Chapter: 2

Introduction to Financial Performance

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Financial Performance : An Introduction

The performance of the firm can be measured by its financial results, i.e., by its size of earnings. Riskiness and profitability are two major factors which jointly determine the value of the concern. Financial decisions which increase risks will decrease the value of the firm and on the other hand, financial decisions which increase the profitability will increase value of the firm. Risk and profitability are two essential ingredients of a business concern.

There has been a considerable debate about the ultimate objective of firm performance, whether it is profit maximization or wealth maximization. It is observed that while considering the firm performance, the profit and wealth maximization are linked and are effected by one-another.

A company’s financial performance, therefore is normally judged by a series of ratios or figures, however there are following three ratio parameters which can be used to evaluate financial performance, they are:

a) Return on Equity
b) Earnings Per Share and
c) Price Earnings Ratio.

All three parameters are discussed in detailed along with various other ratios. However, it is to be noted that fundamentally, the balance sheet indicates the financial position of the company as on that point of time. However, profit and loss account is a statement, which is prepared for a particular financial year.

In Indian context, where an analyst has to rely upon the audited financial statement for a particular company, the performance is to be judged from the financial statement only. This chapter, however indicates some of the techniques, which can be used for such analysis of financial performance.1
Usefulness of financial performance to various stakeholders.  

The analysis of financial performance is used by most of the business communities. They include the following.

1. Trade Creditors
   The creditors provide goods / services on credit to the firm. They always face concern about recovery of their money. The creditors are always keen to know about the liquidity position of the firm. Thus, the financial performance parameters for them evolve around short term liquidity condition of the firm.

2. Suppliers of long term debt
   The suppliers of long term debt provide finance for the on-going / expansion projects of the firm. The long term debt providers will always focus upon the solvency condition and survival of the business. Their confidence in the firm is of utmost importance as they are providing finance for a longer period of time.
   Thus, for them the financial performance parameters evolve around the following:
   i) Firm’s profitability over a period of time.
   ii) Firm’s ability to generate cash - to be able to pay interest and
   iii) Firm’s ability to generate cash – to be able to repay the principal and
   iv) The relationship between various sources of funds.
   The long term creditors do consider the historical financial statements for the financial performance.
   However, the financial institutions / bank also depends a lot on the projected financial statements indicating performance of the firm.
   Normally, the projections are prepared on the basis of expected capacity expansion, projected level of production / service and market trends for the price movements of the raw material as well as finished goods.
3. Investors

Investors are the persons who have invested their money in the equity share capital of the firm. They are the most concerned community as they have also taken risk of investments – expecting a better financial performance of the firm. The investors’ community always put more confidence in firm’s steady growth in earnings. They judge the performance of the company by analyzing firm’s present and future profitability, revenue stream and risk position.

4. Management

Management for a firm is always keen on financial analysis. It is ultimately the responsibility of the management to look at the most effective utilization of the resources. Management always tries to match effective balance between the asset liability management, effective risk management and short-term and long-term solvency condition.
Techniques \ Tools to measure financial performance

There are various tools available to judge the financial performance of the firm. They include the following.

1. Financial Ratio Analysis

The Financial Ratio Analysis is considered to be the most powerful tool of financial analysis. In simple language ratio means relationship between two or more things. It is also said that a ratio is the indicated quotient of two mathematical expressions.

It is observed that the absolute financial figures published in the annual report do not give any clear picture about the performance of a firm.

Let us take an example that a firm claims that it has earned a net profit after tax of Rs. 5,00,000/- (Five Lac) this figure alone is not sufficient to judge the performance of the firm. This profit of Rs. Five Lac may look very impressive when it is achieved on an investment of Rs. 50,00,000/- (Fifty Lac) but it may not so much impressive when it is achieved on investment of Rs. 5,00,00,000/- (Five Crores). This is where the ratio analysis is very useful to judge the financial performance.

The ratio analysis also helps to summarize the large quantities of financial data and to make qualitative judgment about the firm’s financial performance. There are various liquidity ratios which are quantitative in nature but are helpful to make qualitative judgment about the firm.

