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# Ratio Analysis

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# Financial Analysis

## Outline

- What is Financial Analysis?
- What Can Financial Ratios Tell?
- 7 Categories of Financial Ratios
- Significance of Using Ratios
- Industry Average Ratios

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# What is Financial Analysis?

- Evaluating a firm's financial performance
- Calculating ratios to reveal relationships between different accounts of financial statements
- Linking ratios to reveal the factors determining a firm's profitability and value
- Financial analysis may not answer all questions but lead to further inquiry

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# What can financial ratios tell?

## Whether the business…

- is profitable
- has enough money to pay its bills
- could be paying its employees higher wages
- is paying its share of tax
- is using its assets efficiently
- has a gearing problem
- is a candidate for being bought by another company or investor

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# 7 Categories of Financial Ratios

A. Profitability Ratios
B. Return Ratios
C. Liquidity Ratios
D. Asset Utilization Ratios
E. Gearing
F. Investor Ratios
G. Debt Utilization Ratios

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# A. Profitability Ratios

- Profitability ratios measure the firm's use of its assets and control of its expenses to generate an acceptable rate of return.
- The ratios are:
    1. Gross Profit Margin
    2. Operating Profit Margin
    3. Net Profit Margin
    4. Other Profit ratios

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# A. Profitability Ratios

## 1. Gross Profit Margin = Gross Profit / Net Sales

Gross profit = Net sales – Cost of Sales

The gross profit margin ratio tells us the profit a business makes on its cost of sales (Cost of goods sold). It tells us how much gross profit per $1.00 of sales the business is earning.

## 2. Operating Profit Margin = Operating Profit / Net Sales

Operating Profit (profit before interest and tax)
= Gross profit – Operating expenses

The operating profit margin ratio tells us the amount of operating profit per $1 of turnover a business has earned. That is after taking account of the cost of sales, the administration costs, the selling and distributions costs and all other costs, the operating profit is the profit that is left, out of which they will pay interest, tax, dividends and so on.

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# A. Profitability Ratios

## 3. Net Profit Margin = Net Profit / Net Sales

Net Profit: Earnings after Interest and Tax

Net Profit = Operating Profit – Interest - Tax

It tells us how much Net profit per $1.00 of sales the business is earning.

## 4. Other Ratios:

PBT ratio = Profit Before Tax / Net sales

Administration cost % = Administration costs / Net sales

Interest cost % = Interest costs / Net sales

Overhead costs % = Total overhead costs / Net Sales

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# B. Return Ratios

- Return ratios measure the firm's ability to generate earnings from its investments
- The ratios are:
  1. Return on Assets (ROA)  [investments]
  2. Return on Equity (ROE)  [common shareholders]

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# B. Return Ratios

## Return Ratios:

### 1. Return On Asset (ROA)

-ROA = Net Income / Total Asset

-Measures the firm's overall efficiency in the use of capital

### 2. Return On Equity (ROE)

-ROE = Net Income / Shareholder's Equity

-Measures the level of return to the owners (investors) and it represents their measure of profitability .

-Ratio indicates how many cents are returned to every dollar invested by the owners.

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# C. Liquidity Ratios

- Liquidity ratios examine the liquidity of the firm (Show how liquid a company is or how much cash it has to meet short-term needs)
- The ratios are:
    1. Current Ratio (Working Capital Ratio)
    2. Quick Ratio
    3. Debt Service Coverage Ratio

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# C. Liquidity Ratios

1. Current Ratio (Working Capital Ratio)
   = Current Asset / Current Liabilities
2. Quick Ratio (The Acid Test Ratio)
   = (Current Asset – Inventory) / Current Liabilities
3. Debt Service Coverage Ratio
   = Net Operating Income / Total Debt Service

*(In corporate finance, it is the amount of cash flow available to meet annual interest and principal payments on debt, including sinking fund payments.)*

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# D. Asset Utilization Ratios

- The assessment of asset usage is important as it helps us to understand the overall level of efficiency at which a business is performing.
- The basic equations for this section are:
  1. Total Asset Turnover
  2. Inventory Turnover
  3. Account Receivable Turnover (Debtors' Turnover)
  4. Account Payable Turnover (Creditors' Turnover)

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# D. Asset Utilization Ratios

## 1. Total Asset Turnover = Sales / Total Assets

-Compares the sales with the assets that the business has used to generate that sales.

