The Actuarial Profession
making financial sense of the future

A- Could Do Better: Managing the Rating Process

31st ANNUAL GIRO CONVENTION

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History of the Rating Agencies

STANDARD &POOR'S

Moody's Investors Service

AM BEST

FitchRatings

- 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

Long-term Bank Deposits

Liquidity Ratings

Sovereign

Municipal Bonds

Investor Quality

Bank Financial Strength

Management Quality

Shadow Ratings

Insurer Ratings

Insurer Financial
Strength Ratings

Financial Enhancement Ratings

Captives

Long term

Lloyd's

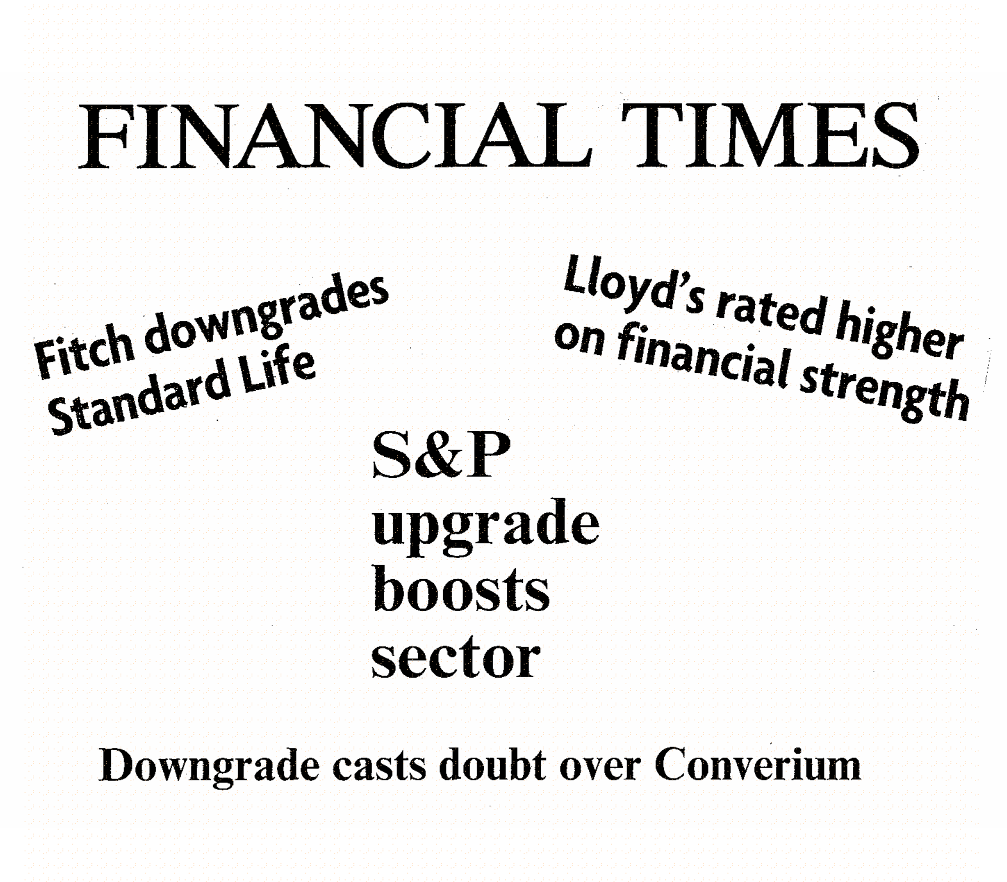
Short Term

Debt

Syndicate Performance &
Volatility

Subordinated Debt

Making the Headlines


FINANCIAL TIMES

Fitch downgrades Standard Life

Lloyd's rated higher on financial strength

S&P upgrade boosts sector

Downgrade casts doubt over Converium

- 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

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

	2001	2002	2003	3-year Total
Upgrades	77	76	57	210
Downgrades	151	151	188	490
Total Rating Actions	1,447	1,399	1,891	4,737

