Our first treaty
"Helvetia Allgemeine," 1863

Our first office, 1864
Swiss Re at a glance

- **150 years of experience** in providing wholesale reinsurance and risk management solutions.

- We deliver both traditional and innovative offerings in Property & Casualty and Life & Health that meet our clients' needs.

- A pioneer in insurance-based capital market solutions, we combine financial strength and unparalleled expertise for the benefit of our clients.

- **Our financial strength** is currently rated: Standard & Poor’s: AA-/stable; Moody’s: Aa3/stable; A.M. Best: A+/stable

<table>
<thead>
<tr>
<th>Key statistics (USD billions)</th>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY2012</th>
<th>FY2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total revenues:</td>
<td>28.8</td>
<td>28.0</td>
<td>33.6</td>
<td>36.9</td>
</tr>
<tr>
<td>Net income:</td>
<td>0.9</td>
<td>2.6</td>
<td>4.2</td>
<td>4.4</td>
</tr>
<tr>
<td>Shareholders’ equity:</td>
<td>25.3</td>
<td>29.6</td>
<td>34.0</td>
<td>32.9</td>
</tr>
</tbody>
</table>
Disaster Risk Financing
Massive gap between total and insured losses

Natural catastrophe losses 1980-2013, in USD billion (2013 prices)

Source: Swiss Re Economic Research & Consulting, sigma catastrophe database
Disasters place a significant burden on the public sector

No country can fully insulate itself against extreme natural disasters, despite prevention and mitigation efforts.

Individuals, corporations and governments – both on national and sub-national level – bear the brunt of economic losses from natural disasters.

Government budgets are impacted by:

- Primary effects, such as immediate expenses for emergency relief efforts, costs for rebuilding public infrastructure or loss of capital and durable goods.

- Secondary effects, such as lower economic growth, lower tax and non-tax revenues, budget deficits, increased indebtedness and costs from refinancing, higher inflation or currency movements.
Examples of innovative risk transfer solutions

- **Alabama**
  - Hurricane risk

- **Caribbean**
  - Hurricane and earthquake risk

- **Mexico**
  - Earthquake/hurricane and livestock risk

- **Uruguay**
  - Energy production shortfalls due to drought

- **African Risk Capacity**
  - Government drought insurance pool (Mauritania, Senegal, Kenya, Niger Mozambique)

- **Kenya**
  - Drought insurance for seed growers

- **Ethiopia/Senegal**
  - Crop insurance for small scale farmers

- **India**
  - Weather insurance for farmers

- **Pakistan**
  - Agriculture yield cover

- **Beijing**
  - Agricultural risk

- **Pacific Islands**
  - Earthquake and tropical cyclone risk

- **Bangladesh**
  - Meso flood insurance
Case study Mexico: MultiCat - Funding for immediate relief efforts after disasters

Solution features

- Insured perils: Earthquake and hurricane
- Payments to be used for immediate emergency relief after a disaster
- Parametric catastrophe bond: USD 315 million
- Trigger type: Index
  - Earthquake: physical trigger (quake magnitude)
  - Hurricane: physical trigger (barometric pressure)
- Time horizon: October 2012 – November 2015
- Renewed cat bond launched through the World Bank’s MultiCat facility and third cat bond for Mexico

Involved parties

- Insured: Fund for Natural Disasters (FONDEN) of Mexico
- Reinsured: AGROASEMEX S.A.
- Arranger: World Bank Treasury
- Swiss Re: Co-lead manager and joint bookrunner
Case study African Risk Capacity: building a safety net for the rural population in Africa in case of severe drought

Solution features

• African Risk Capacity (ARC) will provide African governments with timely, reliable and cost-effective contingency funding in the event of a severe drought, thereby addressing delays in responding to disasters due to lack of funding.

• The specialized insurance company ARC Ltd. offers index-based drought insurance (in a later stage also flood) to initially five countries and will expand over the next years. The pool is capitalized with USD 200 million to offer maximum cover of USD 30 million per country.

• To establish the payout rules, ARC has developed a software application, Africa Risk View (ARV), which translates satellite-based rainfall information into near real-time response cost estimates.

• Quantification of risk and cost of participation can also create better incentives and benchmarks for investment in DRR and other instruments to inform comprehensive and efficient national risk management strategies.

Involved parties

• African Union and World Food Programme, supported by DfID, SIDA, SDC, Rockefeller Foundation and IFAD for the design phase; DfID and KfW for the capitalization of ARC Ltd.

• International insurers, reinsurers and brokers.
Economics of Climate Adaptation

Please find the full study at www.swissre.com/climatechange
Climate-resilient development needs to address total climate risk

Objectives:
• Provide decision makers with the facts and methods necessary to design and execute a climate adaptation strategy
• Supply insurers, financial institutions, and potential funders with the information required to unlock and deepen global risk transfer markets

Key features:
• Developed a methodology to quantify local total climate risks, meaning it looked at the combination of
  – today’s climate risk,
  – the economic development paths that might put greater population and value at risk
  – the additional risks presented by climate change.

Swiss Re’s role:
• Lead contributor to the research. Swiss Re defined the assessment and risk modelling approach and provided overall risk assessment knowledge
We've conducted climate adaptation studies in 17 regions of the world.
Insurance is suited for low frequency, high severity events

Case study India

Possible measures in India
- drainage systems, irrigation controls, soil techniques, crop engineering, integrated pest management
- weather-based index insurance (incl. expected loss plus mark-up for production and distribution)
- emergency relief, aid

Actions below ratio line on the y axis are defined as cost-effective

Cost per unit of benefit (0 – 1)

Loss averted ($)

residual loss
Building Resilience in New York
Increasing resilience in the aftermath of Sandy

- Chief Risk Officer for the State
- Disaster risk finance mechanisms
- Economics of Climate Adaptation
- Investment in risk mitigation
Results
Annual Expected Loss (AEL)

- Average annual impact to assets and GDP
- Some years will have a single or multiple large losses, other years will be zero.
- Today: USD 1.7 billion
- 2050s: USD 4.4 billion
  - USD 1.5 billion from sea level rise
  - USD 1.2 billion from changes in storm frequency

Source: A Stronger, More Resilient New York
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