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ALM under RBC and RBCT

Zainal Abidin Mohd Kassim, FIA
Kuala Lumpur

Asset Liability Model

- Not all ALM are the same!
- Before considering the results of ALM we need to consider how 'good' is the link between
  - how we value liabilities and
  - how assets are priced
- In valuing liabilities how do we value guarantees?
- In doing ALM, do we go on a 'closed to new business scenario' or assume continuous positive cashflows?
- What is the correlation between the various asset classes (bonds, equities, properties etc.). Will this correlation hold good going forward? How important is it to ensure we have a consistent asset value (e.g. equities to bonds) projection? How do we check for this consistency?

The past
-net premium valuation

- Price of ‘liabilities’ is predetermined through a minimum valuation interest rate, minimum mortality basis and a valuation methodology which only implicitly allows for expenses and with no provision for the effect of surrenders and lapses:
  - conservative in most cases
  - hides the cost of options and guarantees
  - what happens when gross premium is less than net premium?
- Difficult to determine how the liabilities will move from year to year as the assumptions and reserving methodology is “artificial”.
- Assets are taken at the lower of book or market value. Again there can be significant margins in the value of assets.
- The explicit solvency margin computation is only dependent on reserves and premium. It ignores the riskiness of asset composition altogether.

The past
-net premium valuation (contd.)

- Solvency of insurers in such a regulatory environment is at greatest risk from a drop in market value of equities. The risk of changes in the value of bonds affecting solvency was limited if treated as ‘held to maturity’.

- In the past for many GI companies, profits made from equity trading often exceeded underwriting profits in the year. The practice among GI companies then was to try and profit on trade in shares as there is no additional ‘cost’ of holding equities. A good year for equities would mean a profitable year for GI companies.
  - No doubt this practice allowed GI companies to survive financially with unprofitable motor rates.

Now
-RBC and RBCT

- Places a “price” on holding volatile (risky) assets.
- Places a “price” on ‘unhedged’ liabilities.
- Introduces the concept of ‘best estimate’, 75th percentile, 99.5th percentile value of liabilities.
- Limited recognition of diversification benefit and no provision for illiquidity premium.

RBC and RBCT removed some of the implicit margins under the previous valuation methodologies and attempts to quantify risks in terms of solvency capital

How to approach ALM under the current scenario

- Depends on your viewpoint:
  - If you are risk adverse and have little confidence in the ability of RBC and RBCT to correctly capture the relationship between assets and liability, minimize risk on your balance sheet. This means for life insurers sell investment linked products, pass as much risks back to the policyholders as you can.

Under this scenario ALM

is used for managing ‘policyholders’ risks

  - For general insurance companies, ensure you underwrite profitably. Sell only short tail, low volatility business and put all assets in cash and short term bonds.

How to approach ALM under the current scenario -contd.

