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Reinsurance in the Aftermath: Impact of 2017 Storms and Quakes

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#WorldCaptiveForum

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Agenda

- 2017 Market Overview
- Insurance Linked Securities
- Current Captive Reinsurers
- Case Study – Parametric Protection for a Captive
- Reinsurance Buying Strategies

2017 Market Overview

- Reinsurance capital increased 2% by the end of Q3 2017 to $600 billion.
- Alternative capital increased by 5.1% to $82 billion, mainly growth in collateralized reinsurance.
- Total insured losses for 2017 = $138 billion.

2017 Total Cat Losses:
$138 Billion

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2017 Market Overview

Largest natural catastrophes:

- Hurricane Harvey: $25 billion + in insured losses
- Hurricane Irma: $30 billion + in insured losses
- Hurricane Maria: between $35 to $48 billion and developing
- Mexico City Earthquake: greater than $4.5 billion
- California Wildfires: currently at $9 billion insured

2018 Market Overview

- **Catastrophe covers** – multiple U.S. catastrophes but offset by abundant capacity keeps pricing in line for non-loss hit layers. 5-10% rate increases for layers that have been hit.

- **US Personal Auto** increase in frequency continues – ceding commissions decrease slightly with downward pressure from a limited pool of reinsurers that are increasingly non-renewing, bad-performing accounts.

- Ample **excess of loss** capacity for most **casualty lines** in the US. Possible exception, commercial auto, where primary pricing and interest in captives is increasing.

- **Workers' Compensation catastrophe** capacity plentiful but rates have stopped decreasing and reinsurers re-pricing heavily earthquake-exposed accounts.

Insurance Linked Securities

- Cat bonds allow insurers to get reinsurance protection from a new pool of capital separate from traditional reinsurers – such as money managers, hedge funds and pension funds.

- Investors' capital stays in segregated collateral accounts – if event occurs funds are available to make a payment, thereby virtually eliminating credit risk inherent in traditional reinsurance.

- 2017: insurance-linked securities issuance reaches $12.56 billion.

Insurance Linked Securities

- The Mercury Investible Catastrophe Index was up 10.15% in 2016 and down 8.15 % in 2017.
- The month of September 2017 was negative 12.85% due to the initial hurricane losses.
- Outstanding cat bonds rose to a record total of $31 billion as at December 31st, 2017.

Insurance Linked Securities

Non-insurance company buyers of ILS:

- Amtrak bought $275 million in parametric index per occurrence cover for EQ, storm surge, and wind from named storms to protect the North East and Mid-Atlantic states. The vehicle is PennUnion Re Ltd.

- Kaiser Foundation Health Plan Inc. formed Acorn Re Ltd. in 2015, a transaction fronted through Hannover Re on behalf of Oaktree Assurance Ltd., their Vermont captive insurance company. The limit was $300 million and was a parametric trigger covering west coast earthquakes.

Bermuda Specialist Captive Reinsurers

	AM Best Rating (Sep 30 2017)	Policyholder Surplus (Sep 30, 2017)
Allianz	A+	$65 bn
Allied World (Fairfax Group)	A	$17.4 bn
MS Amlin	A	$2.4 bn
Arch Capital Group Ltd.	A+	$9.8 bn
Aspen Insurance	A	$3.2 bn
BRIT (Fairfax Group)	A	$17.4 bn
Everest Re	A+	$7.9 bn
Hiscox	A	$1.9 bn
Maiden Holdings	A-	$1.4 bn
Markel	A	$8.9 bn
Renaissance Re	A+	$4.4 bn
Third Point Re	A-	$1.6 bn
Tokio Millennium Re	A++	$1.4 bn
Trans Re	A	$5.1 bn
XL Catlin	A	$11.5 bn

US Specialist Captive Reinsurers

	AM Best Rating (September 30, 2017)	Policyholder Surplus (September 30, 2017)
Arch Re	A+	$9.8 bn
Axis Re	A+	$5.5 bn
Berkley Re	A+	$5.4 bn
Chubb Limited	A++	$50.5 bn
General Re	A++	$13.2 bn
Munich Re America	A+	$33.5 bn
National Indemnity	A++	$106 bn
Odyssey Re (Fairfax Group)	A	$17.4 bn
Partner Re	A	$6.1 bn
Swiss Re America	A+	$37.4 bn
TOA Re	A+	$655 mm
Trans Re	A	$5.1 bn

Healthcare Reinsurers

Aspen (US and UK)
Ascot Bermuda Limited (BDA)
MS Amlin (BDA)
Berkshire Hathaway (US)
Munich Re America
BRIT (BDA)
Renaissance Re (BDA)
Chubb Tempest (US)

