important ratio, particularly for companies that carry significant inventories and have large receivables, because it highlights how effectively the company is managing its working capital. Cash conversion is most useful in conducting trend analysis for companies in the same industry. Generally, short cash conversion cycle is better because it tells that the company's management is selling inventories and recovering cash from those sales as quickly as possible while at the same time paying the suppliers as late as possible.

II. Turnover Ratios

Activity ratios assess the efficiency of operations of a business. For example, these ratios attempt to find out how effectively the business is converting inventories into sales and sales into cash, or how it is utilizing its fixed assets and working capital, etc. Key activity ratios are:

1. inventory turnover ratio
2. receivables turnover ratio
3. payables turnover ratio
4. fixed asset turnover ratio
5. working capital turnover ratio

1. Inventory turnover ratio

Inventory turnover is an efficiency ratio which calculates the number of times per period a business sells and replaces its entire batch of inventories. It is the ratio of cost of goods sold by a business during an accounting period to the average inventories of the business during the period. Dividing the total cost of inventories sold during a period (which equals cost of goods sold) by the cost of average inventories balance maintained by a business gives us dollars of sales made per dollar of cash tied up in inventories. Inventory turnover ratio is calculated using the following formula:

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventories}}$$

Cost of goods sold = Beginning Inventories + Cost of Goods Manufactured – Ending Inventories

Cost of goods sold figure is reported on the income statement.

$$\text{Average Inventories} = \frac{\text{Beginning Inventories} + \text{Ending Inventories}}{2}$$

The values of beginning and ending inventories appear on a business' balance sheets at the start and at the end of the accounting period. Alternatively, inventory turnover can be calculated based on the closing inventories balance where the opening inventories balance is not available or where the inventories balance has not changed significantly over the period. Inventory turnover ratio is used to assess how efficiently a business is managing its inventories. In general, a high inventory turnover indicates efficient operations. A low inventory turnover

compared to the industry average and competitors means poor inventories management. It may be an indication of either a slow-down in demand or over-stocking of inventories. Overstocking poses risk of obsolescence and results in increased inventory holding costs. However, a very high value of this ratio may result in stock-out costs, i.e. when a business is not able to meet sales demand due to non-availability of inventories. Inventory turnover is a very industry-specific ratio. Businesses which trade perishable goods have very higher turnover compared to those dealing in durables. Hence a comparison would only be fair if made between businesses in the same industry. It is very useful in conducting a trend analysis.

Example

Calculate inventory turnover and days inventories outstanding for ABC, Inc. based on the information given below:

Opening inventories	$25,000
Closing inventories	$30,000
Cost of goods manufactured	$245,000

Solution

Cost of goods sold = $25,000 + $245,000 – $30,000 = $240,000
Average inventories = ($25,000 + $30,000) ÷ 2 = $27,500
Inventory turnover ratio = $240,000 ÷ $27,500 = 8.73
Days inventories outstanding = 365 ÷ 8.73 = 41.8

2. Accounts Receivable Turnover Ratio

Accounts receivable turnover is the ratio of net credit sales of a business to its average accounts receivable during a given period, usually a year. It is an activity ratio which estimates the number of times a business collects its average accounts receivable balance during a period. Accounts receivable turnover is calculated using the following formula:

$$\text{Receivables Turnover} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}}$$

We can obtain the net credit sales figure from the income statement of a company. Average accounts receivable figure may be calculated simply by dividing the sum of beginning and ending accounts receivable by 2. The beginning and ending accounts receivable can be found on the balance sheets of the first and the last day of the accounting period. Accounts receivable turnover is usually calculated on annual basis; however for the purpose of creating trends, it is more meaningful to calculate it on monthly or quarterly basis. Accounts receivable turnover measures the efficiency of a business in collecting its credit sales. Generally a high value of accounts receivable turnover is favorable and lower figure may indicate inefficiency in collecting outstanding sales. Increase in accounts receivable turnover overtime generally indicates improvement in the process of cash collection on credit sales. However, a normal level of receivables turnover is different for different industries. Also, very high values of this ratio may not be favorable, if achieved by extremely strict credit terms since such policies may repel potential buyers.

Example

Net credit sales of Company A during the year ended June 30, 2010 were $644,790. Its accounts receivable at July 1, 2009 and June 30, 2010 were $43,300 and $51,730 respectively. Calculate the receivables turnover ratio.

Solution

Average Accounts Receivable = ($43,300 + $51,730) ÷ 2 = $47,515

Receivables Turnover Ratio = $644,790 ÷ $47,515 ≈ 13.57

3. Accounts Payable Turnover Ratio

Accounts payable turnover is the ratio of net credit purchases of a business to its average accounts payable during the period. It measures short term liquidity of business since it shows how many times during a period, an amount equal to average accounts payable is paid to suppliers by a business. Accounts payable turnover is usually calculated as:

$$\text{Payables Turnover} = \frac{\text{Net Credit Purchases}}{\text{Average Accounts Payable}}$$

To calculate average accounts payable, divide the sum of accounts payable at the beginning and at the end of the period by 2. Net credit purchases figure in the denominator is not easily discoverable since such information is not usually available in financial statements. It is to be search for in the annual report of the company. Sometimes cost of goods sold is used in the denominator instead of credit purchases.

Analysis

Accounts payable turnover is a measure of short-term liquidity. A higher value indicates that the business was able to repay its suppliers quickly. Thus higher value of accounts payable turnover is favorable. This ratio can be of great importance to suppliers since they are interested in getting paid early for their supplies. Other things equal, a supplier should prefer to sell to a company with higher accounts payable turnover ratio.

