Unit 4 Practice Financial Report Analysis

Liquidity ratios

Liquidity ratios measure the ability of a company to repay its short-term debts and meet unexpected cash needs.

The **current ratio** is also called the working capital ratio, as working capital is the difference between current assets and current liabilities. This ratio measures the ability of a company to pay its current obligations using current assets. The current ratio is calculated by dividing current assets by current liabilities.

> Current Ratio = Current Assets / Current Liabilities

The **acid-test ratio** is also called the **quick ratio**. **Quick assets** are defined as cash, marketable (or short-term) securities, and accounts receivable and notes receivable, net of the allowances for doubtful accounts. These assets are considered to be very liquid (easy to obtain cash from the assets) and therefore, available for immediate use to pay obligations. The acid-test ratio is calculated by dividing quick assets by current liabilities.

> Acid-Text Ratio = Quick Assets / Current Liabilities

The traditional rule of thumb for this ratio has been 1:1. Anything below this level requires further analysis of receivables to understand how often the company turns them into cash. It may also indicate the company needs to establish a line of credit with a financial institution to ensure the company has access to cash when it needs to pay its obligations.

The **receivables turnover** ratio calculates the number of times in an operating cycle (normally one year) the company collects its receivable balance. It is calculated by dividing net credit sales by the average net receivables. Net credit sales is net sales less cash sales. If cash sales are unknown, use net sales. Average net receivables is usually the balance of net receivables at the beginning of the year plus the balance of net receivables at the end of the year divided by two. If the company is cyclical, an average calculated on a reasonable basis for the company's operations should be used such as monthly or quarterly.

> Receivables Turnover = Net Credit Sales / Average Net Receivables

The **average collection period** (also known as **day's sales outstanding**) is a variation of receivables turnover. It calculates the number of days it will take to collect the average receivables balance. It is often used to evaluate the effectiveness of a company's credit and collection policies. A rule of thumb is the average collection period should not be significantly greater than a company's credit term period. The average collection period is calculated by dividing 365 by the receivables turnover ratio.

> Average Collection Period = 365 days / Receivables Turnover

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The **inventory turnover ratio** measures the number of times the company sells its inventory during the period. It is calculated by dividing the cost of goods sold by average inventory. Average inventory is calculated by adding beginning inventory and ending inventory and dividing by 2. If the company is cyclical, an average calculated on a reasonable basis for the company's operations should be used such as monthly or quarterly.

> Inventory Turnover Ratio = Cost of Goods Sold / Average Inventory

Day's sales on hand is a variation of the inventory turnover. It calculates the number of day's sales being carried in inventory. It is calculated by dividing 365 days by the inventory turnover ratio.

> Day's Sales on Hand = 365 days / Inventory Turnover

Profitability ratios measure a company's operating efficiency, including its ability to generate income and therefore, cash flow. Cash flow affects the company's ability to obtain debt and equity financing.

Profit margin. The profit **margin ratio**, also known as the operating performance ratio, measures the company's ability to turn its sales into net income. To evaluate the profit margin, it must be compared to competitors and industry statistics. It is calculated by dividing net income by net sales.

> Profit Margin = Net Income/Net Sales

The **asset turnover** ratio measures how efficiently a company is using its assets. The turnover value varies by industry. It is calculated by dividing net sales by average total assets.

> Asset Turnover = Net Sales / Average Total Assets

The **return on assets (ROA)** ratio (ROA) is considered an overall measure of profitability. It measures how much net income was generated for each $1 of assets the company has. ROA is a combination of the profit margin ratio and the asset turnover ratio. It can be calculated separately by dividing net income by average total assets or by multiplying the profit margin ratio times the asset turnover ratio.

> Return on Assets = Net Income / Average Total Assets
> OR
> Return on Assets = Profit Margin X Asset Turnover
>
> Net income / Average total assets = (Net Income / Net Sales) X (Net Sales / Average Total Assets)

The **return on common stockholders' equity (ROE)** measures how much net income was earned relative to each dollar of common stockholders' equity. It is calculated by dividing net income by average common stockholders' equity. In a simple capital structure (only common stock outstanding), average common stockholders' equity is the average of the beginning and ending stockholders' equity.

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Return on common stockholders' equity = Net Income / Average Common Stockholders' Equity

In a complex capital structure, net income is adjusted by subtracting the preferred dividend requirement, and common stockholders' equity is calculated by subtracting the par value (or call price, if applicable) of the preferred stock from total stockholders' equity.

Return on common stockholders' equity = Net Income – Preferred Dividends / Average Common Stockholders' Equity

Earnings per share (EPS) represents the net income earned for each share of outstanding common stock. In a simple capital structure, it is calculated by dividing net income by the number of weighted average common shares outstanding.

Earnings Per Share = Net Income / Weighted Average Common Shares Outstanding

The **price-earnings ratio (P/E)** is quoted in the financial press daily. It represents the investors' expectations for the stock. A P/E ratio greater than 15 has historically been considered high.

Price-Earnings ratio = Market price per common share / Earnings per share

The **payout ratio** identifies the percent of net income paid to common stockholders in the form of cash dividends. It is calculated by dividing cash dividends by net income.

Payout Ratio = Cash Dividends / Net Income

A more stable and mature company is likely to pay out a higher portion of its earnings as dividends. Many startup companies and companies in some industries do not pay out dividends. It is important to understand the company and its strategy when analyzing the payout ratio.

Another indicator of how a corporation performed is the **dividend yield**. It measures the return in cash dividends earned by an investor on one share of the company's stock. It is calculated by dividing dividends paid per share by the market price of one common share at the end of the period.

Dividend Yield = Dividends Paid Per Share / Market Price of One Share Common Stock at End of Period

A low dividend yield could be a sign of a high growth company that pays little or no dividends and reinvests earnings in the business or it could be the sign of a downturn in the business. It should be investigated so the investor knows the reason it is low.

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Solvency ratios are used to measure long-term risk and are of interest to long-term creditors and stockholders.

The **debt to total assets ratio** calculates the percent of assets provided by creditors. It is calculated by dividing total debt by total assets. Total debt is the same as total liabilities.

> Debt to total assets ration = Total debs / Total assets

The **times interest earned ratio** is an indicator of the company's ability to pay interest as it comes due. It is calculated by dividing earnings before interest and taxes (EBIT) by interest expense.

> Times interest earned = Income* Before Interest Expense and Income Tax Expense (EBIT) / Interest Expense
>
> *also called earnings

A times interest earned ratio of 2–3 or more indicates that interest expense should reasonably be covered. If the times interest earned ratio is less than two it will be difficult to find a bank to loan money to the business.