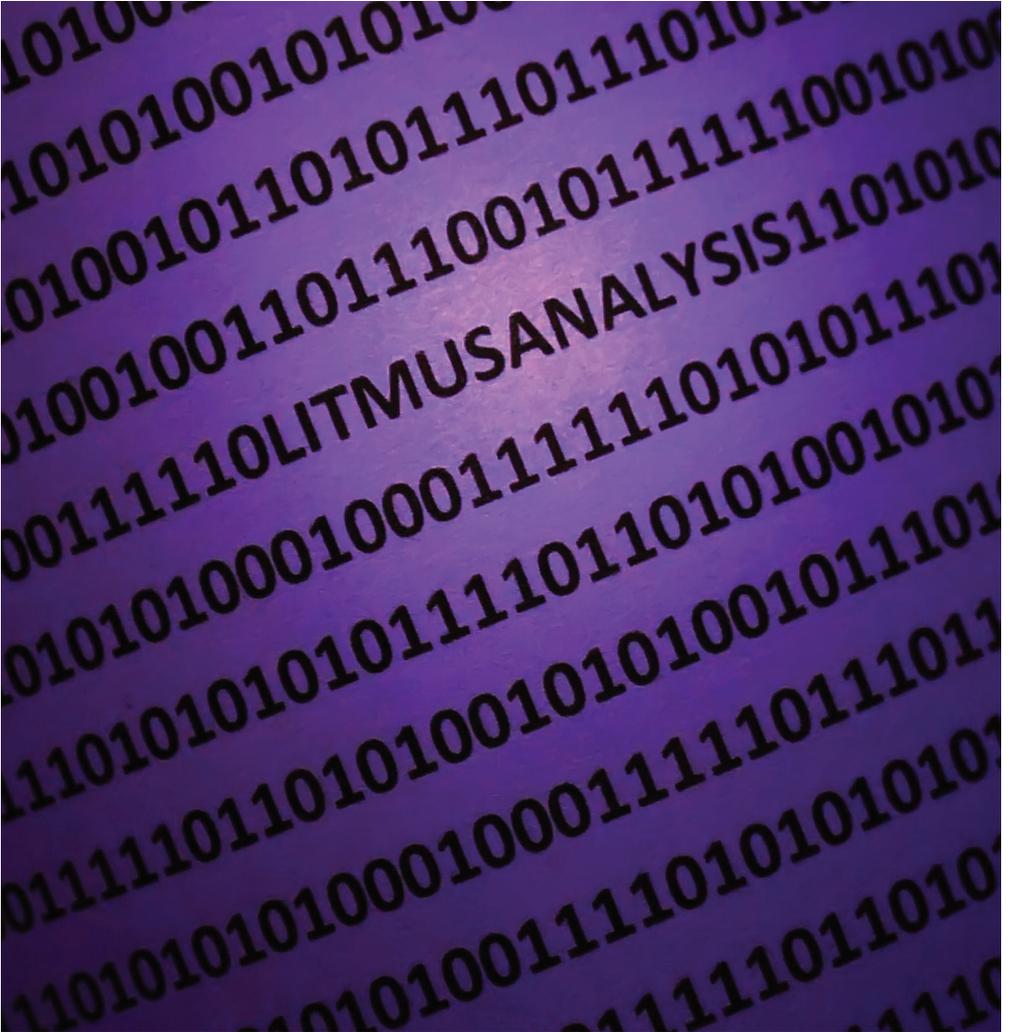


THE LITMUS QUICK REFERENCE GUIDE TO NON-LIFE RE/INSURER KEY METRICS AND RATIOS



Analysing a non-life re/insurer can be a complicated process; however some of the most important information is the data in the public accounts.

This quick reference guide gives an overview of the more commonly used metrics and ratios. By its nature the guide summarises the descriptions provided.

For a complimentary copy of the full **Litmus Ratio Guide** please contact: info@litmusanalysis.com

KEY METRICS	
Shareholders' funds (SF)	The amount the insurer is worth; difference between assets and liabilities
Gross written premium (GWP)	Total amount of premium written
Net written premium (NWP)	Premium retained after buying reinsurance
Net earned premium (NEP)	Retained premium after adjusting for recognition of premiums paid but not earned
Net loss reserves (NLR)	Amount set aside for future claims on business already underwritten after reinsurance recoveries ; part of 'liabilities'
Net technical reserves (NTR)	Net loss reserves + the net premium reserves (the amount set aside to recognise premiums received but not yet earned)
Reinsurance recoverables (RER)	Money owed to the insurer by reinsurers, including for future claims; part of 'assets'
Insurance & other debts (IOD)	Other money owed to the insurer
Invested assets (IVA)	Typically shares, bonds and real estate
Liquid assets (LIA)	Assets that can be easily and quickly sold; includes cash and bank deposits
Net losses paid & outstanding (NLPO)	Losses (claims) paid + allocations to/from net loss reserves (also known as net losses incurred)
Net commissions & expenses (NC&E)	Money paid out in underwriting expenses and broker commissions; plus usually some group 'overhead'
Underwriting result (UWR)	Profit or loss from underwriting before recognition of investment income
Net investment income (NII)	Dividends, interest payment and rent minus costs of investing; includes realised gains/losses
Pre-tax result (PTR)	Total profit/loss before tax; treatment of unrealised gains/losses depends on accounting regime