Examples

Example 1: Company γ purchased goods having invoice value of $243,200 on credit during the year ended Dec 31, 2010. It returned goods costing $5,900 to suppliers. Accounts payable of the company on Jan 1, 2010 and Dec 31, 2011 were $23,000 and $34,900 respectively. Calculate its accounts payable ratio.

Solution

Net Credit Purchases = $243,200 − $5,900 = $237,300

Average Accounts Payable = ($23,000 + $34,900) / 2 = $28,950

Accounts Payable Turnover Ratio = $237,300 / $28,950 ≈ 8.2

4. Fixed Assets Turnover Ratio

Fixed assets turnover ratio is an activity ratio that measures how successfully a company is utilizing its fixed assets in generating revenue. It calculates the dollars of revenue earned per one dollar of investment in fixed assets. A higher fixeds asset turnover ratio is generally better. However, there might be situations when a high fixed asset turnover ratio might not necessarily mean efficient use of fixed assets as explained in the example.

Fixed Assets Turnover Ratio

$$= \frac{\text{Net Revenue}}{\text{Average Fixed Assets}}$$

Net Revenue = Gross Revenue − sales returns

$$\text{Average Fixed Assets} = \frac{\text{Opening Balance of Fixed Assets + Ending Balance of Fixed Assets}}{2}$$

Example

The following table outlines information required to calculate fixed assets turnover for Facebook, Inc. (NYSE: FB), Linkedin Corporation (NYSE: LNKD) and Wal-mart Stores Inc. (NYSE: WMT). All amounts are in million dollars.

	FB	LNKD	WMT
Net revenue	5,089	972	469,162
Fixed asset at the start of most recent year	1,475	115	112,324
Fixed asset at the end of the most recent year	2,391	187	116,681

Calculate and interpret their fixed assets turnover ratio.

Solution

$$\text{Fixed assets turnover ratio of FB} = \frac{5,089}{(1,475 + 2,391) \div 2} = 2.63$$

$$\text{Fixed assets turnover ratio of LNKD} = \frac{972}{(115 + 187) \div 2} = 6.44$$

$$\text{Fixed assets turnover of WMT} = \frac{469,162}{(112,324 + 116,681) \div 2} = 4.06$$

The figures tell that LinkedIn Corporation has most efficiently used its fixed assets. It generated $6.44 of revenue per $1 dollar of its net fixed assets over the year. Facebook, Inc. on the other hand, generated a fixed asset turnover ratio of 2.63, which means $2.63 of revenue per $1 of investment in fixed assets. LinkedIn and Facebook are competitors with almost the same age; hence the comparison using fixed asset turnover ratio is very relevant. LinkedIn appears to be the clear winner on this parameter.

Comparison between Facebook and Walmart on fixed asset turnover ratio might not be very useful because they belong to different industries and they have different age. Wal-Mart's higher fixed asset turnover ratio might be due to old age (and hence lower book value) of Wal-Mart's assets. Lower book value of fixed assets means smaller denominator in the ratio and hence higher fixed asset turnover ratio. There might be difference in capital intensity requirements of the industry.

5. **Working Capital Turnover** Working capital turnover ratio is an activity ratio that measures dollars of revenue generated per dollar of investment in working capital. Working capital is defined as the amount by which current assets exceed current liabilities. A higher working capital turnover ratio is better. It means that the company is utilizing its working capital more efficiently i.e. generating more revenue using less investment.

$$\text{Working Capital Turnover Ratio} = \frac{\text{Revenue}}{\text{Average Working Capital}}$$

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

$$\text{Average Working Capital} = \frac{\text{Opening Working Capital} + \text{Closing Working Capital}}{2}$$

Example

Calculate and analyze the working capital turnover ratios of General Electric (NYSE: GE), United Technologies Corporation (NYSE: UTX) and Amazon Inc. (NYSE: AMZN) for financial year 2012. Relevant extracts from their financial statements are given below. All amounts are in USD in million.

	GE	UTX	AMZN
Revenue	147,359	57,708	70,133
Current Assets	428,729	29,610	21,296
Current Liabilities	221,403	23,786	19,002

Solution

The following schedule contains the required calculations:

	GE	UTX	AMZN
Revenue (A)	147,359	57,708	70,133
Current Assets (B)	428,729	29,610	21,296
Current Liabilities (C)	221,403	23,786	19,002
Working capital (D)[= B − C]	207,326	5,824	2,294
Working capital turnover (A ÷ D)	0.71	9.91	30.57

Since GE and UTX are competitors, working capital turnover ratio can be used to compare their asset utilization. UTX is clearly using its investment in working

capital more efficiently as indicated by its higher working capital turnover ratio when compared to GE's ratio.

AMZN on the other hand is not a competitor of GE or UTX so comparison between GE/UTX and AMZN based on working capital turnover ratio is not appropriate.

Further, AMZN's industry and its market position is such that it can maintain very low working capital. In such a situation working capital turnover ratio is not very useful. Fixed asset turnover and total asset turnover ratio should be used in such scenarios.