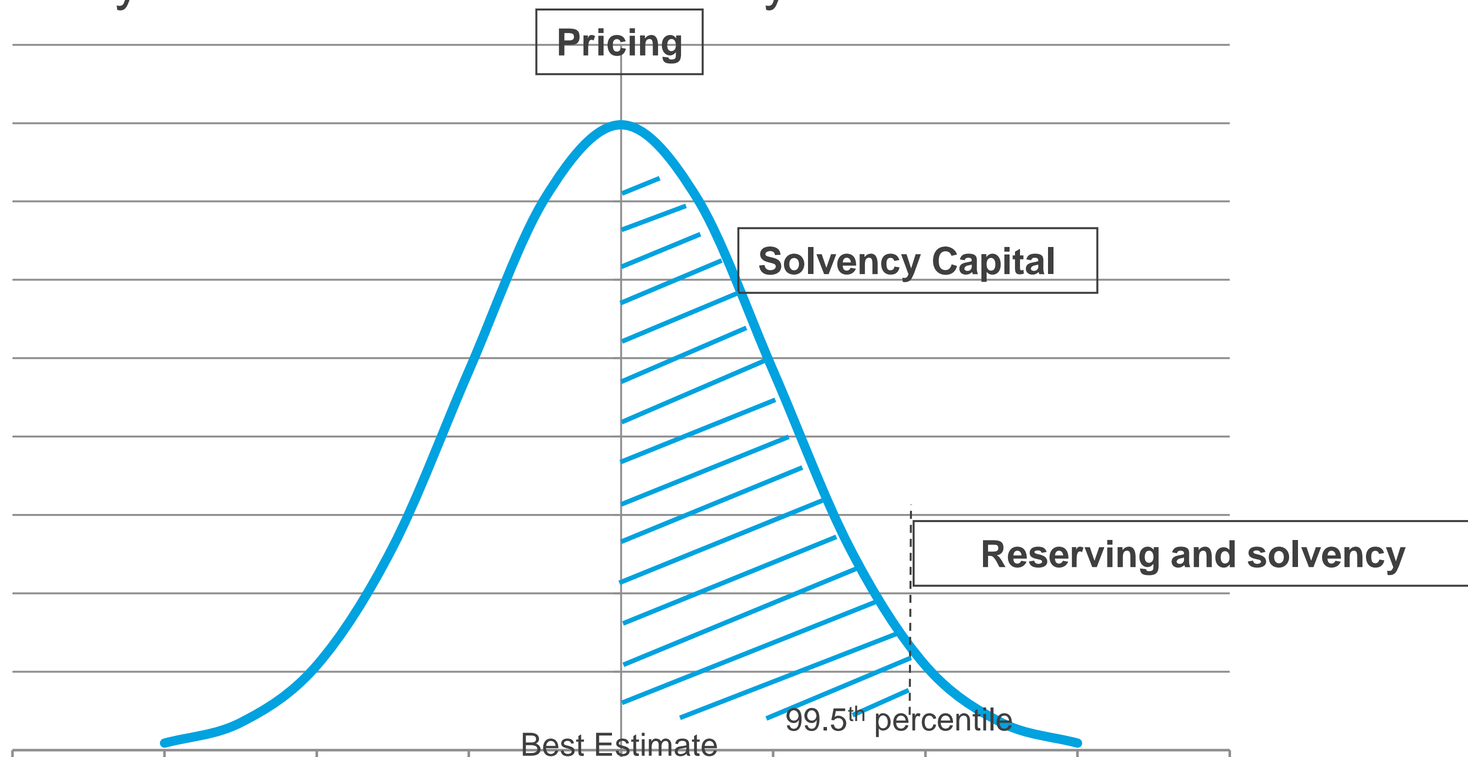
- If you are take the view that ‘**Risk presents an opportunity to profit**’. Work around the RBC and RBCT, BUT ensure that capital is adequately compensated.
    - ALM can be used for quantifying risk which in turn allows the company to determine required capital. As long as the cost of this capital can be priced into the product, this works.

  This rule also applies for GI. Even though you have short term liabilities if and only if you expect to continuously experience a positive cash flow you can consider investing in equities.
    - However need to ensure that the higher risk capital required as a result of investing in equities is sufficiently rewarded by expectation of a higher return to shareholders with a reasonable probability.

  ALM can assist in determining this probability.

Special considerations for takaful

- Takaful is about risk sharing not risk transfer. Prior to the introduction of RBCT, the capital required to write business is independent of the operator's business profile. With RBCT, solvency capital required is quantified through certain risk factors. If this solvency capital is covered by shareholders' funds clearly there is risk transfer.



Where RBC and RBCT differs

- Valuation of Liabilities
  - Participating products under RBC uses fund yield
  - All takaful products are participating but RBCT uses ‘risk free’ rates
  - Expense liability is for the Operator’s fund, no such differentiation for RBC.
- Valuation of Assets
  - At market value and the same market and credit risk charge applies for equities and properties.
  - Same with bonds and sukuks, the same charges apply. However, the latter may have more security due it being asset based.

Uses of ALM under RBC

- Managing the CAR, at fund level and at total level
- “Matching” of assets to liabilities
- Maximizing utilization of capital at a desired level of risk
- Managing bonuses in the participating fund
- Valuing guarantees for a particular asset allocation.

Uses of ALM under RBCT

- Managing volatility of the Participants Account
- Managing surplus distribution policy (to Participants and Operator)
- Managing CAR at the Participants Risk Fund and overall at the Operators' Fund.
- Optimization of product mix from a Qard minimization perspective

Do we need ALM?

- Prior to RBC and RBCT, value of ALM may be restricted due to the many implicit margins in the valuation of liabilities and assets.
- With RBC and RBCT management needs to understand where the risks lie. The regulators are looking at insurers and takaful operators to manage risks as these are now clearly quantified.
- The Regulators expects that business decisions will revolve around managing these risks.
- ALM is the “bridge” between the two sides of the insurers balance sheets. For takaful it is even more complicated, multiple balance sheets!

Actuarial Partners Consulting Sdn Bhd
Suite 17.02 Kenanga International
Jalan Sultan Ismail
50250 Kuala Lumpur
Tel +60 3 21610433 Fax +60 3 21613595
www.actuarialpartners.com