Agenda

1. Fin Tech in Life Insurance
2. Market Observations
3. Diversity of Requirement
4. Solution
1 Fin Tech in Life Insurance
Where Is Fin Tech in Life Insurance

» Distribution: Provide quick quotes (generally term insurance & AD&D)
» Improved underwriting
» Health and wellness screening
» Fitness apps to modify rates
» Provide simple products

One area that has not had as much attention is addressing senior leaders in the decision making area.
Market Observations
Some Market Observations

Risk function transition to business partner

» For the last few years insurer’s risk functions are transitioning from a pure risk compliance role to being a strategic business partner

» This has meant a focus on ERM, establishing ORSA (Own Risk & Solvency Assessment) and enhancing stress testing capabilities

» However, the significant investments that have been made on risk infrastructure have generally been on complying with regulation

» As a consequence many insurers are at an early stage in developing truly companywide ERM, Stress Testing, ORSA capabilities
Some Market Observations

What we have heard

» They try to answer these questions today – but only with:
  – Manual effort,
  – Ad-hoc modelling and data-collection
  – Not as frequently or timely as is wished

» Generally not integrated into business planning/FP&A process to truly provide a consistent view of risk & business issues

» What is really needed is the right information, at the right time – with confidence
  – Modelling results translated into risk/business Management Intelligence, covering multiple KRI/KPIs
  – Results available when required – not after the fact
  – Reliable and transparent results, derived from the existing models - need for strong model and data governance
3 Diversity of Requirement
Why Nothing Has Been Done

Difficulty of a single solution

» There is no single model that the business can readily use. Modelling the business relies on a range of more granular modelling capabilities (liability valuation, asset pricing, capital calculations etc.) that are cumbersome, slow and not very well integrated

Needs to address different perspectives

» There are a range of senior stakeholders (e.g., CFO/CRO/CIO) within the business and each will have a slightly different perspective/need for the business modelling capability

Needs to address various lenses

» The impact needs to be known under Stat, GAAP, and Economic lenses
Key Stakeholders and Their Needs

CRO
Chief Risk Officer
- Risk-based measurement
- ORSA & Stress Testing

CFO
Chief Financial Officer
- Capital Planning & Allocation
- Profitability & Product Pricing

CIO
Chief Investment Officer
- Asset Liability Management
- Strategic Asset Allocation

Key Business Needs
Key Stakeholders and Their Needs

**Chief Risk Officer (CRO)**

**Risk-based measurement**
- Need the ability to have a risk conversation with the business
- For risk reporting (e.g. Solvency, Capital requirements, Risk limits etc.) monitoring in real time is important, particularly understanding volatility. Forward looking assessment becoming a priority to help with communication internally and externally
- Expect evolution towards risk-based performance metrics – linking capital requirements with profitability

**ORSA & Stress Testing**
- ORSA is seen as a reporting exercise driven by regulation. Not gained much traction by focusing on ORSA. Better to focus on the business need

**Chief Finance Officer (CFO)**

**Capital Planning & Allocation**
- As part of the annual business planning process the finance area will want to be able to allocate available capital to business units
- Risk based capital means that the CFO area needs to work more closely with CRO area or whoever owns the capital model

**Profitability & Product Pricing**
- Profitability is the key driver for the CFO area
- Expect they will also evolve towards risk-based performance metrics – linking profitability with equity and capital requirements
Key Stakeholders and Their Needs

Chief Investment Officer (CIO)

Asset Liability Management & Strategic Asset Allocation

• Effectively the Strategic Asset Allocation is an output of the Asset Liability Management activities

• The CIO area will want to be able to assess the impact of different asset portfolios on the insurance portfolio across a range of dimensions: Returns, Duration and Cashflow Matching, Cashflow shortfall, Capital Requirements, etc.
Current Solution

The bottom up approach is the traditional way of tackling the problem. Re-run the “heavy models” and consolidate the results in a Spreadsheet

1. Bottom Up

**High Level Consolidation**
- Typically a spreadsheet, level of sophistication likely to be variable

**Bottom Up Modelling**
- Range of modelling capabilities: asset and liability cashflow models, capital models, etc.
- Increased focus on automation, integration and performance

- This approach works to an extent but it is not easy for senior management to use or access
- Spreadsheets very quickly become complex with significant reliance on the heavy models re-runs
Better Solution

A better approach for business level modelling leverages both the top down and bottom up modelling solution

Combined Modelling Framework

• Top down modelling works well for certain “what-ifs”
• Top down modelling provides the first order change
• Bottom up approach could be cumbersome
• A combined top down & bottom up approach in a controlled environment is the solution

The bottom up approach needs to leverage clustering and scenario reduction techniques
• The top down part should allow the users to define how cash flow are flexed as one size does not fit all
Elements of the Solution

Enabling effective risk-based decision making through:

- **Business Insight**
  - Timely forward looking insight is critical to empower senior management to navigate the uncertain waters of the insurance industry

- **Modelling Capability**
  - Insurance firms need a top down centralized business modelling capability that delivers analysis across a range of business metrics quickly and with sufficient accuracy

- **Timely**
  - Senior management require analysis from their business models in hours rather than weeks

- **What-If Analysis**
  - Need to be able to assess the impact of different business scenarios and management actions to inform decision-making
Target Operating Model of the Solution

- **WHAT-IF ANALYSIS**:
  - Ability to manage alternate scenarios and assess management actions
  - Optimization

- **CONSOLIDATION**:
  - Consolidate Balance Sheet & Financials
  - Overlay calculations
    - Available Capital and Capital Requirements
    - Dividends
    - KRI/KPIs

- **ANALYTICS**:
  - Business Metrics & KRI/KPIs
  - Risk Appetite & Limits
  - Historical & Forward looking

- **CONFIGURATION & SCENARIO MANAGEMENT**:
  - Scenarios
  - Portfolio - Existing & New Business (Assets and Liabilities)
  - Management Actions e.g. Asset Allocation

- **TOP DOWN MODELLING**:
  - Re-using Aggregated Cashflows
  - Proxy Models

- **BOTTOM UP MODELLING**:
  - (A Vendor Maintained ALM Model)

- **ANALYTICAL DATA REPOSITORY**

**MOODY'S ANALYTICS** Integrated FP&A Projections and “what-if” Analysis 17
Solution: Actionable Risk Analytics

Layered approach with drill down to the underlying drivers


Product Line view. Contribution to risk; how would mix & volume affect key metrics?

What are the largest risk (e.g., rates, credit, or insurance) and how do these evolve through time & change under different scenarios?