III. Profitability Ratios

Profitability ratios measure the ability of a business to earn profit for its owners. While liquidity ratios and solvency ratios explain the financial position of a business, profitability ratios and efficiency ratios communicate the financial performance of a business. Important profitability ratios include:

1. Gross Margin Ratio
2. Net Profit Margin
3. Operating Margin Ratio
4. Return On Investment (ROI) Ratio
5. Earnings per Share (EPS)
6. Price/Earnings (P/E) Ratio
7. Dividend Yield Ratio

1. Gross Margin Ratio:

Gross margin ratio is the ratio of gross profit of a business to its revenue. It is a profitability ratio measuring what proportion of revenue is converted into gross profit (i.e. revenue less cost of goods sold). Gross margin is calculated as follows:

$$\text{Gross Margin} = \frac{\text{Gross Profit}}{\text{Revenue}}$$

Gross profit and revenue figures are obtained from the income statement of a business. Alternatively, gross profit can be calculated by subtracting cost of goods sold from revenue. Thus gross margin formula may be restated as:

$$\text{Gross Margin} = \frac{\text{Revenue} - \text{Cost of Goods Sold}}{\text{Revenue}}$$

Gross margin ratio measures profitability. Higher values indicate that more cents are earned per dollar of revenue which is favorable because more profit will be available to cover non-production costs. But gross margin ratio analysis may mean different things for different kinds of businesses. For example, in case of a large manufacturer, gross margin measures the efficiency of production process. For small retailers it gives an impression of pricing strategy of the business. In this case higher gross margin ratio means that the retailer charges higher markup on goods sold.

Example

For the month ended March 31, 2011, Company X earned revenue of $744,200 by selling goods costing $503,890. Calculate the gross margin ratio of the company.

Solution

Gross margin ratio = ($744,200 − $503,890) / $744,200 ≈ 0.32 or 32%

2. Net Profit Margin

Net profit margin (also called profit margin) is the most basic profitability ratio that measures the percentage of net income of an entity to its net sales. It represents the proportion of sales that is left over after all relevant expenses have been adjusted.

Net profit margin is used to compare profitability of competitors in the same industry. It can also be used to determine the profitability potential of different industries. While companies in some industries are able to generate high net profit margin, other industries offer very narrow margins. It depends on the extent of competition, elasticity of demand, production differentiation, etc. of the relevant product or market. Return on equity and return on assets are other relevant ratios that measure the relationship of net income with shareholders' equity and total assets respectively.

Formula

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

Net Sales = Gross Sales − Sales Tax − Discounts − Sales Returns

Example

Following is an extract from Yahoo Finance (obtained on December 12, 2013) related to revenue and net income for the trailing twelve months (ttm) of The Goldman Sachs Group (NYSE: GS), JPMorgan Chase & Co. (NYSE:JPM), Morgan Stanley (NYSE: MS), and the financial services industry. Calculate their net profit margins and compare with relevant gross and operating margins.

All amounts are in USD in billion.

	GS	JPM	MS
Revenue	34.66	96.33	31.59
Net income	8.28	16.98	3.28
Gross margin	0.91	—	0.89
Operating margin	0.39	0.39	0.27

Solution

	GS	JPM	MS
Revenue	34.66	96.33	31.59
Net income	8.28	16.98	3.28
Net	23.	17.	10.

profit margin	89 %	63 %	38 %

The table above shows that GS is the most profitable of the three companies. It managed to convert 23.89% of its sales into net income. JPM earned $17.63 net income per $100 of revenue. MS is the least profitable and generated 10.38% net profit margin.

3. Operating Margin Ratio

Operating margin ratio or return on sales ratio is the ratio of operating income of a business to its revenue. It is profitability ratio showing operating income as a percentage of revenue. Operating margin ratio is calculated by the following formula:

$$\text{Operating Margin} = \frac{\text{Operating Income}}{\text{Revenue}}$$

Operating income is same as earnings before interest and tax (EBIT). Both operating income and revenue figures can be obtained from the income statement of a business. Operating margin ratio of 9% means that a net profit of $0.09 is made on each dollar of sales. Thus a higher value of operating margin ratio is favorable which indicates that more proportion of revenue is converted to operating income. An increase in operating margin ratio overtime means that the profitability is improving. It is also important to compare the gross margin ratio of a business to the average gross profit margin of the industry. In general, a business which is more efficient is controlling its overall costs will have higher operating margin ratio.

Example

Determine the operating margin ratio of Company α given that its sales are $928,300 and its operating income is $113,200 for the month. What is the performance of the company compared to its industry which has average operating margin ratio of 10%?

Solution

Operating margin ratio = $113,200 / $928,300 ≈ 0.12 = 12%

The company is more profitable than an average firm in its industry.

4. Return On Investment (ROI) Ratio

Return on equity (also called return on shareholders' equity) is the ratio of net income of a business during a year to its average shareholders' equity during that year. It is a measure of profitability of shareholders' investments. It shows net income as a percentage of shareholder equity. The formula to calculate return on equity is:

$$\text{ROE} = \frac{\text{Annual Net Income}}{\text{Average Stockholders' Equity}}$$

Net income is the after tax income whereas average shareholders' equity is calculated by dividing the sum of shareholders' equity at the beginning and at the end of the year by 2. The net income figure is obtained from income statement and the shareholders' equity is found on balance sheet. You will need year

ending balance sheets of two consecutive financial years to find average shareholders' equity. Return on equity is an important measure of the profitability of a company. Higher values are generally favorable meaning that the company is efficient in generating income on new investment. Investors should compare the ROE of different companies and also check the trend in ROE over time. However, relying solely on ROE for investment decisions is not safe. It can be artificially influenced by the management, for example, when debt financing is used to reduce share capital there will be an increase in ROE even if income remains constant.

Example

Company A earned net income of $1,722,000 during the year ending march 31, 2011. The shareholders' equity on April 30, 2010 and March 31, 2011 was $14,587,000 and $16,332,000 respectively. Calculate its return on equity for the year ending March 31, 2011.

