SCOR builds upon an established ERM framework and a strong solvency position

Frieder Knüpling
CRO
Key messages

- Established and robust ERM framework covering existing and emerging risks
- Continuously enhanced risk management framework supporting business developments
- Solvency scale confirmed for “Vision in Action” without change
- Strong solvency position in the optimal range
- Well-balanced risk composition ensures superior diversification benefit
SCOR’s comprehensive ERM framework covers the entire risk spectrum

Overview of SCOR’s risk profile

- Nat cat
  - P&C long-tail reserves deterioration
- Pandemic
  - Long-term mortality deterioration
- Terrorism
  - Longevity
  - Lapse risk
- Credit risk
  - Market risk
- Operational risk
- Emerging risks

ERM mechanisms aligned with risk profile

- Risk appetite framework
- Solvency management
- Capital shield strategy
- Exposure monitoring
- Risk analyses
- ALM
- Capital model
- Reserving
- Internal controls
Risk appetite framework for “Vision in Action” ensures full alignment between growth, profitability and solvency

**Risk appetite**

- Risk appetite will remain stable in relative terms
- Risk exposure will increase on an absolute basis consistently with SCOR’s increased size and capital base
- SCOR will maintain throughout “Vision in Action”:
  - A high level of diversification
  - An upper mid-level risk appetite
  - A robust Capital Shield Strategy

**Risk preferences**

- SCOR pursues an approach of thorough risk selection to optimize its risk profile and aims:
  - To actively seek risks related to reinsurance and selected primary insurance
  - To assume a moderate level of interest rate risk, credit risk, FX and other market risks
  - To minimize its own operational and reputational risks
  - To minimize underwriting of cedants’ asset-related risks

**Risk tolerances**

<table>
<thead>
<tr>
<th>Solvency target</th>
<th>Capitalization level: Solvency target driving a process of gradual escalation and management responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure limits</td>
<td>Risk drivers: Maximum net 1:200 annual aggregate loss</td>
</tr>
<tr>
<td></td>
<td>Extreme scenarios: Maximum net 1:200 per-event loss</td>
</tr>
<tr>
<td></td>
<td>Investments: Duration limits and risk exposure limits for overall portfolio and investment categories</td>
</tr>
<tr>
<td></td>
<td>Limits per risk in the underwriting and investment guidelines</td>
</tr>
<tr>
<td></td>
<td>Footprint scenarios <em>(deterministic)</em> complement the exposure limits</td>
</tr>
</tbody>
</table>

Risk appetite framework broadly unchanged and consistent with previous plans
SCOR’s ERM team supports business developments by ensuring an optimized balance between risk and return with the Group’s risk appetite

<table>
<thead>
<tr>
<th>ERM approach to business development</th>
<th>New business expansion supported through a robust ERM approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Provide expertise on risk analysis, risk and return quantification, cross-divisional accumulation control etc.</td>
<td></td>
</tr>
<tr>
<td>• Comprehensive risk assessments of the strategic business developments</td>
<td></td>
</tr>
<tr>
<td>• Risk assessments and recommendations discussed at Board level</td>
<td></td>
</tr>
<tr>
<td>• Risk assessments also include a view of controls required to keep the strategic developments within risk appetite</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example</th>
<th>Risk management recommendation and contribution</th>
</tr>
</thead>
</table>
| P&C MGAs 1) | • Close monitoring of business via state-of-the-art IT platform  
• Careful selection and monitoring of MGA partners  
• Intensive modelling support  
• Full inclusion in existing accumulation controls |

| Life Health | | |
|-------------| | |

| Cyber risks | | |
|-------------| | |
| 1) Managing General Agents | | |

1) Work with wider industry on Cyber risk categorization to promote and facilitate data capture  
2) Improve cross functional governance towards cyber risks  
3) Set up SCOR Security Operating Center  
4) Monitor development of cyber insurance market
Solvency scale well established and confirmed for “Vision in Action”

<table>
<thead>
<tr>
<th>Action</th>
<th>Possible management responses (examples)</th>
<th>Escalation level</th>
</tr>
</thead>
</table>
| Redeploy capital | • Consider special dividends  
• Consider acquisitions  
• Buyback shares / hybrid debt  
• Increase dividend growth rate  
• Reconsider risk profile, including capital shield strategy  
• Enlarge growth of profitable business | Board/AGM |
| Fine-tune underwriting and investment strategy | No specific risk or capital management actions | Executive Committee |
| Re-orient underwriting and investment strategy towards optimal area | • Improve selectiveness in underwriting and investment  
• Improve the composition of the risk portfolio  
• Optimize retrocession and risk-mitigation instruments (including ILS)  
• Consider securitizations | Executive Committee |
| Improve efficiency of capital use | • Issue hybrid debt  
• Reduce dividend and / or dividends from other means (e.g. shares)  
• Reconsider risk profile, including more protective capital shield  
• Slow down growth of business  
• Consider securitizations | Board/AGM |
| Restore capital position | • Consider private placement / large capital relief deal  
• Consider rights issue (as approved by the AGM)  
• Restructure activities | Board/AGM |

Below minimum range - submission of a recovery plan to the supervisor

---

1) The Q2 2016 estimated solvency ratio of 210% has been adjusted for the calls of the two debts redeemed in August 2016
SCOR’s robust capital shield strategy ensures that exposures remain within the risk tolerance limits using the whole range of protection mechanisms.

**Capital shield protection mechanisms**

- **Size of loss**
  - Contingent capital facility
  - Solvency buffer
  - Capital markets solutions
  - Traditional retrocession
  - Retention

**Illustrative**

- SCOR’s capital shield strategy ensures efficient protection of the Group’s shareholders thanks to different protection layers.

