Fundamentals of Stock Market

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Fundamental Analysis:

Basics of fundamental analysis for stock evaluation,

Key financial ratios and their interpretation,

Assessing a company’s financial health

Fundamental Analysis for Stock Evaluation

- Fundamental analysis is a method used to evaluate the intrinsic value of a stock by examining related economic, financial, and other qualitative and quantitative factors.
- Fundamental analysis involves examining a company's financial statements and broader economic indicators to uncover a security's intrinsic value.
- The result of such an analysis should give you the investment's true worth based on a company's financial health, the market, and economic conditions.
- Investors perform fundamental analysis to gauge whether or not to invest in a company based on it's current and projected worth.
- [Intrinsic value is the anticipated or calculated value of a company, stock, currency or product determined through fundamental analysis. It includes tangible and intangible factors. Intrinsic value is also called the real value and may or may not be the same as the current market value.]

E.g.: When you go to buy a stock, for example Infosys, you know the current market price is Rs 780 per share. This price is only the market price i.e. some seller must be asking for this rate to sell the **Infosys stock.**

Your job as a long term investor is to buy the stock at a far lower price than the intrinsic value. So, if the true value of **Infosys stock** is Rs 900, buying it for Rs 780 is logical. On the other hand, if the true value of Infosys stock is Rs 700, buying it at Rs 780 is not a good deal for you.

- Fundamental analysis, tells you the true value of a stock

Undervalued and Overvalued Stock Prices

Undervalued Stock

An **undervalued stock** is one that is currently trading at a price lower than its intrinsic value. This typically happens when the market overlooks the stock's actual financial health or future potential. Investors who believe a stock is undervalued expect its price to rise in the future as the market corrects the disparity.

Causes of Undervaluation:

- **Market Sentiment**: Negative news, economic downturns, or temporary issues in the company or industry might push a stock's price down, even if the fundamentals are strong.
- **Short-Term Setbacks**: The company may face temporary challenges (e.g., a lawsuit, bad earnings report) that hurt the stock price but don't reflect the company's long-term potential.
- **Lack of Awareness**: Sometimes, the broader market may not fully recognize the potential of smaller or less well-known companies.

Why Investors Buy Undervalued Stocks:

- **Value Investing**: Investors like Warren Buffett focus on finding undervalued stocks, believing that the market will eventually recognize the company’s true value, causing the stock price to rise and providing a profit for the investor.

Overvalued Stock

An **overvalued stock** is one trading at a price higher than its intrinsic value. This usually happens when the market has overestimated the company's growth prospects, or there is too much optimism driving up the price without sufficient support from the company's fundamentals.

Causes of Overvaluation:

- **Hype or Speculation**: Investor excitement or hype around a particular company or industry (such as during bubbles) can drive stock prices higher than their actual worth.
- **Short-Term Popularity**: If a company is seen as being in a "hot-cake" sector or is undergoing a lot of media attention, its stock price can surge beyond its true value.

Why Investors Avoid Overvalued Stocks:

- **Risk of Correction**: Overvalued stocks are at higher risk of experiencing a price drop or correction when the market recognizes the stock is overpriced.

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- Estimated Value of one ZOMATO stock is Rs. 58.59. Compared to the current market price of Rs. 278.15, the stock is Overvalued by 79%.
- Intrinsic value of one ITC stock is Rs. 270.86. Compared to the current market price of Rs. 516, ITC Ltd is Overvalued by 48%
- Intrinsic value of one SBI stock is Rs. 1000.11. Compared to the current market price of Rs.793, State Bank of India is Undervalued by 20%.
- The intrinsic value of one HDFC BANK stock is Rs. 1793.38. Compared to the current market price of Rs. 1727.2, HDFC Bank Ltd is Undervalued by 3%.

Types of Fundamental Analysis

Fundamental Analysis are divided into two categories: **Qualitative and Quantitative**

- Qualitative fundamental analysis is based on the quality of something such management, brand, products, financial performance, etc. Qualitative analysis is a subjective opinion. For example, you feel the products of Bajaj Auto are better than those of TVS Motor Corp. This is a qualitative opinion.

- Quantitative fundamental analysis adds numbers. The major source of quantitative data is extracted from the financial statements (balance sheet, income statement, cash flow statement). It is not subjective. Both qualitative and quantitative fundamental analysis of a company are a must. You cannot do one at the expense of another.

How Fundamental Analysis Works?

Understanding the Business

- **Industry Analysis**: Evaluate the industry in which the company operates. E.g.: if the company is a tech company; automobile company, FMCG company, entertainment company, blue-chip/start-up;, etc. Understand the market size, competition, growth potential, and regulatory environment.
- **Business Model**: Understand how the company makes money. Look at its core products/services, market share, and competitive advantages (e.g., brand strength, patents, proprietary technology).