Swiss Re (US and Switzerland)
General Re / Genesis (US)
Trans Re (US)
Tokio Millennium Re (BDA)
Lloyd's of London (UK)
XL Catlin (BDA)
Markel (BDA and US)

Auto Reinsurers

Allianz (BDA)
Arch Re / Watford Re (BDA)
Ascot Re (BDA)
Chubb Tempest (US)
Dorinco (US)
Greenlight Re (Cayman)
Hamilton Re (BDA)
IAT Re (US)
JRG Re (BDA)
Maiden Re (US and BDA)
Mainstreet Group (US)

MS Amlin (BDA)
MultiStrat Re (BDA)
Odyssey Re (US)
Partner Re (US)
Qatar Re (BDA)
Sompo (US)
Third Point Re (BDA)
Tokio Millennium Re (BDA)
Trans Re (US)
XL Catlin (BDA)

Construction / GL Reinsurers

Allianz (BDA)
Arch Re (BDA)
Aspen (BDA & UK)
Berkley Re (US)
Berkshire Hathaway (US)
Chubb Tempest (BDA & US)
Hannover Re (GER)
Hiscox (BDA)
Lloyd’s of London (UK)
MS Amlin (BDA)
Partner Re (US)
Swiss Re (US)
XL Catlin (BDA)

Workers Comp Reinsurers

Arch (US / BDA)
Aspen Insurance (UK)
Axis Re (USA)
Bermuda Catastrophe Reinsurers (BDA)
BRIT (BDA)
Chubb Tempest (US)
Greenlight Re (Cayman)
Hamilton Re (BDA)
Hannover Re (GER)
JRG Re (BDA)
Lloyd's of London (UK)
Maiden Holdings (BDA)
Markel (BDA)
Midland Management (US)
Midwest Employers (US)
MS Amlin (BDA)
National Union (US)
Safety National (US)
Tokio Millennium Re (BDA)
Trans Re (US / BDA)
XL Catlin (US / BDA)

Protecting Your Captive With Parametric Trigger Coverage

- Example: Group of 50 hotels with over 30 locations in coastal Florida and coastal Texas. They already own a captive that helps insure their primary workers' compensation, general liability, and auto liability. They buy their property coverage, including windstorm, from the regular domestic market.
- Problem: At their 1st of January 2018 renewal, the market informs them that the rates are going up dramatically and their windstorm deductible is increasing to 5% per location.
- Windstorm Exposed TIV = $900,000,000 hence 5% is $45,000,000 total risk exposed.
- Problem 2: Conventional treaty reinsurance market not interested in quoting such a small book at normal treaty terms.
- Problem 3: Regular buy-back market looking for huge rate online.

Protecting Your Captive With Parametric Trigger Coverage

- Solution: Captive owners decide that they are happy being exposed to $10,000,000 of windstorm loss.
- Captive owners are confident that construction of all properties is high quality and well-maintained with good risk management program.
- Decide to buy $20,000,000 of parametric trigger coverage triggered by winds within 20 miles of each location in Florida and Texas, being in excess of 75 mph.
- Second trigger also excess of $10,000,000 of otherwise recoverable losses retained by the captive, in respect of 5% deductible.

Protecting Your Captive With Parametric Trigger Coverage

- Resulting rate online dramatically decreases from conventional reinsurance buying.
- Instant cash available to captive to pay for all deductible claims not limited by conventional coverage, such as landscaping and business interruption.
- A+ rated insurance paper using ILS funds and state of the art anemometers spread throughout coast of Florida and Gulf.

Reinsurance Strategies for Small Captives

- Make little into big. Multi year contracts or first year policy 15 months period.
- Assist cash flow – stagger deposit premiums (10%, 20%, 30% and 40%) and be conservative about estimated premium income.
- Have mid year premium adjustments if uncertain about target price.
- Pay as you go reinstatements – only pay for cover if you need it.
- Sub limit non-essential coverages.
- Cap sideways exposures to reduce costs.

Reinsurance Strategies

- **Buy Long**
  - Multi Year contracts wherever possible, with built-in reinstatements to avoid renegotiating mid crisis.
- **Lock in aggregate protection**
  - Protect against adverse developments from rising loss ratios across all lines.
- **Avoid swing rated deals**
  - Stick to for flat rated contracts to avoid ‘double whammy’ of deteriorating losses whilst being hit with huge additional Reinsurance premium.
- **Insist on buying Reinsurance separately**: divide & conquer

Reinsurance Strategies

<u>Scrutinize Security</u>

- **Fronting Carrier**

  Review security carefully.

- **Reinsurance Security**

  Avoid weak balance sheets, legacy issues and companies with no long term capital commitment.

