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Measurement of Capital

Michael Zboron

Index

- A.M. Best's Capital Assessment
- Relationship BCAR to other Rating Components
- Reason for impairments and Considerations
- Impact of Katrina
- Other Considerations in respect of capital assessment
- Solvency II: Potential Implications for Ratings



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A.M. Best's Rating Process

Capital strength

- Overall assessment of risk-based capital (quantitative – BCAR - & qualitative)
 - Reinsurance protection
 - Reserve adequacy
 - Financial flexibility
 - Sensitivity analysis




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A.M. Best's Rating Process

BCAR Basic Principles

- BCAR measures an insurer's risk adjusted capital strength measuring QUANTUM and VOLATILITY
- Similar to NAIC model but includes other risk components and different charges
- Compares total adjusted capital to required capital based on risk factors
- Total Adjusted Capital (TAC) + Net Required Capital (NRC)
- Adjustments to reflect diversification and covariance



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A.M. Best's Rating Process


BCAR Basic Principles

Total Adjusted Capital (TAC): Shareholders funds + adjustments

- Adequacy of loss reserves
- Discounting of loss reserves
- Difference between investment market and book values
- Deduction of one cat PML: the greater of 1/100 wind and 1/250 quake
- National Accounting Conventions



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A.M. Best's Rating Process

Net Required Capital (NRC) Components

(B1) Fixed-Income Securities
 (B2) Equity Securities
 (B3) Interest Rate
 (B4) Credit
 (B5) Loss Reserves
 (B6) Net Written Premium
 (B7) Off Balance Sheet Risks

COVARIANCE

$$NRC = \sqrt{((B1)^2 + (B2)^2 + (B3)^2 + (0.5 * B4)^2 + [(0.5 * B4) + B5]^2 + (B6)^2) + (B7)}$$


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Illustrative Relationship of BCAR to the rest of the rating process

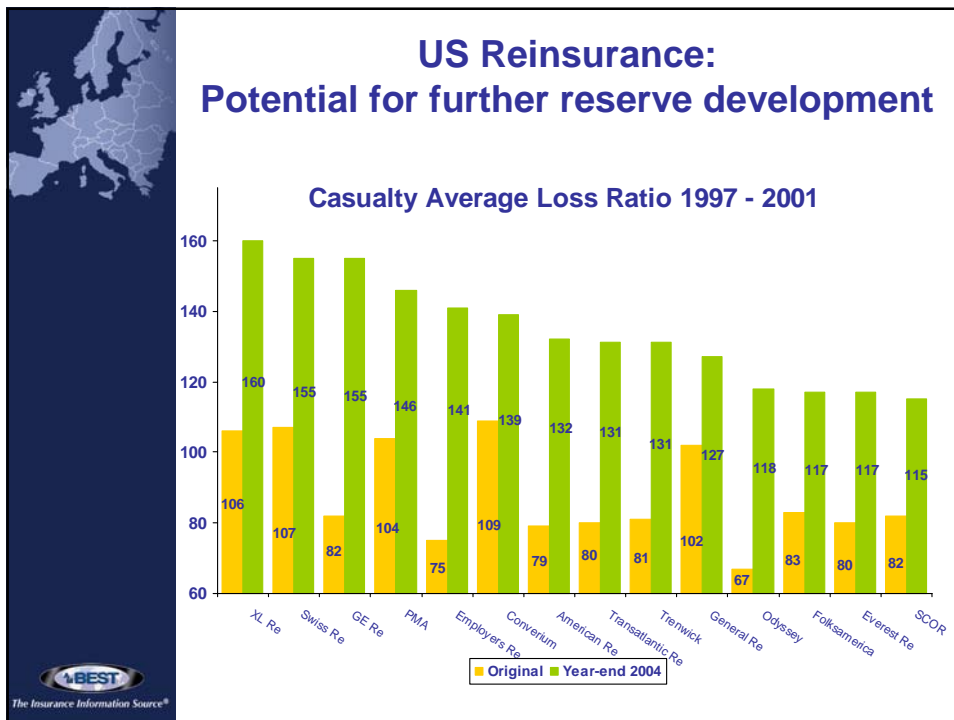
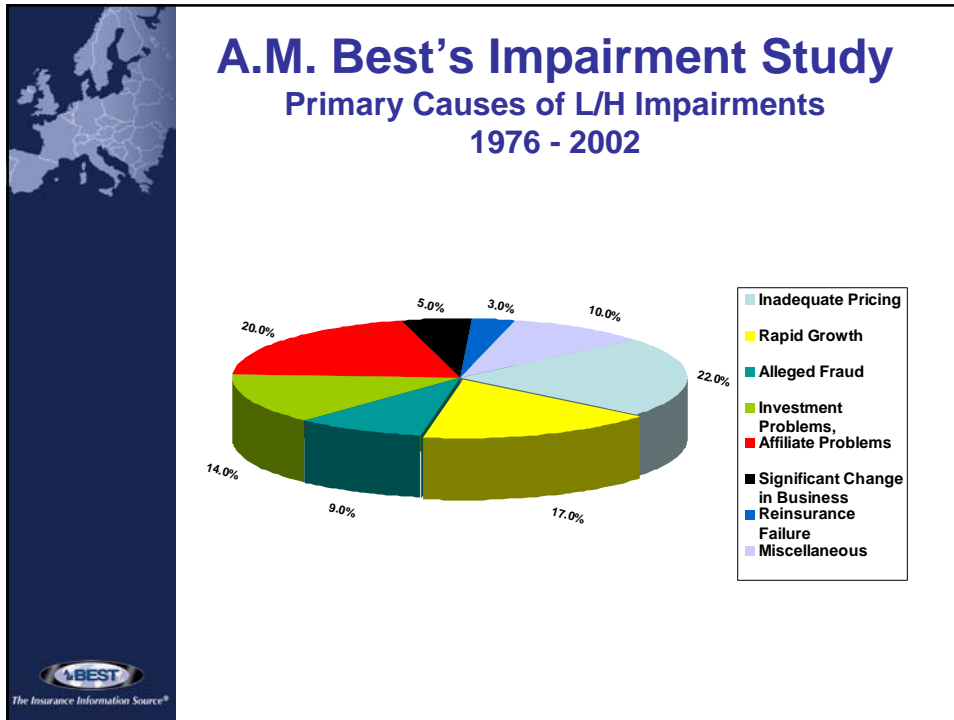
The BCAR factors future expectations (adverse development, expected losses etc). But fundamentally it is a function of the last Balance Sheet

