CH10 - Financial Anaylsis

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🐋 Info — Horizontal Analysis

- Study of percentage changes from year-to-year
- $\frac{\text{New Dollar - Older Dollar}}{\text{Old Dollar}}$
- Trend % $= \frac{\text{Any Year}}{\text{Base Year}}$

🐋 Info — Vertical Analysis

- Shows relationship between financial statement to its base
- Vertical Analysis Income Statement % $= \frac{\text{Each income statement item}}{\text{revenue}}$
- Vertical Analysis Balance Sheet % $= \frac{\text{Each Asset Item}}{\text{Total Assets}}$ or $= \frac{\text{Each L + SE Item}}{\text{Total L + SE}}$

🐋 Info — Common Size Statement

- Report only vertical analysis percents, in % of revenue
  - Not dollar amount

-Help in the comparison of different companies

- Financial result in terms of a common denominator

Ratio

🐋 Info — Abilitiy to Pay Current Liability

- Working capital ($ amount) = Current Asset − Current Liability
- Current Ratio (not $ amount)= $\frac{\text{Current Asset}}{\text{Current Liability}}$ (preferrably 1.5)
- Quick Ratio (Acid Test) = $\frac{\text{Cash+Short-term investment + Net current receivables}}{\text{Current liability}}$ (stricter version of liquidity)

Turnover plus Cash Conversions

🐋 Info — Inv Turnover and Days Inventory Outstanding

- Inventory Turnover = $\frac{\text{COG}}{\text{Average Inventory}}$ or $\frac{2 \cdot \text{COG}}{\text{Beg. Inv. + End Inv.}}$
- Days Inventory Outstanding (DIO) = $\frac{365}{\text{Inventory Turnover}}$

(DIO is inversely proportional to Inventory Turnover)

Info — A/R Turnover and Days of Sales Outstanding

- A/R Turnover $= \frac{\text{Net Sales}}{\text{Average Net A/R}} = 2 \cdot \frac{\text{Net Sales}}{\text{Beg. A/R} + \text{End A/R}}$
- Days Sales Outstanding(DSO) $= \frac{365}{\text{A/R Turnover}}$

The higher the turnover the better

Info — A/P Turonver and Days Payables Outstanding

- A/P Turnover $= \frac{\text{COG}}{\text{Average A/P}}$
- Days Payables Outstanding (DPO) $= \frac{365}{\text{A/P Turnover}}$

Info — Cash Conversion Cycle

$$\text{Cash Conversion Cycle} = \text{DIO} + \text{DSO} - \text{DPO}$$

Cash Conversion Cycle can be negative number, (i.e DPO is very high, meaning not paying payables)

The lower the Cash Conversion Cycle the better. But it is the reason that DIO and DSO are lower but not DPO is higher.

Leverage

Info — Debt Ratio and Time Interest Earned

$$\textbf{Debt Ratio} = \frac{\textbf{Total Liability}}{\textbf{Total Asset}}$$

The higher the ratio, the higher risk of investment is. That is, the asset of a company is mostly funded by debts.

$$\textbf{Times-Interest Earned} = \frac{\textbf{Income from operations}}{\textbf{Interest Expense}}$$

The higher the ratio the better the company is performing. It illustrates how number of times interest expense is earned

$$\textbf{Leverage (Equity Multiplier) Ratio} = \frac{\textbf{Average Total Assets}}{\textbf{Average Common Shareholders' Equity}}$$

The higher the ratio, the higher risk of investment is. That is, the asset of a company is mostly funded by debts rather than equity.

Profitability

Info — Marigin/Percentage

$$\text{Revenue} - \text{Cost of Goods Sold} = \text{Gross Profit}$$

$$\text{Gross Profit Marigin/Percentage (GPM)} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

$$\text{Operating Profit Marigin/Percentage (OPM)} = \frac{\text{Operating Income}}{\text{Net Sales}}$$

$$\text{Net Profit Marigin/Return on Sales (NPM)} = \frac{\text{Net Income}}{\text{Net Sales}}$$

Revenue is also sales.

Net Sales = Sales − Allowances

The higher ratios are, the more profitable the company is.

Info — Assets

$$\text{Asset Turnover} = \frac{\text{Net Sales}}{\text{Average Total Asset}} = \frac{2\ \text{Net Sales}}{\text{Beg. Asset} + \text{End Asset}}$$

$$\text{Return on Total Assets} = \frac{\text{Net Income}}{\text{Average Total Assets}} = \frac{2\ \text{Net Income}}{\text{Beg. Asset} + \text{End Asset}}$$

Info — Common Shareholder Equity

$$\text{Return on Common Shareholders Equity} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Average Common Shareholders' Equity}}$$

$$\text{Earnings Per Share (\$ amount)} = \frac{\text{Net Income} - \text{Preferred Dividends}}{\text{Average Number of Common Outstanding Shares}}$$

Generally:

x Turnover = $\frac{\text{Net Sales}}{x}$

Return on x = $\frac{\text{Net Income}}{x}$

Shares as an Investment

Info — Investment Ratio

$$\text{Price/Earning Ratio} = \frac{\text{Market price per share of Common Stock}}{\text{Earnings per share}}$$

$$\text{Dividend Yield} = \frac{\text{Divided per share of Common Stock}}{\text{Market price per share of Common Stock}}$$

The higher these two ratios are, the better the investment is.

$$\text{Book Value} = \frac{\text{Total Shareholders' Equity} - \text{Preferred Equity}}{\text{Weighted-average number of Common shares Outstanding}}$$

Signs of Poor Performance of a company

1. Earnings problems
2. Decreased cash flow
3. Too much debt
4. Inability to collect receivables
5. Buildup of inventories
6. Trends of sales, inventory and receivables