

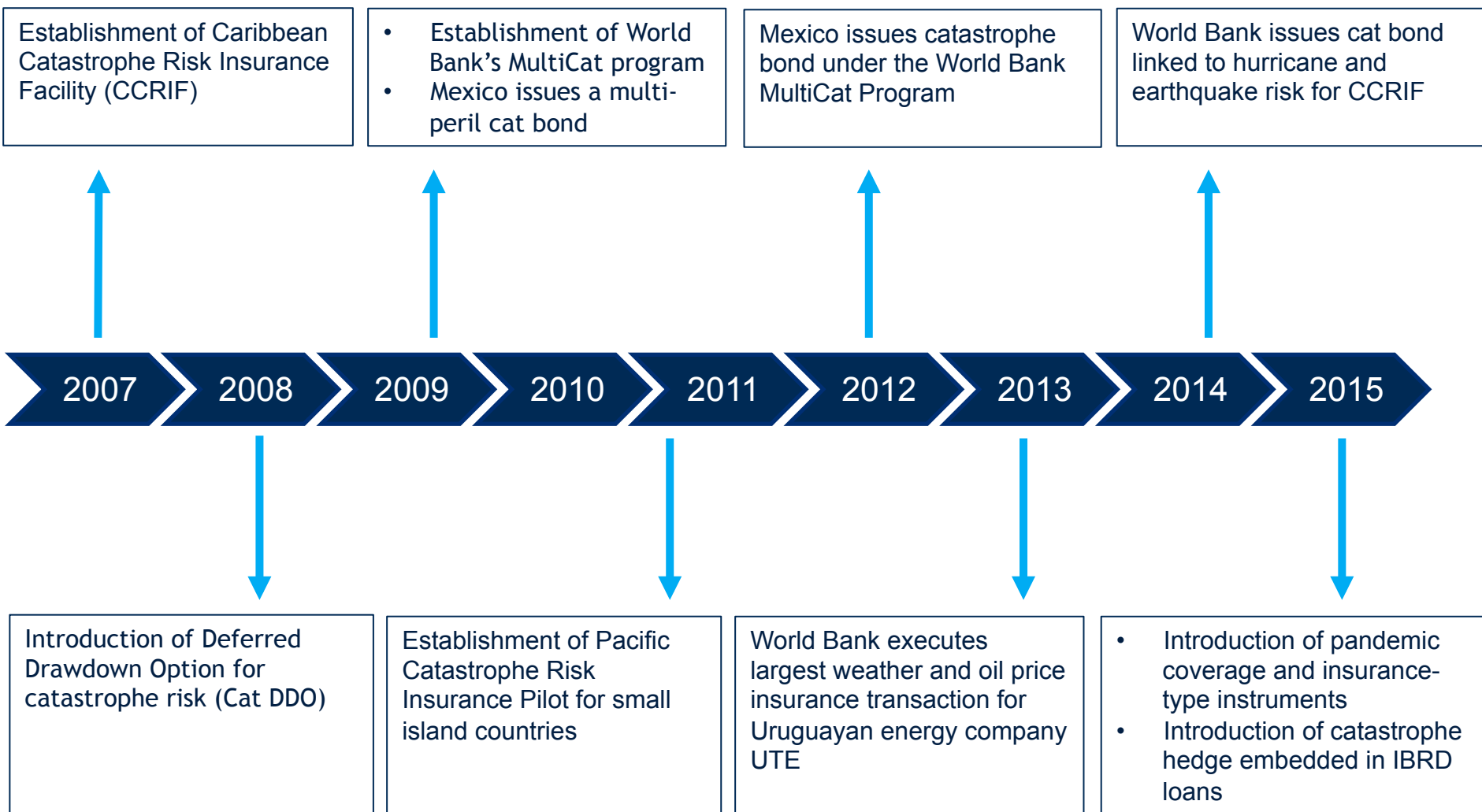
Introduction

- The World Bank has developed a unique platform for the design & execution of disaster risk financing products that covers both risk financing/retention and risk transfer alternatives
- It is the result of a decade of continued efforts in the area of financial innovation to address the impact of disasters
- It covers both low and middle income countries and can be used by sub-nationals, SOE's and other international organizations