Solution

Average Shareholders' Equity = ($14,587,000 + $16,332,000) / 2 = $15,459,500
Return On Equity = $1,722,000 / $15,459,500 ≈ 0.11 or 11%

5. Earnings per Share (EPS)

Earnings per share (EPS) is a profitability indicator which shows dollars of net income earned by a company in a particular period per share of its common stock (also called ordinary shares). Earnings per share is calculated by dividing net income for a period attributable to common stock owners by the weighted average number of common shares outstanding during the period. EPS is a very important profitability ratio, particularly for shareholders of a company, because it is a direct measure of dollars earned per share. Accounting standards (such as IAS 33 in IFRS framework and ASC 260 in US GAAP) require companies that have securities that are publically traded or which are in process of issuing publically tradable securities, to report EPS figures on the face of their income statement. In analyzing profitability of different companies, total net income figures alone are not very useful because they are dependent on size of the company. EPS standardizes earnings with reference to number of shares outstanding. However, EPS alone too is not very useful because different companies have different number of shares, some companies opt to have more number of ordinary shares while others prefer to have less. For example, a company may go for a 2-for-1 stock split to double the number of its ordinary shares, without having zero effect on its market capitalization i.e. its value. EPS is used as an input in other very important indicators of profitability and investment performance, such as price-to-earnings (P/E) ratio which compares EPS with price per share of common stock.

EPS is defined as net income attributable to each share of a company's common stock (or ordinary shares). Common stock or ordinary shares are the class of share capital which represents the right to ultimate ownership of the company. There are other classes of share capital: such as preferred stock, etc., which do not share in the residual interest of the company. Hence, we subtract the claim of preferred stockholders from net income to arrive at the net income attributable to common stock.

Since the number of shares of common stock of a company fluctuate during any particular period because companies continuously issues new shares, go for stock splits, issue stock dividends and buy back shares, etc., per share figure for EPS is calculated based on weighted average number of common shares outstanding.

EPS comes in two flavors: basic EPS and diluted EPS. Diluted EPS is a worst-case EPS which calculates the net income attributable to each share of common stock under the assumption that all such financial instruments of a company which can be converted to common stock are indeed converted. EPS is calculated using the following formula:

$$\text{Earnings per Share (EPS)} = \frac{\text{Net Income} - \text{Preferred dividends}}{\text{Weighted Average Number of Common Shares Outstanding}}$$

Weighted average number of shares is calculated by time-weighted the number of shares of common stock. For example, if Company A has 1,000 shares on 1 January 2015, issues 500 additional shares on 1 July 2015 and does not change its number of shares in the remaining six months of 2015, its weighted average number of shares would be 1,250 [1,000×6/12+1,500×6/12]. 1,000 shares remained outstanding for 6 months, i.e. from 1 January 2015 to 30 June 2015. But for the next six months, i.e. from 1 July 2015 to 31 December 2015, the number of shares increased from 1,0000 to 1,500 so they are also weighted for 6 months. Where a company undergoes a stock split or issues a stock dividend such that its number of shares increases, the change is included in calculation of weighted average number of shares as if it occurred at the beginning of the period.

Example

Today is 15 April 2016. You are a Financial Analyst at JDx, a top-notch investment management firm. Your supervisor has asked you to analyze ABC, Inc. and DEF, Inc. based on their earnings per share (EPS) and P/E ratios.

Both the companies are listed on MDX, the country top securities market. Stock prices of ABC, Inc. and DEF, Inc. as at 31 March 2016 were $40 and $70 respectively. ABC, Inc. financial statements for the year ended 31 March 2016 are available which report an EPS of $2.5 per share for the year ended 31 March 2016. While complete financial statements for DEF, Inc. are not yet available, the company has reported its net income for the year ended 31 March 2016, which is $9.5 million. Following additional public information is available from the company's investor relations website:

The company had 2,000,000 shares of common stock as at 1 April 2015

On 30 June 2015, the company issued 500,000 additional shares

On 31 December 2015, the company bought back 250,000 shares

The company had a preferred stock of $5 million throughout the year which carries dividend at 8%.

Calculate EPS for DEF and calculate P/E ratios for both companies.

Solution

$$\text{EPS} = \frac{\text{Net Income} - \text{Preferred dividends}}{\text{Weighted Average Number of Common Stock}}$$

Weighted average number of shares of common stock outstanding during the period equals 2,312,500 as calculated below:

No. of shares	Time (months)	Weight	Weighted average
2,000,000	3	0.25	500,000
2,500,000	6	0.5	1,250,000
2,250,000	3	0.25	562,500
			2,312,500

The first slab of shares i.e. 2,000,000 has a weight of 0.25 because the company had this much number of outstanding ordinary shares for 3 months i.e. from 1 April 2015 till 30 June 2015. The second slab of shares remained outstanding for 6 months i.e. from 1 July 2015 till 31 December 2015 hence it has 0.5 weight.

Net income attributable to common stock holders = net income – preferred dividends

Preferred dividends = $5,000,0000 × 8% = $800,000

$$EPS = \frac{9,500,000 - 400,000}{2,312,500} = \$3.94 \text{ per share}$$

Price-to-earnings (P/E) ratios are calculated as follows:

ABC P/E ratio = $40/$2.5 = 16

DEF P/E ratio = $70/$3.94 = 17.8

6. Price/Earnings (P/E) Ratio

Price/Earnings or P/E ratio is the ratio of a company's share price to its earnings per share. It tells whether the share price of a company is fairly valued, undervalued or overvalued.

$$\text{P/E Ratio} = \frac{\text{Current Share Price}}{\text{Earnings per Share}}$$

Current share price is obtained from secondary markets like NYSE, NASDAQ, etc. while EPS is calculated as (net income minus preferred dividends)/weighted average number of shares outstanding. For financial analysis justified P/E ratio is calculated using dividend discount method.

$$\text{P/E Ratio} = \frac{\text{Expected Payout Ratio}}{\text{Required Rate of Return} - \text{Dividend Growth Rate}}$$

If the justified P/E calculated using dividend discount analysis is higher than the current P/E ratio the share is undervalued and should be purchased. If the justified P/E is lower than P/E ratio the share is overvalued and should be sold.