Macroeconomic Factors

Consider broader economic conditions that can impact the company's performance.

- **Interest Rates**: Higher interest rates can increase borrowing costs and reduce consumer spending.
- **Inflation**: Rising costs can erode company profits.
- **Currency Fluctuations**: Companies involved in international trade can be affected by changes in exchange rates.

Financial Statements

Fundamental analysis relies heavily on financial statements, which provide a detailed look at the company's performance.

[**Financial statements** are formal records of a company's financial activities and performance over a specific period. They provide valuable information to investors, analysts, and other stakeholders to assess the financial health of a company and make informed decisions. There are three primary financial statements: **Income Statement**, **Balance Sheet**, and **Cash Flow Statement**].

1. Income Statement (Profit and Loss Statement):

The income statement shows the company's **revenues**, **expenses**, and **profits** (or losses) over a specific time period, usually quarterly or annually. It provides insight into the company's operational performance and profitability.

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Key Components:

- **Revenue (Sales)**: The total income earned from the sale of goods or services.
- **Cost of Goods Sold (COGS)**: The direct costs of producing the goods or services sold by the company.
- **Gross Profit**: Revenue minus COGS. This indicates how efficiently a company produces and sells its products.
- **Operating Expenses**: Indirect costs, including marketing, research and development (R&D), salaries, and administrative expenses (do not include **direct production costs**).
- **Operating Income (EBIT)**: Gross profit minus operating expenses.
- **Net Income (Net Profit)**: The final profit after all expenses, taxes, and interest have been deducted from revenue. It is the "bottom line" of the company.
- **Example:**

If a company reports revenues of Rs.10 Lakh, costs of Rs.6 lakh, and operating expenses of Rs.2 lakh, the operating income would be Rs.2 lakh (Rs.10 Lakh - Rs.6 lakh - Rs.2 lakh). After taxes and interest, net income might be $1.5 million.

2. Balance Sheet

The balance sheet provides a snapshot of a company's **assets**, **liabilities**, and **equity** at a specific point in time. It shows what the company owns, what it owes (liabilities/obligations), and the shareholders' interest in the company (equity).

Key Components:

- **Assets**: Resources owned by the company that have economic value. Assets are typically classified as:

Current Assets: Cash and other assets expected to be converted to cash within one year (e.g., cash, accounts receivable, inventory).

Non-Current Assets: Long-term assets, including property, equipment, and intangible assets like patents and trademarks.

- **Liabilities**: Obligations the company owes to external parties. Liabilities are also categorized as:

Current Liabilities: Debts or obligations that are due within one year (e.g., accounts payable, short-term loans).

Non-Current Liabilities: Long-term debts or obligations (e.g., long-term loans, bonds).

- **Equity**: The shareholders' stake in the company, calculated as **Assets minus Liabilities**. It includes common stock, retained earnings, and additional paid-in capital.

Example:

If a company has $50 million in assets (cash, property, inventory), $30 million in liabilities (loans, accounts payable), and $20 million in shareholders' equity, the balance sheet will show these as:

- **Assets**: $50 million
- **Liabilities**: $30 million
- **Equity**: $20 million

The balance sheet must balance, meaning **Assets = Liabilities + Equity**

Quantitative Factors are derived from the Financial Statements & the Key Ratios

3. Cash Flow Statement

The cash flow statement tracks the movement of **cash in and out** of a company. It shows **how well a company generates cash to meet its obligations, invest in its business, and return capital to shareholders**.

Key Components:

- **Operating Cash Flow**: Cash generated from regular business activities, like selling goods or services. Positive cash flow from operations is crucial for the company's day-to-day operations.
- **Investing Cash Flow**: Cash used for investing in long-term assets (e.g., property, equipment, acquisitions) or cash received from the sale of such assets.
- **Financing Cash Flow**: Cash raised through borrowing (loans or issuing bonds) or equity (issuing new stock) and cash spent on paying dividends or repurchasing stock.

Example:

If a company generates $5 million from operations, spends $2 million on purchasing equipment, and raises $1 million through issuing stock, the cash flow statement will reflect these changes in cash for the reporting period.

Qualitative Factors

- **Management Team**: Evaluate the experience and track record of the company's leadership.
- **Corporate Governance**: Check for transparency, ethics, and alignment of management with shareholders' interests.
- **Brand Strength**: Is the company's brand a competitive advantage?
- **Economic Moat**: Does the company have a sustainable competitive edge over its competitors (e.g., low-cost producer, network effects, IPR-patents, trademarks, etc)?

