Managing the capital of a re/insurance group today

Michel M. Liès, Group CEO, Swiss Re
ASTIN, AFIR/ERM and IAALS Colloquia
Mexico City, 1 October 2012
Trends
The world is getting richer and older (despite many financial crises!)

**Global Demographic Shift**

<table>
<thead>
<tr>
<th>Region</th>
<th>1950</th>
<th>2000</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>18%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Europe</td>
<td>65%</td>
<td>64%</td>
<td>56%</td>
</tr>
<tr>
<td>Asia</td>
<td>27%</td>
<td>26%</td>
<td>17%</td>
</tr>
</tbody>
</table>

**GDP per Capita**

USD, constant 2010 prices and exchange rates

<table>
<thead>
<tr>
<th>Region</th>
<th>1960</th>
<th>2010</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>765</td>
<td>9,110</td>
<td>19,988</td>
</tr>
<tr>
<td>Industrial Countries</td>
<td>6,153</td>
<td>40,795</td>
<td>74,535</td>
</tr>
<tr>
<td>Emerging Markets</td>
<td>173</td>
<td>3,687</td>
<td>11,542</td>
</tr>
</tbody>
</table>


Source: Economic Research & Consulting, Oxford Economics
Major trends are driving demand for health insurance and provisioning

<table>
<thead>
<tr>
<th>Ageing societies</th>
</tr>
</thead>
<tbody>
<tr>
<td>New middle income classes</td>
</tr>
<tr>
<td>Fragmentation of society; decay of family structures</td>
</tr>
<tr>
<td>Growing mobility in all parts of society</td>
</tr>
<tr>
<td>Healthcare cost explosion</td>
</tr>
<tr>
<td>Pressure to reform healthcare systems</td>
</tr>
<tr>
<td>Rise of Emerging Markets</td>
</tr>
</tbody>
</table>

Source: BCG analysis
Historically low interest rate environment is a challenge for the life industry

Central Banks
Policy Rates (in %)

1980s U.S. Savings and Loan crisis
1990s U.S. Savings and Loan crisis
July 1997 Asian financial crisis
2000 Dot.com bubble
2008 Economic and financial crisis

US Federal Fund Target Policy Rate
Bank of England Policy Rate
European Policy Rate Index (Composite*)

Source: Bloomberg data as of 20 March 2012
* Including German Repo Rate until 31.12.1998 and ECB Refinancing Rate from that date onwards
Current life insurance product landscape

Global L&H premium income (USD bn)

<table>
<thead>
<tr>
<th>Year</th>
<th>Risk</th>
<th>Saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>16%</td>
<td>84%</td>
</tr>
<tr>
<td>2000</td>
<td>14%</td>
<td>86%</td>
</tr>
<tr>
<td>2011</td>
<td>15%</td>
<td>85%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Risk</th>
<th>Saving</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>1'051</td>
<td>815</td>
</tr>
<tr>
<td>2000</td>
<td>1'390</td>
<td>2'511</td>
</tr>
<tr>
<td>2011</td>
<td>2'511</td>
<td>0</td>
</tr>
</tbody>
</table>

Main risks for insurer
- Mortality, Morbidity, Longevity, Lapse
- Mortality, Morbidity, Longevity, Lapse, Interest rate, Equity market
- Equity market, Mortality Longevity, Lapse
- Interest rate, Equity market, Lapse

Main sources of profits
- Underwriting result
- Underwriting result, Investment result
- Investment result, Fee income
- Fee income

Source: Swiss Re Economic Research & Consulting
Gigantic wave of regulations

- Macro-supervisory regime
- Risk that bank regulatory framework will be applied to insurers
- Systemic risks
- Influence of central banks
- Changes in accounting
- Consolidation guidelines
- Higher demands on solvency regime

adapted from www.generallyawesome.com
CEO view
CEO as the “Strategic Controller”

- Group performance target
- Group target portfolio of businesses
- Capital allocation capital/funding

Growth, Profitability
Growth
Huge protection gap worldwide

Size of the opportunity per market

USD billion

US | Canada | UK | Germany | France | Spain | South Korea | Turkey | India

Life Insurance InForce | Protection Gap

Some numbers from 2010, others 2011

Source: Asia Client Markets, Swiss Re Economic Research & Consulting
Savings and primary risk business is expected to grow faster than GDP

Global GDP, Savings and (Re)insurance Growth 2010-2020 (nominal)

<table>
<thead>
<tr>
<th>Nominal Growth 2010-2020</th>
<th>GDP CAGR</th>
<th>Primary Risk Market</th>
<th>Savings</th>
<th>Reinsurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emerging markets</td>
<td>9.4%</td>
<td>11.6%</td>
<td>12.9%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Industrialised countries</td>
<td>3.0%</td>
<td>6.0%</td>
<td>5.5%</td>
<td>2.9%</td>
</tr>
</tbody>
</table>

Source: Swiss Re Economic Research & Consulting
The global longevity risk issue is huge

OECD Pension Assets (USD 18.6 Trillion)

Source: OECD Global Pension Statistics
Profitability
Risk factors and modelling

Parameter risk
(current mortality)

Trend risk
(future mortality)

Volatility risk

Age (birth cohort)

Your expertise is relevant: modelling advances will help translate growth opportunities into profitability
Where to deploy capital?