Example

A share of T Ltd. has current market price of $20 and it's EPS for current period is reported as $2. It's EPS for next period is expected as $2.5, expected payout ratio is 40%, required rate of return is 12% and growth rate is 6%. Find the trailing P/E, leading P/E and justified P/E.

Solution

Trailing P/E = current share price/current year EPS = $20/$2 = 10

Leading P/E = current share price/next year EPS = $20/$2.5 = 8

Justified P/E = payout ratio/(required rate of return − growth rate) = 40%/(12% − 6%) = 40%/6% = 6.67

Reciprocal of P/E ratio is called earnings yield (which is EPS/price).

7. Dividend Yield Ratio

Dividend yield is the ratio of dividend paid per share by a company to its current share price. It is a measure of dollars of dividends received by investors per hundred dollars of their investments in the stock. Dividends are one of the two sources for return equity shareholders receive on their investment in a company's stock, the other being capital gains. Dividend yield measures the percentage return on a particular stock that has resulted from the company's dividend payments. Dividend yield is calculated by dividing dividends paid by a company during a period by the total current market value of the company's outstanding stock.

$$\text{Dividend Yield} = \frac{\text{Total Dividend Payments}}{\text{Total Market Capitalization}} = \frac{\text{Dividend Per Share}}{\text{Current Share Price}}$$

Dividend per share information can be obtained from the company's financial statements. Alternatively, it can be calculated by dividing total dividend payments by the total number of shares. Dividend yield is a measure of investor return that has come from dividend payments. While dividend payout ratio compares the amount of dividend paid by a company to the company's earnings for the period, dividend yield ratio provides a comparison of amount of dividend to investment needed to purchase the shares. A company might be paying out a relatively high, say 50%, of its earnings to investors, but if the dividend payments are too low as compared to its current share price, the investors who prefer dividends over capital gains might not be attracted by even the high payout ratio. Dividend yield should be analyzed in the context of the company's industry and any share buybacks. A fast growing company might not be paying any dividends resulting in a zero dividend yield, but it might be generating high capital gains for investors. On the other hand, a company in a mature industry may generate a decent dividend yield for its investors but it may not have very high future growth potential.

Example

Calculate and analyze dividend yield for Apple, Inc. (NYSE: AAPL) and ExxonMobil Corp. (NYSE) based on the information given below:

	2011	2012	2013	2014
Apple (NYSE: AAPL) Cash dividends per share		0.38	1.64	1.82

Year end market share price	22	36	27	40 7
Exxon Mobil (NYSE:XOM)				
Cash dividends per share		1.85	2.18	2.46
Year end market share price	131	137	164	155

Solution

$$\text{Dividend Yield for AAPL for 2012} = \frac{\$0.38}{\$367} = 0.1\%$$

Dividend yield and capital gains for AAPL and XOM over the three years are shown below:

	2012	2013	2014
Apple (NYSE: AAPL)			
Dividend yield	0.10%	0.60%	0.45%
Capital gain over the year	65.32%	-25.89%	49.63%
ExxonMobil (NYSE:XOM)			
Dividend yield	1.35%	1.33%	1.59%
Capital gain over the year	4.58%	19.71%	-5.49%

Apple, Inc. dividend yield for 2012 is 0.1% which means that the company paid $0.1 per $100 dollars of current investment in the company's shares. Though the dividend yield is nominal, Apple, Inc. has generated exceptional capital gains during the same period (through repurchase of shares and due to its growth potential).

ExxonMobil Corp. is in a relatively mature industry, therefore it has relatively higher dividend yield and moderate capital gains over the 3-year period.

IV. Proprietary Ratios

The proprietary ratio (also known as the equity ratio) is the proportion of shareholders' equity to total assets, and as such provides a rough estimate of the amount of capitalization currently used to support a business. If the ratio is high, this indicates that a company has a sufficient amount of equity to support the functions of the business, and probably has room in its financial structure to take on additional debt, if necessary. Conversely, a low ratio indicates that a business may be making use of too much debt or trade payables, rather than equity, to support operations (which may place the company at risk of bankruptcy).

Proprietary ratio = Proprietor's funds / Total assets

Example:

From the balance sheet given below calculate the proprietary ratio.

Balance Sheet

Liabilities	**$**	**Assets**	**$**
Equity share capital	3,00,000	Fixed assets	2,00,000
Reserves & surplus	50,000	Current assets	1,00,000
Debentures	1,00,000	Good will	50,000
Creditors	50,000	Investment	1,50,000
	5,00,000		5,00,000

Solution:

Proprietary ratio = Proprietor's funds / Total assets

Where,

proprietor's funds = Share capital + Reserves and surplus

i.e., 3,00,000 + 50,000 = 3,50,000 and total assets are 5,00,000

Hence the ratio is = 3,50,000 / 5,00,000 = 7 : 10

Note: Some accountants exclude intangible assets from the term total assets. If so, then assets are (5,00,000 - goodwill) = 4,50,600 in that case.