The financial ratios involve useful information about the analysis of the firm. However, standalone ratio of one firm alone may not be useful to evaluate the firm’s performance. Therefore, ratio should ideally be compared with some standard which may consist of the following.
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i) Past Ratios

Past ratios are the ratios which are calculated from the financial statements of previous years.

ii) Competitors’ Ratios

The ratios of some same size and industry representative firm, which can be considered as the progressive and successful competitor can be useful for comparison. However, they should be compared within a similar timeframe.

iii) Industry Ratio

There are some ratios which are common at industry level. However, they may be compared at the firm level – in reference to which the industry belongs.

iv) Projected Ratios

Whenever, a firm approaches to any long term finance provider, they have to give financial projections, which are based on some ratios.

Above points are normally refereed for inter-firm or firm v/s industry comparison. However, in all circumstances it is difficult find the exact competitor company for comparison because of several reasons.

The ratio analysis can further be used in the following context:

a. Time Series Analysis

This is a very easy way to evaluate the performance of a firm. In this, the current year’s financial ratios are compared over a period of time. This is an indication of direction of the firm’s direction of change.
Here, the role of analyst is also becoming important. It should be noted that the analyst should not only stick to mathematical aspect of the ratio. They should go into root cause and try to analyze the reasons behind changing trend of ratios.

b. Cross Sectional Analysis \ Inter-firm analysis
   When the financial ratio of one firm is compared with some selected firms in the same industry, at the same point of time, it is known as Cross Sectional Analysis or Inter-firm analysis.
   In many cases, comparison of firm’s performance with carefully selected firms from the industry is more beneficial. It may indicate the firm’s strengths or weaknesses in terms of operating leverage or financial leverage.

c. Industry Analysis
   In this type of analysis, the ratio of one firm is compared with the average ratios of industry – of which a firm is a member. This type of analysis is known as Industry Analysis.
   It is well accepted fact that each industry has its unique characteristics, which will have impact on the financial and operating relationships of the firm. But in many cases, it is difficult to get the actual ratios of the industry because of various reasons.

d. Proforma Analysis
   In many cases, future - projected ratios are used as the standard of comparison. The future ratios are normally used in the Financial Projections which are also popularly known as Proforma Ratios.
   The comparison of firm’s projected v/s actual ratio will indicate the relative position of the firm. Mainly it will also indicate the operational or financial leverage position of the firm – when it started the project and actual position when the project is completed or half way.
2. DuPont Analysis

According to the Du-pont analysis, RONA (or ROCE) is an important tool for judging the operating financial performance. It is an indication of the earning power of the firm.

RONA is calculated as under:

\[
\text{RONA} = \frac{\text{EBIT}}{\text{Sales}} \times \frac{\text{GP}}{\text{Sales}} \times \frac{\text{EBIT}}{\text{GP}}
\]

Where:
- RONA = Return on Net Assets
- EBIT = Earnings Before Interest and Tax
- GP = Gross Profit
- NA = Net Assets

It is observed that most of the firms would like to improve their RONA. However, in this competitive world, RONA is always under pressure. Hence, firms have to balance between the Asset Turnover and Gross profit Margin. Many firms adopt various ways to increase the Gross Profit Margin some firms resort to vertical integration for cost reduction also.

A firm can convert impressive RONA into an impressive ROE through financial efficiency. It is observed that ROE us certainly affected by the Financial leverage and combination of debt and equity. Therefore, ROE is a product of RONA and financial leverage ratios which reflect the operating efficiency.

Therefore, \( \text{ROE} = \text{Operating Performance} \times \text{Leverage Factor} \).
The Du-pont chart can also be indicated with the help of the following diagramme.

![Du-pont Chart Diagram](image)

Therefore, the combined effect of the du-pont chart can be explained with the following equation:

\[
\text{ROE} = \text{Sales} \times \text{GP} \times \text{EBIT} \times \text{PAT} \times \frac{\text{NA}}{\text{Sales}} \times \frac{\text{GP}}{\text{EBIT}} \times \frac{\text{PAT}}{\text{NW}}
\]

As discussed above, ROE when it is multiplied by retention ratio gives growth.

3. Comparative Statement Analysis

Comparative Statement Analysis is one of the methods to trace periodic change in the financial performance of a firm.