- 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

Quantitative Rating Factor	Considerations
Profitability (past & future)	Underwriting results Investments Capital gains/losses Total operating results
Leverage/Capitalization	Operating leverage Financial leverage Asset leverage
Liquidity	Quick liquidity Overall liquidity Current liquidity Operating cash flow

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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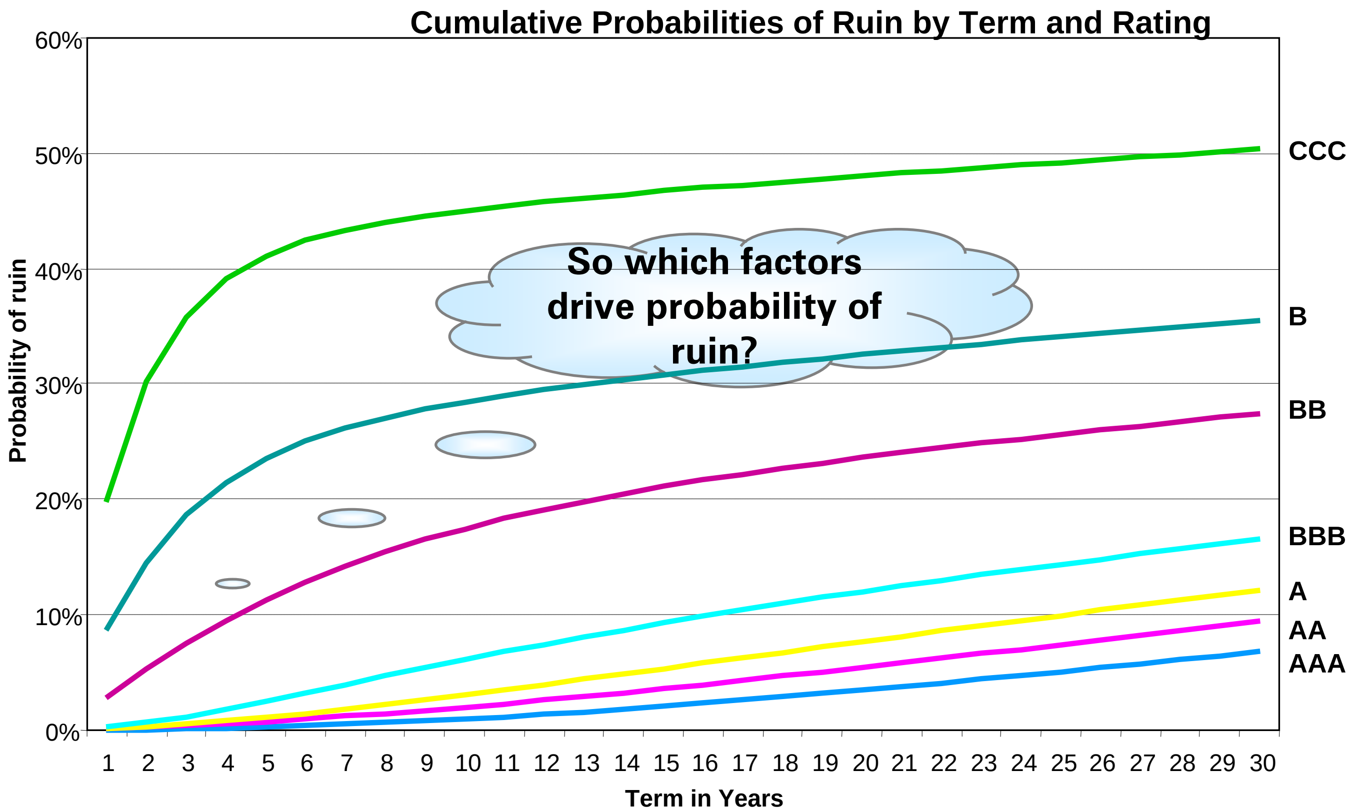
BCAR (Best's Capital Adequacy Ratio) is an important measure of capitalization and leverage

