Introduction to Finance for Insurance Professionals
Pakistan Insurance Institute

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FINANCIAL STATEMENT ANALYSIS

OBJECTIVES OF FINANCIAL STATEMENT ANALYSIS

Creditors and investors, as well as managers, use financial statement analysis to judge the past performance and current position of a Company. In this way they also judge its future potential and the risk associated with it. Creditors use the information gained from their analysis to make reliable loans that will be repaid with interest. Investors use the information to make investments that provide a return that is worth the risk

STANDARDS OF FINANCIAL STATEMENT ANALYSIS

Three commonly used standards for financial statement analysis are rule-of-thumb measures, past performance of the Company, and the industry norms. Rule-of-thumb measures are weak because of the lack of evidence that they can be applied widely. The past performance of a Company can offer a guideline for measuring improvement but is not helpful in judging performance relative to other companies. Although the use of industry norms overcomes this last problem, its disadvantage is that firms are not always comparable, even in the same industry.

SOURCE OF INFORMATION FOR FINANCIAL STATEMENT ANALYSIS

The major sources of information about publicly held corporations are published reports such as annual reports and interim financial statements, SEC reports, business periodicals, and credit and investment advisory services.

ISSUES RELATED TO THE EVALUATION OF THE QUALITY OF A COMPANY'S EARNINGS

Current and prospective net income is an important component in many ratios used to evaluate a company. The user should recognize that the quality of reported net income can be influenced by certain choices made by a company's management. First, management exercises judgment in choosing the accounting methods and estimates used in computing net income. Second, discontinued operations, extraordinary gains or losses, and accounting changes may affect net income positively or negatively.

APPLICATION OF HORIZONTAL ANALYSIS, TREND ANALYSIS, AND VERTICAL ANALYSIS OF FINANCIAL STATEMENT

Horizontal analysis involves the computation of dollar amount changes and percentage changes from year to year. Trend analysis is a extension of horizontal analysis in that percentage changes are calculated for several years. The changes are usually computed by setting a base year equal to 100 and calculating the results for subsequent years as percentage of that base year. Vertical analysis uses percentage to show the relationship of the component parts to the total in a single statement. The resulting statements, expressed entirely in percentage, are called common-size statement.

RATIO ANALYSIS TO FINANCIAL STATEMENT

Application of ratio analysis to financial statements in the study of an enterprise’s liquidity, profitability, long-term solvency, and market tests.

RATIO ANALYSIS TO FINANCIAL STATEMENT

Ratio	Components	Use or Meaning
Liquidity Ratios		
Current ratio	$\frac{\text{Current assets}}{\text{Current liabilities}}$	Measure of short-term debt-paying ability
Quick ratio	$\frac{\text{Cash + marketable securities + receivables}}{\text{Current liabilities}}$	Measure of short-term liquidity
Receivable turnover	$\frac{\text{Net sales}}{\text{Average accounts receivable}}$	Measure of relative size of accounts receivable balance and effectiveness of credit policies
Average days' sales uncollected	$\frac{\text{Days in year}}{\text{Receivable turnover}}$	Measure of average time taken to collect receivables
Inventory turnover	$\frac{\text{Cost of goods sold}}{\text{Average inventory}}$	Measure of relative size of inventory
Profitability Ratios		
Profit margin	$\frac{\text{Net income}}{\text{Net sales}}$	Net income produced by each dollar of sales
Asset turnover	$\frac{\text{Net sales}}{\text{Average total assets}}$	Measure of how efficiently assets are used to produce sales
Return on assets	$\frac{\text{Net income}}{\text{Average total assets}}$	Overall measure of earning power or profitability of all assets employed in the business
Return on equity	$\frac{\text{Net income}}{\text{Average owners' equity}}$	Profitability of owners' investment
Earnings per share	$\frac{\text{Net income}}{\text{Weighted average outstanding shares}}$	Means of placing earnings on a common basis for comparison

