**Corporate Banking - Updates**

**Ratios**

Ratio Analysis is a widely used tool of financial analysis. It is defined as the systematic use of ratios to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial position can be determined. It should be noted that computing ratios does not add any information not already inherent in the financial statements. The ratios however reveal the relationship in a more meaningful way so as to enable one to draw cogent conclusions from them. It also facilitates intra and inter- firm comparisons. Therefore, the rationale of ratio analysis lies in the fact that it makes related information comparable. A single figure by itself has no meaning, but when expressed in terms of a related figure, it yields significant inferences.

Some of the important ratios useful to bankers are presented below.

**a) Net Working Capital (NWC):**

NWC represents the excess of Current Assets over Current Liabilities. A firm should have adequate NWC for meeting the claims of creditors and meeting its day - to - day needs. The term Current Assets refers to assets which in the normal course of business get converted into cash over a short period, usually not exceeding one year. Current Liabilities are those liabilities which are required to be paid in a short period, normally a year.

Net working capital tells the business about how the assets are funded. In a narrow sense, the term working capital refers to the net working capital (NWC) or liquid surplus which is the difference between current assets and current liabilities. It is the excess of long term funds over long term uses. When the current assets exceed the current liabilities, the NWC is positive and when the current liabilities are more than the current assets, it would become negative. The net working capital should be higher than 1:1 to ensure sufficient liquidity and availability of working funds. Inadequate NWC entails liquidity constraints. The net working capital concept, however, is also important for following reasons:

1. It is qualitative concept, which indicates the firm’s ability to meet to its operating expenses and short-term liabilities.
2. It indicates the margin of protection available to the short term creditors.

**b) Current Ratio (CR)**

CR is defined as a ratio of current assets to current liabilities. If the ratio is 1, it means that the current asset and liabilities are equal. If it is more than one, it indicates that some long terms funds have been used to fund the current assets. If current ratio is 1, Net Working Capital is zero, and if it is less than one, NWC is negative. The CR can be worked out as:-

Current Ratio: $\frac{Current Assets}{Current Liabilities}$

Although there is no hard and fast rule, conventionally, a current ratio of 2:1 is considered satisfactory. In Indian conditions, 1.33 is considered as an acceptable current ratio. A persistent trend of poor current ratio (of less than 1) is a warning signal of impending sickness.

**c) Acid Test/Quick Ratio:**

The Acid Test Ratio is a more stringent measure of liquidity than the CR. It is expressed as a ratio of all the current assets excluding inventory to the current liabilities. It is also referred as Quick Ratio. The ratio is computed as:

Acid Test Ratio = $\frac{Quick Assets}{Current Liabilties}$

Quick Assets include:

* Cash and bank balances
* Short term marketable securities
* Debtors/receivables

Generally, an Acid Test Ratio of 1:1 is considered satisfactory as a firm can meet its current claims.

**d) Cash Ratio**

The severest measure of liquidity of a firm is the ratio of cash and marketable securities to that of current liabilities. The ratio is being computed as:-

**Cash Ratio = Cash + Marketable Securities ÷ Current liabilities**

Cash Ratio is the most stringent measure of the firm’s liquidity. It denotes the extent to which cash and marketable securities are sufficient to meet current liabilities.

**e) Debt Equity Ratio:**

The relationship between borrowed funds and owner’s capital is a popular measure of long term financial solvency of a firm. The DER is a financial ratio indicating the relative proportion of entity's equity and debt used to finance an entity's assets. It is also known as financial leverage ratio. The ratio is the key financial ratio and is used as a standard for judging a company's financial standing. It is also a measure of a company's ability to repay its obligations. When examining the health of a company, it is critical to pay attention to the DER. If the ratio is increasing, the company is being financed by creditors rather than from its own financial sources which may be a dangerous trend. The ratio is being calculated as:-

**Debt Equity Ratio = Total outside liabilities ÷ Tangible Net worth**.

Tangible Net worth is calculated as Capital + Free Reserve – intangible asset. 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. Optimal DER is considered to be about 1, i.e. liabilities = equity, but the ratio is very industry specific because it depends on the proportion of current and non-current assets.

