Valuation and Asset Liability Management

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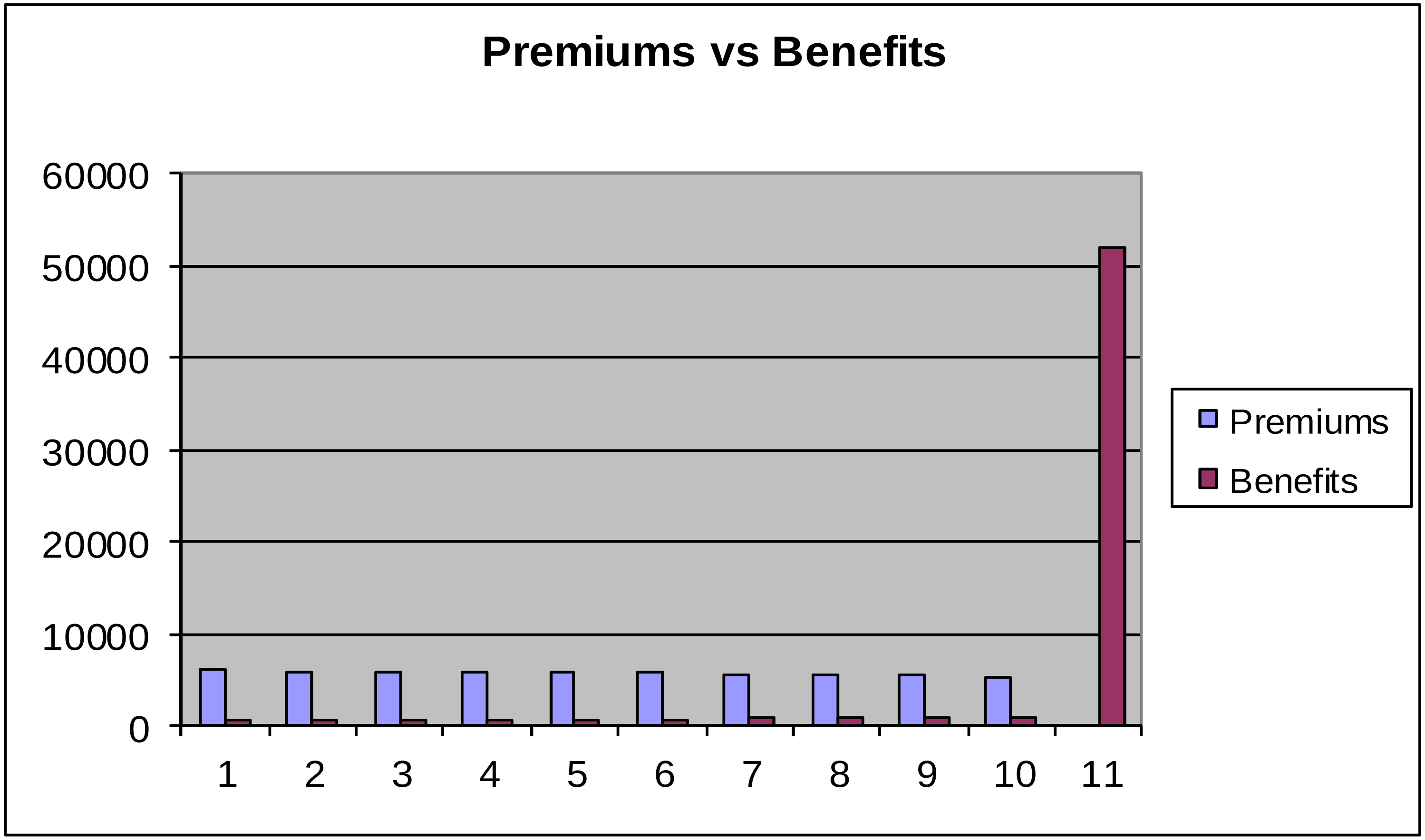
Valuation of Liabilities

Due to mismatch between incidence of premium and benefit outgo policy reserves are required to be set-up



Valuation of Liabilities

Valuation of liabilities is calculated policy by policy for all policies where there is a liability. Governed by Regulations and Professional Standards

Steps in Valuation

- Experience Analysis

  Assessment of experience in Investments, Mortality and Expenses in order to set assumptions for the projections.

- Reserving assumptions

  Arriving at reserving assumptions based on statutory and internal requirements

- Cash flow Projections
  - For each policy the cash flows (premiums, Benefits and Expenses) are projected in to the future as per the assumptions set
- Reserving for Policyholders' liabilities

  Discounted value of these cash flows to the valuation date at a certain discount rate represents the liability

