ALM and S2

NOCA Presentation
2016 December 2

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1. **Asset strategy setting**
    a. Investment Objective
    b. Focus on Economic rather than accounting values
    c. Clear Risk appetite
    d. Clear Governance
    e. Transparent risk and performance

2. **Classic Asset-Liability Management**

    a. Encompassed what are now different concentrations:
        i. Asset-liability matching
        ii. Risk Management
        iii. Capital modelling
        iv. Capital Management

    b. Bread and butter calculation was duration matching: Basic tool was IR swaps

    c. Expanded to liability-embedded options: various options or delta-neutral strategies

3. **New dimensions of challenges**

    a. Duration divided into Risk-Free-Rate risk and Credit Spreads.
        i. New assets

    b. New Matching Adjustments require CF matching not just durations
        i. Step backwards for ALM theory / techniques.

    c. New dimensions of variability: All risk drivers in capital model

    d. No longer just liabilities and assets backing them.
        i. Variability of Capital (requirements) crucial. Required Surplus changes with the size of liabilities even if assets backing liabilities are ΔNAV matched.
        ii. Besides, Solvency II is a full-balance sheet requirements (at least for admissible assets).

    e. Non-Life now discounts liabilities, adding a layer of ALM

    f. Aggregation:
        i. Diversification
        ii. Anti-diversification: Non-separable risks (i.e. longevity and IR risks)
        iii. CM vs MC: (Correlation Matrix versus Monte Carlo)
        iv. Proxy Models

g. Level at which to perform ALM
    i. Stand-alone level vs Aggregate level

h. Scope:
    i. Classically only (benefit) liability and backing assets.
    ii. Now surplus variability crucial to consider

i. Potential Targets:
    i. Level of surplus (potentially relative to required surplus, i.e. solvency Ratio)
    ii. Variability of surplus
    iii. Level of P&L
    iv. Variability of P&L

j. Horizon of target
    i. immediate versus horizon
        1. Horizon allows return to naturally be compared to risk
        2. Optimisation of horizon values
    ii. Heuristic trade-offs between capital and P&L VS explicit horizon analysis
    iii. Deterministic P&L planning VS scenario analysis

4. Completely new issues

a. Risk Margin:
    i. leverage effect on capital variability
    ii. Nightmare to hedge

b. TMTP (Transitional Measures on technical Provisions)
    i. Is this a weighted average of two requirements, or the better of?

c. Counter Party risk
    i. EMIR – European Market Infrastructure Regulation
        1. margin requires “liquid” assets

5. Implementation Implications

a. Hedge for each risk driver if possible
    i. List of derivatives: e.g. IR SWAPs, VIX futures and options, FX.
    ii. Reinsurance: e.g. longevity swaps

b. How to reconfigure asset benchmarks to be capital optimising
    i. How to industrialise Capital model so it can be used daily
        1. E.g. instead of spread on credit bonds, use marginal return on marginal capital.
    ii. Transaction level proxies to use on marketable securities.
    (Not just strategic implementations)
    This can yield excellent returns on capital, far in excess of “strategic” assets classes.
    iii. How to roll-forward

c. How to present to management and set a strategy.