Innovation – Translating ideas into business

Monte Carlo, 13 September 2015
Torsten Jeworrek, Thomas Blunck
Agenda

1. Global reinsurance landscape
   Torsten Jeworrek

2. Munich Re strategy
   Torsten Jeworrek

3. Munich Re innovations
   Thomas Blunck

4. Key takeaways
   Torsten Jeworrek
Moderate reinsurance premium growth, stronger growth in primary insurance


P-C RI: Ceded premiums 2014 €bn

- Total: ~188 = 100%
- Asia Pacific: 51 (25%)
- North America: 67 (36%)
- Europe: 14 (7%)
- Latin America: 10 (6%)
- Africa/Middle East: 6 (5%)

P-C RI and PI real growth rates (CAGR)

<table>
<thead>
<tr>
<th>Region</th>
<th>RI 08–14</th>
<th>RI 15–17</th>
<th>PI 08–14</th>
<th>PI 15–17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td>-1%</td>
<td>1%</td>
<td>-1%</td>
<td>2%</td>
</tr>
<tr>
<td>North America</td>
<td>-1%</td>
<td>1%</td>
<td>0%</td>
<td>2%</td>
</tr>
<tr>
<td>Asia Pacific¹</td>
<td>4%</td>
<td>0%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>Latin America</td>
<td>6%</td>
<td>3%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Africa/Middle East</td>
<td>3%</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>3%</td>
</tr>
</tbody>
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¹ RI premium growth influenced by volatile motor solvency-relief deals in China
Source: Munich Re Economic Research
Reinsurance capital growing, but not excessively compared to exposure

- The capitalisation of the reinsurance industry is growing
- In 2014 about US$335bn was allocated to reinsurance business
- Alternative capital grew from US$48bn in 2013 to US$60bn in 2014
- Comparing alternative and traditional reinsurance capital directly is misleading as reinsurance capital can be leveraged, whereas alternative capital has to collateralise limits by almost 100%

The absolute size of dedicated reinsurance capital has a significant influence on the effect of nat cat events, stricter solvency regimes and capital market crises, etc.

Source: AM Best, Guy Carpenter
### Changing reinsurance buying patterns following M&A in the (re-)insurance industry

#### Consolidation will continue

<table>
<thead>
<tr>
<th>Reasons</th>
<th>Consequences</th>
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<tbody>
<tr>
<td>- Cost and capital synergies&lt;br&gt;→ better financials, more competitive, greater diversification</td>
<td>- Business models are changing</td>
</tr>
<tr>
<td>- Access to new markets, clients or business segments</td>
<td>- Companies are bringing together primary insurance and reinsurance</td>
</tr>
<tr>
<td>- Acquisition of know-how and models</td>
<td>- Bigger primary insurers have different demand patterns:</td>
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<tr>
<td></td>
<td>- Buy reinsurance more centrally</td>
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<tr>
<td></td>
<td>- Buy more capital driven reinsurance solutions</td>
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<tr>
<td></td>
<td>- Consolidation on the reinsurance side will lead to the development of more second tier market players</td>
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<tr>
<td></td>
<td>- Short term: more capacity offered by these larger companies; more competition</td>
</tr>
<tr>
<td></td>
<td>- Mid term: consolidation may lead to price consolidation</td>
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Munich Re is in a position to flexibly react to each arising demand
Munich Re in excellent position to successfully manage the soft cycle due to:
- Broadest geographic reach
- Preferential client access
- Leading risk know-how
- Superior diversification

Excellent profitability; largely detached from reinsurance cycle
- With €4bn premium larger than P-C reinsurance portfolios of several top-ten peers

Tapping new profit pools by expanding existing market boundaries with innovative products and services
Munich Re strategy

Flexibility in managing the portfolio due to superior diversification

- Stable and well-diversified portfolio
- Risk Solutions and tailor-made solutions less impacted by market terms
- Cycle management mitigates price pressure
- Shift from nat cat XL and other property to casualty
- Continued expansion of US specialty primary business where rates are still increasing
- Combined ratio 2014: 88.6%

