Financial Stability and Resolution in Insurance

Frankfurt, 8 September 2015

Christian Thimann
AXA
Business snapshot for a large insurance group (e.g. AXA’s 2014 results)

1. It is an insurance business; asset management and banking only 10%
2. Insurance is diversified; P&C very important

What do we see?

1. Protection & Health are the largest contributor; they are less market sensitive
2. Second is U/L; here, market risks are with policyholders
3. General account savings is third

Life and savings include several components:
Fact 1: Liabilities of insurance groups are granular, not monolithic

**Breakdown of existing business by Line of business**
- 28% G/A Protection & Health
- 31% Unit Linked
- 11% P&C

**Breakdown of new business mix in Life & Savings:**
- 42% G/A Protection & Health
- 40% Unit Linked
- 30% G/A Savings
- 18% G/A Savings

- Various business purposes: P&C, protection, health, annuities, life, etc
- Various degrees of “callability”
  - 0% callability in P&C, protection, health, annuities
- Various degrees of “loss absorption capacity”
  - Unit linked: 100% with policy holders, partial for participating contracts
  - G/A savings business accounts for 30% of reserves and only 16% of new business
Fact 2: Loss absorbency higher than in banking

Where are losses absorbed when an external shock hits an insurance company?

Internal loss absorption capacity is far larger for insurance companies

- Higher loss absorbency in insurance

General Account / Non-Participating Contracts
- Protection & Health
- P&C
- Banking liabilities
- Other liabilities

Unit Linked

Shareholder equity
Financing debt

Frankfurt, 8 September 2015
Fact 3: A ‘fire sale’ is not the most plausible scenario

- A good quality investment portfolio (average rating of govies ‘AA’, and of non-govies fixed income ‘A’)
- Banking corporate debt accounts for less than 1/3rd of corporate bonds (most of which is super senior and senior)
- A majority of these assets are invested to cover contracts with participating features
- Very severe liquidity stress tests (reflected in the LRMP) have to be passed by all insurance companies combining finance and insurance shocks and assuming closure of liquidity sources such as repo markets

Total general account invested assets (including cash) – FY2014

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>G/A assets</td>
<td>499</td>
</tr>
<tr>
<td>Cash</td>
<td>22</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exposure to banking debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banks 31%</td>
</tr>
<tr>
<td>Other 2%</td>
</tr>
<tr>
<td>Technology 2%</td>
</tr>
<tr>
<td>Other non-financial 13%</td>
</tr>
<tr>
<td>Consumer non-cyclical 9%</td>
</tr>
<tr>
<td>Communications 9%</td>
</tr>
<tr>
<td>Utilities 7%</td>
</tr>
<tr>
<td>Industrial 7%</td>
</tr>
<tr>
<td>Energy 6%</td>
</tr>
<tr>
<td>Consumer cyclical 7%</td>
</tr>
<tr>
<td>Basic materials 9%</td>
</tr>
<tr>
<td>Other 2%</td>
</tr>
<tr>
<td>Banks 31%</td>
</tr>
</tbody>
</table>

- Real estate 5%
- Listed equities 3%
- Cash 4%
- Other fixed income 7%
- Alternative investments 3%
- Policy loans 1%
- Corporate bonds 29%
- Govies & related 47%

Euro 523 billion

Frankfurt, 8 September 2015
A failing insurer would undergo a “slow rundown” scenario

Maturity structure of insurance stylized balance sheet
(excluding equity and debt for simplicity)

Asset Liability Management creates an inherently **stable** structure
Fact 4: Interconnectedness and debt levels limited

- Insurers are not interconnected among themselves (no “insurance system”)
- Links to reinsurers (not to be exaggerated) do not create a link to the financial system
- Leverage is practically absent; debt levels are comparatively low; distress would not critically impact lenders
- Recent research by ESRB has pointed out the comparatively low level of interconnectedness within the EU insurance sector

Low debt gearing

European insurers $\approx 25\%$
(Financing Debt/Shareholder Equity)

European banks $\approx 180\%$
(Debt / Capital & Reserves)

Very different concept than the banking ‘leverage ratio’
(= Core Capital / Total Assets)
Fact 5: Collateralisation of derivatives is important for financial stability

- Collateralisation is key to manage credit exposure among financial market participants
- Amount of collateral mostly assessed on a daily mark-to-market process
- Collateral significantly reduces the impact of default of one party on the other (and hence on the financial system)

Simplified functioning of an interest rate swap

The insurer provides collateral to Counterparty X. The process is adjusted daily

AXA values for 2014 (*) - in €bn

- Notional amount of derivatives
- Mark-to-market before collateral
- Mark-to-market after collateral

(*) Estimated figures at YE2014 (subject to change); estimated notional amount covers all derivatives of the AXA Group; mark-to-market amounts cover entities included in AXA’s internal models
• **AXA uses derivatives to hedge most of its market risks on both sides of its balance sheet**
• **In case of hypothetical failure, the risk to the financial system should be assessed in light of the following diagram**
• **Collateralisation is essential and the notional amount of derivatives is in no way the right proxy of risk!**
Conclusion: A four-point checklist for systemic impact

Checklist: What should we look at in a gone concern perspective to assess the impact on the financial system?

1. What is the composition of the insurance portfolio and what is the “maturity” of the insurance liabilities?

2. What is the impact of the maturity of the liabilities on the assets and is a “fire sale” scenario realistic?

3. What is the level of debt and how far would a default on such debt impact the lenders?

4. What are off balance sheet commitments and their impact on counterparties (in particular derivatives, repos & SL)?

Simplified AXA Group’s IFRS consolidated balance sheet (end-2014, €bn)

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangibles</td>
<td>Shareholders’ Equity 68</td>
</tr>
<tr>
<td>G/A assets</td>
<td>Financing debt 9</td>
</tr>
<tr>
<td>Unit linked assets</td>
<td>Insurance reserves 636</td>
</tr>
<tr>
<td>Investment (bank, other)</td>
<td>Provisions for risks 13</td>
</tr>
<tr>
<td>Other assets</td>
<td>Banking liabilities 37</td>
</tr>
<tr>
<td>Cash &amp; equivalent</td>
<td>Other liabilities and payables (incl. repos) 78</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>840</td>
<td>840</td>
</tr>
</tbody>
</table>

Off balance sheet commitments (received and given), including derivatives, repos and securities lending