- **Stick with trusted Reinsurers**

  Especially if you have built a “bank” of premium with them.

William Dalziel

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Where are we?

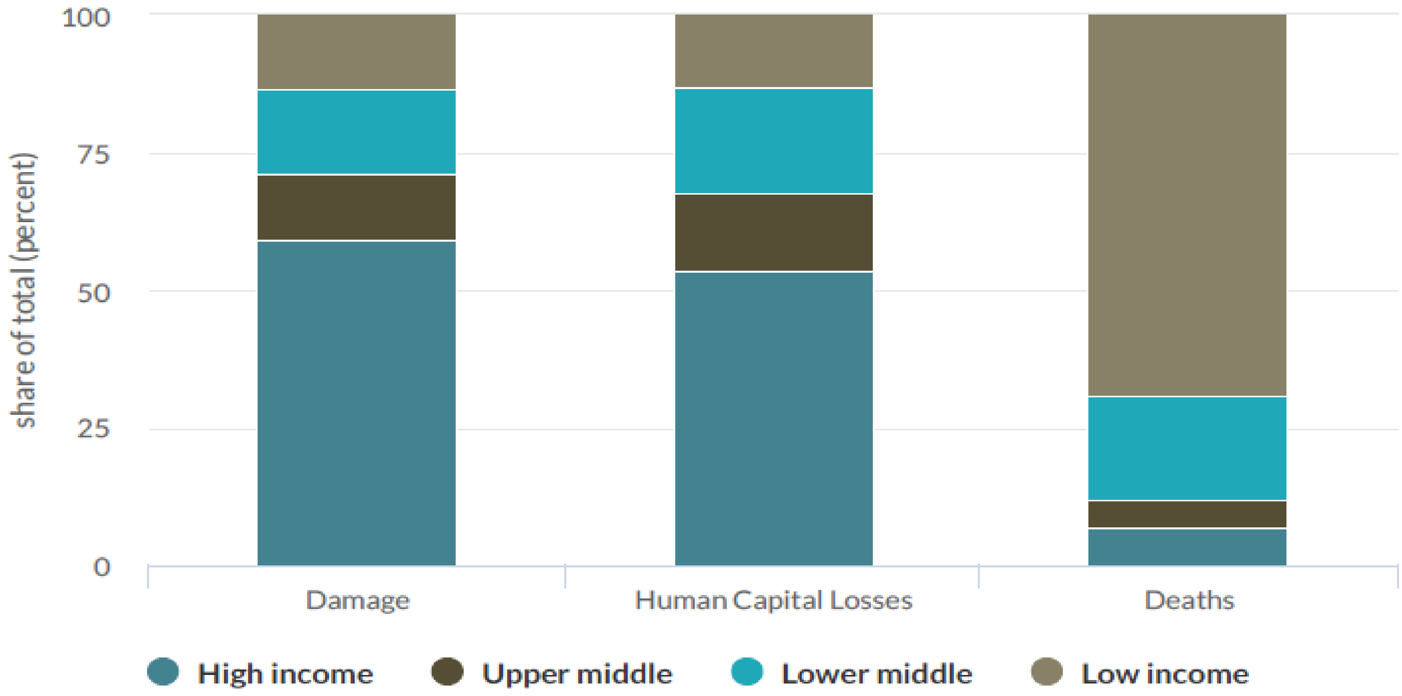
- Excess reinsurance reserves
- 2017 N Atlantic Hurricane Season
- Influence of Capital Markets
  - Obstacles
  - Imbalance: high availability, low capacity to transfer
- Pension Funds investing in insurance
- Funding Risk at Corporate level through capital market rather than risk markets
- Unbundling Example: derivatives

Disasters and Development

- In 2015 disasters
  - Over $37bn in damage
  - Affected 84m people in low and middle income countries
  - (Source: EM-DAT)
- Plus emergency relief cost
- Catastrophes turn “Dramas into Crisis”
- Critical need for buffers: climate adaptation, resilience, shielding development gains

Damage Mainly in Rich Countries, Deaths Mainly in Poor Ones (1980–2015)

"Human capital loss" is estimated as number of deaths from EM-DAT (Guha-Sapir et al., 2015), times the difference between life expectancy and median age in country, times real annual income per capita. Sum of damage is in real US dollars and deaths, 1980–2015. Median age is a median-variant projection from United Nations Department of Economic and Social Affairs (2013); income per capita and life expectancy are from World Bank Group (2015). CGD analysis.