[An economic moat is a metaphor that refers to businesses being able to maintain a competitive advantage over their competitors in order to preserve market share and profits].

Analyzing External Factors

- **Regulatory Environment**: Pay attention to how changes in laws and regulations might affect the company.
- **Technological Innovations**: Advancements in technology can affect entire industries, making companies more or less competitive.
- **Market Sentiment**: Investor perception, news, and market conditions can impact stock prices in the short term.

Key Ratios

Ratios help simplify complex financial data for better comparison and analysis.

1. **Price-to-Earnings (P/E) Ratio**: P/E ratio compares a company's share price with its earnings per share.

- Helps assess the relative value of a company's stock.
- It's handy for comparing a company's valuation against its historical performance, against other firms within its industry, or the overall market.
- A high P/E ratio could mean that a company's stock is overvalued or that investors expect high growth rates.
- P/E ratio is like a price tag for a stock. It tells you how much investors are willing to pay for each dollar of earnings (profits) that a company generates.
- P/E ratio measures the relationship between a stock's market price (what you pay for a share) and the company's earnings (how much profit the company makes).

P/E Ratio= Stock Price per share / Earnings per share

- Stock Price per Share (Market Price): This is the current market price of one share of the company's stock. You can find this information easily by looking up the stock's current trading price.
- Earnings per Share (EPS): This is the company's total earnings (profit) divided by the number of outstanding shares of stock. It tells you how much profit each share represents.
- So, the P/E ratio tells you how many times the current stock price is greater than the company's earnings per share.
- P/E ratio is a useful tool for investors to gauge how the market values a stock in relation to its earnings.
- However, it should be used in conjunction with other financial and qualitative analysis to make informed investment decisions

Features of P/E Ratio

1. **High P/E:** A high P/E ratio suggests that investors are willing to pay a premium for the stock because they expect the company's earnings to grow in the future. It can indicate that the stock might be overvalued.

2. **Low P/E:** A low P/E ratio suggests that the stock is relatively cheaper because investors are not willing to pay as much for each dollar of earnings. It can indicate that the stock might be undervalued.

3. **Comparisons:** The P/E ratio is most valuable when you compare it to other stocks in the same industry or sector. If a company has a much higher P/E ratio than its competitors, it might be considered expensive.

4. **Growth vs. Value:** The P/E ratio can also be used to distinguish between growth stocks and value stocks. High P/E ratios are often associated with growth stocks, while low P/E ratios are associated with value stocks.

- Growth stocks are shares of companies that are expected to grow faster than the average company in their industry and have the potential to outperform the market over time.
- Value stock is a company's stock that is trading at a lower price than its intrinsic value. Value stocks are often undervalued due to factors like market volatility, economic downturns, or negative news about the company.

5. **Limitations:** It's important to note that the P/E ratio is just one piece of the puzzle. It doesn't provide a complete picture of a company's financial health or future prospects. Other factors, such as industry trends, management quality, and economic conditions, should also be considered when evaluating a stock.

Problem:

- **Market price per share** of a company's stock is Rs.120.
- The company's **net income** is Rs.30 lakh.
- The company has **10** lakh **shares outstanding**.

Calculate Earnings Per Share (EPS)

To calculate the **Earnings Per Share (EPS)**, use the formula:

$$\text{EPS} = \text{Net Income} / \text{Number of Shares Outstanding}$$
$$= 30 / 10$$
$$= 3 \text{ lakh}$$

Calculate P/E Ratio

Now, use the P/E ratio formula:

$$\text{P/E Ratio} = \text{Market Price per Share} / \text{Earnings per Share}$$
$$\text{P/E ratio} = 120/3 = 40$$

P/E ratio is **40**, which means investors are willing to pay Rs.40 for every Re.1 of the company's earnings

P/B Ratio

2. Price-to-Book (P/B) Ratio: Compares a company's market price to its book value

- This ratio is calculated by dividing the company's current stock price per share by its book value per share (BVPS)
- The price-to-book ratio is used by value investors to identify potential investments
- Many investors use the price-to-book ratio (P/B ratio) to compare a firm's market capitalization to its book value and locate undervalued companies
- By purchasing an undervalued stock, they hope to be rewarded when the market realizes the stock is undervalued and returns its price to where it should be—according to the investor's analysis

P/B Ratio=Market Price per Share / Book Value per Share (BVPS)

BVPS= Book Value / No. of Shares Outstanding

P/B ratio is used to evaluate whether a stock is undervalued or overvalued by comparing its market value with the value of its assets as reported on its balance sheet

Book Value: Book value represents the total value of the company's assets that shareholders would theoretically receive if the company were liquidated

Book Value=Total Assets−Total Liabilities

Book value tells you how much money would be left over for the shareholders (the people who own the company's stock) if the company were to sell all its assets and pay off all its debts

Why Book Value is Important for Investors?