Proprietary = 3,50,000 / 4,50,000

= 7 : 9

V. Solvency Ratios

Solvency ratios assess the long-term financial viability of a business i.e. its ability to pay off its long-term obligations such as bank loans, bonds payable, etc. Information about solvency is critical for banks, employees, owners, bond holders, institutional investors, government, etc. Key solvency ratios are:

1. Debt to equity ratio
2. Fixed charge coverage ratio

1. Debt to equity ratio:

Debt-to-Equity ratio is the ratio of total liabilities of a business to its shareholders' equity. It is a leverage ratio and it measures the degree to which the assets of the business are financed by the debts and the shareholders' equity of a business. Debt-to-equity ratio is calculated using the following formula:

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders' Equity}}$$

Both total liabilities and shareholders' equity figures in the above formula can be obtained from the balance sheet of a business. A variation of the above formula uses only the interest bearing long-term liabilities in the numerator. Lower values of debt-to-equity ratio are favorable indicating less risk. Higher debt-to-equity ratio is unfavorable because it means that the business relies more on external lenders thus it is at higher risk, especially at higher interest rates. A debt-to-equity ratio of 1.00 means that half of the assets of a business are financed by debts and half by shareholders' equity. A value higher than 1.00 means that more assets are financed by debt that those financed by money of shareholders' and vice versa.

An increasing trend in of debt-to-equity ratio is also alarming because it means that the percentage of assets of a business which are financed by the debts is increasing.

Example

Calculate debt-to-equity ratio of a business which has total liabilities of $3,423,000 and shareholders' equity of $5,493,000.

Solution

Debt-to-Equity Ratio = $3,423,000 / $5,493,000 ≈ 0.62

2. Fixed Charge Coverage:

Fixed charge coverage is a solvency ratio that measures whether earnings before interest, taxes and lease payments are sufficient to cover the interest and lease payments. It is calculated by dividing the sum of earnings before interest and taxes and lease payments by the sum of interest payments and lease payments. Fixed charge coverage ratio is very similar to interest coverage ratio. The only difference is that fixed charge coverage ratio takes into account the annual obligations on account of lease payments too (in addition to interest payments). The higher the ratio, the better is the solvency situation of the company. The ratio is best used together with other solvency ratios such debt ratio, financial leverage ratio, etc.

$$\text{Fixed Charge Coverage} = \frac{\text{EBIT} + \text{Lease Payments other than Interest Portion}}{\text{Short term and long term liabilities}}$$

Example

Nile Inc. has the following figures for financial year ended 31 December 2012. Calculate the interest coverage and fixed coverage ratio using interest and lease payments.

	USD in million

EBT	500
Interest expense (including interest expense on capital lease obligation)	70
EBIT	570
Interest income	12
Interest payments (related to other than capital leases)	55
Operating lease rentals paid	40
Capital lease rentals paid (hint: both principal and interest)	50
Interest on capital lease included in payments	10

Solution

Lease payments = $40 million + $50 million = $90 million

Interest payments plus lease payments = $55 million + $90 million = $145 million

Fixed charge coverage = ($570 million + $90 million) ÷ $145 million = 4.55

Please note that interest income is not taken into account because gross interest payments are relevant.

The lease payments added back above include the interest expense paid on capital lease obligations. The whole interest expense including the portion related to capital lease is already included in the EBIT. Adding it again by not subtracting it from lease payments, overstates the numerator by double-counting interest expense on capital leases.

A more refined calculation is given below:

Lease payments excluding interest on capital leases = $90 million − $10 million = $80 million

Fixed charge coverage = ($570 million + $80 million) ÷ $145 million = 4.48

Since the difference is minor, you can ignore this minor adjustment.

VI. Leverage Ratios (Capital Structure Ratio):

A leverage ratio is any one of several financial measurements that look at how much capital comes in the form of debt (loans), or assesses the ability of a company to meet its financial obligations. The leverage ratio is important given that companies rely on a mixture of equity and debt to finance their operations, and knowing the amount of debt held by a company is useful in evaluating whether it can pay its debts off as they come due.

1. Debt to capital employed ratio
2. Total Assets to Debt ratio

1. **Debt to capital employed ratio:** The Debt to capital employed ratio refers to the ratio of long-term debt to the total of external and internal funds (capital employed or net assets). It is computed as follows: Debt to Capital Employed Ratio = Long-term Debt/Capital Employed (or Net Assets)

   Capital employed is equal to the long-term debt + shareholders' funds. Alternatively, it may be taken as net assets which are equal to the total assets – current liabilities taking the data of Illustration 7, capital employed shall work out to Rs. 5,00,000 + Rs. 15,00,000 = Rs. 20,00,000. Similarly, Net Assets as Rs. 25,00,000 – Rs. 5,00,000 = Rs. 20,00,000 and the Debt to capital employed ratio as Rs. 5,00,000/Rs. 20,00,000 = 0.25:1. Significance: Like debt-equity ratio, it shows proportion of long-term debts in capital employed. Low ratio provides

security to lenders and high ratio helps management in trading on equity. In the above case, the debt to Capital Employed ratio is less than half which indicates reasonable funding by debt and adequate security of debt. It may be noted that Debt to Capital Employed Ratio can also be computed in relation to total assets. In that case, it usually refers to the ratio of total debts (long-term debts + current liabilities) to total assets, i.e., total of non-current and current assets (or shareholders, funds + long-term debts + current liabilities).