<table>
<thead>
<tr>
<th>Total P-C book [%]</th>
<th>Traditional [%]</th>
<th>Risk Solutions [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Solutions</td>
<td>Tailor-made solutions</td>
<td>Other traditional business</td>
</tr>
<tr>
<td>25 (24)</td>
<td>18 (18)</td>
<td>57 (58)</td>
</tr>
<tr>
<td>TOTAL 1</td>
<td>TOTAL 13bn</td>
<td>TOTAL 4.2bn</td>
</tr>
<tr>
<td>€17bn</td>
<td>€13bn</td>
<td>€4.2bn</td>
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</table>

2 Aviation, marine and credit

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Future drivers of insurance demand

Growth drivers in traditional (re-)insurance

- Higher demand from emerging markets
- Large portion of non- or underinsured risks
- New forms of capital and risk management

Innovation-driven demand

- New risk landscape (e.g. cyber, supply chains, logistics, mobility)
- New data and IT technologies
- New distribution channels
- New services due to changes in customer behaviour

Change as the driver – risk as the opportunity – innovation as the answer
Anticipating insurance demand due to excellent client access

Strategic partnerships with primary insurers

Industrial & commercial companies

ERGO
SAP
IBM
HP

Munich Re

Risk Solutions

Innovative solutions

Munich Re strategy
Impulses for innovative business ideas

Digitalisation and highly competitive reinsurance markets speed up innovation process

Munich Re present in innovation hubs around the world

Princeton
- Internal incubator
- Cooperation with MIT

Silicon Valley
- Innoscouts
- Partnership with Plug & Play Accelerator, emphasis on Internet of Things
- Strategic investment in start-ups

Madrid/São Paulo
- Mundi Lab – Accelerator for RI and Munich Health

Berlin
- Partnership with Axel Springer Plug & Play, focus on digital start-ups
- ERGO Digital Lab

Munich
- Cooperation with Munich universities

Tel Aviv
- Innoscouts

London
- Partnership with Startupbootcamp
- First FinTech accelerator worldwide with insurance focus

Access via primary insurance  Access via reinsurance
Munich Re emphasises innovation in four key development areas

<table>
<thead>
<tr>
<th>Enabler</th>
<th>Data</th>
<th>Proprietary and big data; data analytics</th>
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<tbody>
<tr>
<td></td>
<td>Agile IT</td>
<td>Fast and flexible IT, interconnectivity, digital customer experience and process chains</td>
</tr>
<tr>
<td></td>
<td>Collaboration</td>
<td>Collaboration models with players within and beyond insurance eco-system</td>
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</table>

- **New (re-)insurance products**: Munich Re strives to position itself as leading (re-)insurance product developer for new and emerging risks (in a digital world).

- **New business models**: Munich Re ensures its competitiveness against existing and new players by further developing its business model.

- **New risk-related services**: Munich Re offers risk-related services creating tangible value for clients.

- **New clients and demands**: Munich Re brings in non-insurance players as business partners, and expands business relationships within existing customer groups.
Set of strategic business initiatives in each key development area

- Cyber risks
- Energy and technology (e.g. technical performance guarantees)
  - Non-damage BI
  - Weather and Climate
  - Project cost insurance
  - Product design in Life and Health based on enhanced data analytics

- Consulting (e.g. Motor and Property Consulting services)
  - Project risk rating
  - Virtual simulation of e.g. constructions
  - Predictive- and preventive services

- Automation and digitalization of processes (e.g. automated underwriting platform)
  - White Labelling
  - Risk-sharing with pension funds

- Corporate finance / capital management solutions (e.g. Capital Partners)
  - Public-sector business development
  - Sharing economy / mobility

~ €400m\(^1\) premium generated by innovative products

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1 Approximation – not fully comparable with IFRS figures
Cyber risks: Basket of cyber solutions according to clients’ needs

- Tailored for specific needs of single corporates
- Broad range of first and third-party-related cyber coverage
- Multi-year solutions possible

Industry solutions
- Coverage bespoke for a specific industry (e.g. energy, marine and aviation)
- Identify industry-wide issues, or cater for gaps in traditional policies

Smaller standard cyber covers
- Standard market coverage (privacy, network interruption etc.)
- Leverage business by gaining experience and data
- E.g. SME business

