

Rating Natural Catastrophe Bonds

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Outline

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The following criteria procedure should be read in conjunction with *Best's Insurance-Linked Securities & Structures Methodology (BILSM)* and all other related BILSM-associated criteria procedures. The BILSM provides a comprehensive explanation of AM Best's rating process for insurance-linked securities and insurance-linked structures.

A. Market Overview

A catastrophe bond is a structured debt instrument that transfers risks associated with low-frequency/high-severity events to investors. The insurance industry has utilized catastrophe bonds as an alternative to traditional reinsurance and retrocession contracts. Depending on the risk appetite of investors, specific layers of risks are bundled together and transferred to the capital markets through traditional securitization methods. This criteria procedure discusses the factors that AM Best considers in rating catastrophe bonds covering earthquakes, hurricanes, windstorms, and other weather-related catastrophic events.

The rating assigned to a catastrophe bond is *Best's Issue Credit Rating*, which is an independent opinion of credit quality assigned to issues that gauges the ability to meet the terms of the obligation.

Catastrophe Bond Structure

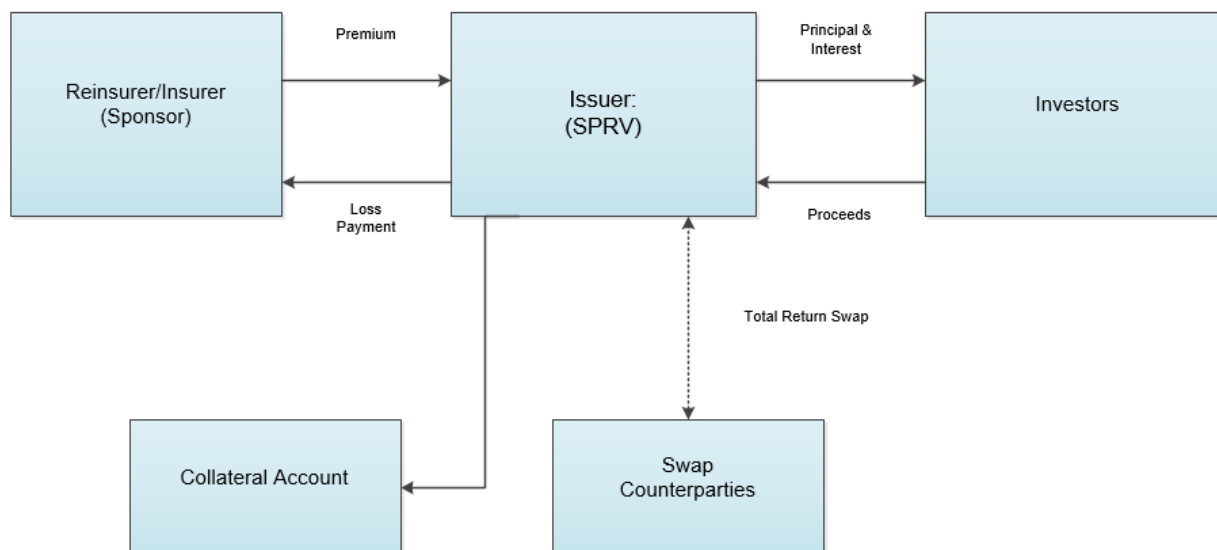
Securitization of insurance risk typically is achieved through the use of a special-purpose reinsurance vehicle (SPRV). The insurance or reinsurance company seeking catastrophic risk coverage pays premiums to the SPRV, which is effectively a third-party reinsurer. The SPRV raises funds from investors, which are deposited into a collateral account and invested in high-quality securities. These funds are available to satisfy any catastrophic losses reinsured by the SPRV.

The coupon/interest payment to the investors is derived from: (1) the premium paid to the SPRV for the reinsurance coverage and (2) investment income earned on the deposit in the collateral account.



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Exhibit A.1: Securitization Diagram



Catastrophe bonds have four types of triggers underlying the bond structure:

- Indemnity trigger – payouts are based on the actual losses of the sponsor
- Pure parametric trigger – payouts are triggered by actual reported physical events (e.g., wind speed of hurricane, magnitude of earthquake, location of earthquake, etc.)
- Industry loss index trigger – payouts are triggered by an estimate of industry losses by a third party entity
- Modeled loss trigger – payouts are determined by loading event parameters into a predetermined and fixed model to calculate losses

B. Rating Considerations

AM Best’s rating on catastrophe bonds relies primarily on data and information from transaction sponsors, their representatives or experts, and independent peril modelers. In general, AM Best’s catastrophe bond rating criteria procedure takes into consideration the risk characteristics of the underlying perils covered (as reflected in the attachment probabilities), reviews of the models used and results of stresses on key modeling factors. A list of the items reviewed, evaluated, or monitored include, but are not limited to, the following:

- Structural, regulatory, legal, and all third party related documentations
- The specific peril(s) included in the transactions (e.g., U.S. earthquake, U.S. hurricane, European windstorm, Japanese earthquake, Japanese typhoon)
- The granularity of exposure data gathered for the risk model

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- Model outputs developed by the applicable peril modeling firm
- Results from stress testing in the peril model
- The presence of multiple event triggers in the bond legal structure (e.g., second or third event triggers)
- The credit risk of the entity paying the premiums to the SPRV and the credit risk of the swap counterparties
- Other items reviewed include, but are not limited to, the following: the risk period of the coverage, the annual re-setting of attachment points to address changes in the covered portfolio (such as changes in demographics and exposure), extension options, and the model archiving policy.

C. The Assignment of a Rating

In conjunction with other factors discussed in the criteria, the rating assigned to a catastrophe bond is generally based on the associated cumulative default rate corresponding to the term of the debt. This default rate is based on *Best's Idealized Issue Default Matrix* found in *Best's Insurance-Linked Securities and Structures Methodology* (BILSM).

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METHODOLOGY

A.M. Best Rating Services, Inc.
Oldwick, NJ

CHAIRMAN & PRESIDENT Larry G. Mayewski
EXECUTIVE VICE PRESIDENT Matthew C. Mosher
SENIOR MANAGING DIRECTORS Douglas A. Collett, Edward H. Easop,
Stefan W. Holzberger, James F. Snee

WORLD HEADQUARTERS
1 Ambest Road,
Oldwick, NJ 08858
Phone: +1 908 439 2200

MEXICO CITY
Paseo de la Reforma 412,
Piso 23,
Mexico City, Mexico
Phone: +52 55 1102 2720

LONDON
12 Arthur Street, 6th Floor,
London, UK EC4R 9AB
Phone: +44 20 7626 6264

DUBAI*
Office 102, Tower 2,
Currency House, DIFC
P.O. Box 506617,
Dubai, UAE
Phone: +971 4375 2780

*Regulated by the DFSA as a Representative Office

HONG KONG
Unit 4004 Central Plaza,
18 Harbour Road,
Wanchai, Hong Kong
Phone: +852 2827 3400

SINGAPORE
6 Battery Road,
#40-02B,
Singapore
Phone: +65 6589 8400



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