World Bank Disaster Risk Financing Instruments

Insurance-linked Securities	World Bank Cat Bonds	World Bank direct issuance of Cat Bonds	Risk Transfer
	MultiCat Program	Facilitate issuance of multi region, multi-peril cat bonds	
	CAT/Weather Derivative	Insures against weather + geological related losses, based on an index	
Insurance Pools	CCRIF / Pacific	Establishment of regional facilities to pool risks and reduce cost to cover against natural disasters in different countries	
Contingent Loans	Investment DDO	Provides immediate liquidity following a pre-defined weather trend/event	Risk Retention
	Cat DDO	Provides immediate liquidity following a natural disaster	

Evolution of Disaster Risk Financing Instruments



Risk Retention

Contingent Loan

1. Cat DDO
2. Contingent Credit for Investment Loans

1. Catastrophe Deferred Drawdown Option

- Provides immediate liquidity following natural disaster to middle-income countries
- Risk retention instrument with a soft trigger; funds are available for disbursement following declaration of a state of emergency due to a natural disaster
- Can be renewed four times. Repaid amounts are available for disbursement again (revolving feature)
- Allows countries to secure access to up to US\$500 million or 0.25% of GDP (whichever is less) at highly competitive rates before an event occurs
- Pricing: 6 month LIBOR + fixed or variable spread
- Fees: front-end-fee 0.50% and renewal fee 0.25%

Case Study: Philippines

Development Challenge

- Philippines is highly exposed to natural disasters.
- Disaster risk management is a government priority.

Financial Solution

- In 2012 the Philippines signed its first Cat DDO.
- After tropical storm 'Sendong' hit the country, the government drew down the \$500 million Cat DDO for recovery and reconstruction activities.

Other positive outcomes

- Allowed for a deeper dialogue on disaster risk financing and the design of the next series of risk mitigation structures including Cat Bonds at the national level and insurance protection mechanisms at the Local Government level



2. Contingent Credit Line for Investment Loans

- Provides immediate liquidity to middle-income country following a predefined weather trend/event
- No specific limit defined (unlike the Cat DDO)
- Disbursement trigger depends on project design
- No renewal or revolving feature (unlike the CAT DDO)
- Pricing: 6 month LIBOR + fixed or variable spread (at the prevailing rate at drawdown)
- Fees: front-end-fee 0.50% and commitment fee on undisbursed balances 0.25%

Case Study: Uruguay (Contingent Credit Line)

Development Challenge

- Uruguay's energy matrix is dominated by hydropower.
- Government of Uruguay was interested in mitigating their fiscal exposure to weather volatility (particularly drought) by upgrading their risk management system, which included retention mechanisms (reserve funds) and market risk transfer instruments (weather derivative)

Financial Solution

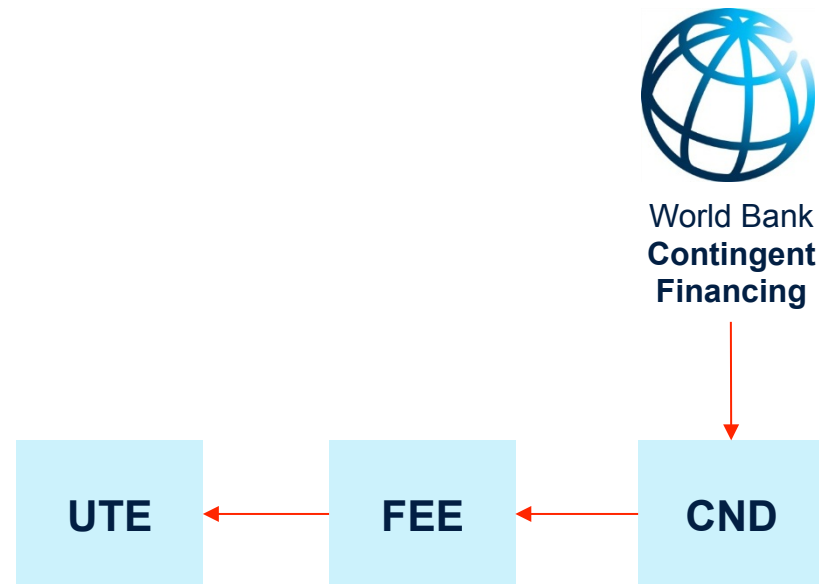
- The WB Board of executive Directors approved on December 2014 a US\$ 200 million for an investment project with a waiver allowing a contingent financing option
- The contingent financing optionality provides funding when adverse weather shocks happen and there are insufficient resources to draw upon in the Energy Stabilization Fund (reserve fund created in 2010)
- Contingent financing will be triggered once the Stabilization Fund capitalization falls below a minimum level set at US\$50 million



