

Financial Statement Analysis

- Involves the examination of both relationships among the financial statement numbers and the trends in those numbers over time
- Purposes of Financial Statement Analysis
 - 1. Use the past performance of the company to predict how it will do in the future
 - 2. Evaluate the performance of a company with an eye toward identifying problem areas
- Financial Statements are not presented in isolation, every financial statement issued is accompanied by the corresponding financial statements of the preceding year, or even the last 2 years
 - These are called comparative financial statements – help users detect and predict trends
- Horizontal analysis – also trend analysis, technique for evaluating a series of financial statement data over a period of time
 - Involves expressing each item in the current year financial statement as a percentage of that same item in the financial statement of another year
- Vertical analysis – a technique that involves expressing each item in the financial statement as a percentage of a base amount within the same year
 - Ex. Cash, inventory, and other assets can be restated as a percentage of total assets; net income and each expense can be restated as a percentage of sales revenue
- Financial statements that recall items on the statement as a percentage of a selected item are called common size financial statements
- Common size financial statement allows for comparison of different companies of different sizes
 - Ex. Financial statement users could use vertical analysis to compare IBM with the much smaller apple computer
 - Eliminates the impact of size
- Regardless of using horizontal or vertical analysis the numbers are meaningless alone, you need to be to compare to other numbers
- Most common way of comparing numbers to evaluate performance and risk through ratio analysis
- Financial statement ratios are relationships between financial statement amount
 - Used by investors and creditors to help them make decisions
- **Not meaningful in isolation need comparison**
- Typical benchmarks or comparison points:

- o 1. Other companies that operate in same industry
 - o 2. Industry averages
 - o 3. Past years (trend analysis)
- Ratio analysis expresses the relationship among selected items of financial statement data
- Financial Statement Ratio Classifications
 - o Liquidity ratios – measures short-term ability of the company to pay its maturing obligations and to meet unexpected needs for cash
 - o Probability ratios – measures the income of operating success of a company for a given period of time
 - o Solvency ratios – measure the ability of the company to survive over a long period of time
- Liquidity Ratios
 - o 1. Working Capital
 - o 2. Current Ratio
 - o 3. Acid-test ratio (quick ratio)
 - o 4. Current cash debt coverage ratio
 - o 5. Accounts receivable turnover ratio
 - o 6. Average collection period
 - o 7. Inventory turnover ratio
 - o 8. Number of days in sales inventory
- Working capital is not a ratio, but after computed to evaluate ability to pay current liability
 - o Working capital = total current assets – total current liabilities
- The current ratio measures a company's ability to pay current liability with current assets
 - o Current ratio = total current assets/total current liabilities
- The acid test ratio (quick ratio) gives a tighter estimate of a company's liquidity position
 - o Acid test ratio = (cash + short-term investments + receivables)/total current liabilities
 - o Provides worst case situation – ability to meet obligations if no sales were made
- The current cash debt coverage ratio measures a company's liquidity using net cash flows from operating activities instead of current assets
 - o = Net cash flows from operating activities/average total current liabilities
- The accounts receivable turnover ratio measures the number of times a company is able to collect its receivables during the accounting period the higher the ratio the faster the company is able to collect cash from its credit customers

- = Net sales revenue/average accounts receivable
- The average collection period measures the number of days, on average, between selling goods to credit customers and collecting cash from these sales
 - = $365/\text{inventory turnover ratio}$
- The inventory turnover ratio measures the number of times on average the company is able to sell its inventory in the accounting period, the higher your ratio the faster you can sell your inventory
 - $\text{COGS}/\text{average inventory}$
- The number of days sales in inventory measures the number of days on average between purchasing inventory from suppliers and selling the inventory to customers
 - = $365/\text{inventory turnover ratio}$
- Profitability ratios – can the company generate a satisfactory rate of return
 - 1. Gross margin ratio (gross profit ratio)
 - 2. Profit margin ratio
 - 3. Return on assets (ROA)
 - 4. Return on equity (ROE)
 - 5. Earnings per share (EPS)
 - 6. Price-earning ratio (P/E ratio)
- Gross margin rate – gross profit rate
 - = Gross profit/net sales revenue
 - Indicates a company's ability to maintain an adequate selling price
- The profit margin ratio – percentage of sales that go into net income
 - = Net income/net sales revenue
- Return on assets – measures the overall profitability of assets in terms of the income earned on each dollar invested in assets
 - = Net income/average total assets
- Return on equity – measures how many dollars of net income the company earned for each dollar invested by stockholders
 - = Net income/average total equity
- Earning per share – measures net income associated with each share of common stock
 - = Net income/number of common shares outstanding
- Price-earning ratio – measures investor's expectations regarding the growth potential and earnings stability of a company
- Solvency ratios – can the company survive over a long period of time?
 - 1. Debt to equity ratio
 - 2. Times interest earned ratio
- Debit to equity ratio
 - Measures the percentages of funds being provided by creditors vs. stockholders