The changes over the period are described by way of Increase of Decrease in income statement and balance sheet. The changes are normally of two types:

i) Aggregate Changes

ii) Proportional Changes

A sample of comparative statement is described as under:

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Previous Year (Amt. Rs.)</th>
<th>Current Year (Amt. Rs.)</th>
<th>Change (in Amt)</th>
<th>Change (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liabilities and Capital</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td>Long Term Liabilities</td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td>Share Capital &amp; Res.</td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td><strong>Assets</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed Assets</td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td>Current Assets</td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td>Other Assets</td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>XX</td>
<td>XX</td>
<td>(+ / -)</td>
<td>(+ / -) %</td>
</tr>
</tbody>
</table>
The financial statement mentioned in above table indicates corresponding changes in two balance sheet data. An assessment of comparative financial statement helps to highlight the significant facts and points out the items requiring further analysis. All annual report of the selected companies provides data related to last two financial years.

4. Time Series Analysis OR Trend Analysis

The Time Series Analysis or Trend Analysis indicates of ratio indicates the direction of changes. The trend analysis is advocated to be studied in light of the following two factors.

i) The rate of fixed expansion or secular trend in the growth of the business and

ii) The general price level.

Any increase sales statement may be because of two reasons, one may be the increase in volume of business and another is the variation in prices of the goods / services.

For trend analysis, the use of index number is generally advocated. The procedure followed is to assign the number 100 to the items of each base year and to calculate percentage changes in each item of the other years in relation to the base year. This is known as ‘Trend-Percentage Method’. The following table indicates it.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Base Year</th>
<th>Previous Year</th>
<th>Current Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>EBIT</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>PAT</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Current Assets</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Gross Fixed Assets</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Net Assets</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Total Assets</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Net Worth</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
<tr>
<td>Dividend</td>
<td>100</td>
<td>(+ / -)</td>
<td>(+ / -)</td>
</tr>
</tbody>
</table>
5. Inter-Firm Analysis

A firm would like to know its financial standing vis-à-vis its major competitors and the industry group. Analysis of financial performance of all firms in an industry and their comparison at a given point of time is referred to the Cross Section Analysis or Inter-firm analysis. To ascertain the relative financial standing of a firm, its financial ratios are compared either with its immediate competitors or with the industry average. The following table can be used to consider the inter-firm analysis.

<table>
<thead>
<tr>
<th>Particulars</th>
<th>CE</th>
<th>NW</th>
<th>NS</th>
<th>PBIT</th>
<th>PBT</th>
<th>PAT</th>
<th>DIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
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<tr>
<td>Company B</td>
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<tr>
<td>Company C</td>
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<tr>
<td>Company D</td>
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<td>Company E</td>
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<td>Company F</td>
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<tr>
<td>Company G</td>
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<td>Company H</td>
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<td>Company I</td>
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<tr>
<td>Company J</td>
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</tr>
</tbody>
</table>

Where…

- CE = Capital Employed
- NW = Net Worth
- NS = Net Sales
- PBIT = Profit Before Interest and Tax
- PBT = Profit Before Tax
- PAT = Profit After Tax
- DIV = Dividend

For further analysis, the following ratios can also be used for inter-firm analysis. They are mentioned in the table described as below.
### Particulars

<table>
<thead>
<tr>
<th></th>
<th>NS CE</th>
<th>PBIT CE</th>
<th>PBIT NW</th>
<th>PAT CE</th>
<th>CE NW</th>
<th>PAT NW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A</td>
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<td>Company C</td>
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<tr>
<td>Company D</td>
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<td>Company E</td>
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<td>Company J</td>
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</tr>
</tbody>
</table>

Where...

- **NS / CE** = Net Sales to Capital Employed
- **PBIT / NW** = Profit Before Int. & Tax (PBIT) to Net Sales
- **PBIT / CE** = Profit Before Int. & Tax (PBIT) to Cap. Employed
- **PAT / PBIT** = Profit After Tax to Profit Before Interest and Tax
- **CE / NW** = Capital Employed to Net Worth
- **PAT / NW** = Profit After Tax to Net Worth
Ratio Analysis

Ratios are calculated based on the financial and related statement like. Profit & Loss account, Balance Sheet etc. The ratios are classified as under:

a) Liquidity Ratios
b) Leverage Ratios
c) Activity Ratios and
d) Profitability Ratios

The objective behind calculating each of the ratios is different and the outcome expected is also different. Let us study the objective behind every type and sub-type of ratio.

a) Liquidity Ratios

Liquidity Ratios are calculated to measure the firm’s ability to meet its current obligations. The solvency position is indicated by the liquidity ratios. The solvency position is very critical for any firm. It is often indicated by the Indian industry that it has ample sources available for the long term finance, but very limited sources are available for the short term finance or to meet working capital requirement. So, a firm’s performance in this area is an important indication towards the performance.