Key ratios	Calculation	Purpose	A higher ratio is*
Capital adequacy			
Solvency margin	NWP/SF	Indicates degree of underwriting risk to reported capital	Worse/higher risk
Reserve leverage	NLR/SF	Indicates risk to reported capital from under-reserving	Worse/higher risk
Reserve adequacy	NLR/NWP	Indicates scale of reserving relative to business written	Better/lower risk
Market risk	IVA/SF	Indicates risk to reported capital from reductions in investment values	Worse/higher risk
Credit risk	(RER + IOD)/SF	Indicates risk to reported capital from unrecoverable reinsurance or other bad debts	Worse/higher risk
Operating performance			
Net loss ratio (NLR)	NLPO/NEP	Degree to which earned premium is paid out in current/future claims	Worse
Net expense ratio (NER)	NC&E/NWP**	Amount of premium written paid out to acquire and underwrite it	Worse
Combined ratio (CR)	NLR + NER***	Indicates underwriting profitability; 100% means roughly break even on underwriting	Worse
Operating ratio	CR - (NII/NEP)	Indicates overall operational profitability by adding impact of investment income	Worse
Return on capital employed	PTR/Pr year SF	Indicates performance as an investment of the shareholders' capital	Better
Other			
Reinsurance dependency	NWP/GWP****	Extent to which an insurer is dependent on its reinsurers	Worse
Reserve coverage	LIA/NTR	Extent to which reserves are covered by liquid assets	Better

* All other things being equal;

** This may also be calculated using NEP;

*** The fact that this calculation is mathematically incorrect when using NWP in the expense ratio (adding two fractions whose denominators are different) is generally ignored. However for a fast growing business this can mean that a below 100% combined ratio is reported while still making an underwriting loss;

**** This is purely a 'volume' metric, it doesn't tell us anything about the nature of the protection bought.

The relevance of lines of business

The line of business mix of a re/insurer can have a profound impact on both its reported ratios and how they should be interpreted. Long-tail lines of business are those where losses or claims on policies may not become apparent for many years (such as with the development of industrial diseases). Short-tail business lines are those where losses are apparent and reported quickly (fire, theft etc.)

Long-tail business

Longer-tail lines of business lead to greater opportunities to create investment income. As a consequence though, market forces lead to risk pricing being reduced to reflect this. Thus the 'combined ratio' tends to show shorter tail re/insurers in a better light than with longer-tail businesses. The 'operating ratio' adjusts for this by the inclusion of investment income.

Longer-tail lines also require reserves to be held for multiple year periods. This increases 'reserve leverage'. While this is a necessary feature of a long-tail re/insurer's profile it also highlights the risk that, if reserves prove to be insufficient, a relatively low percentage of understatement can have a substantial impact on the reported Shareholders' Funds.

Reserve adequacy ratios should also be higher for longer-tail re/insurers. Under- or over-reserving in the reported (calendar) year respectively understates or overstates the combined ratio. The recognition of this from prior years in the latest year also distorts the combined ratio (in effect either 'charging for' or 'giving credit for' losses or profits that actually originate from prior years).

Short-tail, non-catastrophe business

Since these lack the reserving risks associated with long-tail lines, claims reserve leverage and adequacy ratios are expected to be lower and the degree of underwriting leverage can be higher.

Investment income is less of a feature so the importance of generating strong combined ratios is correspondingly higher.

Catastrophe business

By its nature this will have highly volatile underwriting results (combined ratios). Except in the immediate aftermath of an event reserve requirements are typically low (although classes like business interruption can cause some 'tail'). The degree of underwriting leverage would be expected to be low to reflect the volatility.



About Litmus Analysis

LITMUS ANALYSIS is a specialist consultancy, training and online product provider offering a broad range of tools and services designed to create increased transparency and clarity in the insurance and reinsurance markets.

Litmus Analysis brings the skills and experience of a team of top analysts to the insurance markets. We offer RATINGS ADVICE to re/insurers and banks, a full range of consultative ANALYTICAL SERVICES support to brokers and re/insurance buyers and TRAINING across the insurance and financial markets.

In 2013 Litmus launched two new online tools, 'LitmusQ' and 'LUCID'. Litmus will continue to develop services and tools aimed at expanding knowledge, improving data and simplifying analysis.

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