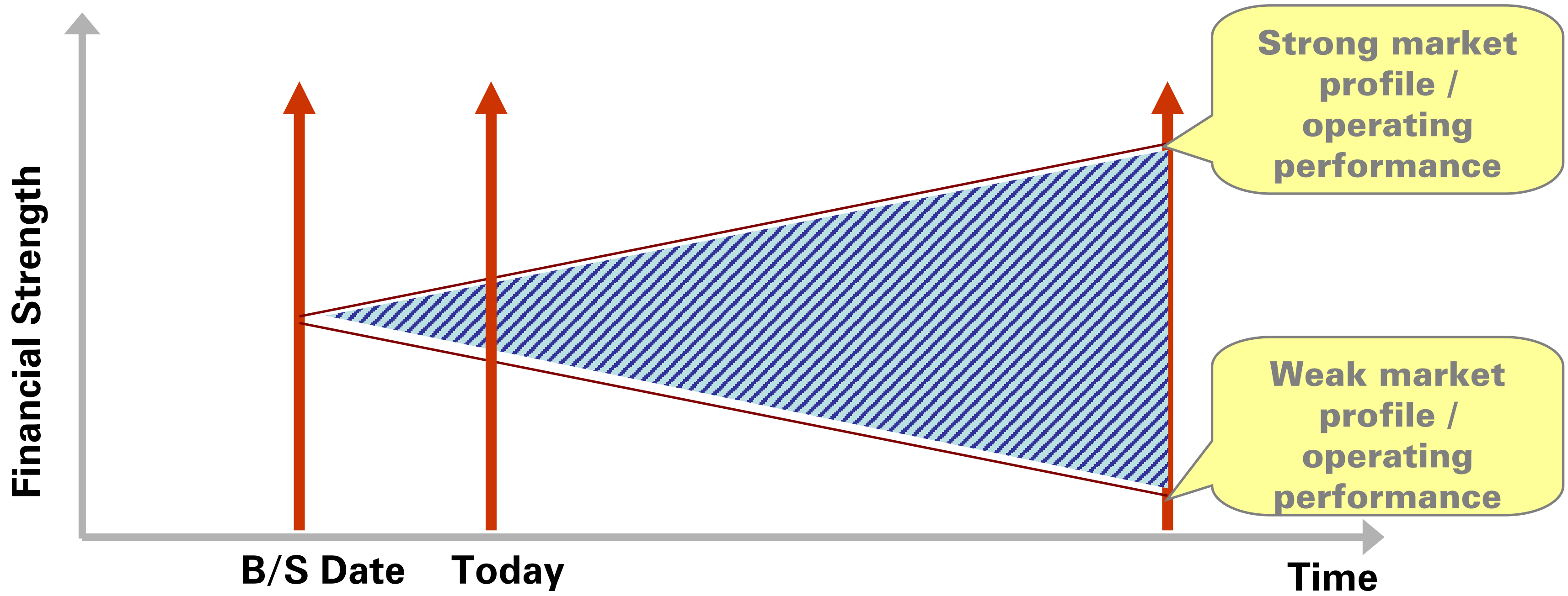
- Similar to the NAIC's RBC calculation
  - Calculates a "Net Required Capital" by the same square-root format of the RBC
  - Compares it to "Adjusted Policyholder Surplus," which is Annual Statement surplus adjusted to remove a number of distortions created by the accounting rules
  - The ratio of the 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