The following are the ratios that indicate liquidity position.

i) Current Ratio

Current Ratio is calculated by dividing current assets by current Liabilities. The formula for the Current Ratio is as under:

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

Where…

Current Assets include cash and those assets which are convertible into cash within a period of one year.

Current Liabilities includes all obligations which are to maturing within a period of one year.
ii) **Quick Ratio**

It is also popularly known as an acid test ratio. This ratio normally describes the quick or liquid assets and current liabilities. It is considered that an asset is liquid if it can be converted into cash immediately. Cash is considered to be the most liquid assets other assets those are relatively liquid and included in quick assets are debtors and bills receivable and marketable securities. As the inventories are treated as less liquid as they requires some time for realizing into cash. The quick ratio is calculated as under:

\[
\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}}
\]

Where…

Current Assets include cash and those assets which are convertible into cash within a period of one year.

Current Liabilities includes all obligations which are to maturing within a period of one year.

Inventories include all three types – Raw Material, Work In Process (WIP) and Finished Goods.

iii) **Cash Ratio**

Cash is considered to be the most liquid asset. The financial analysts normally examine cash ratio and its equivalent to current liabilities. Trade investment or marketable securities are equivalent of cash; therefore, they may be included in the computation of cash ratio. The Cash ratio is calculated as under:

\[
\text{Cash Ratio} = \frac{\text{Cash + Marketable Securities}}{\text{Current Liabilities}}
\]

Cash ratio can be more or less. The less ratio should also not to be the issue of huge concern as the company may have a strong reserve power.
iv) Interval Measure
The interval measure assesses the firm’s ability to meet its regular cash expenses. The interval measure relates liquid assets to average daily operating cash outflows. The Interval Measure is calculated in number of days as under:

\[
\text{Interval Measure} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Average Daily Operating Expenses}}
\]

Where…
\[
\text{Average Daily Operating Expenses} = \frac{[\ (\text{Cost of Goods Sold} + \text{Selling & Admin overheads} - \text{Depreciation}) / 360 ]}{360}
\]

v) Net Working Capital Ratio
The difference between current assets and current liabilities (excluding short term bank borrowings) is known as Net Working Capital (NWC) OR Net Current Assets (NCA). NWC is sometimes used as a measure of a firm’s liquidity. The ratio is calculated as under:

\[
\text{NWC Ratio} = \frac{\text{Net Working Capital (NWC)}}{\text{Net Assets}}
\]

The NWC measures the firm’s potential reservoir of funds. It can be related to net assets (or Capital Employed)

All above ratios indicate firm’s liquidity situation. But during the analysis it is to be considered that Current Assets & Current Liabilities keeps on changing at a rapid pace and can change quickly.
b) Leverage Ratios

Leverage Ratios are popularly known as the capital structure ratios as well. Any firm has got two sources of finance one is owned funds and the other is borrowed funds. As a general rule, there should be an appropriate mix of debt and owners’ equity in financing the firm’s assets. As popularly known, these ratios indicate mix of funds provided by owners and lenders. There are various implications of the manner in which the funds are arranged they can be prescribed as under:

1. The composition of debt and equity. The debt is considered as more risk from a firm’s point of view. As it is obligation on the part of the firm to re-pay the amount along with the interest component.

2. The use of debt can also be sometimes advantageous in case where the firm can retain control of the firm with a limited stake and their earnings will be increased when a firm earns a rate which is higher than its cost of capital of borrowed funds.

3. It is observed that highly debt firm find it difficult to get appropriate return. As they are facing the problem of incremental level of marginal rate of interest.

The process of magnifying the shareholders’ return through use of debt is popularly known as ‘trading on equity’. However, the situation can be different when the rates are reverse or the situation is different.