- **Assessment of Value:** Investors use the book value to get an idea of whether a company's stock is priced fairly. If the stock price is lower than the book value per share, it might be considered a good deal because you're essentially buying the company's assets for less than they're worth.
- **Safety Net:** Book value can also act as a kind of safety net. If a company runs into financial trouble and has to sell its assets, shareholders might still get some money back if the book value is significant.
- **Comparison:** It's useful for comparing different companies. You can compare the book value of one company to another in the same industry to see which one is financially stronger.

Interpreting the P/B Ratio:

1. **P/B Ratio < 1**:
   - The stock is trading for less than the book value of the company's assets.
   - This may indicate that the stock is **undervalued** or that investors expect the company's assets to lose value.
   - Could be a potential buying opportunity if the market is undervaluing the stock.
2. **P/B Ratio = 1**:
   - The stock is trading at the same value as the book value of its assets.
   - It indicates that the market value and the book value are in alignment.
3. **P/B Ratio > 1**:
   - The stock is trading for more than its book value.
   - This could suggest that the stock is **overvalued**, or the market has high expectations for future growth and profitability.

Suppose a company has:

- **Market price per share**: Rs.100
- **Total assets**: Rs.500 lakh
- **Total liabilities**: Rs.300 lakh
- **Shares outstanding**: 10 lakh

Book Value per Share (BVPS) = Book Value / No. of Shares Outstanding

$$\text{Book Value} = \text{Total Assets} - \text{Total Liabilities}$$
$$= 500 - 300 \text{ lakh}$$
$$= 200 \text{ lakh}$$

Book Value per Share = 200 lakh / 10 lakh

$$= 20$$

P/B Ratio:

$$\text{P/B Ratio} = 100 / 20$$
$$= 5$$

P/B ratio is 5(>1), which suggests that the market price is five times higher than the book value of the company's assets. This could indicate that investors expect significant future growth, or it could suggest that the stock is overvalued relative to its assets.

ROE

3. Return on Equity (ROE): Measures a company's profitability in relation to the equity held by its shareholders

It indicates how effectively management is using shareholders' capital to generate profits

A higher ROE generally signifies that a company is efficiently generating income from its equity base

ROE= Net Income / Shareholders' Equity

Shareholders' equity: refers to the remaining profits after all debts related to the business, have been paid or cleared

Net Income: The total profit after taxes and all expenses, found on the company's income statement

Simply put, calculating such an equity figure is as simple as deducting its liabilities from its assets for the said company

ROE is a percentage figure that can help business owners understand/measure the performance of their firms

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It can also provide an insight into a firm's management of equities and investments to produce returns

Prospective investors often consider the ROE of an enterprise before putting their money in it

[Net Income= Total Revenue − Total Expenses

Total Expenses=(COGS+Operating Expenses+Interest+Taxes+Depreciation and Amortization)]

Let's assume:

- **Net Income**: Rs. 50 lakh
- **Shareholders' Equity**: Rs.200 lakh

ROE = (50 lakh / 200 lakh) X100

=25%

ROE is **25%**, meaning the company generates 25 Rs. of profit for every 100 Rs. of equity invested by shareholders

ROE is a critical measure of performance, especially for equity investors, as it provides insight into how well their capital is being employed in generating profits

High ROE: Indicates that the company is efficiently using its equity to generate profits. It could also reflect effective management and strong growth potential.

Low ROE: Suggests that the company is not utilizing its equity effectively, which might be a concern for investors.

Key Considerations:

- **Industry Benchmark**: ROE varies by industry, so it’s important to compare a company's ROE to its industry peers.
- **Sustainability**: A very high ROE might indicate over-leveraging (using a lot of debt), which could pose a risk.

ROCE

4. **Return on Capital Employed (ROCE)**: Financial ratio that measures a company's profitability and efficiency in using its capital.

It shows **how much profit a company generates with the capital it has employed in its business**

It's like measuring how well a company is using the money it has to make more money

Return: This means the profit a company makes. When a company does well and makes a profit, it's like earning money.

Capital Employed: This is the total amount of money the company has used to run its business. It includes money from shareholders (owners), loans from banks, and any other funds the company uses

ROCE is especially useful for comparing the performance of companies in capital-intensive industries

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So, when we talk about ROCE, we want to know how much profit a company is making compared to the money it's using to run the business.

It helps us understand if the company is using its resources effectively.

ROCE helps us see if a company is making good use of the money it has to earn even more money.

