New Opportunities
Transfer Of Insurance Risk Into The Capital Markets

Swiss Re Capital Markets, November 2014
Risk Transfer Chain

Proprietary and Exclusive

Insured → Insurer → Reinsurer → Equity Investors

... Insured → Insurer → Reinsurer → Capital Market Investors

... Insured → Insurer → Reinsurer

Investors in Asset Managers (via transformation)
Capital Markets Investors Participate in Insurance Risk via Equity Investments but also via Alternative Capital

- "Alternative Capital" broadly refers to reinsurance/retro capacity provided by capital markets investors rather than via traditional reinsurance.
- Alternative Capital increased sharply since 2011 to USD 45 to USD 50 bn.
- Alternative Capital market share accounts for 11% globally and about 17% in the US, exceeding the 2007 level (post-Katrina).

Source: Swiss Re Capital Markets Corporation, a member of the Financial Industry Regulatory Authority ("FINRA").
Alternative Capital is Largely Confined to Peak Risks

Alternative Capital plays a significant role in the US Nat Cat and retro market, characterized by low entry barriers and relatively high margins.

Alternative Capital only slowly expands outside the US, for following reasons:
- Ample traditional reinsurance capacity
- Reinsurers offer traditional reinsurance at very competitive price
- Lack of market loss indices
- Less reliable risk modelling capabilities
- Cannot offer reinstatements

Distribution by Segment and Peril

- 33% Backing reinsurers
- 67% Backing insurers
- 5% US cat
- 25% European cat
- 70% Other
Alternative Capital Accesses (Re)Insurance Markets with Four Major Types of Products

<table>
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<tr>
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<th>Cat Bond</th>
<th>Industry Loss Warranty</th>
<th>Side Car</th>
<th>Collateralized Reinsurance</th>
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<tbody>
<tr>
<td><strong>Risk – Return profile</strong></td>
<td>Full spectrum of risk</td>
<td>Mid- to higher position in the risk tower</td>
<td>Proportional reinsurance – with commission terms</td>
<td>Full spectrum of risk</td>
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<tr>
<td><strong>Advantage (general)</strong></td>
<td>Liquidity, varied regions &amp; triggers, well structured</td>
<td>Industry based, simple to execute</td>
<td>Participate in upside and an alignment of interest. Tailored risk and return profile</td>
<td>Fully collateralized; similar coverage terms / setup to traditional reinsurance</td>
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<tr>
<td><strong>Disadvantage (general)</strong></td>
<td>Certain upfront cost, securities product, true and accurate disclosures</td>
<td>PCS and PERILS unable to create perfect industry loss numbers, basis risk; limited countries</td>
<td>Follow the fortunes, dependent on &quot;trust&quot;, no preset return, very limited liquidity, commutation process can be cumbersome</td>
<td>Typically no reinstatement, very minimal leverage of capital, no secondary trading, low liquidity, no pre-set return, commutation process can be cumbersome</td>
</tr>
<tr>
<td><strong>Investment characteristics</strong></td>
<td>Suits a bond / fixed-income portfolio</td>
<td>Equity-like reinsurance based risk – return profile</td>
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Source: Swiss Re Capital Markets
Alternative Capital in Detail and Cat Bond Universe

Total ILS capacity being provided by the capital markets in varying formats is estimated around USD45 to 50bn

Cat Bonds have grown considerably in the past few years. The current outstanding notional amount represents a historical record for the product, and there has been little sign of a slowdown in issuance. Very broad investor base as any Qualified Institutional Buyer can invest in such products directly

Collateralized reinsurance encompasses nearly half of the alternative insurance market. This product has experienced growth in recent years, but is accessible, in general, by only dedicated funds

Sidecars and ILWs are other products mainly utilized by insurance and reinsurance companies

Source: Swiss Re Capital Markets, (1) Outstanding bonds issued in prior years as of October 22, 2014
Cat Bond Structure

- **Sponsor**
- **Investors**
- **SP(R)V**
  - Collateral Trust
  - Counterparty Contract
  - Premium
  - Note Proceeds
  - Interest Payment
  - Return of Remaining Principal
- **Investment**
  - Investments
  - Investment Return
  - Event Payments

Source: Swiss Re Capital Markets
Cat Bond Track Record of Innovation

Key milestones:

- First parametric based cat bond for corporate: 2006 (Dominion Resources)
- Latest actual loss sustained / indemnity cat bond for complex commercial portfolio of primary insurance company: 2013 (AIG)
- Risks other than nat cat securitized such as mortality / pandemics, event risk, etc.
- Collateral shift from Total Return Swaps to Money Market Funds: 2009