The leverage ratios are calculated on the basis of balance sheet, it may also be computed using profit and loss account by determining the extent to which operating profits are sufficient to cover the fixed charges.

i) Debt Ratio

The debt ratios can be considered to arrive at the ratio of proportion of total debt and net assets. The following two debt ratios are popular.

\[
\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Total Debt} + \text{Net Worth}}
\]

Where… \(\text{Total Debt + Net Worth = Capital Employed}\)
b) Debt Ratio = \[\frac{\text{Total Debt (TD)}}{\text{Net Assets (NA)}}\]

Where… Net Assets = Net Fixed Assets + Net Current Assets

It is to be noted that the Capital Employed (CE) equals Net Assets that consists of Net Fixed Assets (NFA) and Net Current Assets (NCA). The Net Current Assets are Current Assets (CA) minus Current Liabilities (CL) excluding interest bearing short term debt for working capital

ii) Debt – Equity Ratio

The Relationship describing the lenders’ contribution for each rupee of the owners’ contribution is called as debt-equity ratio. Debt-equity (DE) ratio is directly computed by dividing total debt by net worth.

\[
\text{Debt-Equity Ratio} = \frac{\text{Total Debt}}{\text{Net Worth}}
\]

The ratio can be less \ greater than 1 : 1 or equal to 1 : 1.

iii) Capital Employed to Net Worth Ratio

There is another way of expressing the basic relationship between debt and equity. One way can be How much funds are being contributed together by lenders and owners for each rupee of the owners’ contribution? Calculating the ratio of capital employed or net assets to net worth can find this out :

\[
\text{CE-to-NW ratio} = \frac{\text{Capital Employed}}{\text{Net Worth}}
\]

As the Capital Employed is normally equal to Net Assets, it can be replaced. Treatment of Preference share capital as debt ignores fact that debt and preference capital present different risk to shareholders.  Heavy indebtedness leads to creditors’s pressure on managements functioning.
iv) Interest Coverage Ratios

Debt ratios are described as a static in nature and many times make it difficult to exactly direct towards firm’s ability to meet the interest or other fixed charges obligation.

The interest coverage ratio or the Times – interest-earned is used to test the firm’s debt servicing capacity. The interest coverage ratio is calculated as under:

\[
\text{Interest Coverage} = \frac{\text{EBIT}}{\text{Interest}}
\]

Some times, the depreciation – being a non cash item it can be excluded. Therefore the interest coverage can also be computed as under :

\[
\text{Interest Coverage} = \frac{\text{EBITDA}}{\text{Interest}}
\]

This ratio indicates the extent to which earnings may fall without causing any embarrassment to the firm regarding the payment of the interest charges. A higher ratio is desirable; but too high a ratio indicates that the firm is very conservative in using debt and that it is not using credit to the best advantage of shareholders. A lower ratio indicates excessive use of debt or inefficient operations.
c) Activity Ratios

Activity Ratios are calculated to evaluate the efficiency with which the firm manages and utilizes its assets. These ratios are known as turnover ratios as well. The activity ratios involve a relationship between sales and assets. A proper balance between sales and assets generally reflects that assets are managed properly.

The following are the ratios that indicate level of activities.

i) Inventory Turnover Ratio

Inventory Turnover Ratio indicates the efficiency of the firm in manufacturing and selling of its product. The ratio is arrived at by dividing cost of goods sold by the average inventory.

\[
\text{Inventory Turnover} = \frac{\text{Cost Of Goods Sold}}{\text{Average Inventory}}
\]

Where…

Average Inventory is the average of opening and closing balance of inventory.

When 360 (Appro. No. of days in a year) is divided by this ratio, it gives us days of inventory holding. Therefore,

\[
\text{Days of Inventory Holding} = \frac{360}{\text{Inventory Turnover}}
\]

The inventory turnover indicates how fast the inventory is turning into receivable through sales. Generally, a high level of inventory turnover indicates good inventory management. For further analysis of inventory, this ratio may be divided into the following sub-ratios

a) Finished Goods Turnover
b) Work-in-process Turnover
c) Materials Turnover
d) Sales to total inventory
e) Inventory to Sales
ii) Debtors Turnover Ratio

When a firm sells goods on credit to its customers, debtors (Accounts receivables) are created in the firm’s account. The debtors are convertible into cash over a short period and therefore, they are included in current assets. The liquidity position of the firm depends on the quality of debtors to a great extent. The debtors turnover ratio is calculated as under:

\[
\text{Debtors Turnover} = \frac{\text{Credit Sales}}{\text{Average Debtors}}
\]

The debtors turnover indicates the number of times debtors turnover each year. Generally, the higher the value of debtors turnover, more efficient is the management of credit.

