Challenges facing the (re-)insurance industry in Europe today

Wilhelm Zeller
Chairman of the Executive Board
<table>
<thead>
<tr>
<th>Top 7 Insurance Banana Skins 2007</th>
<th>Comment Hannover Re:</th>
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<tbody>
<tr>
<td>1) Too much regulation</td>
<td>Especially U.S., UK</td>
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<td>2) Natural catastrophes</td>
<td>Short term problem/U.S. focus</td>
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<td>3) Management quality</td>
<td>Not an issue for Hannover Re</td>
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<td>4) Climate change</td>
<td>Prices can be adjusted/demand increases</td>
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<td>5) Managing the cycle</td>
<td>Crucial for profitability</td>
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<td>6) Distribution channels</td>
<td>Not an issue for Hannover Re</td>
</tr>
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<td>7) Long-tail liabilities</td>
<td>Underreserving being the most important reason for bankruptcy in reinsurance</td>
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According to NAIC:

- domestic reinsurers are good reinsurers → no collateral required
- non-domestic ("alien") reinsurers are poor reinsurers → have to provide 100% collateral for all their obligations (premium, loss reserves incl. IBNR)

EU has shown the way with its Reinsurance Directive:

- mutual recognition within the EU
- establishing framework for recognition of equivalent jurisdictions outside EU

IAIS: Mutual Recognition Guidance Paper
International level playing field is crucial under Solvency II

1) Property/Casualty business premium figure: Swiss Re
2) Source: Guy Carpenter European Reinsurance Market Report 2005
In fact:

→ according to A.M. Best no P/C insolvencies occurred due to reinsurer failure between 1993 and 2002
→ according to NAIC Reinsurance Collateral White Paper 2005 foreign reinsurers have a better payment record than U.S. domestics
→ EU reinsurers discussing reform have been operating in the U.S. for decades and have branches, subsidiaries or major assets in the U.S.

Collateral needs to be abolished for:

→ well-regulated reinsurers, i.e. from equivalent jurisdictions (e.g. EU)
→ companies in good standing with equivalent supervisory authorities
→ companies rated well by nationally recognised rating agencies

U.S. Treasury now takes initiative:

→ long-term goal: Optional Federal Charter (OFC)
→ short-term goal: Federal solution for international issues incl. collateral
Banana Skins No. 2, 4, 5 and 7: Risk Management

REGULATORS RECOGNISE THE IMPORTANCE
One of three pillars: Risk Management

Solvency II

Pillar I
Quantitative Requirements
- Solvency Capital Requirement (SCR)
- Minimum Capital Requirement (MCR)
- European Standard Formula
- Firms' own internal model

Pillar II
Qualitative Requirements
Risk Management

New area of supervisory activity

Pillar III
Supervisory reporting and disclosure

Increased disclosure towards:
- the public
- supervisors
→ Our risk management is **not** meant to
  • protect any given year's earnings
  • Merely protect the survival of the company (incl. new capital to be raised etc.)

→ Our risk management is meant to
  • protect our capital
  • stabilise and optimise results
  • allow us to profit fully from hard markets (e.g. after a major loss in the R/I market)
CENTRALISED GROUP RISK MANAGEMENT
Reporting to CEO

CEO

Group Risk Committee
RC

Group Risk Management
GRM

Quantitative and Qualitative RM

Example: Hannover Re
GROUP RISK MANAGEMENT
Overarching tools

Chief Risk Officer

Quantitative RM
- DFA
  - Main operating unit: GRM DFA

Risk hierarchy:
- 1. Reserve risk
- 2. Exposure risk
- 3. Mispricing risk
- 4. Investment risks
- 5. Other balance sheet risks

Qualitative RM
- Risk Cockpit
  - Main operating unit: GRM ORR
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<tr>
<th>Overview</th>
<th>Regulation</th>
<th><strong>Risk management</strong></th>
<th>Challenges</th>
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**Banana Skin No. 2: Exposures**

**ORGANISATION OF EXPOSURE MANAGEMENT**

**Roles**

- **Executive Board**
  - Determines the overall nat. cat. risk appetite

- **Group Risk Committee**
  - Supervision of the overall risk measures and implementation of escalation processes

