



Business Economics II

Session IX: Corporate finance II



Financial indicators

- Measures of how the company works
- Serve as
 - Description of business
 - Objective
 - Historical comparison
 - Comparison among different business departments
 - Comparison among different companies



Some financial indicators

- Return on investment (ROI)
- Inventory days
- Ratio sales to assets
- Gross margin ratio
- Ratio price to earnings (P/E ratio)
- Current ratio
- Treasury
- Leverage ratio
- Return on Investments (ROI)
- Days inventory
- Asset turnover
- Profit margin
- P/E ratio – price/earnings ratio
- Current ratio
- Quick ratio
- Debt to Equity ratio...



Expected Return on Investments (ROI)

$$E(\text{Return On Investments}) = \frac{E(\text{Profit})}{\text{Investment}}$$

Advantages:

Simple

The projects are undertaken if:

Profitability > Cost of Capital

Cost of capital: in treasury bonds...



Net Present Value (NPV)

$$NPV_a = -C_0 + \frac{I_1}{1+r}$$

$$NPV_b = -C_0 + \frac{I_1}{1+r} + \frac{I_2}{(1+r)^2}$$

$$NPV_c = -C_0 + \sum_{i=1}^{i \max} \frac{I_i}{(1+r)^i}$$

$$NPV_d = -\sum_{j=1}^{j \max} \frac{C_j}{(1+r)^j} + \sum_{i=1}^{i \max} \frac{I_i}{(1+r)^i}$$

- The investment projects are undertaken if NPV is positive



Return on Equity (ROE)

$$\text{Return On Equity} = \frac{\text{Net Profit}}{\text{Equity}}$$

- Measures how much profit a company earned in comparison to the total amount of shareholder equity
- One of the most important ratios used to evaluate a company



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Du Pont identity

$$\text{Return On Equity} = \frac{\text{Net Profit}}{\text{Revenues}} \times \frac{\text{Revenues}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$



Profit margin

$$\text{Profit Margin} = \frac{\text{Net Profit}}{\text{Revenues}}$$

- Measures how much profit a company makes for every euro of sales
- It may be influenced by
 - Quality of the product
 - Market power
 - Low production costs...



Assets turnover

$$\text{Assets Turnover} = \frac{\text{Revenues}}{\text{Assets}}$$

- Shows the total sales [revenues] for every euro of assets a company owns
- May be influenced by
 - Good commercial network
 - Economies of scale...



Equity multiplier (aka “leverage”)

$$\text{Equity Multiplier} = \frac{\text{Assets}}{\text{Equity}}$$

- Shows how a company uses debt to finance its assets
- Can be influenced by
 - Long-term debt (LT liabilities)(bonds, loans)
 - Short term liabilities (loans, suppliers)
- The larger the multiplier, the larger impact on equity (
- A higher equity multiplier means the company is relying more on debt to finance its assets.



Going back to Du Pont...

$$ROE = \frac{\text{Net profit}}{\text{Revenues}} \times \frac{\text{Revenues}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

Asset turnover

Profit margin

Equity multiplier (leverage)



Why is this method useful?

- To determine the “origin” of ROE
- To find out areas which can be improved:
 - Is the gross margin too low?
 - Do we have too few revenues in comparison to the size of the company?
 - Are we very “conservative” in financing our activity?



Example: Alcampo

- <http://www.alcampo.es/WebPortal/Alcampo/Paginas/MiTienda/Home.page>
- ROE?
 - Good or Bad?
- Profit Margin?
- Asset turnover?
- Equity multiplier?
 - Long-term debt?
 - Current liabilities?



Other example: Unión Suiza

- <http://www.unionsuiza.com/#inicio>
- ROE?
 - Good or Bad?
- Profit Margin?
- Asset turnover?
- Equity multiplier?
 - Long-term debt?
 - Current liabilities?



Numeric Example: PepsiCo 2004

- Data: revenues \$29,261, profit \$4,212, assets \$27,987, equity \$13,572
- Using the formulas:
 - Profit margin: $\text{Profit } (\$4,212) \div \text{Revenues } (\$29,261) = 0.1439, 14.39\%$
 - Asset turnover: $\text{Revenues } (\$29,261) \div \text{Assets } (\$27,987) = 1.0455$
 - Equity multiplier: $\text{Assets } (\$27,987) \div \text{Shareholders' Equity } (\$13,572) = 2.0621$
- ROE: $(0.1439) \times (1.0455) \times (2.0621) = 0.3102$, or 31.02%



PepsiCo

- Very good ROE
- IF PepsiCo would not have debt: ROE 15.04%
- 15.96% is due to the debt
- Another company with similar ROE but with less debt would be more “attractive” (e.g., Coca-Cola)



Other example

- Ratio profit margin 9.1%
- Asset turnover 1.7%
- Ratio debt to assets: 60%
- What is the company's ROE?



Solution

$$ROE = \frac{\text{Net profit}}{\text{Revenues}} \times \frac{\text{Revenues}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

$$\frac{\text{Debt}}{\text{Assets}} = 0.6$$

$$\frac{\text{Assets} - \text{Equity}}{\text{Assets}} = 0.6 \rightarrow \frac{\text{Equity}}{\text{Assets}} = 0.4$$

$$ROE = 0.091 \cdot 1.7 \cdot \frac{1}{0.40} = 38.7\%$$

