

ILS Market Update

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AIR WORLDWIDE

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Capital Markets & Advisory

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INSURANCE-LINKED SECURITIES

Cat bonds are just one way investors assume insurance risk

Non-Life	Life
<ul style="list-style-type: none"> Catastrophe bonds for natural catastrophe risk Catastrophe derivatives and collateralized re Third party capital (including sidecars) New / emerging products: ILS and derivatives for: <ul style="list-style-type: none"> Casualty Event cancellation Loss development 	<ul style="list-style-type: none"> Catastrophe bonds for pandemic risk Embedded value securitizations Statutory reserve strain financing Longevity swaps and securitizations Life settlement securitizations


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CATASTROPHE BOND BENEFITS

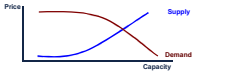
Expedited Recoveries

- Mechanistic recoveries possible with non-indemnity triggers




Diversification of Capacity

- Can have lower marginal cost in an absolute sense




Full Collateralization

- Hedge of systemic credit risk inherent in reinsurance markets




Full Syndication

- Pay less with broadest investor group



Multi-year Reinsurance Protection

- Ability to lock-in terms typically between 3 – 5 years





CAT BOND CONSIDERATIONS

- Coverage extends beyond modeled perils
- Reinsurance has less basis risk relative to index triggers
- Typically no reinstatement on cat bond limits
- Cat bonds require more lead time and upfront expense

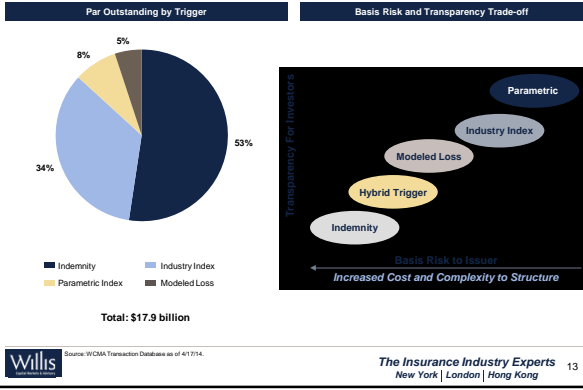


CAT BOND SPONSORS

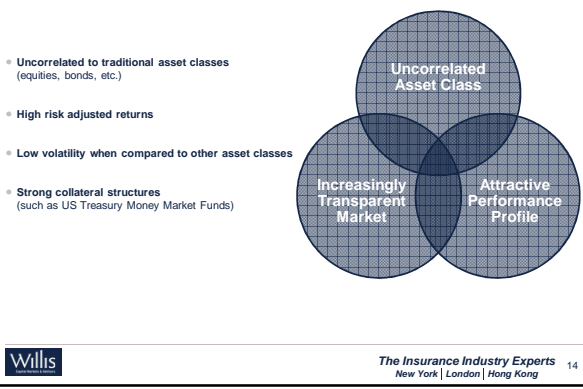
16 of the top 20 U.S. property insurers have accessed the catastrophe bond market



PRICING AND TRIGGERS




KEY INVESTMENT ATTRactions



FIVE ILS TRENDS TO WATCH FOR IN 2014


- Convergence 2.0**
- 1 Reinsurers look more like ILS managers and vice versa
 - 2 Sidecars look more like ILS funds
- Cat Bonds**
- 3 Structures better mirror traditional reinsurance
 - 4 Spread declines are slowing
 - 5 Brokers are blending capacity sources to optimize programs
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Catastrophe Modeling for Insurance-Linked Securities



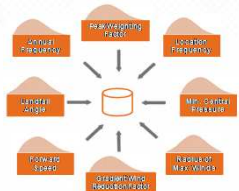
ABOUT AIR WORLDWIDE

- Twenty five years ago AIR founded the catastrophe modeling industry
- Over the years a large number of companies have come to rely on AIR models' scientific basis and stability as part of their risk management regime
- Model output is an important part of enterprise risk management, from underwriting to ratemaking to risk transfer
- Models are subject to increasing scrutiny in the marketplace
- AIR is a member of the Verisk Insurance Solutions group at Verisk Analytics




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AIR'S FOCUS IS ON PROVIDING COMPREHENSIVE SOLUTIONS TO RISK MANAGEMENT




Advanced Models



Empowering Technology

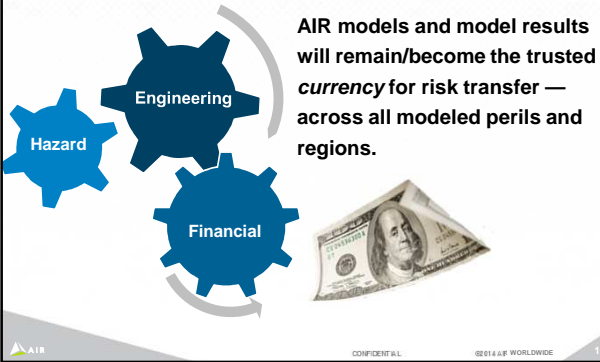


Broader Analytics



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AIR INCORPORATES BEST IN CLASS SCIENCE INTO INDUSTRY LEADING MODELS



AIR models and model results will remain/become the trusted *currency* for risk transfer — across all modeled perils and regions.