When 360 (Approx no. of days in a year) is divided by this ratio, it gives us days of Collection Period. Therefore,

\[
\text{Days of Collection Period} = \frac{360}{\text{Debtors Turnover}}
\]

The days of collection indicates the average number of days for which debtors remain outstanding.

The interpretation of Average Collection Period should be done cautiously. It helps in determining collectability of debtors and ascertaining firm’s collection experience. 8

iii) Assets Turnover Ratio and Working Capital Turnover

Assets are used to generate sales. Therefore, a firm is required to manage the assets with adequate efficiency to maximize sales. The relationship between Sales and Assets is known as Assets Turnover. There are several types of Assets Turnover can be calculated. But it is required to understand the following.

\[
\begin{align*}
\text{NA} &= \text{CE} \\
\text{NA} &= \text{NFA} + (\text{CA-CL}) \quad \text{or} \quad \text{NA} = \text{NFA} + \text{NCA} \\
\text{TA} &= \text{NFA} + \text{CA}
\end{align*}
\]
Based on the above, there can be various types of Asset Turnover Ratio.

Net Asset Turnover = \[ \frac{\text{Sales}}{\text{Net Assets}} \]

Total Asset Turnover = \[ \frac{\text{Sales}}{\text{Total Assets}} \]

Fixed Asset Turnover = \[ \frac{\text{Sales}}{\text{Net Fixed Assets}} \]

Net Current Assets Turnover = \[ \frac{\text{Sales}}{\text{Net Current Assets}} \]

Current Assets Turnover = \[ \frac{\text{Sales}}{\text{Current Assets}} \]

A firm’s ability to produce a large volume of sales for a given amount of net asset is most important aspect of its operating performance. Unutilized or Under Utilized assets increase the firm’s need for costly financing as well as expenses for maintenance and upkeep. The Asset Turnover Ratios should be interpreted cautiously.
d) Profitability Ratios

A majority of the discussion in the financial performance evolves around the concepts of profit maximization and wealth maximization. Profits are always essential. But it would not be appropriate to go ahead with the discussion of profit maximization until the concept of profit is properly understood. The method to arrive at profit is as under:

\[
\text{Sales / Total Income} \\
\text{Less Cost of Goods Sold} \\
PBITDA \\
\text{Less Interest} \\
PBDTA \\
\text{Less Depreciation} \\
PBT \\
\text{Less Tax & Adjustments} \\
PAT \\
\text{Add Depreciation & Non Cash Exp} \\
\text{Cash Profit.}
\]

Where…

\[
PBITDA = \text{Profit Before Interest Tax Depreciation & Adjustments} \\
PBDTA = \text{Profit Before Depreciation Tax & Adjustments} \\
PBDTA = \text{Profit Before Depreciation Tax & Adjustments} \\
PBT = \text{Profit Before Tax} \\
PAT = \text{Profit After Tax} \\
\text{Cash Profit} = \text{Profit After Tax + Depreciation (and other non cash exps.)}
\]

A firm’s performance is often judged by the profitability. However, two types of profitability ratios are calculated.

a) Profitability in relation to sales.

b) Profitability in relation to investments.

The following are the ratios that profitability position of a firm. It is a fact that sufficient profit must be earned by a firm to sustain, expand and grow.\(^9\)
Chapter: 2 Introduction To Financial Performance

i) Gross Profit Margin

Gross profit is the first profitability ratio. It is calculated on gross profitability margin. It is calculated as under:

\[
\text{Gross Profit Margin} = \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Sales}}
\]

= \frac{\text{Gross Profit}}{\text{Sales}}

The gross profit margin reflects the efficiency with which management produces each unit of product. This ratio also indicates the aggregate spread between the Cost of Goods Sold (COGS) and the sales revenue. A high gross profit margin ratio can be sign of good management. The high gross margin may be due to any of the following:

a) Higher sales prices, while cost of goods sold remain constant.
b) Lower Cost of Goods Sold, sales pricing remaining constant.
c) An increase in the proportionate volume of higher margin items.

