Financial Statement Analysis

Outline

- Meaning of Financial Statements and Financial Statement Analysis
- Significance of Financial Statements
- Types of Financial Statements
  - Income Statement
  - Balance Sheet
  - Cash Flow Statement
  - Statement of Retained Earnings
- Ratio Analysis including Du Pont Analysis
- Limitations of Financial Statement Analysis

Focus

- *The focus will be on financial statement analysis and its use in corporate finance.*
- *financial statement analysis from managerial perspective and not from an investor and/ or creditor's perspective.*
- *How to use financial statement analysis to ensure that shareholder wealth is maximized and the stock price continues to rise?*

Meaning of Financial Statements

- Financial statements are summaries of the operating, financing, and investment activities of a firm.
- According to the *Financial Accounting Standards Board (FASB)*, the financial statements of a firm should provide sufficient information that is useful to
  - investors and
  - creditors
  - in making their investment and credit decisions in an informed way.

- The financial statements are expected to be prepared in accordance with a set of standards known as generally accepted accounting principles (GAAP).
- The financial statements of publicly traded firms must be audited at least annually by independent public accountants.
- The auditors are expected to attest to the fact that these financial statements of a firm have been prepared in accordance with GAAP.

Significance of Financial Statements

- Wall Street analysts and other sophisticated investors prefer such financial disclosure documents as 10-Ks, which contain more detailed information about the company
- Financial statements summarize and provide an overview of events relating to the functioning of a firm.
- Financial statement analysis helps identify
  - a firm’s strengths and
  - weaknesses
  - so that management can take advantage of a firm’s strengths and make plans to counter weaknesses of the firm.
- The strengths must be understood if they are to be used to proper advantage and weaknesses must be recognized if corrective action needs to be taken

- For example, are inventories adequate to support the projected level of sales?
- Does the firm have too heavy an investment in account receivable?
- Does large account receivable reflect a lax collection policy?
- To ensure efficient operations of a firm’s manufacturing facility, does the firm have too much or too little invested in plant and equipment?
- Financial statement analysis provides answers to all of these questions.

Types of Financial Statements and Reports

- The Income Statement
- The Balance Sheet
- The Statement of Retained Earnings
- The Statement of Cash Flows

The Income Statement

- An income statement is a summary of the revenues and expenses of a business over a period of time, usually either one month, three months, or one year.
- Summarizes the results of the firm's operating and financing decisions during that time.
- Operating decisions of the company apply to production and marketing such as sales/revenues, cost of goods sold, administrative and general expenses (advertising, office salaries)
- Provides operating income/earnings before interest and taxes (EBIT)

- Results of financing decisions are reflected in the remainder of the income statement.
- When interest expenses and taxes are subtracted from EBIT, the result is net income available to shareholders.
- Net income does not necessarily equal actual cash flow from operations and financing.

The Balance Sheet

- A summary of the assets, liabilities, and equity of a business at a particular point in time, usually at the end of the firm's fiscal year.

Assets = Liabilities + Equity
(Resources of the business enterprise) (Obligations of the business) (ownership left over Residual)

Fixed Assets (Plant, Machinery, Equipment Buildings)
Current Assets (Cash, Marketable Securities, Account Receivable, Inventories)

Long-term (Notes, bonds, & Capital Lease Obligation)
Current Liabilities (Accounts Payable, Wages and salaries, Short-term loans Any portion of long-term Indebtedness due in one-year)

Common stock outstanding
Additional paid-in capital
Retained Earnings

THE STATEMENT OF CASH FLOWS

- The statement is designed to show how the firm's operations have affected its cash position and to help answer questions such as these:
  - Is the firm generating the cash needed to purchase additional fixed assets for growth?
  - Is the growth so rapid that external financing is required both to maintain operations and for investment in new fixed assets?
  - Does the firm have excess cash flows that can be used to repay debt or to invest in new products?

RATIO ANALYSIS

- Financial statements report both on a firm's position at a point in time and on its operations over some past period.
- From management's viewpoint, financial statement analysis is useful both as a way to
  - anticipate future conditions and
  - more important, as a starting point for planning actions
  - that will influence the future course of events or
  - to show whether a firm's position has been improving or deteriorating over time.