Case Study: Uruguay (Continued)

How does the IPF with a 100% contingency work?

1. Gov. of Uruguay negotiates disbursement-linked indicators related to adverse weather conditions and a threshold level of FEE funds that would trigger the IPF with a contingent component.
2. When the hydropower indicators are met and FEE funds fall below the predetermined threshold, the IPF is triggered.
3. The World Bank disburses the IPF to the National Development Corporation (CND) who passes it along, via FEE, to UTE.

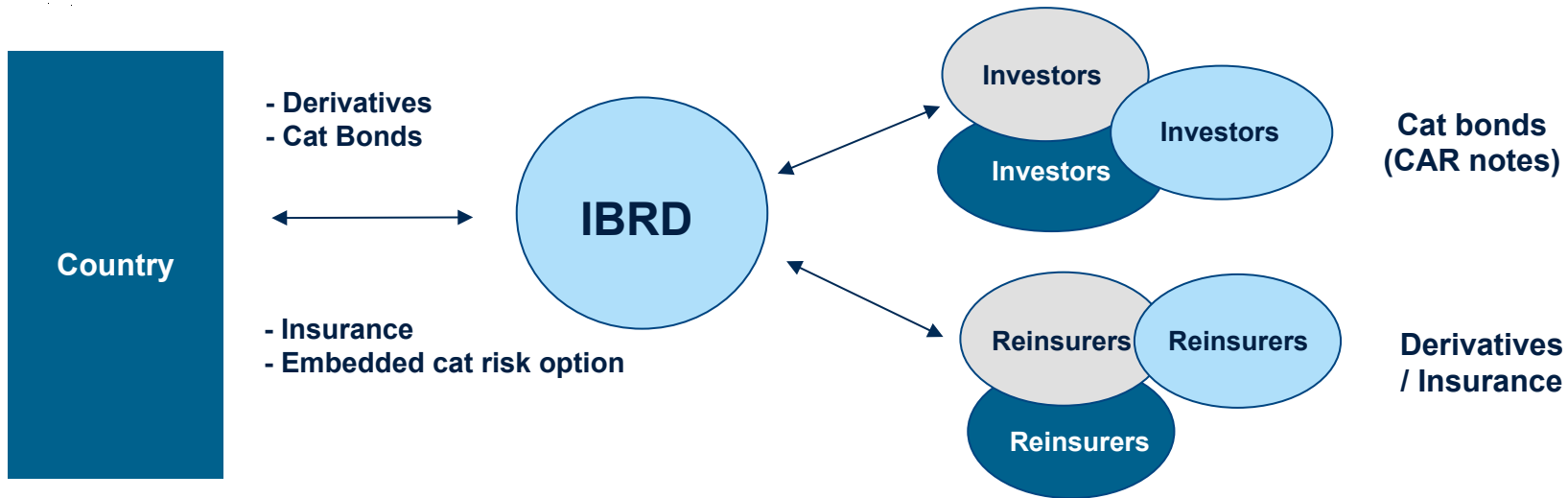


Risk Transfer

World Bank Intermediation

1. Weather Derivative
2. Insurance Pools
3. Cat Bond (World Bank Multi Cat Platform and Capital at Risk Notes)

IBRD Intermediation



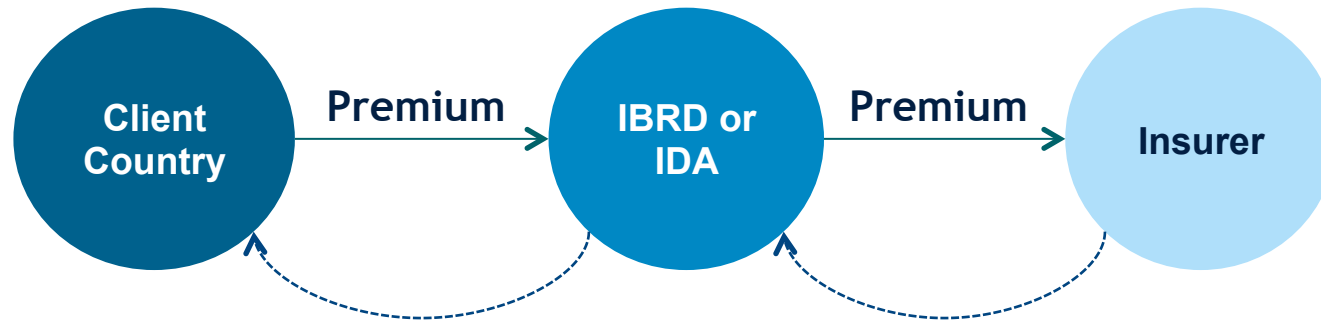
➤ Country A can transfer the Cat Risk to IBRD through 4 different instruments:

1. Cat/weather derivatives
2. Insurance/reinsurance contracts
3. Simplified Cat Bond
4. IBRD loan with embedded cat risk option

➤ World Bank would transfer 100 percent of the Country A risk to the international markets through 3 different instruments:

1. Cat/weather derivatives / insurance
2. Cat Bonds
3. Capital at Risk Notes

1. Weather Derivatives/Insurance



- A weather derivative can be used to manage a range of weather-related risks, such as damage from tropical storms or agriculture production losses caused by drought
- The derivative pays out if a specified weather event occurs, providing the derivative buyer with immediate funds to help deal with the impact of the event
- The World Bank acts as a counterparty in a weather derivative by intermediating with financial markets

Case Study: Uruguay (Weather Derivative)

Development Challenge

- 2008 drought and record high oil prices cost government more than \$400M.
- In 2012, UTE had to borrow from market and withdrew \$150M from Uruguay's Energy Stabilization Fund, ultimately increasing consumer utility rates.

Financial Solution

- Customized weather derivative provides coverage against combined risk of drought and high oil prices up to maximum payout of \$450M. Coverage was for 18 months.