A high ROCE is generally a good sign because it means the company is doing a good job of using its capital to make profits

ROCE= (Operating Profit or EBIT / Total Capital Employed)X100

Operating Profit or EBIT (Earnings Before Interest and Taxes): This is the company's operating profit before deducting interest and taxes.

It represents the profit generated by the company's core operations.

EBIT= Gross Profit - Operating Expenses

Total Capital Employed: This is the total amount of capital used in the company's operations

$$\text{Total Capital Employed} = \text{Total Assets} - \text{Current Liabilities}$$

or

$$\text{Total Capital Employed} = \text{Equity} + \text{Non Current Liabilities or Long-term Debt}$$

- **High ROCE**: Indicates efficient use of capital to generate profits, which can be a positive sign for investors.
- **Low ROCE**: Suggests the company may not be using its capital effectively or may have high operational inefficiencies.

Key Points:

- **ROCE vs. ROE**: ROCE considers both equity and debt in its calculation of capital, making it more comprehensive than Return on Equity (ROE), which only focuses on shareholders' equity.

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Let's assume:

- **EBIT**: Rs. 100 lakh
- **Total Assets**: Rs.500 lakh
- **Current Liabilities**: Rs.200 lakh

Capital Employed = Total Assets − Current Liabilities

=500 lakh − 200 lakh

=300 lakh

Calculate ROCE= (EBIT/Total Capital Employed)X100

= (100 lakh / 300 lakh) ×100

=33.33%

Interpretation:

Return on Capital Employed (ROCE) is **33.33%**, meaning the company generates Rs.33.33 as profit for every Rs. 100 of capital employed in its operations.

D/E Ratio

Debt-to-Equity Ratio (D/E ratio) depicts how much debt (liabilities/obligations) a company has compared to its assets

It is a financial metric that compares a company's total debt to its shareholders' equity.

It shows the proportion of financing that comes from creditors (debt) versus shareholders (equity) and is used to assess the financial leverage and risk profile of a company

Measures the degree to which a company is financing its operations with debt rather than its own resources

Financial leverage is the use of borrowed money (debt) to finance the purchase of assets with the expectation that the income or capital gain from the new asset will exceed the cost of borrowing

D/E Ratio= Total Debts (Liabilities) / Total Shareholders' Equity

Total Debt: Includes both long-term debt (e.g., loans, bonds) and short-term debt (e.g., credit lines)

D/E ratio helps us in analysing the financing strategy of a company.

The ratio helps us to know if the company is using equity financing (shareholders' finances) or debt financing (loans/borrowed funds) to run its operations

- High D/E Ratio

A high D/E ratio is a sign of high risk

It means that the company is using more borrowing to finance its operations because the company lacks in finances.

In other words, it means that it is engaging in debt financing as its own finances run under deficit.

- Low D/E Ratio

This means that the company’s shareholders’ equity is in excess and it does not need debt financing to fund its operations and business.

The company has more of owned capital than borrowed capital and this speaks highly of the company.

A higher D/E ratio increases a company's risk profile because it must pay interest on its debt, and in periods of lower earnings, debt can become a burden.

Optimal Level: There is no universally "good" or "bad" D/E ratio; it varies by industry, company size, and the cost of capital

Example:

Suppose a company has:

- **Total Debt**: Rs. 150 lakh (includes both short-term and long-term debt)
- **Total Shareholders' Equity**: Rs. 100 lakh

D/E ratio= **Total Debts (Liabilities) / Total Shareholders’ Equity**

=150/100

=1.5

D/E Ratio is **1.5**, meaning the company uses Rs. 1.50 in debt for every Rs. 1 of equity.

This indicates the company is more reliant on debt to finance its operations

Assessing a Company's Financial Health

To assess a company's financial health comprehensively, it is important to examine:

1. **Liquidity**: Ability to meet short-term obligations.
2. **Profitability**: Capability of generating profits from operations.
3. **Leverage**: Level of financial risk due to debt (loans/borrowed money).
4. **Efficiency**: How well the company uses its resources to generate revenue.
5. **Cash Flow**: Company's ability to generate and manage cash.
6. **Market Valuation**: Whether the stock price reflects the company's intrinsic value.

Liquidity & Liquidity Ratios

Liquidity: Ability to convert assets into cash quickly & cheaply.

Company/firms should ensure that it do not suffer from lack of liquidity and that also it do not have excess of liquidity

Failure to meet the obligations/debts/liabilities due to lack of liquidity may result in legal problems; loss of creditor's confidence; poor credit score/worthiness and also in closure of business.

Excess of liquidity is bad as it shows inefficiency and idle assets will earn nothing

These ratios measure the company's ability to meet short-term obligations

CR > 1 indicates that the company has more current assets than current liabilities, which is usually a good sign.