- Ratio analysis begins
  - with the calculation of a set of financial ratios
  - designed to show the relative strengths and
  - weaknesses of a company as compared to
    - Other firms in the industry
    - Leadings firms in the industry
    - The previous year of the same firm
- Ratio analysis helps to show whether the firm’s position has been improving or deteriorating
- Ratio analysis can also help plan for the future

Types of Ratios

- Liquidity Ratios
  - Current Ratio
  - Quick Ratio/Acid Test Ratio
- Asset Management Ratios
  - Inventory Turnover Ratio
  - Days Sales Outstanding
  - Fixed Assets Turnover Ratio
  - Total Assets Turnover Ratio
- Debt Management Ratio
  - Total Debt to Total Assets Ratio
  - Times Interest Covered Ratio
- Profitability Ratios
  - Profit Margin on Sales
  - Return on Assets
  - Return on Equity
  - Basic Earning Power Ratio

Liquidity Ratio

- A liquid asset is one that can be easily converted into cash at a fair market value
- Liquidity question deals with this question
  - Will the firm be able to meet its current obligations?
- Two measures of liquidity
  - Current Ratio
  - Quick/Acid Test Ratio

Asset Management Ratios

- Asset management ratio measures how effectively the firm is managing/using its assets
- Do we have too much investment in assets or too little investment in assets in view of current and projected sales levels?
- What happens if the firm has
  - Too much investment in assets
  - Too little investment in assets

Asset Management Ratios

- Inventory Turnover Ratio
  - Measures the efficiency of Inventory Management
  - A high ratio indicates that inventory does not remain in warehouses or on shelves, but rather turns over rapidly into sales
- Two cautions
  - Market prices for sales and inventories at cost
  - Sales over the year and inventory at the end of the year

Asset Management Ratio

- Days Sales Outstanding (DSO)
  - To appraise the quality of accounts receivables

  Average length of time that the firm must wait after making a sale before receiving cash from customers
  - Measures effectiveness of a firm credit policy

  Indicates the level of investment needed in receivables to maintain firm’s sales level
- What happens if this ratio is
  - Too high, or
  - Too low

Asset Management Ratios

- Fixed Assets Turnover Ratio
  - Measures efficiency of long-term capital investment
  - How effectively a firm is using its plant and machinery to generate sales?
  - How much fixed assets are needed to achieve a particular level of sales?
- Cautions

Asset Management Ratio

- Total Asset Turnover Ratio
  - Measure efficiency of total assets for the company as a whole or for a division of the firm
  - Core competency

Debt Management Ratio

- Implications of use of borrowings
  - Creditors look to Stockholders' equity as a safety margin
  - Interest on borrowings is a legal liability of the firm
  - Interest is to be paid out of operating income
  - Debt magnifies return and risk to common stockholders

- Total Debt to Total Assets Ratio
  - Measures percentage of assets being financed through borrowings
  - Too high a number means increased risk of bankruptcy
- Leverage
  - What percentage of total assets are being financed through equity?

- Times Earned Interest (TIE)
  - Measure the extent to which operating income can decline before the firm is unable to meet its annual interest costs
  - Failure to pay interest can result in legal action by creditors with possible bankruptcy for the firm

Profitability Ratios

- Net result of a number of policies and decisions
- Show the combined effect of liquidity, asset management, and debt management on operating results

- Net Profit Margin on Sales
  - Relates net income available to common stockholders to sales
- Basic Earning Power
  - Relates EBIT to Total Assets
  - Useful for comparing firms with different tax situations and different degrees of financial leverage
- Return on Assets (ROA)
  - Relates net income available to common stockholders to total assets
- Return on Common Equity (ROE)
  - Relates net income available to common stockholders to common stockholders equity

PROBLEMS IN FINANCIAL STATEMENT ANALYSIS

- Developing and Using Comparative Data
- Distortion of Comparative Data
- Notes to Financial Statements
- Interpretation of Results
- Differences in Accounting Treatment
- Window Dressing
- Effects of Inflation