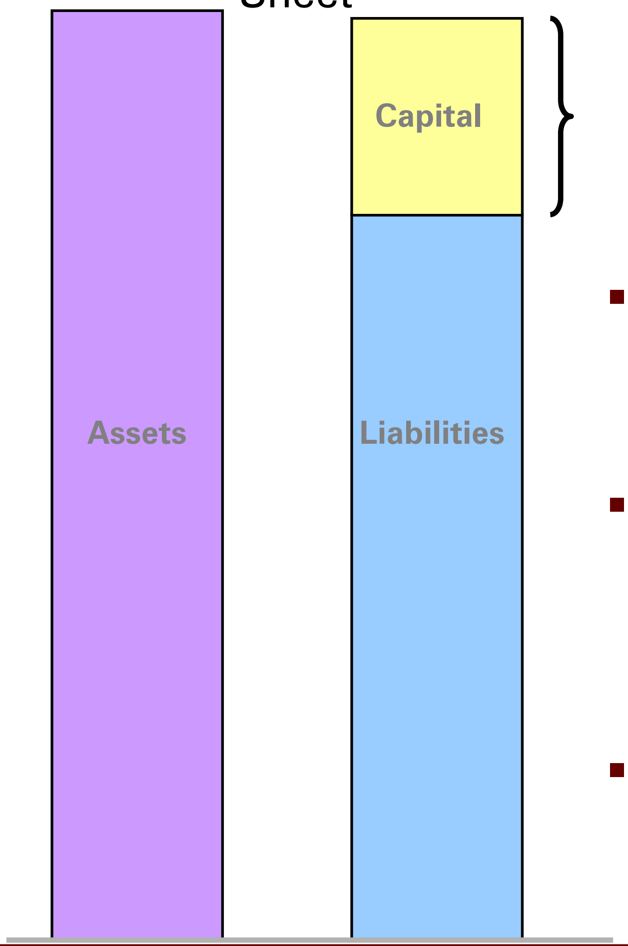
Current and Future Financial Strength



- 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

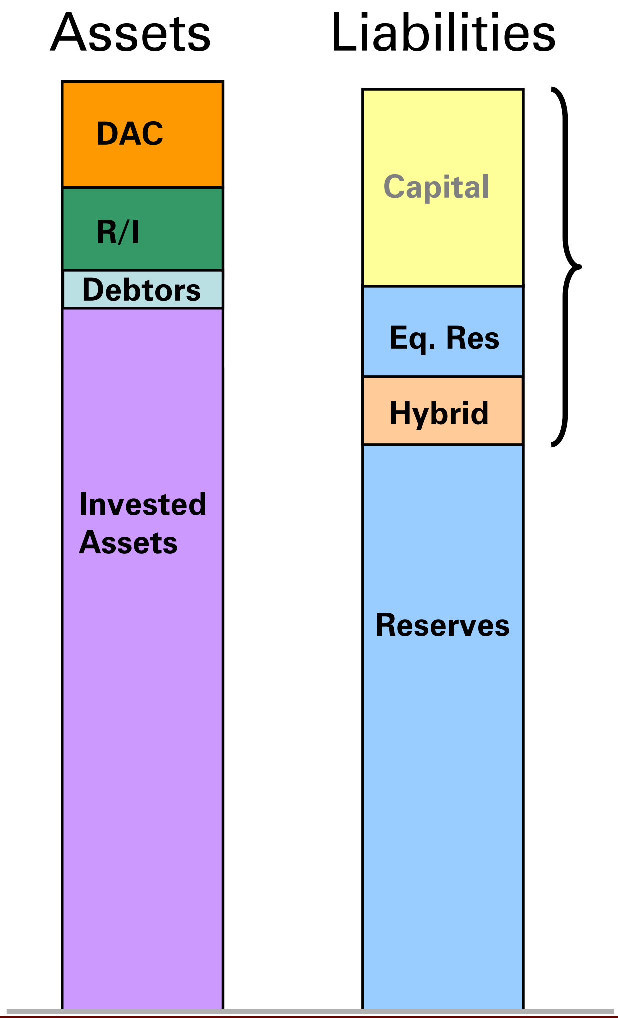
Consolidated Balance Sheet



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

- 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

Calculate Realistic Capital



- Total Adjusted Capital "TAC"

= Shareholder's equity
+ reserve discount
+ equalisation reserves
- intangibles
- tax on DAC
+ hybrid equity
- reserve deficiency

