Financial Ratios – Insurance Sector

[Issued in August 2022]

Background

Financial ratios are used to make a holistic assessment of the financial performance of an entity. They also help evaluate the entity's performance vis-à-vis its peers within the industry. Financial ratios are not an 'end' by themselves but a 'means' to understanding the fundamentals of an entity. CARE Ratings Limited (CARE Ratings) follows a standard set of ratios for evaluating insurance companies. These can be divided into three categories:

- Earnings
- Liquidity
- Solvency

These are given in detail below:

A. Earnings ratios

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

Ratio	Formula	Significance in Analysis
Premium growth	$\frac{GPW_T - GPW_{T-1}}{GPW_{T-1}} * 100$ GPW: Gross premium written T: Current year T-1: Previous year	Indicates growth in business undertaken by the insurance entity.
Risk retention	$\frac{\textbf{Net premium written}_T}{\textbf{Gross premium written}_T}$	Indicates the level of risks retained by the insurer vis-à-vis that ceded to the reinsurers. Reinsurance plays an essential role in the risk-spreading process.
Loss ratio	$\frac{\textbf{Net claims incurred}_T}{\textbf{Net premium earned}_T} * 100$	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	$\frac{\textbf{Management expense}_T \textbf{ +/(-) Net commission Paid/(Earned)}_T}{\textbf{Net premium earned}_T} * 100$	Expense ratio reflects the efficiency of insurance operations. The expense ratio for an insurer is analysed by class of business, along with the trend of the same.
Combined ratio	**Loss ratio + Expense ratio**	The combined ratio is a measure of the underwriting profitability of an insurance company after factoring in claims expenses

		and operating expenses of the insurer.
Investment yield	$\dfrac{\textbf{Total investment income}_T}{\textbf{Average total investments}_{(T, T-1)}}$	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.
Net earnings ratio	$\dfrac{\textbf{Profit after tax}_T}{\textbf{Net premium written}_T}$	This ratio measures the overall profitability of an insurer after factoring in underwriting result, operating expenses as well as investment income and tax.
Return on revenue (ROR)	$\dfrac{\textbf{Profit before tax}}{\textbf{Total revenue}}$	This ratio measures the company's operating profitability. ROR includes both an underwriting and an investment component and hence captures both sources of an insurance company's earnings.
Return on net worth	$\dfrac{\textbf{Profit after tax}_T}{\textbf{Average net worth}_{(T, T-1)}}$	This ratio reflects the post-tax return generated on the net worth of an insurer. It is a measure of the overall return on the equity deployed in the business.
Return on assets	$\dfrac{\textbf{Profit after tax}_T}{\textbf{Average total assets}_{(T, T-1)}}$	This ratio reflects the post-tax return generated on the average total assets of an insurer.

B. Liquidity ratios

Good liquidity helps an insurance company to meet policyholders' 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 the untimely sale of investments, which may result in substantial realised losses due to temporary market conditions and/or tax consequences.

The liquidity ratios considered by CARE Ratings are:

Ratio	Formula	Significance in Analysis
Liquid assets to technical reserves	$\dfrac{\text{Liquid assetsT}}{\text{Technical reservesT}}$	Technical reserves are reserves created to take care of the '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.
Liquid assets to current liabilities	$\dfrac{\text{Liquid assetsT}}{\text{Current liabilitiesT}}$	This ratio indicates an insurer's ability to settle its current liabilities without prematurely selling long-term investments or borrowing money. If this ratio is less than one, then the insurer's liquidity becomes sensitive to the cash flow from premium collections.

C. Solvency parameters

The adequacy of the solvency margin forms the basic foundation for meeting policyholder obligations. All insurance companies are required to comply with solvency margin requirements of the regulator as prescribed from time to time. Currently, the Insurance Regulatory and Development Authority of India (IRDAI) has prescribed a statutory minimum of 1.5x 'Solvency Margin' for insurance companies in India. the

Ratio	Formula	Significance in Analysis
Solvency ratio	$\frac{\text{Available solvency margin}}{\text{Required solvency margin}}$ (As reported to IRDAI)	Compliance with a minimum requirement of 1.5x as well as cushion available above the regulatory minimum is examined.
Operating leverage	$\frac{\text{Net premium written}_T}{\text{Net worth}_T}$	This ratio is for non-life insurers. Given that the risk covered by a non-life insurer is of short term, the net premium written reflects the quantum of risk underwritten by a non-life insurer, which is then compared with the net worth. A higher ratio reflects the insurers' high-risk appetite to underwrite risk for a given net worth level.
Leverage	$\frac{\text{Total assets}_T}{\text{Net worth}_T}$	Given that life insurers underwrite risk for a longer tenure and have higher complexity in terms of the period of the premium paid and risk covered, comparing business underwritten in one year to the net worth would not give adequate results. Accordingly, for life insurers, ratio of total assets/net worth is more appropriate, which reflects the leverage opted by the insurer. A higher ratio reflects more risk-taking appetite, and thereby, more risk underwritten for a given net worth level.

[For the previous version please refer to 'Rating Methodology – Financial Ratios - Insurance Sector' issued in November 2020**]**

CARE Ratings Limited

Corporate Office: 4th Floor, Godrej Coliseum, Somaiya Hospital Road, Off Eastern Express Highway, Sion (East), Mumbai - 400 022

Phone : +91 - 22 - 6754 3456 I CIN: L67190MH1993PLC071691

Connect :

Locations: Ahmedabad I Andheri-Mumbai I Bengaluru I Chennai I Coimbatore I Hyderabad I Kolkata I New Delhi I Pune

About:

CareEdge (earlier known as CARE Group) is a knowledge-based analytical group that aims to provide superior insights based on technology, data analytics capability and detailed research methods. CareEdge Ratings is one of the leading credit rating agencies in India. It has an impressive track record of rating companies for almost three decades and has played a pivotal role in developing the corporate debt market in India. CareEdge provides near real time research on all domestic and global economic developments. The wholly owned subsidiaries include CareEdge Advisory & Research arm focused on providing advisory and consultancy services and CareEdge Risk solutions a platform that provides risk management solutions