Generally banks prefer a ratio below 3:1. In the case of SME the ratio can be relaxed to 4:1. In Medium scale Industries, it could be kept at 2:1 and large scale industries, it shall be 1:1. The main purpose of this ratio is to ascertain the relative financial stakes or skin in the business of the owner’s vis-à-vis the creditors and banks.

**f) Funded Debt Equity Ratio**

Funded Debt Equity Ratio shows the relation between term liabilities and equity. It is computed as:-

**Funded Debt Equity Ratio = Total Term Liabilities ÷ Net Worth**

Industry ratios should be used as norms for comparison. A funded debt equity ratio is relevant in the case of new projects. For financing a new project, the source is either equity or funded debt. Obviously the owners should have a reasonable stake in financing the enterprise.

**g) Debt Service coverage Ratio (DSCR)**

DSCR is a measure of the unit’s capacity/ability to service its debt obligations. Higher the coverage safer is the unit from the bankers’ perspective. It is worked out as:-

**DSCR** = **Net profit + Depreciation + Interest on Term Loan (÷) Interest on Term Loan + Instalment**

DSCR for a term loan is calculated for the years over which the loan is repayable. If the average DSCR over the life of the loan (i.e. the cumulative numerical divided by the cumulative denominator for the entire period of loan) is at a satisfactory level then the company is considered able to service the term loan. The ratio shall be minimum 1.5. If the average DSCR is satisfactory but in the initial years the ratio is less than 1.5, the bank may consider smaller term loan instalments for the earlier years and increase it in the later years.

**h) Gross Profit Ratio:**

The ratio is used to find out the overall profitability of the firm. The ratio can be calculated as:-

**Gross Profit Ratio = (Gross Profit ÷ Net Sales) × 100**

The basic components for the calculation of gross profit ratio are gross profit and net sales. Net sales mean that sale minus sales returns. Gross profit would be the difference between net sales and [cost of goods sold](http://www.accounting4management.com/cost_of_goods_sold_definition.htm). Gross profit ratio may be indicated to what extent the selling prices of goods per unit may be reduced without incurring losses on operations. It reflects efficiency with which a firm produces its products. As the gross profit is found by deducting cost of goods sold from net sales, higher the gross profit better it is.

**i) Net Profit Margin:**

The ratio shows the relation between the final profits of the company to sales. For the purpose of this ratio, net profit is equal to gross profit minus operating expenses and income tax. This ratio is being computed as:-

**Net Profit Ratio = (Net Profit ÷ Net Sales) × 100**

Net profit (NP) ratio is a useful tool to measure the overall profitability of the business. A high ratio indicates the efficient management of the affairs of business. There is no norm to interpret this ratio.

**j) Retained profit/net profit**

This ratio is known as retention ratio or sometimes referred to as the plowback ratio or retained surplus ratio. This is the amount of retained earnings relative to total earnings. This indicates the percentage of net earnings not paid out as dividends, but retained by the unit to be reinvested in its core business or to pay debt. Such retention will go to improve the net worth. The ratio is calculated as:-

**Retained Profit/Net Profit Ratio = (Net Income – Dividend) ÷ Net Income**

**k) Interest Coverage Ratio (ICR)**

The interest coverage ratio (ICR) is a measure of a company's ability to meet its interest payments. Interest coverage ratio is equal to [earnings before interest and taxes](http://www.readyratios.com/reference/profitability/ebit_earnings_before_interest_and_taxes.html) (EBIT) for a time period, often one year, divided by interest expenses for the same time period. ICR also known as Times Interest Earned Ratio (TIE), states the number of times a company is capable of bearing its interest expense obligation out of the operating profits earned during a period. The ratio is calculated as:-

**ICR = EBIT ÷ Interest obligation**

The effect of taxation is normally ignored in the calculation. Lower the ICR, the higher the company's debt burden and the greater the possibility of bankruptcy or default. A higher ratio indicates a better financial health as it means that the company is more capable to meeting its interest obligations from operating earnings.

**l) Return on Investment**

Return on investment (ROI) is performance measure used to evaluate the efficiency of investment. It compares the gains from investment directly to investment costs. The ratio is calculated as:-

**Return on Investment = Net profit after interest and tax ÷ Net Tangible Assets**

The higher the measure, the better. ROI is an important ratio because of the underlying implication it holds for the growth prospects of the firm and its ability to attract capital.