Gross TAC

Calculate Net TAC and Risk Adjusted Capital

Risk Adjusted Capital

Eg. -50% DAC, -100% Goodwill

Default & Volatility Risk

$$\frac{\text{Gross TAC} - \text{Quality Adjustments} - \text{Asset Risk Charge}}{\text{Underwriting Risk Charge} + \text{Reserve Risk Charge}}$$

Total Capital Required

- 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

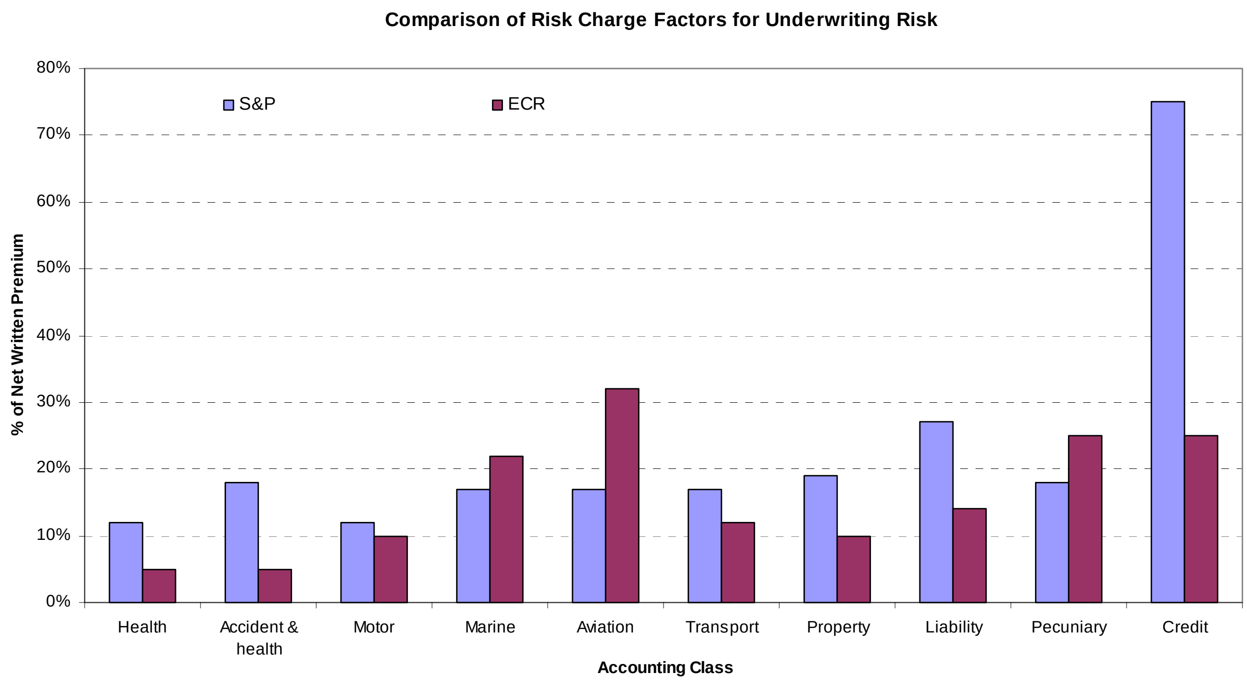
Relating CAR to Insurer Rating

Capital Adequacy Ranges per Rating Level

CAR	Indicative Rating	Assessment of Capital Adequacy
175%+	AAA	Extremely Strong
150-175%	AA	Very Strong
125%-150%	A	Strong
100%-125%	BBB	Good
Below 100%	BB or lower	Vulnerable

