Capital Management

Outline

- NAIC Risk Based Capital Model
  - Goals
  - Formula
  - Risk Categories
  - RBC Level of Action
  - C-3 Phase II

Outline

- S&P Capital Model
  - Description
  - Formula
  - S&P Rating Level
  - Risk Categories
- Conclusion

NAIC Risk Based Capital

- Measures minimum amount of capital required to support overall business operations.

- Considers the size and the degree of risk taken by the insurer.

Goals of NAIC RBC Requirement

- Universally recognized capital standard.
- Protection against short term adverse deviations.
- Prevents companies from taking extraordinary risk.

Goals of NAIC RBC Requirement

- Assures interested parties that the risk of insolvency is low.

- Authorize regulators to enforce compliance with more capital requirements.

RBC Formula

- Estimate RBC levels required to manage losses that can be caused by a series of catastrophic financial events.
- Probability of all losses to occur simultaneously is very low.
- Covariance adjustment … combined effect not equal to the sum.

RBC Formula

- Company Action Level RBC = C-0 + C-4a + [(C-1o + C-3a)^2 + (C-1cs)^2 + (C-2)^2 + (C-3)^2 + (C-4b)^2) ^0.5]

- RBC is compared to TAC.

Total Adjusted Capital (TAC)

- TAC = Capital and Surplus + AVR + 50% of dividend liability
- AVR is included even though it shows as a liability on the balance sheet.
- AVR absorbs capital gains and losses, whereas in determining the C-1 risk factors it is ignored.

Types of Risk -

- C-0 - Asset Risk Affiliate
- C-1 - Asset Risk Other
- C-2 - Insurance / Pricing Risk
- C-3 - Interest Rate Risk
- C-4 - Business Risk

C-0 Affiliate Asset Risk

- Measures default risk of affiliates.

Asset Risk Other (C-1o, C-1cs)

- Default of principal or interest.
- Fluctuation in MV.
- Risk factors are adjusted for the portfolio size and concentration risk factor.

Insurance Risk (C-2)

- Capital needed to cover excess claims over expected .
- Excess claims could be due to random fluctuations or inaccurate pricing for future claims.

Insurance Risk (C-2)

- Factors are applied to NAR.
- NAR broken down by size.
- Factors reflect the decrease in risk for larger blocks of business.

Interest Rate Risk (C-3a, C-3b)

- Risk of loss due to changes in interest rate level.
- Covers mismatch b/w liability and asset cash flows.

Interest Rate Risk (C-3a, C-3b)

- Impact of interest rate is greater where guarantees are in favor of the policyholder.
- Risk categories vary by withdrawal characteristics.

C-3 Phase I

- Cash Flow Testing Exemption worksheet.
  - C-3 Significance Test and Stress Test.
- Performed on Annuities and Single Premium Life.

C-3 Phase I

- Mostly annuity companies get picked for scenario testing.
- Floor of 50% and cap of 200%.
- Well matched companies usually fall below the 50% floor, hence C-3 factors are reduced by 50%.

Business Risk (C-4a, C-4b)

- General business risk.
- Factors cover Procedural, Personnel, External and Disaster risk.
- Charge assessed against premiums or annuity considerations subject to guaranty fund assessment.

Business Risk (C-4a, C-4b)

- No charge for Separate Account business premium.
- There is a charge on the separate account liability.

RBC Level of Action

- Ratio b/w TAC and RBC determines the level of action by the regulators.

- Different levels of action …
  - None.
  - Company Action Level… submit RBC plan
  - Regulatory Action Level…corrective actions
  - Authorized Control Level… regulatory actions
  - Mandatory Control Level… regulatory control

RBC C-3 Phase II

- Planned to go in effect on 12-31-2004.
- Many companies are suggesting that it be delayed.
- The scope of this regulation includes…
  - VA and Group VA w/ GMDB and GLB.

Why S&P?

- Companies rated by S&P.
- S&P more conservative than RBC.

S&P Capital Adequacy Model

- Determines the amount of capital that S&P expects the company to hold as a safety cushion.

- The model produces Capital Adequacy Ratio (CAR).

S&P Capital Adequacy Model

- CAR compares adjusted capital to a base level of surplus appropriate to support liabilities.
- CAR is only a starting point.

S&P Capital Adequacy Model

- S&P Analyst plays a critical role in adjusting the model to assess company specific risks.
- Besides CAR, the company's mgmt, corporate strategy, liquidity etc. are also considered.
- At the same time analyst maintains a standard of comparability among companies.

Capital Adequacy Ratio

- $$\text{CAR} = \frac{\text{Total Adjusted Capital (TAC) - C-1 (asset related risk)}}{\text{C-2 (pricing risk) + C-3 (int rate risk) + C-4 (oper risk)}}$$

S&P Rating Level

CAR	Rating	Assessment
< 100%	BB or lower	Various
100% - 125%	BBB	Good
125% - 150%	A	Strong
150% -175%	AA	Very Strong
More than 175%	AAA	Extremely Strong

Total Adjusted Capital

- TAC = Statutory Capital and Surplus + AVR + 50% of the policyholder dividend liability

Asset Default risk (C-1)

	S&P Bond Charge	S&P Preferred Stock Charge	NAIC RBC Bond Charge*	NAIC RBC Preferred Stock Charge*
Class 1	.0051	.0084	.0029	.0081
Class 2	.0391	.0652	.0095	.0221
Class 3	.0936	.1504	.0339	.0531
Class 4	.1740	.2744	.0737	.1106
Class 5	.2756	.4036	.1696	.1844
Class 6	.3	.6	.1950	.1950

* After tax factors.

Asset Default risk (C-1)

- Concentration Risk Charge
  - additional charge
  - assets w/ credit risk associated with single issuer are aggregated to assess concentration risk.
- Size factor

Liability Pricing Risk (C-2)

- Approach similar to RBC.
- Factors for Life Insurance are applied to NAR.
- C-2 factors are more conservative for S&P than RBC.

Interest Rate Risk (C-3)

- Risk categories are similar to RBC … low to high.
- Some products are classified differently.

Interest Rate Risk (C-3)

- Low Risk
  – Life Insurance Reserves
  – Synthetic GICs

- Medium Risk
  - Annuity Reserves not withdrawable (xcl. SPIAs) … considered low risk under RBC.
  - Annuity Reserves with surrender charge.

Interest Rate Risk (C-3)

- Structured Settlements
- GICs … considered low risk under RBC.
- Annuity Reserves with MVA … considered low risk under RBC.

- High Risk
  - Annuity Reserves with no adjustments
  - SPIAs (incl. Pension Buyouts) … considered low risk for RBC.

General Business Risk (C-4)

- Approximated by applying factors to Premiums subject to Guaranty Assessment Fund.

To conclude ...

- S&P factors are more conservative… especially for an annuity company.

- Based on Statutory Accounting, same as NAIC RBC.

- S&P excludes Goodwill.

To conclude ...

- C3 CFT test in NAIC RBC. S&P recognizes the significant research and is monitoring the effects.

- RBC Factors … after tax

- No covariance adjustment in the S&P formula.