**m) Turnover Ratio:**

Some of the turnover ratios are:

* Working Capital Turnover Ratio
* Inventory Turnover Ratio
* Debtors Turnover Ratio
* Creditors Turnover Ratio

**i)** **Working Capital Turnover Ratio**

The working capital turnover ratio is also referred to as net sales to working capital. It indicates a company's effectiveness in using its working capital. Working capital is defined as the total amount of current assets minus the total amount of current liabilities. While calculating the ratio, the average amount of working capital for the year is taken to that of net sales. Working capital turnover ratio is one of the few financial analysis tools you can use to determine the relationship between funds used to support operations and sales resulting from such operations. It can be calculated as:-

**Working capital Turnover = Net Sales ÷ Working Capital**

This ratio indicates the number of times the working capital is turned over in a year. It measures the efficiency with which the working capital is used by the firm. A higher ratio indicates efficient utilisation and a low ratio indicates otherwise.

**ii)** **Inventory Turnover Ratio**

The inventory turnover ratio expresses the relationship between cost of goods sold and inventory. It measures the unit’s efficiency in turning its inventory into sales. An increasing ratio signifies better inventory management. It indicates the number of times, on an average, inventory is sold and replaced during the financial year. The ratio is calculated using the following formula:

**Inventory Turnover Ratio = Cost of Goods Sold ÷ Average Inventory**

Inventory turnover ratio is used to measure the inventory management efficiency of a business. In general, a higher value of inventory turnover indicates better performance and lower value means inefficiency in controlling inventory levels.

The three components of inventory are raw material, stock-in-process, and finished goods. The turnover or number of days held is defined in terms of raw material consumption, cost of production, and cost of sales respectively to get more idea of the turnover inventory.

**iii) Debtors Turnover Ratio**

Debtors’ Turnover Ratio indicates the relationship between sales and debtors. If reflects the efficiency with which the debtors are turned over into cash. Improvement in the ratio speaks better receivables management. The debtors turnover ratio can be calculated by using the formula:-

**Debtors Turnover Ratio = Net Credit Sales ÷ Average Trade Debtors**

The Debtors’ Velocity Ratio indicates the period of credit given by the unit to its customers in terms of days/weeks/months. It is being worked out as:-

**Debtors Velocity = (Average Balance of Debtors ÷ Credit Sales during the year) \* 365 (\* 52 if result require in number of weeks/\*12 if required in months)**

The ratio indicates the period of credit given by the company/firm to its customers in terms of days/weeks/months. A high ratio indicates efficient collections and low difficulty in debt realization. The ratio can be used as a measurement tool to know the speed of collection and efficiency of collection department. It will also enable to draw suitable policy for deciding the cash discount, profit planning, etc.

**iv)** **Creditors Turnover Ratio**

Creditors’ turnover ratio depicts the number of times average dues to the suppliers is settled. Higher the turnover, lower the payment period offered by the suppliers. The creditors’ turnover ratio can be calculated as:

**Creditors Turnover Ratio = Net Credit Purchases ÷ Average Creditors**

The Creditors’ Velocity Ratio indicates the period of credit received by the unit on its purchases from customers in terms of days/weeks/months. It is being worked out as:-

**Creditors Velocity Ratio  = (Average Creditors ÷ Credit Purchases) × 365 (or 52 if required in weeks or 12 if in months)**

A low credit turnover ratio reflects liberal credit terms granted by suppliers, while a high ratio shoes that accounts are to be settled rapidly.

**Other formulae**

**a) Book Value per Share (BPS)**

BPS =$\frac{Ordinary Shareholders’ Equity}{Number of equity Shares outstanding}$

**b) Earnings per share (EPS)**

EPS is generally considered to be the single most important variable in determining a share's price. It is also a major component used to calculate the price-to-earnings valuation ratio.

EPS = $\frac{Net Profit after tax – preference share dividend paid, if any}{Number of ordinary shares outstanding}$

EPS has some limitations in as much as an increasing EPS may be due to profits being retained in the business with the number of ordinary (equity) shares outstanding remaining the same. It also does not reveal the amount of dividends paid to the owners. Nevertheless, the EPS is a widely used ratio and lends itself to be compared with the EPS of other similarly placed firms and comparison with the industry average.