- IBRD acted as intermediary (being the counterparty to UTE and reinsurance companies).
- Intermediation strengthens capacity, confidence, and helps to bring participants to the market.



More info: http://treasury.worldbank.org/bdm/pdf/Case_Study/Uruguay_Weather_Derivative.pdf

2. Insurance Pools

- An insurance pool provides catastrophe insurance coverage to a group of actors which have found it difficult to access catastrophe insurance individually due to small coverage levels. Thus far, insurance pools have been used mostly for sovereign but the concept is under consideration for other actors (subnational, municipalities).
- The objective is to provide immediate liquidity to countries which in the past have faced serious post-disaster liquidity shortages, reducing their capacity to respond quickly to emergencies.
- Consolidating the individual country risks and presenting a diversified pool of risks to the market helps countries achieve better terms with regards to the cost of the premium.

Case Study: Caribbean Catastrophe Risk Insurance Facility (CCRIF)

Development Challenge

- CCRIF was established in 2007 to provide insurance coverage against earthquake, hurricanes and excessive rainfall to 16 Caribbean island countries.
- Since 2007, the WB Treasury has helped transfer the risk of the top layer of its portfolio by intermediating cat swaps between CCRIF and the re-insurance market.
- CCRIF wanted to take advantage of the influx of new capital in the Insurance Linked Securities market to diversify its sources of risk capital.

Financial Solution

- On June 30, 2014, the WB issued a 3-yr cat bond with a principal amount of US\$30 m linked to hurricane and earthquake risk in CCRIF member countries.
- Simultaneously, the Bank entered into a swap with CCRIF that mirrors the terms of the bond. The proceeds of the bond are kept in the World Bank's balance sheet.
- If a natural disaster of the magnitude specified in the terms of the bond contract occurs, the Bank will pass the bond proceeds to CCRIF through the swap. If no such event occurs, investors will receive the principal when the bond matures.