The analysis of these factors will reveal to the management how a depressed gross profit margin can be improved.

A lower gross profit margin may reflect higher cost of goods sold due to the firm’s inability to purchase raw materials at favorable terms, and inefficient utilization of plant and machinery or over investment in plant and machinery, resulting in higher cost of production.

ii) Net Profit Margin

Net profit is obtained by deducting operating expenses, interest and taxes are subtracted from the gross profit. The net profit margin ratio is measured by dividing profit after tax by sales. The formula can be narrated as under:

\[
\text{Net Profit Margin} = \frac{\text{Profit After Tax}}{\text{Sales}}
\]
Net profit margin ratio establishes relationship between net profit and sales. It also indicates management’s efficiency in manufacturing, administering and selling the products. This ratio is overall measure of the firm’s ability to turn each rupee sales into net profit. If the net margin is inadequate, the firm will fail to achieve satisfactory return on shareholders’ funds.

The ratio also indicates the firm’s ability to withstand adverse economic conditions. Where a firm with higher net margin ratio will be in advantageous, position to survive in the face of falling selling prices, rising costs of production or declining demand for the product. Such conditions are very difficult for low profit margin firms.

iii) Operating Expense Ratio

The operating expense ratio explains the changes in the profit margin. (EBIT to Sales) ratio. This ratio is computed by dividing operating expenses viz. cost of goods sold plus selling expenses and general and administrative expenses (excluding interest) by sales:

\[
\text{Operating Expense Ratio} = \frac{\text{Operating Expenses}}{\text{Sales}}
\]

A higher operating expense ratio is un-favourable as it indicates a smaller amount of operating income to meet interest, dividends etc. The variations in this ratio can be because of various reasons like:

a) Changes in Sales Prices
b) Changes in the demand for the product
c) Changes in administrative or selling expenses or
d) Changes in the proportionate shares of sales of different products with varying gross margins.

These, along with other causes are reasons for variations in the ratio.
iv) Return On Investment

Term investment is equal to ‘Total Assets’ or ‘Net Assets’. The funds employed in net assets are known as capital employed. Net Assets is equal to Net Fixed Assets plus Current Assets minus Current Liabilities (Excluding Bank Loans). Alternatively, capital employed is equal to net worth plus total debt.

As per the conventional approach of calculating Return on Investment (ROI) is to divide PAT by investment. Investment indicates pool of funds supplied by shareholders and lenders.

The taxes are not something which is within the control of management, and since the firm’s opportunities for availing tax incentives differ, it is more prudent to use before-tax measure of ROI.

The following two methods indicate calculation of ROI.

\[
\text{ROI} = \frac{\text{ROTA}}{\text{TA}} = \frac{\text{EBIT}}{\text{TA}}
\]

\[
\text{ROI} = \frac{\text{RONA}}{\text{NA}} = \frac{\text{EBIT}}{\text{NA}}
\]

Some companies even use EBITDA to calculate the ROI.

v) Return On Equity

The common shareholder is entitled to the residual profits. A return on shareholders’ equity is calculated to see the profitability of owners’ investment. The shareholders’ equity or net worth will include paid-up share capital, share premium and reserves and surplus less accumulated losses. Net worth can also be found by subtracting total liabilities from total assets.

The return on equity is net profit after taxes divided by shareholders’ equity which is given by net worth.
ROE = \frac{\text{Profit After Taxes}}{\text{Net Worth (Equity)}} = \frac{\text{PAT}}{\text{NW}}

ROE indicates how well the firm has used the resources of owners.
The earning of a satisfactory return is the most desirable objective of a business. The ratio of net profit to owners’ equity reflects the extent to which this objective is accomplished. Therefore, this ratio is great interest to the present as well as the prospective shareholders and also great concern to management.