**c) Price to Earnings Ratio (P/E Ratio)**

The P/E ratio examines the relationship between the stock price and the company’s earnings.

**P/E ratio =**$ \frac{Market Price per Share (MPS)}{Earnings per Share (EPS}$

For example, a company with a share price of Rs. 140 and an EPS of 7 would have a P/E of 20 (140 / 7 = 20).

The P/E gives you an idea of what the market is willing to pay for the company’s earnings. The higher the P/E, the more the market is willing to pay for the company’s earnings. Generally, a high ratio with an increasing EPS indicates good future prospects.

**d) Market Price Per Share (MPS)**

P/E ratio = $\frac{MPS}{EPS}$

Therefore, MPS = $P/E ratio \*EPS$

**e) Dividend per share (DPS)**

The sum of declared dividends for every ordinary share issued. It is given by the formula:

**DPS =** $\frac{Dividend paid to ordinary shareholders}{Number of ordinary shares outstanding}$

Dividends are a form of profit distribution to the shareholders. Having a growing dividend per share can be a sign that the company's management believes that the growth can be sustained.

**f) Earnings Yield**

The earnings per share for the most recent 12-month period divided by the current market price per share. The earnings yield (which is the inverse of the P/E ratio) shows the percentage of each Re. invested in the stock that was earned by the company.

**Earnings Yield =** $\frac{EPS}{MPS}$ **\* 100**

**An increase in the numerator will bring about a corresponding increase in the denominator. Generally, a low yield along with an increasing EPS trend indicates that the investors consider the future prospects of the firm in terms of sales growth and profits as good.**

**g) Dividend Payment Ratio**

The percentage of earnings paid to shareholders as dividend.

Calculated as: $\frac{Dividend per share}{EPS}$

A reduction in dividends paid is looked poorly upon by investors, and the stock price usually depreciates as investors seek other dividend-paying stocks.
A stable dividend payout ratio indicates a solid dividend policy by the company's Board of Directors.

**h) Market Capitalization**

The total market value of all of a company's outstanding shares. Market capitalization is calculated by multiplying a company's shares outstanding by the current market price of one share. The investment community uses this figure to determine a company's size, as opposed to sales or total asset figures. It is frequently referred to as "market cap."

If a company has 35 million shares outstanding, each with a market value of Rs.100, the company's market capitalization is Rs. 3.5 billion (35,000,000 x Rs. 100 per share).

**i) Swap Ratio**

The ratio in which an acquiring company will offer its own shares in exchange for the target company's shares during a merger or acquisition. To calculate the swap ratio, companies analyze financial ratios such as book value, earnings per share, profits after tax and dividends paid, as well as other factors, such as the reasons for the merger or acquisition.

For example, if a company offers a swap ratio of 1:1.5, it will provide one share of its own company for every 1.5 shares of the company being acquired.

Marginal Costing—Definition

Marginal costing distinguishes between fixed costs and variable costs as conventionally classified. The marginal cost of a product is its variable cost for one more or one less unit. This is the economist’s view. But accountants generally view marginal cost as the change in cost for the level of activity. Therefore marginal cost and variable cost has the same meaning. This is normally taken to be; direct material, direct expenses and the variable part of overheads. Marginal costing is formally defined as:

“The account system in which variable costs are charged to cost units and the fixed costs of the period are written off in full against the aggregate contribution. Its special value is in deci­sion making Terminology.”

The term ‘Contribution’ mentioned in the formal definition is the term given to the differences between sales and Marginal cost. Thus

MARGINAL COST = VARIABLE COST = DIRECT LABOUR   + DIRECT MATERIAL +

 DIRECT EXPENSE + VARIABLE OVERHEADS

CONTRIBUTION = Sales – Marginal cost

The term marginal cost sometimes refers to the marginal cost per unit and sometimes to the total marginal costs of a department or batch operation. The meaning is usually clear from the context.

Alternative names for marginal costing are the ‘contribution approach’ and ‘direct costing’.

**Illustratation**

Marginal Costing techniques assume that the variable costs of production will remain unaltered regardless of the level of activity. It is this assumption which makes it a useful technique for appraising pricing strategies and determining output levels. The marginal or variable cost can then be substracted from the selling price so that the contribution from each sale can be calculated . This can be seen by preparing the high Output Com­pany’s costs in marginal costing format.

