A- Could Do Better: Managing the Rating Process

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- Insurer Financial Strength Ratings
- Capital Models
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- A Strategic Decision Support Model
History of the Rating Agencies

- Henry Varnum Poor publishes assessments of railroad and canal companies in 1860
- 1916 Standard Statistics assigns debt ratings to corporate bonds
- 1971 first ratings of financial security of insurance companies
- AM Best founded in 1899 by Alfred M. Best with an insurance focus
- Fitch founded in 1913 as a publishing co.
The Role of Rating Agencies

- Independent assessors of financial strength and security for investors and other stakeholders
- Quasi-regulators in some markets
  - US
  - Bermuda
- Non-consulting
The Ratings Universe

Corporate Bonds
Liquidity Ratings
Sovereign
Municipal Bonds
Bank Financial Strength
Investor Quality
Management Quality
Shadow Ratings
Insurer Ratings

Financial Enhancement Ratings

- Long term
- Short Term
- Debt
- Subordinated Debt

Insurer Financial Strength Ratings

Captives

Lloyd's

Syndicate Performance & Volatility

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Making the Headlines

- Downward drift in insurer ratings
- Credit ratings now an essential part of corporate strategy
- Another basis for looking at capital:
  - Statutory, economic, regulatory, rating agency

Financial Times

Fitch downgrades Standard Life
S&P upgrade boosts sector
Downgrade casts doubt over Converium
Recent changes in the ratings world

- In 2003, S&P downgraded 53 North American insurers, while upgrading only 12.
- Since 2001 A.M. Best downgrades have outpaced upgrades at almost a 2.5 to 1 ratio.

<table>
<thead>
<tr>
<th></th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>3-year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upgrades</td>
<td>77</td>
<td>76</td>
<td>57</td>
<td>210</td>
</tr>
<tr>
<td>Downgrades</td>
<td>151</td>
<td>151</td>
<td>188</td>
<td>490</td>
</tr>
<tr>
<td>Total Rating Actions</td>
<td>1,447</td>
<td>1,399</td>
<td>1,891</td>
<td>4,737</td>
</tr>
</tbody>
</table>

- Best’s rating outlook for the next year has been negative for 15% to 20% of the companies rated.
Markets have changed, and perceptions too

- There has been significant loss reserve strengthening and a general perception of under-reserving in other cases
- Capitalization levels could be higher, in part impacted by the large growth in premiums due to rate increases over the last three years
- Many downgrades are related to the insurers’ distribution and competitive position
- Perceptions of company management and the quality of business planning also play a major role
Ratings are based on a comprehensive evaluation of a company from multiple perspectives

- Financial Strength
- Operating Performance
- Market Profile
The quantitative evaluation is based on various measures of performance

- Profitability (past and future)
- Leverage/Capitalization
- Liquidity
The quantitative evaluation is based on various measures of performance

<table>
<thead>
<tr>
<th>Quantitative Rating Factor</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profitability (past &amp; future)</td>
<td>Underwriting results</td>
</tr>
<tr>
<td></td>
<td>Investments</td>
</tr>
<tr>
<td></td>
<td>Capital gains/losses</td>
</tr>
<tr>
<td></td>
<td>Total operating results</td>
</tr>
<tr>
<td>Leverage/Capitalization</td>
<td>Operating leverage</td>
</tr>
<tr>
<td></td>
<td>Financial leverage</td>
</tr>
<tr>
<td></td>
<td>Asset leverage</td>
</tr>
<tr>
<td>Liquidity</td>
<td>Quick liquidity</td>
</tr>
<tr>
<td></td>
<td>Overall liquidity</td>
</tr>
<tr>
<td></td>
<td>Current liquidity</td>
</tr>
<tr>
<td></td>
<td>Operating cash flow</td>
</tr>
</tbody>
</table>
Quantitative evaluation is based on an analysis of a company’s historical performance relative to that of its peers

- Insurers are placed into one of 16 industry composites based on their line of business mix
- These composites are further segregated by surplus size into 64 “peer groups”
- Financial ratios are evaluated based on how they compare to those of “peer insurers” as well as on an absolute basis
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BCAR (Best’s Capital Adequacy Ratio) is an important measure of capitalization and leverage

- Similar to the NAIC’s RBC calculation
  - Calculates a “Net Required Capital” by the same square-root format of the RBC
  - Compares it to “Adjusted Policyholder Surplus,” which is Annual Statement surplus adjusted to remove a number of distortions created by the accounting rules
  - The ratio of the two is the BCAR, whose level sets a ceiling for that year’s rating
- The details of the model are proprietary, but BCAR can be approximated to provide insights
What does an Insurer Rating Mean?

