Asset Adequacy Testing For LTC Products

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Methods of Asset Adequacy Testing

- Cash Flow Testing
- Gross Premium Valuation
- Other
Actuarial Standards of Practice

- ASOP 7 - Analysis of Life, Health or Property/Casualty Insurer Cash Flows
- ASOP 18 - Long Term Care Insurance
- ASOP 22 - Statements of Opinion Based on Asset Adequacy Analysis by Actuaries for Life or Health Insurers
ASOP 7 Reasons for Cash Flow Testing

- Where there are material asset risks (for example, below investment grade bonds, assets with payment timing risks such as CMOs or mortgage-backed securities, mortgages concentrated in certain regions of the country, and large illiquid assets such as real estate)

- Where there are liabilities that have cash flows far out into the future
ASOP 7 - Cash Flow Test is Not Always Necessary

• If, in the actuary's judgment, a block of business, taken together with its policy term and the associated investment strategy, is relatively insensitive to influences such as changes in economic conditions or interest-rate scenarios.
Because of the long-term nature of the LTC benefits, future liability cash flows may be different from future asset cash flows. Therefore, the actuary should consider cash flow testing as a potentially important part of any LTC insurance plan's financial analysis. This is especially true if LTC insurance is the sponsoring entity's only product or a major portion of the entity's business.
• A gross premium reserve test may be appropriate where the policy and other liability cash flows are sensitive to moderately adverse deviations in the actuarial assumptions underlying these cash flows.
Considerations in Choosing a Testing Method for LTC

- Asset characteristics (callable bonds, CMOs, mortgage backed, illiquid assets)
- Asset liability mismatch
- Size of block
- Fraction of company business
- Liquidity
Special Considerations for LTC

- Very steep slope
- Very low lapse
- Investment sensitivity (especially positive future cash flows)
- Lapse supported product
- Politically sensitive market
- Claim reserve tail
Assumption Setting

- Morbidity
- Earned investment income rate
- Mortality
- Voluntary Lapse
- Expenses
- Rate Increases
Assumption Setting - Morbidity

- Current best estimate
- Validate against company's experience
- Considerations regarding inflation protection
  - Relationship of interest rate and inflation
  - Cash vs. service reimbursement
- Inflation for existing claimants
- "Salvage"
- Considerations in morbidity improvement
- Sex distinct vs. unisex
Assumptions Setting - Earned Rate

- Characteristics of assets backing LTC
  - Segregated assets?
  - Dedicated LTC investment strategy?
- Provision for defaults
- Provision for investment expenses
- Current and expected new money rates
  - Large future positive cash flows
Assumption Setting - Mortality

- Best estimate
- Selection Factors
- Sex distinct vs. unisex
- Mortality improvement
Assumption Setting - Voluntary Lapse

- Best estimate
- Validate against company experience
- Issue age/attained age considerations
- Group vs. individual
- Trend
Assumption Setting - Expenses

- Best estimate validated against company experience
- New business vs. maintenance
- Provision for claims expense
Assumption Setting - Rate Increases

• Increase status
  • In process of implementation
  • Submitted to states for approval
  • Next in regular round, documented as approved by management
  • Actuary trying not to set up more reserves?
Assumption Setting - Rate Increase Shock Lapses

• Company history?
• Contingent Non-Forfeiture
  – Contractually?
  – As a negotiable item in rate increase?
• Offers if reduced coverage?
• Changing regulatory environment
Sensitivity Tests for Moderate Adverse Outcomes

- Interest rate scenarios
- Morbidity
- Lapse/mortality
- Expenses
- Stochastic testing
- Role of rate increases in sensitivity testing
  - Is increase justifiable? (lifetime loss ratio)
How to Mitigate Risks

- Interest rate hedging strategies
- Reinsurance
- New business pricing
  - If you're in a hole, stop digging
Interest Rate Hedging Strategies

- **Interest Rate Swaps**
  - Cash exchanged based on notional amount and difference between fixed and floating rate of interest

- **Example**: five year forward, $100M notional, received fixed pay floating for 25 years (say fixed is 6%)
Impact of Swap

- End of five years, immediate fixed 25 year rate drops to 4%
- Enter into immediate $100M notional 25 year swap, receive floating pay fixed
- Net - company receives \((6\% - 4\%) \times \$100M\) or $2M annually
- Floating cancels out
- Usually settled in cash
Reinsurance

- Quota share
- Excess loss
- Risk considerations
- Rate control
Other Considerations

- Implications for GAAP loss recognition
- Interim results
- Asset/liability matching
Questions???