 January February March

Output (units) 500 1,000 2,000

Selling Price Rs Rs Rs

Per Unit 8 8 8

Less Variable Cost

Per Unit 2 2 2

Contribution 6 6 6

Per Unit

Total Contribution 3,000 6,000 12,000

Less Fixed Costs 4,000 4,000 4,000

Profit/(Loss) (1,000) 2,000 8,000

Note: Total contribution equals contribution per unit times output.

By preparing the information in this way, management can see the contribution earned from each sale. Contribution is not profit, because the fixed costs have not yet been covered, but it can be used to pay the fixed costs and any surplus after paying them will give rise to profits. Any change in selling price will, therefore, affect the amount of contribution earned per unit, but the variable cost per unit of production will be unaffected by the level of activity. The total contribution is calculated by multiplying the output by the contribu­tion per unit. The aim is to increase the total contribution by sell­ing at a price which maximises sales. In this way the fixed costs will be covered and any surplus will be profits.

**Comparison with Absorption Costing**

Using Absorption Costing, all costs are absorbed into production and thus operating statements do not distinguish between Fixed Cost and Variable Cost. Consequently, the valuation of stock and work‑in‑progress contains both fixed and variable elements. Two illustrations are given below to show comparison of the two methods.

**Example 1**

In a period 20,000 units of Z were produced and sold. Costs and reve­nues were:

 (Rs.)

Sales 1,00,000

Production costs:

Variable 35,000

Fixed 15,000

Administrative + Selling overheads

Fixed 25,000

Prepare operating statements based on both Absorption and Marginal Costing.

**Solution 1**

 **Operating Statements**

Absorption Costing Approach Marginal Costing Approach

 Rs Rs Rs

Sales 1,00,000 Sales 1,00,000

Less: Production cost 50,000 Less: Marginal

of Sales Cost 35,000

= Gross profit 50,000 = Contribution 65,000

Less: Admin+ selling Less: Fixed Costs

Overheads 25,000 Production 15,000

 Admin. S+D 25,000 40,000

= Net Profit Rs 25,000 Rs 25,000

The above illustration, although simple, illustrates the general characteristics of both approaches. The key figure arising in the Marginal statement is the Contribution of Rs 65,000. The total amount of contribution arising from product Z (and other pro­ducts, if any) forms a pool from which fixed costs are met. Any surplus arising after fixed costs are met becomes the net profit.

**Advantages and Disadvantages of Marginal Costing**

**Advantages**

1. More efficient pricing decisions can be made, since their impact on the

 contribution margin can be measured.

2. Marginal costing can be adapted to all costing system.

3. Profit varies in accordance with sales, and is not distorted by changes in stock level.

4. It eliminates the confusion and misunderstanding that may occur by the presence of over‑or‑under‑absorbed overhead costs in the profit and loss account.

5. The reports based on direct costing are far more effective for management control than those based on absorption costing. First of all, the reports are more directly related to the profit objective or budget for the period. Deviations from standards are more readily apparent and can be corrected more quickly. The variable cost of sales changes in direct proportion with volume. The distorting effect of production on profit is avoided, especially in month following high production when substantial amount of fixed costs are carried in inventory over to next month. A substantial increase in sales in the month after high production under absorption costing will have a significant negative impact on the net operating profit as inventories are liquidated.

6. Marginal costing can help to pinpoint responsibility according to organizational lines: individual performance can be evaluated on reliable and appropriate data based on current period activity. Operating reports can be prepared for all segments of the company, with costs separated into fixed and variable and the nature of any variance clearly shown. The responsibility for costs and variances can then be more readily attributed to specific individuals and functions, from top management to down management.

**Disadvantages of Marginal Costing**

1. Difficulty may be experienced in trying to segregate the fixed and variable elements of overhead costs for the purpose of marginal costing.

2. The misuse of marginal costing approaches to pricing decisions may result in setting and selling prices that do not allow the full recovery of overhead costs.

3. Since production cannot be achieved without incurring fixed costs, such costs are related to production, and total absorption costing attempts to make an allowance for this relationship. This avoids the danger inherent in marginal costing of creating the illusion that fixed costs have nothing to do with production.

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