The return on owners’ equity of the company is normally compared with the ratios for other similar companies and the industry average. This reveals the relative performance and strength of the company in attracting future investments.

vi) Earnings Per Share

The Earnings Per Share is one of the key measure of profitability of shareholders’ investment. The EPS is calculated by dividing the profit after taxes by total number of ordinary shares outstanding. The formulae to calculate EPS is as under:

$$\text{EPS} = \frac{\text{Profit After Tax}}{\text{Number of Outstanding Shares}}$$

The calculation of EPS over the years indicates whether the firm’s earnings power on per-share basis has changed over that period or not. The EPS of the Company should be compared with industry average and the EPS of the other firms. However, EPS does not indicate how much of EPS is distributed as a dividend and how much is retained earnings.
vii) Dividend Per Share
The dividend is the income which a shareholder really receives. This is the amount which is a part of earnings distributed as cash to the shareholders. Therefore, it is a large number of interest to majority of the investors. Some investors put greater weightage on Dividend Per Share rather than on EPS.

The DPS is calculated as under:

\[
DPS = \frac{\text{Earnings paid to shareholders (Dividends)}}{\text{Number of ordinary shares outstanding}}
\]

Now, for example a company earns Rs. 8.00 per share and distributes Rs. 2.00 per share, then the difference per share is retained in the business.

viii) Dividend Payout Ratio
The dividend payout ratio is the comparison of amount distributed as dividend and amount earned per share. The payout ratio is calculated as under.

\[
Payout \text{ Ratio} = \frac{\text{Dividend Per Share}}{\text{Earnings Per Share}}
\]

Earnings not distributed per share are retained in the business. Therefore, retention ratio in the business will be equal to 1 – Payout Ratio. If this figure is multiplied by ROE, one can know the growth in the owners’ equity as a result of retention policy.

ix) Dividend and Earnings Yield
The dividend yield is the dividends per share divided by market value per share. It can be calculated as under:

\[
\text{Dividend Yield} = \frac{\text{Dividend Per Share}}{\text{Market Value Per Share}} = \frac{\text{DPS}}{\text{MV}}
\]
The earnings yield is the earnings per share divided by market value per share. It can be calculated as under:

\[
\text{Earnings Yield} = \frac{\text{Earnings Per Share}}{\text{Market Value Per Share}} = \frac{\text{EPS}}{\text{MV}}
\]

Above ratios evaluate the shareholders’ return in relation to the market value of the share. The earnings yield ratio is also called as Earnings – Price (E/P) Ratio.

x) Price Earnings Ratio

This ratio is reciprocal to the above ratio. This is one of the most popular among the financial analysts to value the firm’s performance as expected by the shareholders. This can be calculated as under:

\[
\text{P/E Ratio} = \frac{\text{Market Value Per Share}}{\text{Earnings Per Share}} = \frac{\text{MV}}{\text{EPS}}
\]

This also indicates investors’ judgment or expectations about the firm’s performance. Normally, this ratio reflects investors’ expectations about the growth in the firm’s earnings.

xi) Market Value to Book Value Ratio

This ratio is primarily indication of market v/s book value of share. Hence, it is the ratio of share price to book value per share:

\[
\text{M/B Ratio} = \frac{\text{Market Value Per Share}}{\text{Book Value Per Share}}
\]

Where…

\[
\text{Book Value Per Share} = \frac{\text{Net Worth}}{\text{No. of shares outstanding}}
\]
This is also an indication of the company’s worth compared to funds which are put into by shareholders.

xii) Tobin’s Q

This is the ratio of Market Value of Firm’s assets (or equity and debt) to its assets’ replacement costs.

Thus, this can be calculated as under:

\[
\text{Tobin’s Q} = \frac{\text{Market Value of Assets}}{\text{Replacement Cost of Assets}}
\]

It is assumed that the firms will have incentive to invest when Q is greater than 1. However, they will be reluctant to invest once the Q becomes equal to 1.

It is to be noted that this ratio differs from market value to book value ratio in the following respects:

a) It includes both debt and equity in the numerator and

b) All assets in the denominator, not just the book value of equity.

However, it is observed that in most of the cases it is difficult to arrive at the genuine market value of assets. It is argued that firms will have incentive to invest when Q is greater than 1. They will be reluctant to invest once Q becomes equal to 1. \(^{11}\)
Note and References

2. For a detailed discussion, see Foster G, Financial Statement Analysis, Prentice Hall 1986 pp 2-7
4. Operating Leverage may be defined as a change in EBIT for a given change in Sales.
5. This is most common traditional classification of ratios. For a comprehensive treatment of statement analysis one can refer to Foster G, Financial Statement Analysis, Prentice Hall 1986
7. Miller D E, The meaningful interpretation of financial statement, AMA 1966