CR < 1 might signal liquidity problems, meaning the company may have difficulty paying off its short-term debts

1.Current Ratio (C.R): Measures a company's ability to cover its short-term liabilities with its short-term assets; short-term solvency (generally 1 year)

C.R= Current Assets (C.As) / Current Liabilities (C.Ls.)

C.As includes cash and those assets that can be easily converted into cash within 1 year

Assume:

Current Assets: Rs. 500,000 lakh (which includes cash, accounts receivable, inventory, etc.)

Current Liabilities: Rs.250,000 lakh (which includes short-term debt, accounts payable, and other obligations due within a year)

C.R= Current Assets / Current Liabilities

=500000/250000

=2

C.R of **2.0** means that for every Rs.1 of current liabilities, the company has Rs.2 of current assets.

This suggests the company has twice as many current assets as current liabilities, indicating good short-term financial health and the ability to meet its obligations

2. Quick Ratio (Acid-Test Ratio): Measures a company's ability to meet short-term liabilities with its most liquid assets; excluding inventory

Assets that are highly liquid or most liquid assets excluding inventory

Q.R closer to 1 is preferred for companies that need to meet obligations quickly without relying on inventory sales

Q.R= (Current Assets - Inventories) / Current Liabilities

Assume:

- **Current Assets**: Rs. 500,000 (includes cash, accounts receivable, inventory)
- **Inventory**: Rs. 200,000
- **Current Liabilities**: Rs. 250,000

$$Q.R = (500{,}000 - 200{,}000) / 250{,}000$$

$$= 1.20$$

Q.R of **1.2** means the company has Rs. 1.20 in liquid assets (excluding inventory) for every Rs.1 of short-term liabilities. This suggests the company is in a relatively good position to meet its short-term obligations without relying on inventory sales

Q.R. > 1 or higher is typically considered healthy, meaning the company can cover its current liabilities with its liquid assets.

Q.R. < 1 might indicate that the company could struggle to meet its short-term obligations if it cannot quickly convert its inventory into cash

Profitability & Profitability Ratios (P.R)

Profits= Revenue - Expenses

These ratios assess how well the company generates profits relative to its revenue, equity, and assets

Higher P.R is favourable as it indicates success at converting revenue to profits

It is used to assess a firm's current performance, the performance of other companies in the same industry or the industry average.

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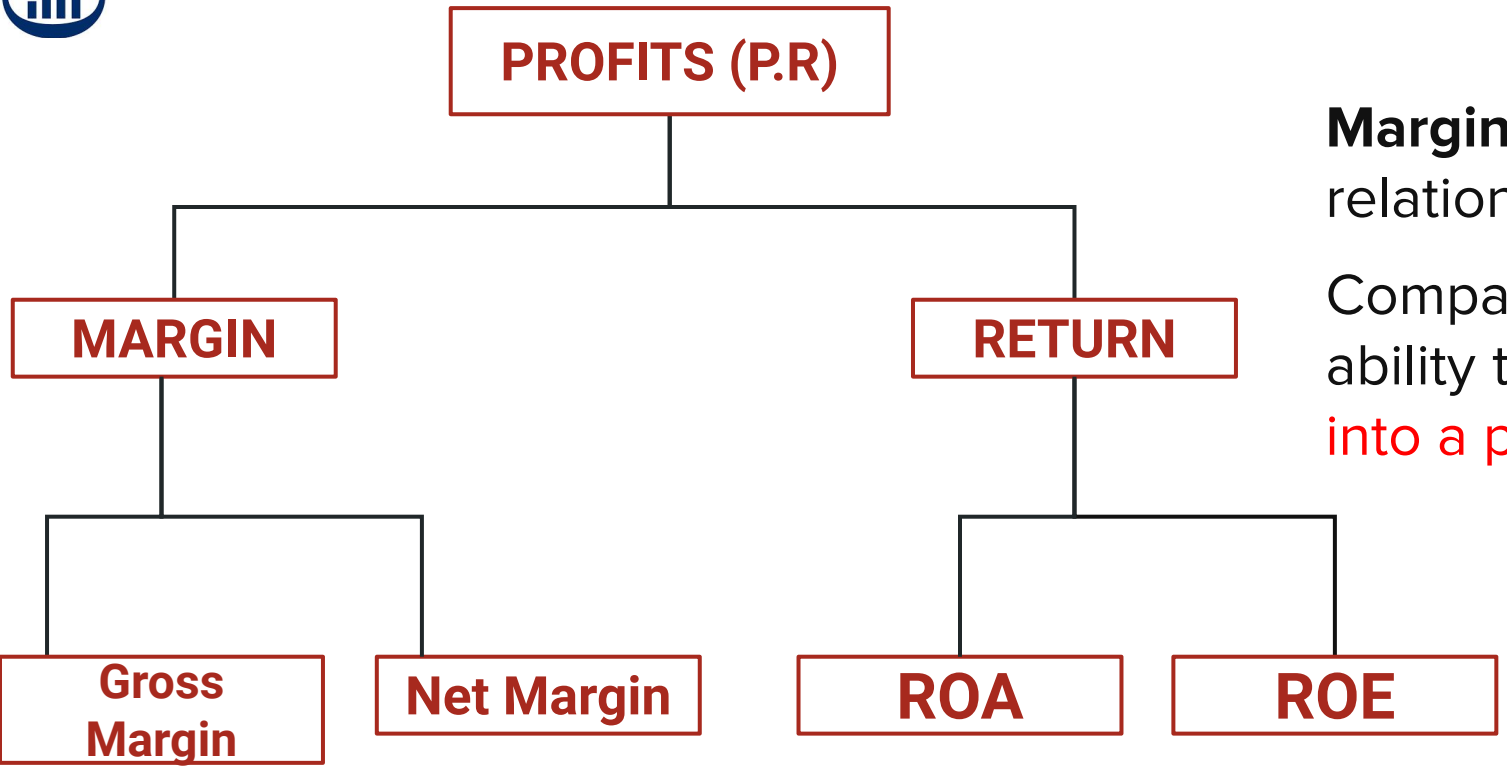