RATIO ANALYSIS TO FINANCIAL STATEMENT

Long-Term Solvency Ratios		
Debt to equity ratio	$\frac{\text{Total liabilities}}{\text{Owners' equity}}$	Measure of relationship of debt financing to equity financing
Interest coverage ratio	$\frac{\text{Net income before taxes + interest expense}}{\text{Interest expense}}$	Measure of protection of creditors from default on interest payments
Market Test Ratios		
Price/earnings (P/E) ratio	$\frac{\text{Market price per share}}{\text{Earnings per share}}$	Measure of amount the market will pay for a dollar of earnings
Dividends yield	$\frac{\text{Dividends per share}}{\text{Market price per share}}$	Measure of current return to investor
Market risk	$\frac{\text{Specific change in market price}}{\text{Average change in market price}}$	Measure of volatility of the market price of a stock in relation to that of other stocks

Financial Ratios – Insurance Sector

Background

Financial ratios are used to make a holistic assessment of financial performance of the entity, and also help evaluating the entity's performance vis-à-vis its peers within the industry.

These can be divided into three categories:

- ✓ Earnings
- ✓ Liquidity Ratios
- ✓ Solvency

Earnings ratios

Profitable operations are necessary for insurance companies to operate as a going concern. Measurement of earnings focuses on an insurers' ability to efficiently translate its strategies and competitive strengths into growth opportunities and sustainable profit margins. Analyses the profitability of the underwriting and investment functions separately:

Earnings ratios

Ratio	Formula	Significance in analysis
Premium Growth	(Gross Premium Written (Y1) - Gross Premium Written (Y0) x 100) / Gross Premium Written (YO)	Indicates growth in business undertaken by the insurance entity.
Risk retention	Net premium Written / Gross Premium written	Indicates the level of risks retained by the insurer. Reinsurance plays an essential role in the risk spreading process.
Loss Ratio	Net claims Incurred x 100 / Net Premium Earned	The ratio measures the company's loss experience as a proportion of premium income earned during the year. The loss ratio is a reflection on the nature of risk underwritten and the adequacy or inadequacy of pricing of risks
Expense Ratio	(Management Expenses +/(-) Net commission paid/ (earned) x 100) / Net Premium Earned	Expense ratio reflects the efficiency of insurance operations. Expense ratio for an insurer would be analysed by class of business, along with the trend of the same
Combined ratio	Loss Ratio + Expense Ratio	Combined ratio is a reflection of the underwriting expense as well as operating expenses structure of the insurer
Investment Yield	Interest income, rents and other investment income / Average total investments	This ratio measures the average return on the company's invested assets before and after capital gains and losses. While calculating the investment yield including capital gains, both realised as well as unrealised capital gains are considered
Return on Networth	Profit after Tax/Average Networth	

Liquidity ratios

liquidity helps an insurance company to meet policyholder’s obligations promptly. An insurer’s liquidity depends upon the degree to which it can satisfy its financial obligations by holding cash and investments that are sound, diversified and liquid or through operating cash flows. A high degree of liquidity enables an insurer to meet the unexpected cash requirements without untimely sale of investments, which may result in substantial realized losses due to temporary market conditions and/or tax consequences

Liquidity ratios

Ratio	Formula	Significance in Analysis
Liquid assets vis-à-vis technical reserves	Liquid assets/Technical Reserves	Technical reserves are reserves created to take care of 'expected' claims that may arise. While an insurer may not be expected to maintain liquid assets equal to technical reserves, a higher proportion of liquid assets would help the insurer in taking care of these 'expected' claims.
Current Liquidity	Liquid assets/Current Liabilities	This ratio indicates an insurer's ability to settle its current liabilities without prematurely selling long term investments or to borrow money. If this ratio is less than one, then the insurer's liquidity becomes sensitive to the cash flow from premium collections

Solvency ratios

The **solvency ratio** is a measure of the risk an insurer faces of claims that it cannot absorb. The amount of premium written is a better measure than the total amount insured because the level of premiums is linked to the likelihood of claims.

Adequacy of solvency margin forms the basic foundation for meeting policyholder obligations. All insurance companies are required to comply with solvency margin requirements by the regulator as prescribed from time to time.

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