
Financial Ratio Analysis I

Financial Ratios

- Financial Ratios examine the **relative magnitude of two or more variables** related to a company.
- These can include **accounting based** variables (e.g. earnings) and **market based** variables (e.g. stock price).
- Financial ratios allow us to draw conclusions about a company's stock that we are interested in analyzing.
- We can think of them as **summary statistics** that paint a picture of a particular company.

1. Profitability Ratios – Operating Profit Margin

- Operating profit margin is the ratio of operating profit to total revenue.
- Operating profit is **profit before depreciation, interest and tax.**
- So from revenues, you deduct all expenses related to operations, such as cost of raw materials, manufacturing, salaries, marketing, logistics, etc.
- Operating profit is the most important profitability ratio since it gives a clear picture about the **health of the company's core business**. It also reflects the **management's efficiency**.
- It does not include expenses such as interest and taxes which depend on external factors.

2. Profitability Ratios – Net Profit Margin

- Net profit margin is the ratio of net profit to total revenue.
- Unlike operating profit margin, it **takes into account all of a company's costs.**
- **Net Profit Margin = Profit after tax/Revenue**

- It measures the percentage of sales that the company keeps in profits.
- For both Operating and Net profit margin, higher numbers are obviously better.

3. Profitability Ratios – Effective Tax Rate

- Effective tax rate is the average rate at which a company's profits are taxed.
- **Effective Tax Rate = Tax Expenses/Profit before Tax**
- Marginal rates vary for companies, and there are many deductions, tax incentives that can determine how much a company pays in tax.
- The effective tax rate is an easy way to summarize how much tax a company pays.

4. Profitability Ratios (Banks) - Net Interest Margin

- Net interest margin examines how much a firm makes from its investments relative to how much it pays on its debt.
- For a bank, it represents how much they earn from making loans to borrowers, versus what they have to pay when taking deposits from savers, and what they pay to their creditors.
- **Net Interest Margin = (Interest Income– Interest Expenses)/Average Earning Assets**

5. Profitability Ratios (Banks) - Net NPA to Loans

- NPA refers to **non performing assets**, which means loans that may be in default.
- From the perspective of a bank, they expect that these loans they have made will not be repaid.
- **Net NPA to Loans = Net Value of Non Performing Assets/Total Value of Loans.**
- If this ratio is high, the bank may have to write off bad loans, and this will reduce its future profitability.

6. Return Ratios – Return on Equity

- Return on equity measures the net profit generated by the company relative to the shareholders' funds.
- **Return on Equity = Net Profit/Shareholders' Funds.**
- It is another measure of profitability, and it measures **how productively a company uses its equity capital.**
- Limitation: The ratio does not take into account **debt capital**. As such, if a company's growth is heavily funded by debt, it will boost the ROE. Hence, one must consider other ratios as well.

7. Return Ratios – Return on Capital Employed

- Return on capital employed measures how much profit the company has generated relative to the capital it uses.
- **Return on Capital Employed = Net Operating Profit After Tax (NOPAT)/Capital Employed**
- $\text{NOPAT} = \text{Profit before interest and tax (PBIT)} \times (1 - \text{tax rate})$
- $\text{Capital employed} = \text{Shareholders' funds} + \text{Total debt}$
- ROCE provides a more complete assessment of how well a management is deploying capital.

8. Return Ratios – Return on Assets

- Return on assets measures how much profit a company generates relative to its total assets.
- **Return on Assets = Net Profit/Total Assets**
- We include all assets to calculate ROA, including productive and non-productive ones.
- For example, if a company has a large cash balance that it is not investing, this will increase total assets and bring down ROA.

9. Debt Ratios – Debt to Equity

- Debt to equity measures how much leverage a company has.
- Equivalently, it measures what proportion of its assets are financed with equity or debt.
- **Debt to Equity = Total Debt/Shareholders' Equity**
- Using higher levels of debt is more risky, as interest liabilities go up.
- However, debt can be cheaper due to the tax deductibility of interest, as well as lower returns for investors as compared to equity.

10. Debt Ratios - Interest Coverage

- The interest coverage ratio measures how easy it is for a company to meet its debt obligations.
- **Interest coverage = Earnings before Interest and Taxes/Interest Expense**
- If this ratio is close to 1 (or below 1), then the company is having problems meeting its debt obligations.
- In general, companies with higher debt to equity ratios will have lower interest coverage ratios.

11. Debt Ratios – Free Cash Flow to Debt

- Free cash flow is the cash a company generates after paying for its capital expenditures.
- It is the operating cash flow minus capital expenditures
- Cash flow is more difficult to manipulate than earnings.
- **Free Cash Flow to Debt = FCF / Total Debt**
- **FCF= Cash flow from Operations Minus Capex**
- The ratio measures the ability of a company to finance its debt obligations from its cash flow.

12. Liquidity Ratios – Current Ratio

- The current ratio measures the ability of a company to meet its short term obligations.
- **Current Ratio = Current Assets/Current Liabilities**
- If this ratio is less than 1, it indicates that the company would be unable to meet its current obligations if they came due.
- Short term usually refers to any obligations due in the next 12 months.

13. Asset Utilization Ratios – Fixed Asset Turnover

- Fixed asset turnover measures the company's ability to generate sales relative to its fixed assets.
- Fixed assets include property, plant, and equipment.
- **Fixed Asset Turnover = Net Sales / Fixed Assets**
- A higher number indicates that the company is more effective in using its assets to generate sales.
- This is a common ratio used for manufacturing companies.

