

Prophet US Health Library - risk and reserve modeling for US life and health insurers

Capturing the unique risk profile

Health products have a different risk profile to typical life insurance products, and need to be modeled accordingly. With morbidity rates, multi-state transitions and more interest rate risk than is immediately apparent, including these products in a standard life insurance product modeling suite is not enough to properly capture their risk profile.

Instead, a solution tailored to understanding the specific risks of these products is needed, while still allowing for their inclusion in a broader company view of risk.

The Prophet US Health Library is central to SunGard's Prophet risk solution for life and health insurers in the US. The library contains the actuarial code required for valuing and modeling several main products and features common in the US health marketplace.

The library is designed to be included in fully dynamic runs, allowing for a complete ALM model to be projected when used in conjunction with Prophet's Asset Liability Strategy Library, reflecting the realistic interaction between assets and liabilities. While deterministic modeling of morbidity rates is common within health insurance, the increased need to better understand the tail risks in products, combined with the continual growth in computing power, has opened the door to stochastic analysis of morbidity. This functionality is available as a part of the US Health Library.

As with all Prophet libraries, the code and its structure are intuitive. Actuaries can quickly build, modify and extend their models using Prophet's own simple code, without the need for additional coding languages or skills. And because of its transparency, managers can readily understand what drives certain model results.

Key features

Products

- Disability insurance
- Long term care
- Critical illness
- Life-LTC combination product

General Product Features

- Level or increasing premiums
- Multiple benefits per policy
- Benefits varying according to duration of claim
- Benefits drawn from one or more pools of money
- Inflation protection (simple or compound)
- Guaranteed purchase option
- Return and waiver of premium riders
- Claims in payment

Morbidity Modeling

- Claim incidence and termination rates, including transitions between states
- Claims costs method, with support for both lump-sum and cash-flow projection based costs
- Monte-Carlo simulation based modeling of incidence, recovery, lapse and mortality rates
- Separate assumptions for experience, stat, tax and US GAAP

Valuation Features

- Statutory reserves - Net Level, Full preliminary term (FPT), Two-year FPT
- Premium deficiency reserves
- Tax reserves
- US GAAP reserves, including FAS 60, FAS 97 and loss recognition

Reinsurance Features

- Coinsurance
- FAS 113 GAAP reporting

Goal Seeking Features

- Goal seeking to determine premium rates to achieve a predefined level of profitability

Reporting Features

- Standard pricing measures
- Loss ratios
- Statutory and GAAP financial reports
- Discounted profits, at three rates of discount
- Discounted revenue accounts and accumulation of profits
- Breakeven month and internal rate of return
- Analysis of future surplus / margins

Dynamic Features

- Automatic output of the values which need to be passed from one dynamic loop to the next
- Any input assumption can be changed to make it calculate dynamically, by being read from a variable calculated in a higher level or ALM product in the previous dynamic loop

About SunGard's Prophet solution

SunGard's Prophet solution is a leading enterprise-wide actuarial modeling system that helps insurance and financial services companies meet reporting responsibilities, improve risk management, and develop more profitable products faster. Prophet uses customizable actuarial libraries for all major product types, including regional variations. It provides the transparency, performance and control required by today's actuaries and risk managers through integrated financial modeling and data management capabilities. Prophet is used by more than 9,000 users at over 730 customer sites in more than 65 countries. www.sungard.com/insurance/risk

Enabling the adaptive enterprise

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