- **Non-Life Executive Committee**
  - Implementation of the defined risk measures into the underwriting
  - Defines capacity limits by scenario and department/business centre

- **Group Risk Management – Aggregate Control Department**
  - Develops and maintains tools for reliable aggregate control
  - Runs the aggregate control process and assists in capacity management with special attention to profitability aspects

- **Group Protections (Retrocession)**
  - Informs and consults Aggregate Control Department with respect to all retrocessions
DATA QUALITY IS KEY TO CATASTROPHE MODELLING

**Consistency**
- Detection of accounts that are not part of any portfolio
- Detection of locations that have no location coverage
- No line of business defined
- Unknown currencies

**Geocoding**
- Individual locations with high coverage not geocoded
- Loading necessary for geocoding less than 95%

**Completeness**
- Not all perils encoded in exposure
- Construction/occupancy classes set to default
- Treaty settings specified by cedant may be incorrect
- Structure of exposure

Sources for underestimating modelled losses
SEVERAL LEVELS OF PROTECTION SAFEGUARD CAPITAL BASE
Our protection has never been better!

Policyholders’ surplus (shareholders’ equity, minorities, hybrid capital)
~ EUR 5.0 bn.

K5 quota-share securitisation
~ EUR 350 m. + expected premium

Kepler Re
~ EUR 130 m.

Agg. XL
~ EUR 70 m.

Cat. swaps
~ EUR 150 m.

EURUS + Select cat.
~ EUR 150 m.

Life/Health Reinsurance EBIT
~ EUR 250 m.

Non-Life Reinsurance EBIT
~ EUR 750 m.

Traditional XL protections
~ EUR 210 m.

Merlin CDO:
EUR 1 bn. of reinsurance recoverables protected

Our protection has never been better!
Banana Skin No. 7: Reserving

**ACTUARIAL SUPPORT FOR ALL PARTS OF THE GROUP**
Various layered controls

- **Majority shareholder reserve study (annually)**
  (by external consultant on behalf of parent company)

- **Group-wide Non-Life reserve study on annual basis**
  (by external consultant on behalf of Hannover Re)

- **Recommendations for year-end**
  (by consultant)

- **Peer reviews & internal calculations**
  by Group Risk Management (GRM)

- **Home office calculations**
  by GRM reserving actuaries

- **5 branches/subsidiaries**
  by external actuaries

- **6 branches/subsidiaries**
  by HR Group actuaries
Segment matrix of 53 business segments

- Line of business
- Geographical split
- Type of reinsurance (obligatory vs. facultative, proportional vs. non-proportional)

Action plan during year

- Actuarial calculations by group reserving actuaries
- Actuarial calculations & recommendations by external consultant
- Discussions with underwriters & board members
- Close cooperation with technical accounting & claims department
- Data checks and actions for improvement
- Reporting to Actuarial Committee
- Quarterly review by Risk Committee
Role of external actuarial consultants on behalf of Hannover Re
- Recommendations for home office business segments during book closing
- Actuarial certificate for U.S./Bermuda operations
- Complete actuarial report for Hannover Re Group Non-Life after year-end

Other external actuaries
- Outsourced for Malaysia, Canada, Australia
- Auditors for branches & subsidiaries
- Second peer reviewer for Australia (as required by APRA since 2006)
TRADEOFF BETWEEN TRANSPARENCY AND PRODUCTIVITY
The market will largely regulate itself

→ Increasing pressure on transparency
  • by shareholders/analysts
  • by rating agencies
  • by supervisors
  • by clients/brokers

→ Increasing resources required
  • Threat: limited availability (e.g. actuaries)
  • Increased "unproductive work" required from underwriters

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<tr>
<th>Today</th>
<th>Tomorrow</th>
<th>The day after tomorrow</th>
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<tr>
<td>Cutting-edge R/M + full transparency</td>
<td>Delighted shareholders</td>
<td>Out of business (no clients)</td>
</tr>
<tr>
<td>Black-box R/M, no transparency</td>
<td>Disappointed shareholders</td>
<td>Out of business (no capital)</td>
</tr>
<tr>
<td>State-of-the-art R/M + sufficient transparency</td>
<td>Satisfied shareholders</td>
<td>Satisfied clients</td>
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