

The New World of Insurance Company Financial Reports

Principles Based Reserving

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Basic Type of Financial Reserves

- Statutory (read state or legally required)
 - solvency
 - changes first for new business, than all
- Tax
 - balances revenue with public policy
 - changes for new business only
- Investor focus
 - true value by the current definition

History of Statutory Reserves

- Fixed premium and defined guaranteed benefits simple
- Present Value of Future Benefits less Present Value of Future Premiums
- All future reserve values were defined at issue based on contract and the assumed mortality table and interest rate

History of Statutory Reserves

- Commission's Reserves Valuation Method (CRVM) for Life Insurance
- Commission's Annuity Reserves Valuation Method (CRVM) for Life Insurance

More History of Stat Reserve

- 1984 Stark-Moore changed the interest rate assumption based on the current bond index rates
 - For new business and all old business graded in over three years
- New method developed for Universal Life Insurance (UL CARVM) due to flexible Cash Values and flexible premiums

More History of Stat Reserve

- Triple X and aXXX methods for term insurance and Universal Life Secondary Guarantees
- CARVM modified to address Variable Annuities (VACARVM) and Equity Index Annuities
- Add methods to address death benefit and other guarantees on Variable Annuities

Stop the History of Stat Reserve

New methods didn't always work well for new product types.

Actuaries created products that lower reserves.

Is there a better way?

Change the Reserve System

- First attempt to change called Unified Valuation System (UVS)
 - Allow company experience into the reserve calculation.
 - More focused on Life Insurance than Annuities
 - Didn't address Tax Reserve Issue
 - The State Insurance Departments were not ready for change yet

Change the Reserve System

- Attention shift to Variable Annuities
 - How to value Living Benefits like annuity payout guarantees (GMIB), account value guarantees (GMAB) and withdrawal guarantees (GMWB).
 - Benefit Value is tied to stock and bond market returns
 - Enter the stochastic (multiple scenario) world

Life in the Stochastic World

- Models of the Annuity cash flows are developed including expected policyholder behavior that can change
- Dozens or hundreds of scenarios are run with different stock and bond market returns
- Results are ranked for Conditional Tail Expectation (CTE) reserve setting

Change the Reserve System

- Now shift attention to Life Insurance
 - New reserve approach call Principles Based Reserves (PBR)
 - Applies company experience and policyholder behavior to reserve calculation
 - Traditional reserve methods may be applied for some products
 - Enter the model and multi-scenario world

When?

Based on the NAIC Life Health
Actuarial Task Force work maybe

2010

What will change?

- Actuaries will need more data
 - Need more information on each policy
 - Need data to develop company's own experience studies of mortality and policyholder behavior
 - Industry experience study data may sometime be used

What will change?

- Actuaries will need more data (continued)
 - Shift from extract to feed reserve program to actuarial database and transformations to create input data
 - Regulators want data for industry wide studies and when the company is examined
 - Who is responsible to create, store and maintain this data

What will change?

- Actuaries will built and maintain models
 - Models could be spreadsheets or sophisticated modeling packages
 - Models have a programming language of their own.
 - The models are the production environment for your financial reporting process
 - Need Revision Controls on models; who is responsible?

This is the right time

- Computing power for hundreds of scenarios is available with faster CPUs and grid computing
- Data storage costs have decrease greatly
- Other initiatives in Investor Reporting (GAAP, IFRS, Embedded Value and Market Consistent) require models and stochastic methods too.

What Else

- Insurance Company will validate the quality and completeness of the data and the validity of the models.
- Regulator will review both data and models.

My Experience

- Develop Actuarial Financial Database
- Normalize data from various sources
- Move to single source for all policy data for actuarial uses
- Create a discipline data environment
- Work to implement revision control on models
- Data validation is included