14. Asset Utilization Ratios – Inventory Days

- Inventory days represent the average number of days that a company's goods remain in inventory.
- **Inventory Days = (Inventory/Cost of Sales) *365 Days**
- In general, a lower figure is better, as it implies the company can shift its stock quickly.
- We would usually use average inventory over the relevant time period.

15. Asset Utilization Ratios – Receivables Days and Payables Days

- Receivables days measures how long it takes for a company to collect revenue after a sale has been made.

- **Receivables Days = (Accounts Receivable/ Revenue) *365 Days**
- Payables days measures how long it takes on average for a company to pay its creditors for inputs purchased.
- **Payables Days = (Accounts Payable/Cost of Sales)*365 Days**

16. Cash Flow Ratios – Operating Cash Flow to Sales

- Operating cash flow to sales measures how well a company is able to turn its sales into cash.
- **OCF/Sales = Operating Cash Flow/Revenue**
If we see a rise in a company's sales, we should see a corresponding rise in operating cash flow.
- If this is not the case, then we need to understand why sales are not converting into cash, and question how sustainable their sales might be.

17. Cash Flow Ratios – Free Cash Flow to Operating Cash Flow

- Free cash flow is equivalent to what is left over from operating cash flow after capital expenditures.
- **FCF/OCF = (Operating Cash Flow – Capital Expenditures)/Operating Cash Flow**
- The higher the ratio, the greater the financial strength of the company.
- New businesses are likely to have high levels of capital expenditure, pushing this ratio lower.

18. Cash Flow Ratios – Dividend Payout

- The dividend payout ratio measures the proportion of the company's earnings that are paid out as dividends.
- **Dividend Payout = Total Dividend/Net Profit**
- Most companies like to maintain a steady dividend payout ratio, and a fall in this ratio is often a bad sign for a company.

- Falls in this ratio also hurt the stock price, as investors will seek higher dividend paying stocks.

19. Valuation Ratios – Price to Earnings

- The price to earnings ratio measures the price of a company's stock relative to the earnings per share.
- **P/E = Market Price per Share/Earnings per Share**
- From an investor's perspective, it measures how much we are paying for a given level of earnings.
- Higher P/E ratios indicate that we pay more for a given level of earnings, and vice versa.
- However, **a high P/E stock is not necessarily expensive and vice versa**. It is important to consider future earnings growth while evaluating P/E.
- It is generally relevant to **compare the P/E multiples of companies within the same industry**.

20. Valuation Ratios – Price to Book Value

- The price to book value measures the market price per share relative to the book value per share.
- **The book value is equal to a company's net worth or shareholder's funds.**
- It is the value of the company that would remain if it were to go bankrupt immediately.
- **P/BV = Market Price per share/Book Value per share**
- A higher P/B means we are paying more for the stock relative to its book value.

21. Valuation Ratios – EV to EBITDA

- **Enterprise Value (EV)** is the sum of market capitalization, debt, minority interest, and preferred shares, less cash.
- It measures the **takeover value of a company** (i.e. how much one would pay to takeover the company)

- EBITDA is earnings before interest, taxes, depreciation, and amortization.
- **EV/EBITDA ratio** is used to determine the company's value, in a similar way to the P/E ratio.

22. Valuation Ratios – Price to Sales

- The Price to Sales ratio measures the price per share relative to the sales per share of a company.
- **Price/Sales = Market Price per Share / Sales Per Share**
- It measures how much we are paying for a given level of sales.
- The P/S ratio is used as an alternative to the P/E ratio.
- Sales are more difficult to manipulate than earnings, but don't provide as much information.

23. Valuation Ratios – Dividend Yield

- The Dividend Yield measures the dividend per share relative to the market price per share.
- **Dividend Yield = Dividend per Share / Market Price per Share**
- It measures the **dividend return from holding the stock**.
- Note the difference between the dividend yield and the dividend payout. The first uses market prices, the other uses net profit.

24. Valuation Ratios – Price to Free Cash Flow

- The Price to Free Cash Flow measures the market price per share relative to the free cash flow per share.
- **Price/FCF = Market Price per Share / FCF per Share**
- It tells us how much we are paying for a given amount of Free Cash Flow.
- It is used as an alternative to the P/E ratio, primarily because FCF is more difficult to manipulate and may be a better representation of the company.

Conclusion

- In this lecture, we have discussed many different types of financial ratios.
- It is important to know that some ratios are more relevant for certain companies and industries.
- Also, ratios will **vary a lot between industries.**
- Usually, these ratios are best used when comparing companies in the same industry.
- In the next lecture, we will delve further into **financial ratios with the example of Maruti Suzuki.**
- We will also give you an overview of **DuPont Analysis**, a useful financial performance measure along with some examples.

[View Lecture](#) | [Post A Query In The Forum](#) | [Equitymaster's Secrets Home](#)

Disclaimer

This document is confidential and is supplied to you for information purposes only. It should not (directly or indirectly) be reproduced, further distributed to any person or published, in whole or in part, for any purpose whatsoever, without the consent of Equitymaster. This document is in addition to the Equitymaster-Secrets curriculum and Equitymaster may not provide/supply such document in the future under this Service. Equitymaster disclaims warranty of any kind, whether express or implied, as to any matter/content contained herein, including without limitation the implied warranties of merchantability and fitness for a particular purpose. Information contained in this document is believed to be reliable but Equitymaster does not warrant its completeness or accuracy. If you have any queries or wish to report any misuse of our research, [please write in to us](#). Thank you.