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AIR IS COMMITTED TO EMPOWERING RISK MANAGEMENT THROUGH ROBUST, ENTERPRISE WIDE SOFTWARE



Exposures. Enterprise Loss Potential. Drivers of Uncertainty.
Right Information at the Right Time. Communicate.

Make decisions confidently and efficiently.

Own the risk.

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WHILE NEVER LOSING FOCUS ON THE IMPORTANCE OF CLIENT SERVICE



We work with clients as *partners* in all sales and support interactions, including communications with the research staff, accessing documentation, etc.

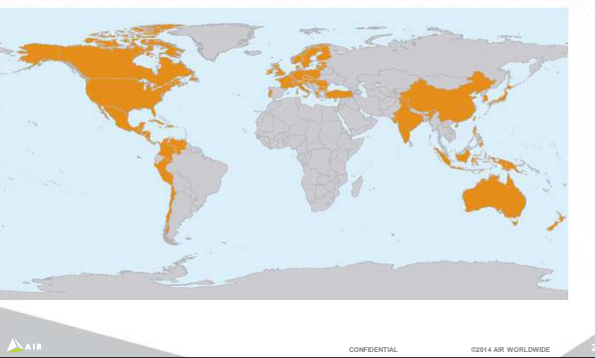
And we will continue to provide relevant value-add solutions.

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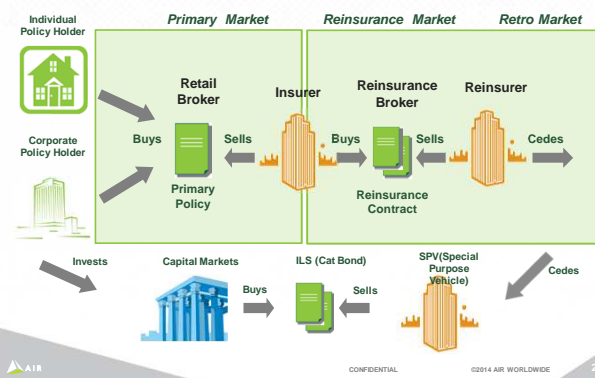
AIR WORLDWIDE IS A GLOBAL ORGANIZATION



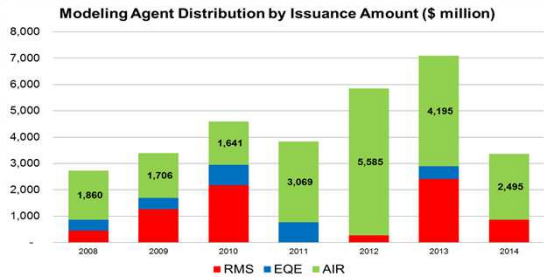
AIR CATASTROPHE MODELS: GLOBAL COVERAGE



AIR SERVES ALL SEGMENTS OF THE INSURANCE INDUSTRY



AIR HAS ESTABLISHED ITSELF AS A LEADING MODELING AGENT OF CATASTROPHE BONDS ISSUANCES



- AIR was the primary modeling agent for 59% of public property-based catastrophe bond issuance in 2013
- AIR supported this volume of transactions while also managing the heavy Reset workload from issuances in 2010, 2011, and 2012

AIR'S SERVICES FOR CAT BOND ISSUERS

- Detailed *loss analysis* by perils, LOB and geography or expert portfolio modeling review for the initial offering of new insurance-linked securities
- *Documentation* that "expertises" the modeling processes, assumptions, and results, including Offering Circulars and Prospectus
- Sensitivity and stress testing to satisfy the requirements of *rating agencies*
- Presentations, meetings and support to potential *investors* as part of a new issue's "road show"
- Follow-up analyses including post-event loss calculations (*PELCs*), exposure and trigger resets

AIR PROVIDES INVESTORS IN INSURANCE-LINKED SECURITIES WITH A COMPLETE SOLUTION

- Cat Bond Remodeling
 - Assists investors with performing analyses using AIR aggregate software (CATRADER) and Offering Materials made available to them
 - Modeling firm compare
- Understand your risk profile
 - Nature, structure and risk profile of individual instruments
 - Portfolio probabilities of attachment, expected loss and exhaustion; TVAR
 - Concentration of risk by region, peril, type of investment
 - Sensitivity analyses: loading, alternative views of the risk