Source: Centre for Global Development

Role of Insurance

- Contractual certainty
- Risk pricing
- Incentive alignment
- Mitigation plans
- Timeliness

Case in Point: Ebola in 2014

Disaster financing: Caribbean an early innovator

CCRIF SPC

Established in 2007
Seed Funding from World Bank & Donor Countries $70m
Has paid out >$100m in claims
Is a catalyst for Disaster Risk Management in the Region
Widely seen as a model for Catastrophe management
Now offers Excess Rainfall and covers Central America

London & Capital's Role

Investment manager

Managing pay-out following catastrophes

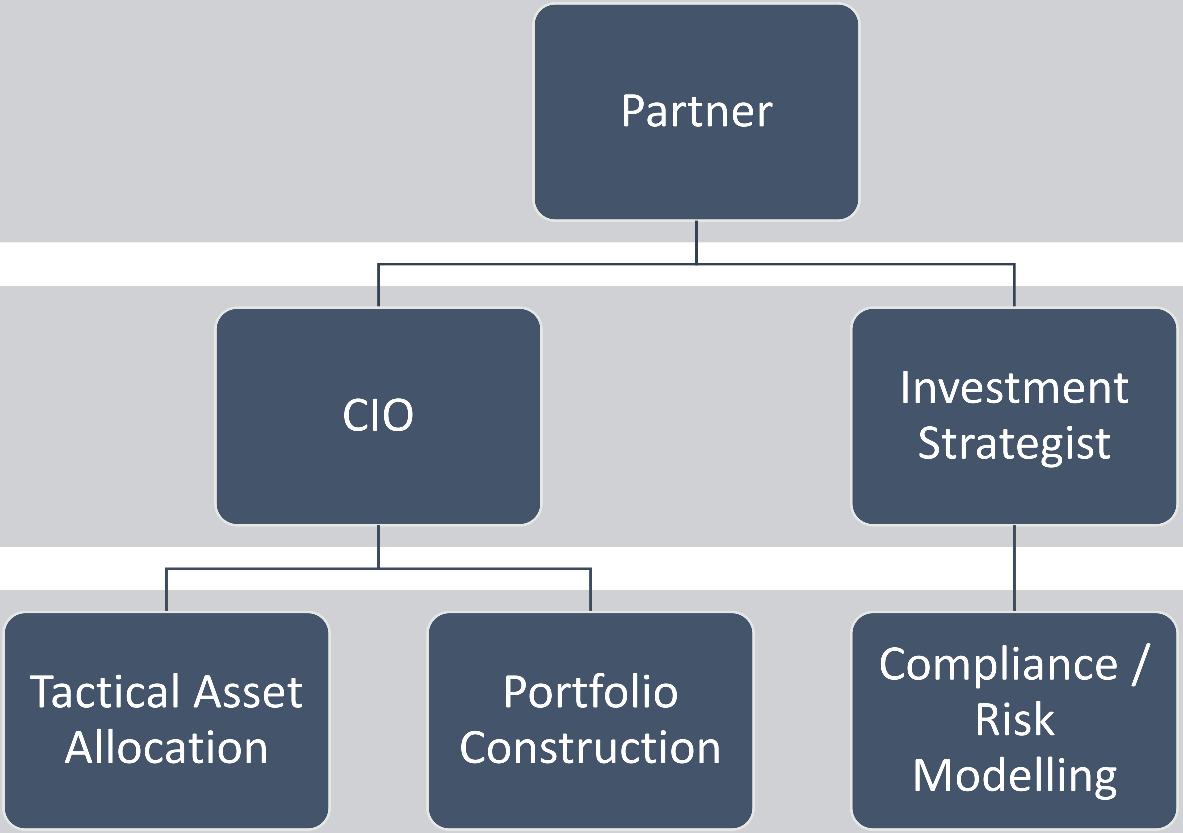
London&Capital

Accountability

Single point of reference, coordination and accountability to client.

Separation of powers – risk exploitation and risk control are overseen independently

Strategic AA is a Risk Management Function, Tactical AA is an Investment Team function



CCRIF’s objectives drive Portfolio design

Strategic Objective
Preserve Policyholder Capital and Reserves
Be able to meet claims within 14 days of loss event
Understand Portfolio Risk
Monitor portfolio compliance with IPS
Document the frequency & severity of risk exposures

Portfolio Risk Metrics

- Macro Risks
- Scenario Analysis
- Portfolio Correlation
- Value at Risk (VaR)
- Volatility Budget
- Number of Down Months
- Ratings
- Portfolio Concentration
- Sharpe Ratio
- Compliance with IPS

Other experiments

Progress

- Sovereign Pools (ARC, PCRAFI), in place (sub-scale?)
- Contingent Capital (World Bank CRW)
- Household level safety nets
- Pre-funded Reinsurance / Cat Bond vehicles in development
- Experiments in Cat protection of Capital pools for Micro-lending

Q & A

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