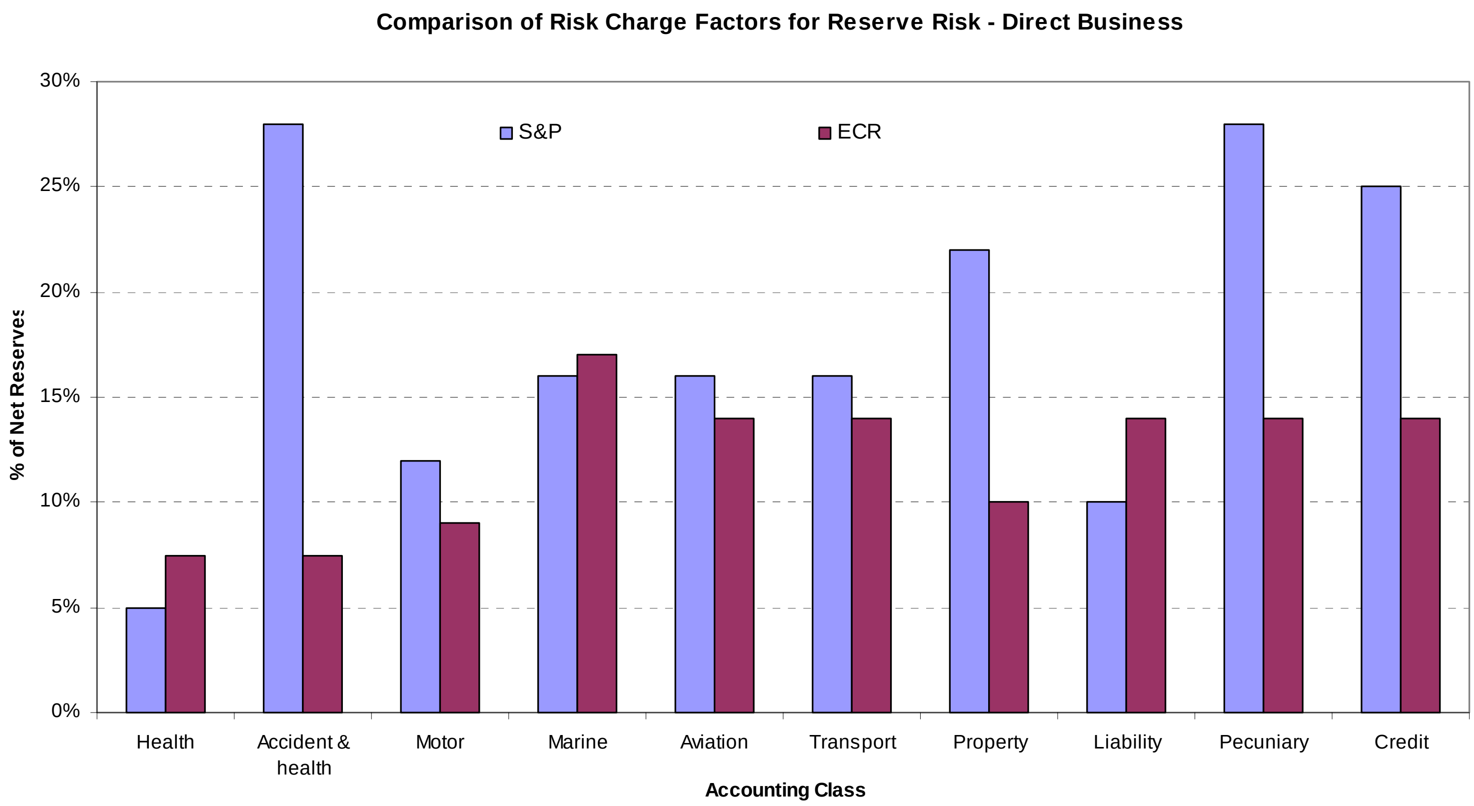
- Premium and Reserve risk charge factors distinguish between:
  - Direct / reinsurance
  - Proportional reinsurance / non-proportional reinsurance
- Projection of financial data the weakest element of the model
  - Capturing run-off / underwriting cycles

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



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

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Strategic Decision Support Model

- Based on S&P Capital Adequacy Ratio
- Project Investments, Premiums and Reserves forward from 31 December 2003 to 2004, 2005, 2006 and 2007
- 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