AIR PROVIDES INVESTORS IN INSURANCE-LINKED SECURITIES WITH A COMPLETE SOLUTION

- A true whole market strategy is not limited to ILS
 - Reinsurance contracts
 - Equity investments in insurance and reinsurance companies
- Optimize your portfolio
 - Identify growth opportunities based on permissible risk metrics
 - Identify the best assets for growth based on your specific risk profile
 - Identify and minimize risk concentrations through hedging
- Assess risk of actual catastrophic events in real time

**Case Study:
Loma Re Ltd. Series 2013-1**

LOMA RE 2013-1 SUMMARY OF TERMS

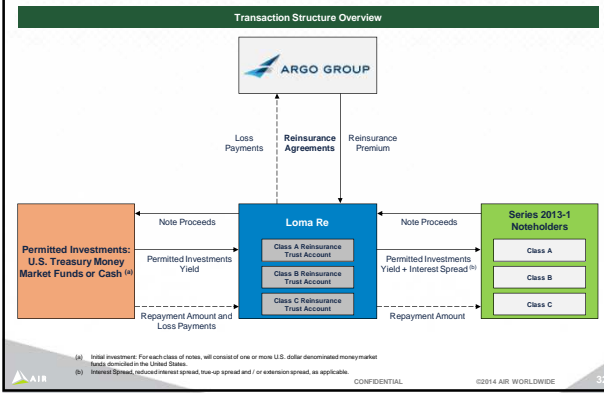
Loma Re 2013-1 Ltd. Summary of Terms	
Issuer:	Loma Re Ltd.
Ceding Insurer:	ARGO GROUP - Argonaut Insurance Company and Lloyd's Syndicate 1200
Risk Period:	January 1, 2014 to December 31, 2017
Scheduled Redemption Date:	January 8, 2018
Covered Event:	Tropical Cyclone, Severe Thunderstorm and Earthquake
Tropical Cyclone Covered Area:	30 U.S. states ⁽¹⁾ , the District of Columbia, the Commonwealth of Puerto Rico and the U.S. Virgin Islands.
Severe Thunderstorm Covered Area:	48 contiguous states and the District of Columbia
Earthquake Covered Area:	U.S., District of Columbia, Puerto Rico, U.S. Virgin Islands and Canada
Initial Franchise Deductible:	\$10 million
Trigger:	Ultimate Net Losses for Insurance business, Industry Index for reinsuranc
Trigger Basis:	Annual Aggregate
Reset:	Variable Reset at the option of the Ceding Insurer
Rating:	Unrated

LOMA RE 2013-1 SUMMARY OF TERMS (CONT'D.)

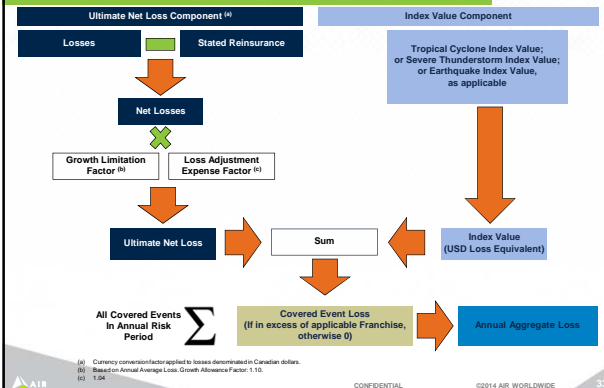
(All amounts in millions)

Loma Re 2013-1 Ltd. Summary of Terms			
	Class A	Class B	Class C
Original Principal Amount:	\$32	\$75	\$65
Initial Attachment Level:	\$425	\$325	\$225
Initial Exhaustion Level:	\$475	\$425	\$325
Risk Spread ^(a) :	TTM + 975bps	TTM + 1200bps	TTM + 1700bps
Initial Modeled One-Year Att. Prob.:	4.13% / 4.56%	6.04% / 6.84%	10.32% / 11.73%
Initial Modeled One-Year Exp. Loss:	3.77% / 4.19%	5.02% / 5.62%	7.95% / 8.99%
Initial Modeled One-Year Exh. Prob.:	3.43% / 3.80%	4.13% / 4.56%	6.04% / 6.84%