Margin: Profits in relation to **sales**

Company's/firm's ability to convert sales into a profit

Returns: Profits in relation to **investments**

Company/firms generates a return for its shareholders using the money they have invested

1. **Gross Margin:** Gross Profit Margin is a profitability ratio that shows the **percentage of revenue that exceeds the cost of goods sold** (COGS). It indicates how efficiently a company is producing its goods relative to its sales

Gross Profit Margin= (Gross Profit / Total Revenue) X100

Gross Profit = Revenue - Cost of Goods Sold (COGS)

Total Revenue (Total Sales/Total Income) is the total sales or income from selling goods or services.

COGS includes the direct costs of producing the goods sold by the company, such as raw materials and direct labor

Suppose:

- **Revenue**: Rs. 1,000,000
- **Cost of Goods Sold (COGS)**: Rs. 600,000

$$\text{Gross Profit} = \text{Revenue} - \text{COGS}$$
$$= 1{,}000{,}000 - 600{,}000$$
$$= 400{,}000$$
$$\text{Gross Profit Margin} = (400{,}000 / 1{,}000{,}000) \times 100$$
$$= 40\%$$

Gross Profit Margin of **40%** means the company retains Rs. 0.40 as gross profit for every Rs. 1 of revenue after covering the cost of production.

A **higher gross profit margin** indicates more efficient production or stronger pricing power, as the company keeps more of its revenue as profit after covering production costs.

A **lower gross profit margin** might suggest higher production costs or competitive pricing pressures

2. Net Profit Margin: A profitability ratio that shows the percentage of revenue that remains as profit after all expenses, including operating costs (no production cost/no COGS), taxes, interest, and other expenses, have been deducted.

It provides insight into how well a company is managing its overall costs and generating profit from its total revenue

Net Profit Margin= (Net Income / Total Revenue) X 100

Net Income: The company's total earnings or profit after deducting all expenses (e.g., operating expenses, interest, taxes).

Revenue: The total income generated from the sale of goods or services

Suppose:

- **Revenue**: Rs. 1,000,000
- **Net Income**: Rs. 100,000

$$\text{Net Profit Margin} = (100{,}000 / 1{,}000{,}000) \times 100$$

$$= 10\%$$

Net Profit Margin of **10%** means the company keeps Rs. 0.10 as profit for every Rs. 1 of revenue after covering all its expenses.

A **higher net profit margin** indicates better profitability and efficient cost management, showing that the company retains more of its revenue as profit.

A **lower net profit margin** suggests higher expenses relative to revenue, meaning the company is not as effective in converting sales into profit

1. **Return on Assets (ROA)**: A profitability ratio that measures how efficiently a company uses its assets to generate profit

It provides insight into how well management is utilizing the company's resources to produce income

ROA helps investors and analysts assess how effectively a company is converting its investments in assets into earnings

ROA= (Net Income / Total Assets) X 100

Net Income: The company's total earnings or profit after all expenses.
Total Assets: The value of everything the company owns (both current and non-current assets)

Suppose:

- **Net Income**: Rs. 50,000
- **Total Assets**: Rs. 5,00,000 lakh

ROA= (50,000 / 500,000) X 100
=10%

ROA of 10% means that the company generates Rs. 0.10 in profit for every Rs. 1 of assets.