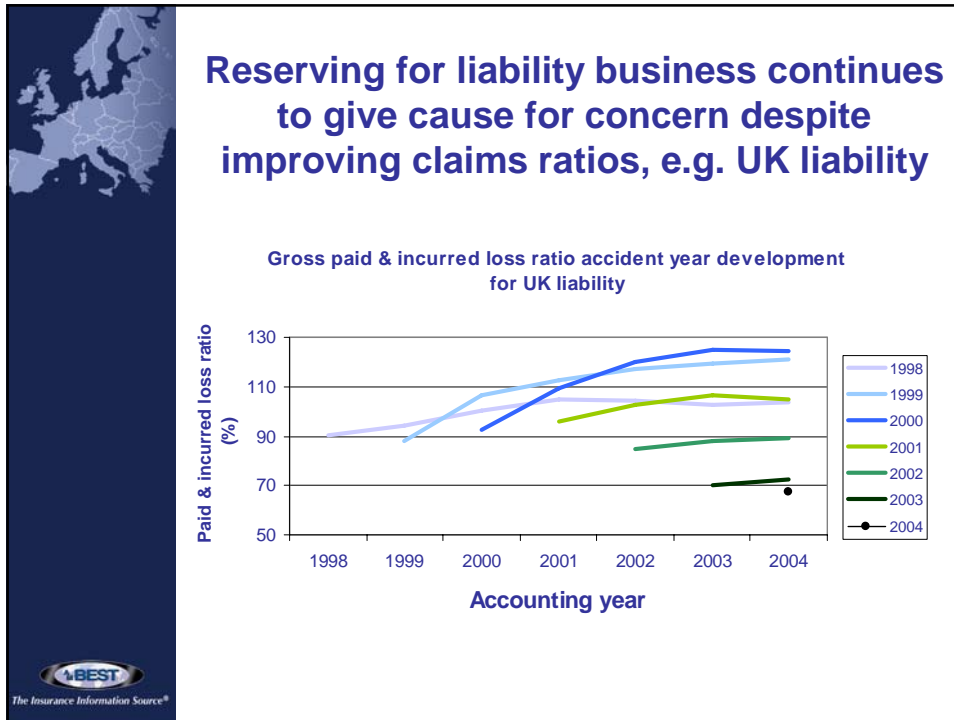
Hence we look at future expected Operating Performance and Business Position to set the context for how the balance sheet is likely to develop

A.M. Best's Impairment Study

Reason for Insolvency P/C Insurers— 1993 to 2002

Reason for Insolvency	Percentage
Deficient Loss Reserves	50.5%
Rapid Growth	9.6%
Catastrophe loss	7.8%
Unidentified	17.4%
Impairment of affiliate	3.2%
Overstated assets	3.2%
Discounted operations	2.8%
Change in business	2.3%
Alleged Fraud	3.2%
Reinsurer failure	0.0%






Potential Impact of Katrina on Ratings Example: Bermudian Reinsurer

	31/12/2001	31/12/2002	31/12/2003	31/12/2004	30/09/2005
Capital & Surplus	980,171	1,308,662	1,793,279	1,957,788	1,337,488
Gross Premium Written	150	607,688	809,733	837,051	871,900
Claims Ratio	0.0%	40.4%	23.3%	51.4%	191.7%
Expense Ratio	1108.0%	23.1%	25.2%	27.1%	23.0%
Combined Ratio	1108.0	63.5%	48.5%	78.5%	214.7%
Underwriting Profits	-1,654	65,793	345,042	179,516	-779,200
Post-Tax profits	-557	106,773	407,235	262,654	-691,900
Underwriting Leverage	0.02%	43.24%	43.38%	38.27%	57.00%


30/09/2005 Capital & Surplus includes further injection of \$600m in paid-up capital

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Other Considerations in respect of capital assessment

- Reinsurance
 - How much reinsurance?
 - Credit and liquidity for large claims
 - Cost of reinsurance in hard market
- Natural catastrophe exposure
 - What frequency should we expect
 - How much capital should we require
- Quality of capital
 - Hybrid Equity
 - VIF
 - DAC
 - Reinsurance Recoverables




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Solvency II Impact on Ratings

- Larger insurers already reporting in accordance with IFRS/US GAAP
- Volatility of results will require increasingly prospective rating analysis
- Increased transparency leads to increased competition with potential negative impact on capitalisation
- Potential change of business profile
- Improved risk management leads to better risk profile



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Solvency II Impact on Ratings

- Improved understanding of risks
- Improved understanding of risk and return
- Investment strategy
- Mismatching
- Smaller companies may struggle to implement changes



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