Bespoke solutions

Limits: ≤ €150m

Industry solutions

Limits: ≤ €50m

Portfolio

Smaller standard cyber covers

Limits: ≤ €25m

Treaty capacity
- Quota share participations
- Joint product development with clients
- Individual client and market strategy

Depending on clients’ expertise

Risk assessment requirement

High

Low

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Long-term coverages at the cutting edge of technological developments

### New (re-)insurance products / risks

<table>
<thead>
<tr>
<th>Energy and technology</th>
<th>Technical performance guarantees</th>
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<tbody>
<tr>
<td>Solar energy</td>
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<tr>
<td>Wind energy</td>
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<tr>
<td>Fuel cells</td>
<td></td>
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<tr>
<td>LED</td>
<td></td>
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<tr>
<td>Satellites</td>
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### Current technologies

- Solar energy
- Wind energy
- Fuel cells
- LED
- Satellites

### Benefit for Munich Re’s clients

- Financial security
- Credible long-term guarantee
- Technical endorsement by neutral party
- Rating improvement which reduces finance costs
- More attractive for investors

### Munich Re’s outlook

- Support new and disruptive technologies
- Technical expertise to extend boundaries of insurability
- Partner with upcoming companies
- Complex risks, difficult to copy for competition
- Unique support for reinsurance clients in single-risk business (facultative support)
Property Consulting helps clients to significantly improve portfolio quality

<table>
<thead>
<tr>
<th>New risk-related services</th>
<th>Property Consulting</th>
</tr>
</thead>
</table>
| Benefit for Munich Re’s clients | ▪ Tailor-made actuarial service for personal and commercial property lines  
▪ Supports clients in improving portfolio quality, product development, pricing and tariff design |
| Munich Re’s outlook | ▪ Very strong track record in Motor Consulting  
▪ First property pilot projects show promising results  
▪ Further enhancement via data analytics |
Automated underwriting platforms as important part of digitalisation of (re-)insurance industry

New business models

Munich Re Automation Solution

New broker platform in Germany

vers.diagnose

Benefit for Munich Re’s clients

- Automated underwriting of life insurance policies for every point of sale (multi-channel)
- Unrivalled risk selection and pricing
- Reduction of administrative costs through excellent interconnectivity
- Agile and flexible easy-to-use tool

Benefit for Munich Re’s clients

- Automated point-of sale underwriting platform for life insurance and professional disability
- Open architecture for insurance companies and distribution agents (multi-channel)
- Easy-to-use, and greater transparency for brokers and insureds

Munich Re’s achievements and outlook

- Core element in the value chain of life insurers in a digital world
- To be enhanced with big data and new analytics
- Feasibility study on transferring automated underwriting services for non-life

Munich Re’s achievements and outlook

- Automated risk assessment with Munich Re underwriting rules generating consistent results
- Partnering with additional life insurers and adding further life covers will expand market penetration
## Capital Partners addresses clients’ demands beyond pure risk-transfer solutions

### New clients and demands

**Benefit for Munich Re’s clients**
- Addressing market trends: bifurcation into simple risk transfer and complex financial solutions
- Bundling expertise and a broad spectrum of capabilities within Munich Re to understand, analyse and solve financial and capital-driven client needs
- Roll-out of global presence to increase client proximity and combine with local expertise

### Corporate finance / capital management: Capital Partners
- Looking at reinsurance and alternative capital solutions as a means for integrated risk, financial and capital management of the client
- Tailoring structured prospective and retroactive reinsurance and alternative capital solutions into one solution
- Leveraging Munich Re’s global capabilities

### Munich Re’s outlook
- Addressing market trends: bifurcation into simple risk transfer and complex financial solutions
- Bundling expertise and a broad spectrum of capabilities within Munich Re to understand, analyse and solve financial and capital-driven client needs
- Roll-out of global presence to increase client proximity and combine with local expertise
1. Global reinsurance landscape
   Market environment remains challenging

2. Future (re-)insurance landscape
   New (re-)insurance demand will arise in traditional business, as well as from new risk landscape and changing customer behaviour

3. Munich Re strategy
   Munich Re in excellent position to successfully manage the soft cycle

4. Munich Re strategy
   Munich Re emphasis on innovation and cooperation to meet future insurance demand
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