-In its simplest terms, we are just saying for every $1 of assets, the sales is $x

Advanced Asset turnover ratios:

- Fixed Asset Turnover = Sales / Fixed Assets
- Current Asset Turnover = Sales / Current Assets
- Working Capital Turnover = Sales / Working Capital

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# D. Asset Utilization Ratios

2. Inventory turnover = Cost of Goods Sold / Inventory
3. Receivables turnover = Credit Sales / Account Receivables
4. Payables turnover = Cost of Goods Sold / Account Payables

These three ratios are concerned with spending and saving money in the right places.

1) Too much stock and we waste money on buying it and keeping it.
2) Too much money loaned to our debtors and it's money we can't use for something else
3) Too much money in the form of creditors and we might have a problem that no one else will give us credit for anything else because they think we can't afford it, and, if we suddenly have a cash problem, we might not be able to pay our creditors.

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# E. Gearing

- Gearing is concerned with the relationship between the long terms liabilities that a business has and its capital employed. The idea is that this relationship ought to be in balance, with the shareholders' funds being significantly larger than the long term liabilities.
- The basic equation for this section is:
  1. Gearing Ratio =
     Long Term Liabilities / Shareholders' Equity

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# F. Investor Ratios

- Investor ratios are ratios used by investors to assess the performance of a business to help determine if investment is warranted.
- The ratios are:
    1. Earnings per Share
    2. Dividends per Share
    3. Dividend Yield
    4. Dividend Cover
    5. Price/Earnings (P/E) Ratio

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# F. Investor Ratios

## Basic Equations:

1. Earnings per share = Earnings available to equity shareholders / Average number of issued equity shares
2. Dividends per share = Dividends paid to equity shareholders / Average number of issued equity shares
3. Dividend yield = Latest annual dividends / current market share price
4. Dividend cover = Net earnings available to equity shareholders / Dividends paid to equity shareholders
5. Price/Earnings (P/E) ratio = Current market share price / Earnings per share

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# F. Investor Ratios

1. Earnings per share: use to calculate average amount of profits earned per ordinary share issued.

   EPS shows what shareholders earned by way of profit for a period
2. Dividends per share: shows how much the shareholders were actually paid by way of dividends.
3. Dividend yield: allows investors to compare the latest dividend they received with the current market value of the share as an indictor of the return they are earning on their shares.
4. Dividend cover: tells us how easily a business can pay its dividend from profits

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# F. Investor Ratios

## 5. Price/Earnings (P/E) ratio:

The P/E ratio is a vital ratio for investors. Basically, it gives us an indication of the confidence that investors have in the future prosperity of the business. A P/E ratio of 1 shows very little confidence in that business whereas a P/E ratio of 20 expresses a great deal of optimism about the future of a business.

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# F. Investor Ratios

Interest coverage ratio: tells us the safety margin of the business, in terms of being able to meet its interest obligations. That is, a high interest cover ratio means that the business is easily able to meet its interest obligations from profits.

$$\text{Interest coverage ratio} = \frac{\text{Net Earning before Interest}}{\text{Interest paid}}$$

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# G. Debt Utilization Ratios

- Debt utilization ratios measure the prudence of the debt management policies of the firm, and show how well a company is managing or using debt
- The ratios are:
  1. Debt to total assets = Total debt / Total assets
  2. Debt to Equity = Total debt / Shareholder's equity

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# Significance of Using Ratios

**The significance of a ratio can only truly be appreciated when:**

- It is compared with other ratios in the same set of financial statements.
- It is compared with the same ratio in previous financial statements (trend analysis).
- It is compared with a standard of performance (industry average). Such a standard may be either the ratio which represents the typical performance of the trade or industry, or the ratio which represents the target set by management as desirable for the business.

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# Industry Average Ratio

## Compare with Industry Average Financial Ratios:

*-The industry average financial ratios are designed to serve as financial performance benchmarks against which individual firms and industries can be compared. It allows firms to precisely position themselves within their peer group*

## Sources to Find Industry Average Financial Ratios:

1) Bankers who can tell you what ratio values are used by the bank
2) Local Board of Trade / Local Chamber of commerce
3) Industry Association
4) Statistics Canada ($24.95 per sector)

http://www.stats-link-canada.com/Financial-Ratios.html