2. Total Assets to Debt ratio

This ratio measures the extent of the coverage of long-term debts by assets. It is calculated as Total assets to Debt Ratio = Total assets/Long-term debts

The higher ratio indicates that assets have been mainly financed by owners funds and the long-term loans is adequately covered by assets. It is better to take the net assets (capital employed) instead of total assets for computing this ratio also. It is observed that in that case, the ratio is the reciprocal of the debt to capital employed ratio. Significance: This ratio primarily indicates the rate of external funds in financing the assets and the extent of coverage of their debts are covered by assets.

FUND FLOW ANALYSIS

A fund flow statement is a statement in summary form that indicates changes in terms of financial position between two different balance sheet dates showing clearly the different sources from which funds are obtained and uses to which funds are put.

It summarizes the financing and investing activities of the enterprise during an accounting period.

By depicting all inflows and outflows of fund, the statement shows their net impact on working capital of the firm.

If the total of inflows is greater than the outflows, the excess goes to increase in working capital. If there is deficit of funds during a particular accounting period, the working capital is impaired. So fund flow statement is an important tool for working capital management.

Some definitions of financial experts are given for the clear conception of fund flow statement:

According to R. N. Anthony:

"The funds flow statement describes the sources from which additional funds were derived and the uses to which these funds were put."

Roy A. Fouke defines fund flow statement as **"a statement of sources and application of funds is a technical device designed to analyse the changes in the financial condition of a business enterprise between two dates."**

Objectives of Fund Flow Statement:

a. Fund flow statement reveals clearly the changes in items of financial position between two different balance sheet dates showing clearly the different sources and applications of funds. Thus, it summarizes the financing and investing activities of the enterprise.
b. It also reveals how much of the total funds is being collected by disposing of fixed assets, how much from issuing shares or debentures, how much from long-term or short-term loans, and how much from normal operational activities of the business.

c. It also provides information about the specific utilisation of such funds i.e., how much has been used for acquiring fixed assets, how much for redemption of preference shares, debentures or short-term loans as well as payment of tax, dividend etc.
d. It helps the management in depicting all inflows and outflows of funds which cause a change in working capital of a business organisation.
e. The projected fund flow statement helps management to exercise budgetary control and capital expenditure control in the enterprise.
f. Management uses fund flow statement for judging the financial and operating performance of the business.

Preparation of Fund Flow Statement:

Generally, two comparative balance sheets—one at the beginning and the other at the end of the period—are used for preparing a fund flow statement. In addition, a summarised income statement comprising non-fund or 'non-operating' items and a statement of retained earnings or at least material information from these statements are required in order to find out fund from operations. Additional information regarding change in non-current accounts like plant and machinery, building, share capital, debentures etc., if available, will sharpen the firms financial profile as revealed by the fund flow statement.

The fund flow analysis involves the preparation of two statements:

(a) Statement or Schedule of Changes in Working Capital and
(b) Statement of Sources and Application of funds.

1. Statement or Schedule of Changes in Working Capital:

The primary purpose of a fund flow statement is to explain the net change in working capital, it will be better to prepare first the schedule of changes in working capital before preparing a fund flow statement.

The Schedule or Statement of changes in working capital is a statement that compares the change in the amount of current assets and current liabilities on two balance sheet dates and highlights its impact on working capital.

The format of this statement is:

Schedule of Changes in Working Capital

Particulars	Previous Year Rs.	Current Year Rs.	Effect on Working Capital	
			Increase (+) Rs.	Decrease (–) Rs.
Current Assets			Rs.	Rs.
Cash in hand	* * *	* * *		
Cash at Bank	* * *	* * *		
Bills Receivable	* * *	* * *		
Sundry Debtors	* * *	* * *		
Closing Stock	* * *	* * *		
Short-term Investments	* * *	* * *		
Prepaid Expenses	* * *	* * *		
Other Current Assets	* * *	* * *		
Total [A]	* * *	* * *		

Current Liabilities				
Bills Payable	* * *	* * *		
Sundry Creditors	* * *	* * *		
Outstanding Expenses	* * *	* * *		
Bank Overdraft	* * *	* * *		
Short-term Loan taken	* * *	* * *		
Proposed Dividend(1)	* * *	* * *		
Provision for Taxation (1)	* * *	* * *		
Other Current Liabilities	* * *	* * *		
Total [B]	* * *	* * *		
Working Capital [A – B]	* * *	* * *		
Net Increase/Decrease in working capital	* * *	* * *		
	* * *	* * *	* * *	* * *

Note (1) : May or may not be treated as current liability. This matter has been discussed subsequently.

To analyse the effect of working capital as a result of change in current assets and current liabilities, the following general rules should be considered :

Nature of Transactions	Effect on Working Capital
1. Increase in Current Assets	Increase in Working Capital (+)
2. Decrease in Current Assets	Decrease in Working Capital (–)
3. Increase in Current Liabilities	Decrease in Working Capital (–)
4. Decrease in Current Liabilities	Increase in Working Capital (+)

Fund Flow Statement:

After preparing the schedule of changes in working capital, the next step is to prepare the Fund Flow Statement to find out the different sources and applications of funds. While preparing this statement the emphasis is given on the changes in the fixed assets and fixed liabilities. The statement may be prepared either in 'T form' or in 'Vertical form'.

A pro forma of each of them is given:

T form

Fund Flow Statement for the year ended.....