Case Study: Pacific Catastrophe Risk Insurance Facility (PCRIF)

Development Challenge

- Small economies highly exposed to natural disaster: Cook Islands, Marshall Islands, Tonga, Solomon Islands, Samoa, Vanuatu.
- Cost of catastrophic events have big fiscal impacts.

Financial Solution

- Pacific Catastrophe Risk Insurance Pilot: A pooled risk approach that provides insurance coverage for up to a maximum of \$65 M.
- Rapid payouts linked to impact of an earthquake, tropical cyclone or tsunami.
- Country-specific catastrophe risk policies taken to the market as single, well-diversified portfolio.
- IDA acted as intermediary between the countries and reinsurance companies.
- Japan financed the premium.



More info: http://treasury.worldbank.org/web/documents/PacificIslands_PCRFipilot.pdf

3. Cat Bonds

- The cat bond pays periodic coupons to the investor during the life of the bond.
- If a covered event occurs during the bond's life, the sponsoring entity retains the bond principal to fund emergency relief and reconstruction.
- World Bank uses its MultiCat platform to facilitate the issuance of cat bonds by countries
- World Bank uses its capital-at-Risk Notes Program to issue cat bonds and faces the client in a swap format.

Case Study: Mexico (Multicat Platform)

Development Challenge

- Mexico is highly exposed to earthquake and hurricane risks.
- Cost of recovery and reconstruction can be high and funds are needed quickly after a catastrophic event.

Financial Solution

- \$315 million catastrophe bond issued under the 2012 Multi Cat Program provides Mexico with financial coverage against earthquakes and hurricanes over the next 3 years.
- Followed similar transaction in 2009.

Note on Multi-Cat Program

- The World Bank's Multi-Cat Program helps sovereign and sub-sovereign entities issue cat bonds by pooling multiple perils in multiple regions and reduce insurance costs.
- The Bank acts as arranger: assists in formulating disaster risk management policy; offers off-the-shelf documentation; supports preparation of legal and operational framework; selects service providers.



More info: http://treasury.worldbank.org/web/documents/Mexico_MultiCatBond_July1_2013.pdf

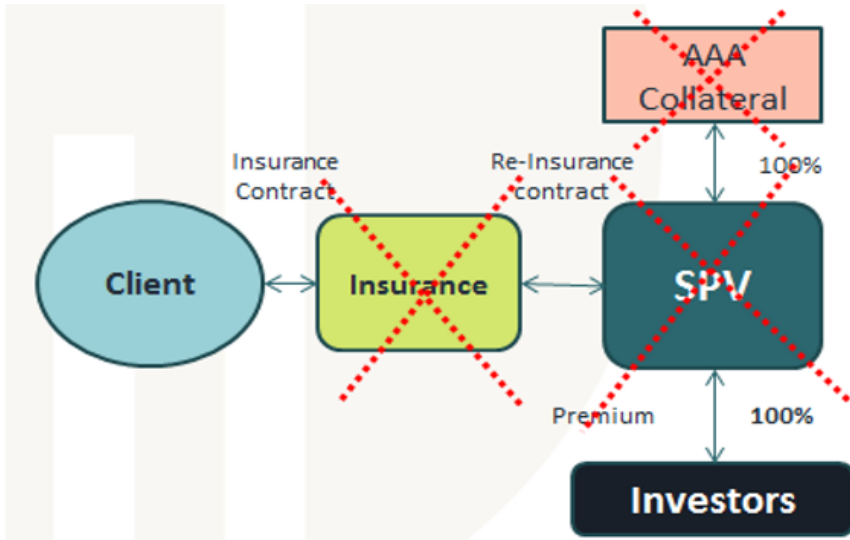
World Bank Capital at Risk Notes

Typical Cat Bond Structure

The coverage sourced through a Cat Bond is passed to the Insured through an insurance company.

Proceeds of the cat bond are kept in a collateral account invested in US Treasuries or other AAA liquid assets.

Basically the investors act as the insurers, with the insurance company intermediating in the derivative format.

