Ratemaking - Risk and Return Considerations

CAS RPM 2010

Presented by Tony Phillips, FCAS
Chief Risk Officer and Chief Actuary

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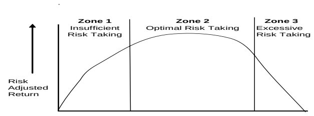
Goals of the Presentation

- Risk Adjusted Returns – Striking a Balance in ERM
- Example of a Risk Adjusted Return within an ERM framework
- Benefits of Risk Adjusted Returns
- Considerations

Risk Adjusted Returns – Striking a Balance in ERM

- ERM Mission - To ensure that capital is sufficient to absorb identified risks while, at the same time, providing a sufficient return (profitability) to the stakeholder over the long term.
- Finding the right balance is key (zone 2):
  - How do you know if you are getting the proper return for a segment?
  - Where should a company deploy its capital?
  - ***Risk Adjusted Returns can help***



Risk Adjusted Return – Exercise Part 1

- Assume a P&C Group called XYZ is made up of four operating company's (business segments).
- Which segment is the performing the best? Or is the most efficient?
  - D has best combined ratio and ROE.
  - A & C generate the most underwriting income.

Segment	Premium	CR	U/W Income	Capital (allocated based on premium)	Pre Tax ROE
A	550	98.0%	11.0	454.0	10.1%
B	170	95.0%	8.5	140.3	13.7%
C	215	95.0%	10.8	177.5	13.7%
D	10	80.0%	2.0	8.3	31.9%
Total	945	96.6%	32.25	780.0	11.8%

Risk Adjusted Return – Exercise Part 2

- **Additional information about XYZ' operating segments:**
  - ***Segment A:*** Writes medium to small accounts, however it has gone through some significant claims changes. It has good geographic diversification, with limited earthquake exposure, but does have concentrations in some major cities.
    - Impact on Cat, reserving and some pricing risk.
  - ***Segment B:*** New segment with limited experience, writes in California, has significant earthquake exposure.
    - Impact on Cat, reserving and pricing risk
  - ***Segment C:*** Niche company writing mainly debit accounts with a limited appetite, no cat exposure, consistent underwriting results.
    - Impact on pricing risk.
  - ***Segment D:*** Writes XS and large deductibles for very large accounts that have significant Cat exposure and underwriting volatility because of the type of business.
    - Impact on mainly on Cat and pricing risk.

Risk Adjusted Return – Exercise Part 2

- Now determine the required capital for each segment based on RISK.
- Then compute the risk adjusted ROE. How does each segment look now?
- Does this change the pricing recommendations?
- Where would you deploy the capital?

Segment	Premium	CR	U/W Income	Capital (allocated based on risk)	Pre Tax Risk Adj ROE
A	550	98.0%	11.0	415.0	11.0%
B	170	95.0%	8.5	200.0	9.6%
C	215	95.0%	10.8	83.0	29.3%
D	10	80.0%	2.0	82.0	3.2%
Total	945	96.6%	32.25	780.0	4.1%

Benefits of Risk - Adjusted Metrics

- ***More than just ratemaking……..benefits to ERM***
- Assessing capital adequacy
  - Understand source of the risk within XYZ, is XYZ holding enough capital….etc.
- Setting risk management priorities
  - Help identify where to apply risk mitigation strategies and which segments are using the most capital.
- Evaluating alternative risk management strategies
  - Can see what the risk adjusted ROE is before and after a risk management strategy to determine the impact.
- Risk-adjusted performance measurement
  - More fairly compares business segments with different risk levels or capital consumption.

Considerations

- Risk needs to be considered in either the numerator or denominator.
- Many different methods/approaches exist.
  - RORAC, RAROC, EVA, IRR, ROE…etc.
  - All have advantages and disadvantages.
  - Find what works for your company.
    - Does it drive the results and BEHAVIORS you want.
      - Very powerful if underwriting understands and buys into it.
    - Complicated is not always the best option.
- Rating agencies and regulators.

Questions?