Sources of Funds	Rs.	Application of Funds	Rs.
Trading Profit or Fund from Operations (1)	* * *	Trading Loss or Fund lost in Operations(1)	* * *
Issue of Share Capital	* * *	Redemption of Pref. Share	* * *
Issue of Debentures	* * *	Redemption of Debentures	* * *
Raising of Long-term Loans	* * *	Repayment of Long-term Loans	* * *
Receipts from Partly Paid-up shares Called-up	* * *	Purchase of Fixed Assets	* * *
Sale of Fixed Assets/ Investments	* * *	Purchase of Long-term Investment	* * *
Non-trading Receipts		Payment of Dividend	* * *
		Payment of Tax	* * *

(e.g., dividend etc.)	* * *	Net Increase in Working Capital(2)	
Net Decrease in Working Capital(2)	* * *		* * *
	* * *		* * *

Vertical form

Fund Flow Statement for the year ended.....

	Rs.
Sources of Funds	
Trading Profit or Fund from Operations(1)	* * *
Issue of Share Capital	* * *
Issue of Debentures	* * *
Raising of Long-term Loans	* * *
Receipts from partly paid-up shares, called-up	* * *
Sale of Fixed Assets and Investments	* * *
Non-trading Receipts, such as dividends received	* * *
Net Decrease in Working Capital(2)	* * *
Total	* * *
Application of Funds	
Trading Loss or Funds Lost in operations(1)	* * *
Redemption of Preference Share Capital	* * *
Redemption of Debentures	* * *
Re-payment of Long-term Loans	* * *
Purchase of Fixed Assets	* * *
Purchase of Long-term Investment	* * *
Payment of Dividend	* * *
Payment of Tax	* * *
Net Increase in Working Capital(2)	* * *
Total	* * *

Notes:

(1) Either of the two will appear in the Fund Flow Statement.

(2) Either of the two will appear in the Fund Flow Statement.

(3) Payment of dividend and tax will appear as an application of funds only when these items are appropriation of profits and not current liabilities.

CASH FLOW ANALYSIS

A Cash Flow Statement is a statement which is prepared by acquiring Cash from different sources and the application of the same for different payments throughout the year.

It is prepared from analysis of cash transactions, or it converts the financial transactions prepared under accrual basis to cash basis. The information about the amount of resources provided by operational activities or net income after the adjustment of certain other charges can also be obtained from it. The changes in Cash—both at the beginning and at the end—can also be known with the help of this statement and that is why it is called Cash Flow Statement.

Objectives of Cash Flow Statement:

The primary objective of cash flow statement is to supply the necessary information relating to generation of cash to the users of financial statement. It also highlights the future or prospective cash positions i.e. cash or cash equivalent. The inflows and outflows of cash can be represented with the help of this statement.

a. **Measurement of Cash:** Inflows of cash and outflows of cash can be measured annually which arise from operating activities, investing activities and financial activities.
b. **Generating inflow of Cash:** Timing and certainty of generating the inflow of cash can be known which directly helps the management to take financing decisions in future.
c. **Classification of activities:** All the activities are classified into operating activities, investing activities and financial activities which help a firm to analyse and interpret its various inflows and outflows of cash.
d. **Prediction of future:** A cash flow statement, no doubt, forecasts the future cash flows which helps the management to take various financing decisions since synchronization of cash is possible.
e. **Assessing liquidity and solvency position:** Both the inflows and outflows of cash and cash equivalent can be known, and as such, liquidity and solvency position of a firm can also be maintained as timing and certainty of cash generation is known i.e. it helps to assess the ability of a firm to generate cash.
f. **Evaluation of future cash flows:** Whether the cash flow from operating activities are quite sufficient in future to meet the various payments e.g. payment of expense/debts/dividends/taxes.
g. **Supply necessary information to the users: A cash flow statement supplies various information relating to inflows and outflows of cash to the users of accounting information in the following ways:** To assess the ability of a firm to pay its obligations as soon as it becomes due; To analyse and interpret the various transactions for future courses of action; To see the cash generation ability of a firm; To ascertain the cash and cash equivalent at the end of the period.
h. **Helps the management to ascertain cash planning:** No doubt, a cash flow statement helps the management to prepare its cash planning for the future and thereby avoid any unnecessary trouble.

Pro forma of Cash flow statement

Direct Method
Cash Flow Statement

	Particulars	Amt. (₹)	Amt. (₹)
A.	**Cash Flow from Operating Activities**		
	Cash Sales	—	
	Cash Receipt from Debtors	—	
	(–) Cash Purchase	—	
	Cash Paid to Creditors and Other Expenses	—	
	Cash Generated from Operating Activities	—	
	(–) Income Tax Paid	—	
	Cash Flow before Extraordinary Items	—	
	(+)/(–) Extraordinary Items	—	
	Net Cash Flow from (used in) Operating Activities	—	—
B.	**Cash Flow from Investing Activities**	—	
	Sale of Fixed Assets	—	
	Sale of Long Term Investments	—	
	Interest Received	—	
	Dividend Received	—	
	Rent Received	—	
	(–) Purchase of Fixed Assets	—	
	(–) Purchase of Long Term Investment	—	
	Net Cash Flow from Investing Activities	—	—
C.	**Cash Flow from Financing Activities**		
	Proceeds from Issue of Shares	—	
	Proceeds from Issue of Debentures and Other Long Term Borrowings	—	
	(–) Repayment of Debentures and Other Long Term Borrowings	—	
	(–) Redemption of Preference Shares	—	
	(–) Interest Paid	—	
	(–) Dividend Paid	—	
	Net Cash flow from Financing Activities	—	—
	Net Increase (or Decrease in Cash and Cash Equivalents (A + B + C)		—
	Cash and Cash Equivalents at the Beginning (Cash in Hand, Cash at Bank, Marketable Securities, Short Term Deposits)		—
	Cash and Cash Equivalents at the End		—