A **higher ROA** indicates that the company is more efficient in using its assets to generate profits.

A **lower ROA** might suggest inefficiencies or that the company is not making the most of its asset base to produce earnings

2. Return on Equity (ROE): Refer slide 27-29

Leverage & Leverage Ratio

- An investment strategy of using borrowed funds
- Amount of debt (loan/borrowed funds) a company uses to finance its assets or capital
- These ratios evaluate the company's debt levels and how well it manages debt
- Too much of debts are harmful but if the company's operations can generate a higher return than the interests then debts may be helpful for growth
- **Debt-to-Equity (D/E) Ratio**: Refer slides 34-37

Efficiency (Activity Ratio/Turnover Ratio) & Efficiency Ratios

Indicates **how efficiently a firm uses its assets to generate revenues & cash/capital**

It may be used to compare two different firms (Amul & Mother Dairy) within the same industry sector or may be used to monitor a single firm

These ratios show how efficiently the company uses its assets and manages its operations

1. **Asset Turnover Ratio (ATR)**: Represents the company's ability to generate revenue from its assets

Indicator of the efficiency with which a company is using its assets to generate revenue

Higher assets higher total revenue (TR); the more efficient the company is at generating revenue from its assets

ATR= Total Revenue or Net Sales / Total Assets

…Cont'd

Revenue: The total income generated from selling goods or services.

Total Assets: The value of everything the company owns (both current and non-current assets)

Suppose:

- **Revenue**: Rs. 1,000,000
- **Total Assets**: Rs. 500,000

$$ATR = 1{,}000{,}000 / 500{,}000$$
$$= 2$$

ATR of **2** means the company generates Rs. 2 of revenue for every Rs. 1 of assets.

Higher ATR indicates that the company is efficiently using its assets to generate revenue.

Lower ATR may suggest that the company is not utilizing its assets effectively or is holding too many assets relative to its revenue

A high ratio indicates that a company can generate a large amount of revenue with relatively fewer assets

Are ROA & ATR the Same?

Return on Assets (ROA) and **Asset Turnover Ratio (ATR)** are **not the same**, though they are both measures of a company's efficiency in using its assets to generate revenue or profit

ROA measures profitability (net income), while **ATR** measures revenue generation (a type of efficiency ratio).

ROA= (Net Income / Total Assets) X 100

A higher ROA means the company is more efficient at converting its assets into net income

ATR= Total Revenue / Total Assets

A higher ATR means the company is generating more revenue per rupee of assets

ROA evaluates how well a company converts assets into profits, whereas **ATR** evaluates how well a company converts assets into sales.

ROA is expressed as a percentage, while **ATR** is expressed as a ratio (e.g., 1.5, meaning Rs. 1.50 of revenue per Rs. 1 of assets)

2. Inventory Turnover (ITR): Measures how efficiently a company manages its inventory by showing how many times inventory is sold and replaced over a period.

It helps assess whether a company is effectively managing its stock and whether its sales and production processes are operating efficiently

A low ITR may show weak sales or excess inventory; while a higher ITR signals a strong sales but may also indicate inadequate inventory stocking.

ITR= COGS / Average Inventory

Cost of Goods Sold (COGS): The direct costs attributable to the production of goods sold by the company.

Average Inventory: The average amount of inventory held during a period

Average Inventory= (Opening Inventory + Closing Inventory) / 2

Opening Inventory (Beginning Inventory): Stock of inventory at the beginning/starting of a production period, usually carried over from the previous production period.

Closing Inventory (Ending Inventory): Stock of inventory at the closing/ending of a production period; usually carried forward to the next production period.

…Cont'd

Suppose:

- **Cost of Goods Sold (COGS)**: Rs. 800,000
- **Beginning Inventory**: Rs. 200,000
- **Ending Inventory**: Rs. 300,000

$$\text{Average Inventory} = (200{,}000 + 300{,}000)/2$$
$$= 250{,}000$$

$$\text{ITR} = 800{,}000 / 250{,}000$$
$$= 3.2$$

ITR of **3.2** means the company sold and replenished its inventory approximately 3.2 times during the period.

Higher ITR indicates that the company is selling its inventory more frequently, which could suggest strong sales or effective inventory management.

Lower ITR may suggest slow-moving inventory, overstocking, or inefficiencies in the sales process

Market Valuation & Ratios

These ratios assess whether a company's stock is valued fairly by the market

1. **Price-to-Earnings (P/E) Ratio**: Refer slides 17-21
2. **Price-to-Book (P/B) Ratio**: Refer slides 22-26