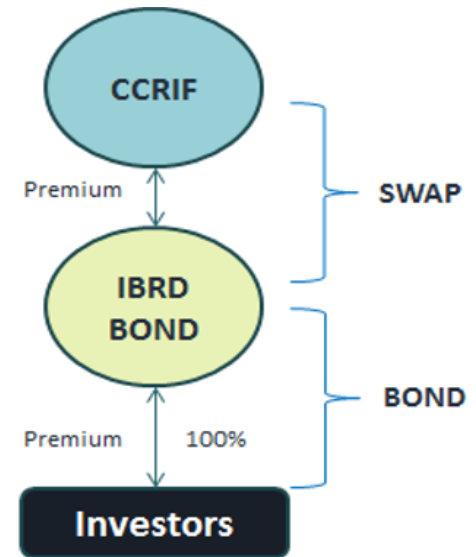


WB-CCRIF Cat Bond

The Bond is issued under the World Bank Global Debt Issuance Facility Special Program, and thus not rated AAA.

The Proceeds of the cat bond are kept in balance sheet of the World Bank at US Treasuries plus our funding spread.

If the Bond triggers, the WB would pass the proceeds to CCRIF. If not, the investor will be redeemed at maturity.



Case Study: First IBRD CAT Bond

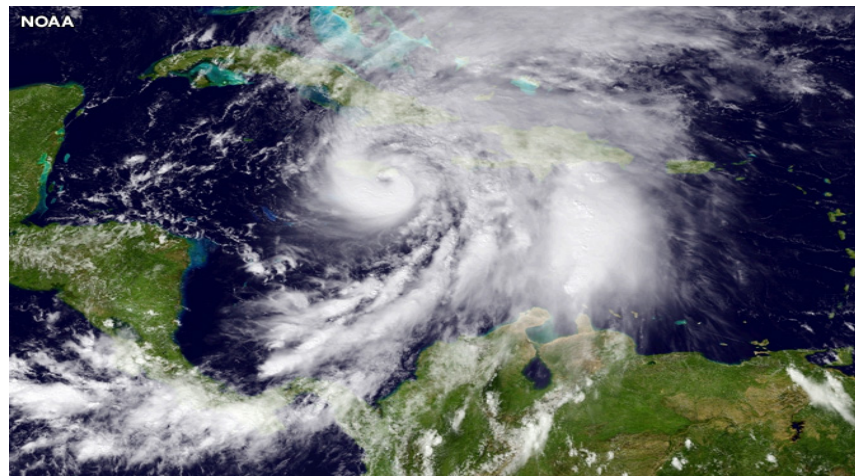
Issuer:	World Bank
Nominal amount:	USD30,000,000
Redemption amount:	The nominal amount reduced by all principal reductions as a result of applicable Caribbean tropical cyclone or earthquake events (as defined in the terms of the notes).
Settlement date:	June 30, 2014
Coupon:	6 month LIBOR + 6.30%, floored at 6.50% quarterly
Maturity date:	June 7, 2017
Listing:	Luxembourg

World Bank sells first ever 'Cat Bond'

"The World Bank has issued its first ever catastrophe bond as hunger for yield allows developing countries to transform their fiscal position. The \$30m deal will help provide earthquake and hurricane coverage for a group of 16 Caribbean island nations over the next three years.

"This is the first time the World Bank has issued a catastrophe bond and the first time it is doing a non-AAA bond," said Madelyn Antoncic, treasurer of the World Bank Group. It is likely to be a model for future deals."

-Financial Times



Conclusions

- The WBG is a trusted one-stop financial service provider with a powerful product platform and network of relationships that can help clients achieve their disaster risk financing objectives
- The WBG's multilateral legal status allows us to
 - simplify the typical Cat Structure by acting as a transformer / intermediary
 - enhance our execution capacity
 - accommodate different legal and regulatory environments (legal, budgetary, political constraints)
 - reduce intermediation, legal and modeling costs, as well as placement fees, translating into more competitive pricing
- The WBG new intermediation platform has the flexibility to embed the risk transfer products into a standard WB loan, including the use of loan proceeds for premium payments