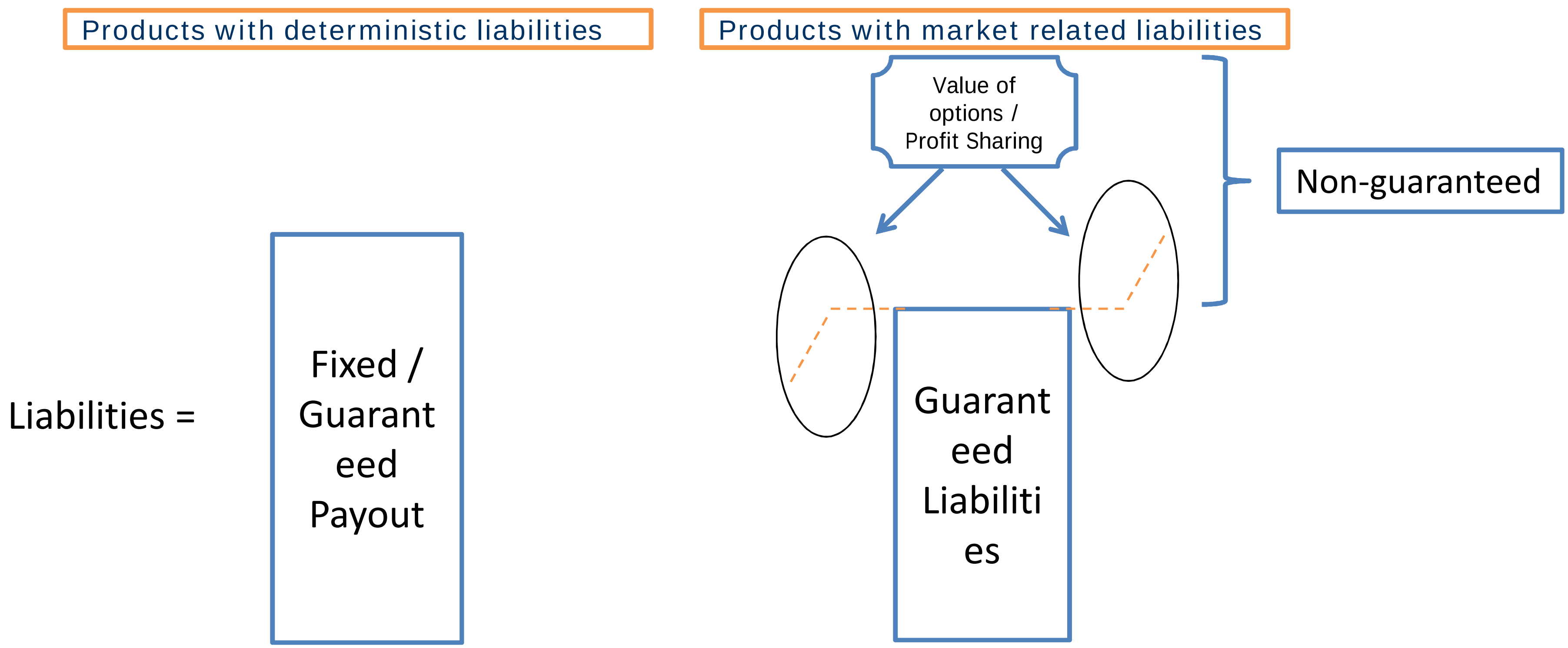
Reserves (liabilities) form half of the balance sheets and are to be invested suitably to fulfil the promises made to the policyholders

Assets are to be invested as per the investment objectives...

Commonly two investment objectives:

1. Investments should consider the Nature and Term of liabilities.
2. Optimize the return from the investments

Nature of Liabilities



Assets to match liabilities or Liabilities to match assets?

Assets are to be invested as per the investment objectives...

ALM is the ongoing process of formulating, implementing, monitoring and revising strategies related to assets and liabilities to achieve the organization's financial objectives, given its risk tolerances and other constraints.

Steps in ALM

- Portfolio segmentation

  Portfolios are grouped based on nature of liabilities for efficient ALM management.

- Cash flow management

  Asset – Liability cash flow projections are made to assess where net in-flows and out- flows are expected and to make investment and portfolio re-alignment decisions.

- Duration gap analysis

  Asset Liability duration gap is monitored to assess trends in cash flow mis-match position.

Asset Liability Management

- Simulation analysis

  The Asset Liability positions are projected under different scenarios (such as higher discontinuances that affects timing) and analyzed.

- Liquidity Ratios

  Liquidity risk is monitored using the Liquidity Ratio.

- Optimization analysis

  The optimal asset allocation and target durations are derived for each portfolio based on the investable universe

- Regular Monitoring

  The actual allocation is monitored in comparison to the Strategic Asset Allocation and target duration and corrective steps are advised, if required.

- Hedging strategies for ALM

  Hedging strategies are assessed for effective ALM.

Models and Processing Systems

Software systems and models used for Valuation and ALM are briefly described below.

- Asset-Liability projection

  Actuarial projection software (such as Prophet or Moses) is used for projecting the policy related liabilities to the company. These software can also be used to project the asset positions over time. Decision making rules can be set up to reflect the possible actions in the future and the resulting surplus, solvency, AUM and earnings.

- Economic Scenario Generator

  An ESG can provide scenarios relating to interest rates, equity and other asset values which can then be used to for ALM or cost of guarantee calculations. The scenarios may be risk neutral or real world as per the requirement.

- Models for assumption setting

  Models to arrive at various assumptions (such as discount rate) may be used.

- Investment system

  Investment system is used to ensure that the portfolios abide by the rules defined based on regulatory constraints and internal limits.

Thank you