- Insurer Financial Strength Ratings (IFSRs) imply probability of ruin

Cumulative Probabilities of Ruin by Term and Rating

So which factors drive probability of ruin?
Current and Future Financial Strength

- Capital (adequacy) the single most important factor
  - Capital Adequacy Ratio (CAR) today/projected
- Operating performance
  - Principal measure is Earnings Adequacy Ratio
- Market profile
S&P Capital Adequacy Ratio

Consolidated Balance Sheet

Assets Liabilities

Capital

\[
\text{CAR} = \frac{\text{Realistic assessment of capital}}{\text{Capital Required (risk charges)}}
\]

- Start with balance sheet capital
  - Adjust for hidden values
  - Adjust for asset quality
- Risk charges represent realistic expectations of potential losses
  - Subtract non-core (asset) risk charges
  - Core risks go into the denominator
- Published criteria define CAR
  - Separate life / non-life criteria
  - Group criteria less formalised

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Calculate Realistic Capital

- **Total Adjusted Capital “TAC”**
  
  \[ \text{Gross TAC} = \text{Shareholder’s equity} + \text{reserve discount} + \text{equalisation reserves} - \text{intangibles} - \text{tax on DAC} + \text{hybrid equity} - \text{reserve deficiency} \]
Calculate Net TAC and Risk Adjusted Capital

- Asset market value data:
  - bonds by rating and term to maturity
  - Reinsurer ratings
  - Net Written Premiums (as a proxy) by class
  - Net reserves by class

Gross TAC – Quality Adjustments – Asset Risk Charge

Risk Adjusted Capital

Eg. -50% DAC, -100% Goodwill

Default & Volatility Risk

Underwriting Risk Charge + Reserve Risk Charge
### Relating CAR to Insurer Rating

#### Capital Adequacy Ranges per Rating Level

<table>
<thead>
<tr>
<th>CAR</th>
<th>Indicative Rating</th>
<th>Assessment of Capital Adequacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>175%+</td>
<td>AAA</td>
<td>Extremely Strong</td>
</tr>
<tr>
<td>150-175%</td>
<td>AA</td>
<td>Very Strong</td>
</tr>
<tr>
<td>125%-150%</td>
<td>A</td>
<td>Strong</td>
</tr>
<tr>
<td>100%-125%</td>
<td>BBB</td>
<td>Good</td>
</tr>
<tr>
<td>Below 100%</td>
<td>BB or lower</td>
<td>Vulnerable</td>
</tr>
</tbody>
</table>

- Premium and Reserve risk charge factors distinguish between:
  - Direct / reinsurance
  - Proportional reinsurance / non-proportional reinsurance
- Projection of financial data the weakest element of the model
  - Capturing run-off / underwriting cycles
Comparison to ECR

- ECR targets a 1 yr probability of ruin of 0.5%
- S&P CAR of 1.00 implies BBB (secure) 1 yr PoR 0.4%
Comparison to ECR

Comparison of Risk Charge Factors for Reserve Risk - Direct Business

Accounting Class

% of Net Reserves

S&P

ECR

Health
Accident & health
Motor
Marine
Aviation
Transport
Property
Liability
Pecuniary
Credit

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Differences Between AM Best and S&P

- Very similar conceptual frameworks
- Unlike AM Best, details of S&P’s quantitative methodology is in the public domain
- S&P quantitative assessment includes “analyst adjustments”
- All of the big four undertake a qualitative assessment
Criticisms/Weaknesses of the S&P Methodology

- Projection of CAR relies on simple growth assumptions
- Addition of risk charges no explicit recognition of diversification benefits or ALM:
  - Internationally
  - Across life/P&C
- Divestment almost always has beneficial impact on calculated CAR
  - By reducing risk charges
  - And monetising intangible assets closer to economic value the CAR allows
- Historical Net Written Premium is only a proxy to future underwriting
- Reliance on balance sheet data makes ratings backward looking
Qualitative evaluation focuses on things like:

- Operating Strategy and Business Plans
- Quality and Stability of Management
- Capital/Asset Management
- Spread of Risk
- Competitive Position
- Quality and Appropriateness of Reinsurance
- Market Risk
- Financial flexibility
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A compelling case needs to be made in each of the qualitative areas

- Apparent weaknesses are often not as bad as they seem
- Recent changes in any of the above areas may not have had a chance to affect the quantitative results yet
- Insurers need to anticipate what A.M. Best will be looking for in order to tell the most convincing story possible
Insurers need to

- Anticipate the positives and negatives that A.M. Best will identify and focus on
- Anticipate the “path of least resistance” rating – what the rating will be if the insurer passively awaits the results
- Develop a story to tell A.M. Best, emphasizing the strengths while putting a positive light on apparent weaknesses
- Prepare a presentation to make the best possible impression on A. M. Best analysts
- Dress rehearsals / role playing can help
Strategic Decision Support Model

- Based on S&P Capital Adequacy Ratio
- Each Region projected separately using different assumptions
- Stand Alone Projections, assuming no strategic actions taken
Strategic Actions

- Model allows insurer to assess the effect on the CAR, of taken different strategic actions in any given future year.
- Model will show what effect the strategic action has on each item of CAR.
- Demonstration of selling off territory A for disposal proceeds of £400 million in 2004.
Benefits to Insurers

- Much greater understanding of the rating process
- Ability to manage the rating agency relationship
- Awareness of strengths and weaknesses in the S&P approach, and of issues to highlight and avoid
- Model which can be used to assess the effect of future strategic actions in rating terms
- Model to demonstrate to banks and other third parties