

Purposes for Financial Models

1. Pricing - premium rates
2. Reserve Calculations - gross premium reserves and deficiency reserves
3. Monitoring of Results - to test validity of assumptions and deviations from expected values
4. Solvency Testing - need for additional financial reserves for future experience
5. Financial Forecasting - many reasons
6. Appraisals - value of a block of business

Desirable Characteristics of a Good Model

1. Reliable Accuracy - predict future events and be robust
2. Suitability for Use - produce results for which it is designated
3. Appropriate Precision - decimal places used and displayed
4. Sensibility - underlying basis should be logical
5. Effectively Communicated

Building a Model (steps)

1. Step 1: Choosing the Basic Structure of the Model
2. Step 2: Choosing the Information to be Carried
3. Step 3: Choosing Assumptions and Building a Prototype Projection
4. Step 4: Extending the Prototype
5. Step 5: Validating the Model
 - 5.1 Four Key Model Validations (SUBLIST ON A SEPARATE FLASHCARD)
6. Step 6: Documenting the Model
7. Step 7: Designing Output and Communicating Results

Four Key Model Validations

1. Compare starting year values directly to actual values for that year
2. Measure year to year changes
3. Reasonableness checks by people familiar with the business
4. Stress testing

Choice of Assumptions for Modeling

1. Lapse Assumptions
2. Mortality
3. Claim Costs
4. Expense Assumptions
5. Profit Assumptions
6. Model Office Assumptions

Definitions of expected results when comparing an actual to expected analysis

1. Original Pricing

1.1 Stakeholders and senior management have a mental picture of this as a baseline

2. Profit Targets

2.1 Original profit targets are used (though not full original assumptions as in option above)

3. Current Pricing

3.1 Most useful measure for inflation sensitive products

4. Tabular

4.1 For Disability coverage, expected results can come from published tables

4.2 LTC doesn't have published tables, but companies may create internal table based on experience