Market values and Solvency II

Insurance and Reinsurance Stakeholder Group meeting
Frankfurt, May 31, 2011
The transfer of interest rate risk

- For products with long term guarantees the policyholder is transferring the risk of future interest rates to the insurance company.

- This risk cannot be diversified (as e.g. mortality risk) within the insurance portfolio but can be hedged in the financial market.

- The incentive of hedging the interest risk depends on the regulatory specification of the risk-free interest term structure.

Interest rate risk has to be managed.
The transfer of interest rate risk

- CEIOPS/EIOPA position is that
  - (1. priority) Risks should be recognized and properly managed
  - (2. priority) If not fully managed then sufficiently covered by capital

- Last consulted Solvency II implementing measures incentivizes companies to do proper risk management

- Usually companies are not receiving excess premium from policyholders for this interest rate risk and should therefore try to hedge it

The financial market can receive the interest rate risk
Valuation of assets and liabilities under market value

**Base scenario**
- Assets: 100
- Liabilities: TP = 85, OF = 15

**Interest rate down**
- Assets: 120
- Liabilities: TP = 105, OF = 15

**Interest rate up**
- Assets: 80
- Liabilities: TP = 65, OF = 15

TP: technical provisions
OF: own funds

OF stays unchanged

Under a perfect hedge - assets and liabilities will vary accordingly
The following examples are based on data from the Danish Life & Pension sector (200+ bEUR) and a 20+ bEUR Danish life insurance company regulated under full market value (based on euro-swap rates) and applying proper hedging.
The value of hedging

The difference between a hedged and a unhedged balance sheet under market valuation

Hedging can reduce volatility in own funds significantly
An real example of asset allocation in a hedging portfolio

<table>
<thead>
<tr>
<th>Asset</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equities</td>
<td>18 %</td>
</tr>
<tr>
<td>Government bonds</td>
<td>27 %</td>
</tr>
<tr>
<td>Covered bonds</td>
<td>34 %</td>
</tr>
<tr>
<td>Corporate bonds</td>
<td>6 %</td>
</tr>
<tr>
<td>Property</td>
<td>8 %</td>
</tr>
<tr>
<td>Other</td>
<td>7 %</td>
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</tbody>
</table>

Hedging does not exclude a diversified portfolio or the ability to take on risks
The structure of future interest rates

The rate structure should be “hedgeable” to allow for effective hedging.
The impact of “last liquid point”

Cash flow of liabilities as a function of maturity

A last liquid point at 10-years leaves 72% of the cash flow unhedgeable
If a last liquid point of e.g. 10 years is chosen

- 72% of the cash flow is unhedgeable
- The corresponding interest rate risk is “unobserved” and hence not managed
- Limited incentive to manage interest rate risk, while the underlying risk remains
- Incentive to invest in high return (i.e. risky) assets with duration longer than 10-years and assets with short duration hence mismatching assets and liabilities
- The implication for policyholders is that the actual interest rate risk is not covered by capital equalling a 1 out of 200 years event but less
- Since a large proportion of the interest rate risk is unrecognized supervisors will intervene at a too late point in time severely impacting the risk of underfunding
Thank you

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