LOMA RE 2013-1 TRANSACTION STRUCTURE

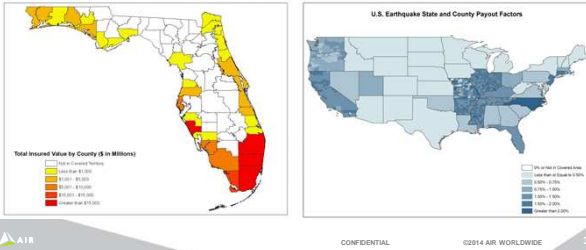


LOMA RE 2013 TRIGGER MECHANICS



AIR MODELING PROCESS

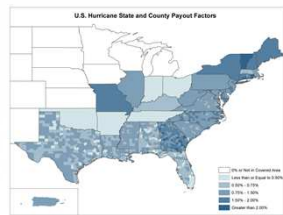
- Step 1: Receive Exposure Data
 - Location Data (Indemnity)
 - Replacement Values, Limits, Occupancy/Construction
 - Payout Factors (Index)
 - Region, State, County, Peril



SAMPLE EXPOSURE DATA (INDEX)

Thresholds and Payout Factors by Peril			
	Earthquake	Severe Thunderstorm	Tropical Cyclone
Threshold 1 (\$bn)	20	2	20
Threshold 2 (\$bn)	60	10	50
Threshold 3 (\$bn)	110	15	130
Payout Factor 1	0.2500%	0.1500%	0.4000%
Payout Factor 2	0.3000%	0.1500%	0.2500%
Payout Factor 3	0.2500%	0.1500%	0.2500%
Payout Factor 4	0.0800%	0.1500%	0.1000%

- Payout factors
 - Regional
 - State
 - County



AIR MODELING PROCESS

- Step 1: Receive Exposure Data
 - Location Data (Indemnity)
 - Replacement Values, Limits, Occupancy/Construction
 - Payout Factors (Index)
 - Region, State, County, Peril
- Step 2: Model Exposure Data
 - Exposure Analysis
 - Detailed Loss Analysis / Index Loss Analysis
 - Contribution
 - Historical
 - Sensitivity

SAMPLE HISTORICAL ANALYSIS

Year	Historical Event	Peril	Landfall/ Epicenter ⁽¹⁾	Strength of Event ⁽²⁾	Modeled Series 2013-1 Notes Principal Reduction		
					Class A	Class B	Class C
1906	NoName6	TC	MS	2	0%	0%	0%
1906	San Francisco	Ea	CA	7.8	100%	100%	100%
1926	NoName6	TC	FL, AL	4, 2	100%	100%	100%
1926	NoName10	TC	FL	0	100%	100%	100%
2005	Cindy	TC	LA	1	0%	0%	0%
2005	Dennis	TC	FL	3	0%	0%	0%
2005	Emily	TC	MEX	3	0%	0%	0%
2005	Katrina	TC	FL, LA	1, 3	8%	87%	91%
2005	Ophelia	TC	NC	0	11%	95%	100%
2005	Ria	TC	LA	3	100%	100%	100%
2005	Wilma	TC	FL	3	100%	100%	100%
1811	New Madrid	EQ	MO	7.3	0%	0%	0%
1812	New Madrid	EQ	MO	7.1	0%	0%	42%
1812	New Madrid	EQ	MO	7.5	88%	100%	100%

- Used to validate modeled losses to actual historical experience to the sponsor

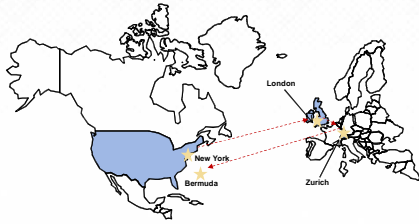
AIR MODELING PROCESS (CONT'D)

- Step 3: Support the Development of Offering Materials
 - Offering Circular Supplement
 - AIR Expert Risk Analysis
 - Model Description
 - AIR Expert Risk Results
 - Exposure Overview
 - Risk Profile
 - Contribution to Expected Loss Analysis
 - Historical Analysis
 - Sensitivity Analysis
 - Rating Agency Presentation
 - Investor Presentation

AIR MODELING PROCESS (CONT'D)

- STEP 4: Review Offering Materials / Contracts
 - OC / OCS
 - Reset/Calculation Agent Agreement
 - Escrow Agent Agreement
- STEP 5: Initial Issuance Investor Support
 - Road Show / Investor Meetings
 - Global Conference Calls
 - Follow-up questions
- STEP 6: Post Placement Services
 - Reset Report
 - Variable Reset Coupon Calculations
 - Event Reports

SAMPLE ROADSHOW SCHEDULE



Roadshow Locations

- New York
- London
- Zurich
- Bermuda (Optional)

Commentary

- We would only do a roadshow to cities where the client's visit would result in better execution and enhance investor relationships