Source: Swiss Re Capital Markets
Breakdown of Cat Bond Universe

**Outstanding Bonds by Trigger Type**
- Indemnity: 62%
- Industry Index: 24%
- Parametric: 7%
- Combination: 4%
- Other: 3%

**Outstanding Cat Bonds by Peril**

- **US Wind**: 66%
- **US EQ**: 46%
- **Non Peak**: 38%
- **Indemnity**: 38%
- **Industry Index**: 30%
- **Parametric**: 25%
- **Combination**: 13%
- **Other**: 13%

Source: Swiss Re Capital Markets as of November 11, 2014 with percentages calculated based on notional amount
Relative Cat Bond Returns

Performance from January 2002 – July 2014

Cat bonds have exhibited relative safety and high returns when compared to other high-yield investments due to the nature of the risk and the integrity of the structures.

* Compound Annual Growth Rate since 1/1/2002

“Swiss Re Global Cat Bond Index Total Return”, calculated by Swiss Re Capital Markets, is a market value-weighted basket of natural catastrophe bonds tracked by Swiss Re Capital Markets, calculated on a weekly basis; past performance is no guarantee of future results. Underlying data for Barclays Capital High Yield Index provided by Barclays Capital. Underlying data for “Swiss Re Global Cat Bond Index Total Return” is based on indicative prices only.

Source: Swiss Re Capital Markets as of July, 2014
Primary Cat Bond Issuance Spreads

- Spreads fluctuations and demand-supply dynamics have been constantly changing
- During 2013-2014 spreads moved to an historical low

Illustrative Primary Issuance Spread (US Wind) January 2001 – March 2014

1. Swiss Re Capital Markets pricing indications only; estimated primary issuance spread computed for an expected loss of 2% using regression analysis
Cat Bond Distribution and Investor Universe

Investor Breakdown by Type 2012

- 72%
- 13%
- 2%
- 6%
- 7%

Dedicated
Hedge Fund
Insurer
Money Manager
Reinsurer

Investor Breakdown by Type 2013

- 55%
- 31%
- 9%
- 4%
- 1%

Dedicated
Hedge Fund
Insurer
Money Manager
Reinsurer

Source: Swiss Re Capital Markets
**Risk Factors**

* An investment in Insurance Linked Securities involves potentially significant risks for an investor. In summary, these risks include (but are not limited to):

  • Investors may lose all or a portion of their investment in Insurance Linked Securities if a natural catastrophe or other event triggers a payment by the issuer of the Insurance Linked Securities under the underlying risk-transfer agreement that the Insurance Linked Securities relate to.
  • The maturity of Insurance Linked Securities may be extended without the prior consent of the investor.
  • The Insurance Linked Securities may be redeemed before their maturity date (including before any extension of such maturity date by the issuer).
  • If the Insurance Linked Securities are redeemed before maturity, the interest rate payable under the Insurance Linked Securities will be reduced.
  • Investors have limited recourse to assets of the issuer of the Insurance Linked Securities and no recourse to assets of the counterparties to the underlying risk-transfer agreements to which the Insurance Linked Securities relate.
  • If the issuer of the Insurance Linked Securities becomes insolvent, investors may lose some or all of their investment.
  • Investors may be required to consolidate the issuer for accounting purposes under certain circumstances.
  • An investment in the Insurance Linked Securities may have adverse tax consequences for investors.
  • Any claim you have against the issuer in the event of the issuer's insolvency will rank below any claim a counterparty to the underlying risk-transfer agreements, to which the Insurance Linked Securities relate, has against the issuer.
  • Enforcement of the security interest granted to a Trustee for the benefit of the investors may be limited.
  • The Insurance Linked Securities may not have a secondary market or the secondary market for the Insurance Linked Securities may have limited liquidity; the market price of the Insurance Linked Securities in the secondary market may be highly volatile.
  • The Rating Agency(ies) (if any) may change any rating assigned to the Insurance Linked Securities. Any credit rating given in respect of the Insurance Linked Securities may not reflect the potential impact of all risks related to the Insurance Linked Securities. A credit rating is not a recommendation to buy, sell or hold the Insurance Linked Securities and may be revised or withdrawn by the rating agency at any time.

The risk factors relating to an investment in Insurance Linked Securities are set out in detail in the offering materials for the relevant Insurance Linked Securities. Before entering into any financial transaction, you should ensure that you fully understand the terms, have evaluated the risks and determined that the transaction is appropriate for you in all respects.
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