- Available capital
  - Risk tolerance
  - Annual Plan
  - Tail VaR of Plan

- P&C risk
  - Nat Cat
  - TC NA
  - WS EU
  - EQ California
  - EQ Japan

- L&H risk
  - Mortality trend
  - Lethal pandemic
  - Longevity

- Financial risk
  - Equity
  - Hedge Funds
  - Interest Rate
  - Real Estate
  - Credit (spread & default)
Flexibility to support new ideas

Market solution for longevity risk insurance needed - Swiss Re

(Reuters) - Insurers do not have enough capacity to cover some $23 trillion in global pension liabilities against the risk that people will live longer than expected and should seek to pass such longevity risk through to investors, Swiss Re said on Monday.

Life insurers and pension funds around the globe are facing significant longevity risks as life expectancies continue to rise. Two recent transactions completed in Australia demonstrate how reinsurance can provide an effective solution.

Swiss Re in Australia has recently been chosen by two separate annuity providers as reinsurance partner for their respective in-force lifetime annuity portfolios.

These 'longevity swaps', both completed within the last year, transfer the longevity risks through a straightforward reinsurance treaty in which the annuity provider pays regular premiums according to a fixed schedule and Swiss Re pays the actual 'floating' annuity benefits.

Recent longevity swap transactions are just the start of a busy 2012 in risk settlement deals says Aon Hewitt
Consultant was lead adviser on Pilkington longevity swap
Long-term business and long-tail risks

Risk of capital outflows

Maturity

Banks
Mutual Funds
P & C Insurers
Life Insurers
Pension Funds

large
small
Different stakeholders have different views on capital adequacy and profitability

<table>
<thead>
<tr>
<th>Stakeholder group</th>
<th>Main interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clients:</td>
<td>– payment of claims whenever due</td>
</tr>
<tr>
<td>Regulators:</td>
<td>– protection of policyholders against consequences of insolvency</td>
</tr>
<tr>
<td></td>
<td>– financial stability</td>
</tr>
<tr>
<td>Rating agencies:</td>
<td>– fulfillment of obligations to policyholders and debt holders</td>
</tr>
<tr>
<td>Investors:</td>
<td>– high risk-adjusted return</td>
</tr>
</tbody>
</table>

We need well-understood and widely-accepted risk models
Conflicting signals can lead to uneconomic decisions

Illustrative – impact of FX movements – example from a European insurer

GBP falls against the euro

0 +/− 0 +/− 0

US GAAP equity Economic net worth Internal excess capital* Solvency I excess capital S&P excess capital A.M. Best excess capital

* Proxy for Solvency II and Swiss Solvency Test (SST)
Conflicting signals can lead to uneconomic decisions

Illustrative – impact of interest rate rise on a European reinsurer

- Convergence of regimes should allow alignment of regulatory/solvency considerations with economic steering
- Economic view should ultimately prevail

* Proxy for Solvency II and Swiss Solvency Test (SST)
Outlook
In challenges we also find opportunities
Expertise of re/insurance industry applied to new challenges faced by society

Trends

Macro economics

Regulation

- Apply expertise
- Devise new solutions
- Deploy capital

Societal need
Financial asset holdings of major institutional investors

<table>
<thead>
<tr>
<th>Category</th>
<th>Year-end 2011, USD trillion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pension funds</td>
<td>30.9</td>
</tr>
<tr>
<td>Insurance companies</td>
<td>25.0</td>
</tr>
<tr>
<td>Mutual funds</td>
<td>23.8</td>
</tr>
<tr>
<td>Sovereign wealth funds</td>
<td>4.8</td>
</tr>
<tr>
<td>Private equity</td>
<td>2.6</td>
</tr>
<tr>
<td>Hedge funds</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Sources: Pension funds – CityUK; Insurers – Swiss Re Economic Research & Consulting; Mutual funds – Investment Company Institute; Sovereign wealth funds – Sovereign Wealth Funds Institute; Private equity – Deutsche Bank; Hedge funds – Hedge Fund Research, Inc.
Re/insurers absorb shocks, provide capital for the real economy and support risk prevention
Thank you
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