**Contingent capital facility**

- SCOR’s innovative EUR 200 million contingent capital facility protects the solvency of the Group from either extreme Nat Cat or Life events.
- The contingent capital is designed to act as a last resort, a pre-defined scheme to raise new capital and replenish equity in case of extreme events.

**Solvency buffer**

- SCOR has set out a solvency scale with clear and well-defined buffers safeguarding the Group’s franchise.

**Capital markets solutions**

- Significant experience in ILS over the last 10 years.
- SCOR’s outstanding ILS\(^1\) currently provide $685.5 million capacity protection, including a $180 million extreme mortality bond to ensure that the pandemic risk exposure is well controlled throughout the plan.

**Traditional retrocession**

- Wide range of protections including Proportional and Non-Proportional covers (Per event/Aggregate).

---

\(^1\) Insurance-Linked Securities (Cat bonds, mortality bonds and side car)
Close monitoring of risk drivers and extreme scenario exposures against risk tolerance limits

1-in-200 year impact on Eligible Own Funds (EOFs)

Immediate post-shock

**Solvency range**

<table>
<thead>
<tr>
<th>Event</th>
<th>Optimal range</th>
<th>Comfort range</th>
</tr>
</thead>
<tbody>
<tr>
<td>US earthquake</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>North Atlantic hurricane</td>
<td>760</td>
<td></td>
</tr>
<tr>
<td>EU wind</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Japan earthquake</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Terrorist attack</td>
<td>170</td>
<td></td>
</tr>
<tr>
<td>Pandemic</td>
<td>1 330</td>
<td></td>
</tr>
</tbody>
</table>

**2016 limit**

- 10% EOF (EUR 920m)
- 20% EOF (EUR 1 840m)

Exposures as at YE 2015 including expected New Business for 2016
SCOR’s asset exposures are closely monitored against strict risk limits

- Closely monitor capital intensity against exposure limit
- Monitor each asset class exposure against strategic plan limit
- Tight control of average rating of investment portfolio
- Minimum duration of invested assets limits duration gap and interest rate exposure

### Aggregate portfolio risk

<table>
<thead>
<tr>
<th>Capital intensity</th>
<th>Q2 2016</th>
<th>“Vision in Action”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>Capital intensity</td>
<td>6.6%</td>
<td>8.5%</td>
</tr>
</tbody>
</table>

### Strategic Asset allocation

<table>
<thead>
<tr>
<th>Asset Class</th>
<th>Q2 2016</th>
<th>“Vision in Action”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min</td>
<td>Max</td>
</tr>
<tr>
<td>Cash</td>
<td>11%</td>
<td>5.0%²)</td>
</tr>
<tr>
<td>Fixed Income</td>
<td>76%</td>
<td>70.0%</td>
</tr>
<tr>
<td>Loans</td>
<td>4%</td>
<td>-</td>
</tr>
<tr>
<td>Equities³)</td>
<td>2%</td>
<td>-</td>
</tr>
<tr>
<td>Real estate</td>
<td>4%</td>
<td>-</td>
</tr>
<tr>
<td>Other investments⁴)</td>
<td>3%</td>
<td>-</td>
</tr>
</tbody>
</table>

### Individual asset class exposures

- Including cash and short-term investments
- Including listed equities, convertible bonds, convex equity strategies
- Including alternative investments, infrastructure, ILS strategies, private and non-listed equities

### Credit risk

- Average rating of fixed income portfolio: AA- to A+

### ALM risk

- Duration of total invested assets: 3.0 years to 2.0 years

---

1) The capital intensity is measured by dividing the VaR 99.5% 1 year by the total invested assets
2) Including cash and short-term investments
3) Including listed equities, convertible bonds, convex equity strategies
4) Including alternative investments, infrastructure, ILS strategies, private and non-listed equities
The balance between Life and P&C risks ensures a high diversification benefit

From the divisional view…

- High diversification through a well balanced Life and P&C portfolio
- SCR is mainly driver by underwriting risks
- Moderate Credit and Market risks

… to risk category split:

VaR 99.5% according to Solvency II

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Operational</th>
<th>Credit</th>
<th>Market</th>
<th>L&amp;H underwriting</th>
<th>P&amp;C underwriting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Required capital before diversification</td>
<td>35%</td>
<td>35%</td>
<td>22%</td>
<td></td>
<td>8.9</td>
</tr>
<tr>
<td>Diversification</td>
<td>4%</td>
<td>0.4</td>
<td>4%</td>
<td></td>
<td>-45%</td>
</tr>
<tr>
<td>Taxes</td>
<td>8%</td>
<td>7%</td>
<td>1%</td>
<td>0.5</td>
<td>4.0</td>
</tr>
<tr>
<td>SCOR SCR</td>
<td>39%</td>
<td>45%</td>
<td>4.4</td>
<td>-45%</td>
<td></td>
</tr>
</tbody>
</table>
With its Internal Model, SCOR is ready to move beyond Solvency II requirements with a full economic value approach.

Leveraging the Solvency II framework... to steer business on economic basis

- Approval of full internal model in 2015 by the supervisory authorities for use under Solvency II
- No use of any transitional measures, volatility or matching adjustments and no sensitivity to Ultimate Forward Rate (UFR)
- Dynamic use of internal model to steer business and support management decision

- Proceed with implementation of economic valuation and analysis framework over the course of the plan
- Accurately reflect value creation for shareholders over the long term
- Leverage on SCOR’s established MCEV and Solvency II bases
- Powerful complement to current metrics for the steering of the business