



Background

Mexico is vulnerable to a number of natural hazards, including hurricanes, large earthquakes, floods, and volcanic eruptions. In 1985, two earthquakes of magnitudes 8.0 and 7.5, respectively, killed more than 10,000 people and destroyed 100,000 housing units in the country. When such natural disasters occurred, the government had to shift budgetary resources away from planned public infrastructure expenses into reconstruction efforts. To avoid this problem, in 1996 the government created a fund for natural disasters — FONDEN — to which it transfers budgetary funds for disaster relief and reconstruction efforts. In addition, Mexico developed an institutional framework for disaster preparedness involving risk assessment, risk reduction, the promotion of a culture of prevention, and insurance. With these initiatives, Mexico moved from an ex-post response to natural disasters to an ex-ante preparedness approach.

FONDEN uses various instruments to support local states and entities in responding to natural disasters, including reserve funds and risk transfer solutions. In 2006, FONDEN issued a US\$160 million catastrophe bond (CatMex) to transfer Mexico's earthquake risk to the international capital markets. It was the first parametric cat bond issued by a sovereign.

After the CatMex matured in 2009, Mexico decided to further diversify its coverage by pooling multiple risks in multiple regions. In October 2009, it issued a 3-year multi-peril cat bond using the World Bank's newly established MultiCat Program, which helps sovereign and sub-sovereign entities pool multiple perils in multiple regions and reduce insurance costs. In 2012, Mexico issued MultiCat 2012 as a successor with a larger coverage area and much detailed structure than the 2009 transaction.

Objectives

- Transfer disaster-related risks to the capital markets and reduce pressure on public budgets
- Ensure that adequate funds are in place for relief activities
- Cover multiple perils

Highlights

- Mexico, one of the most experienced emerging market countries in disaster risk management, has proactively sought to benefit from global diversification by sharing risks with international capital markets.
- It was the first country to issue a multi-peril multi-region cat bond using the World Bank's MultiCat Program.
- The MultiCat Program allowed Mexico to efficiently transfer a pool of disaster risk to the capital markets.

Structure and Description

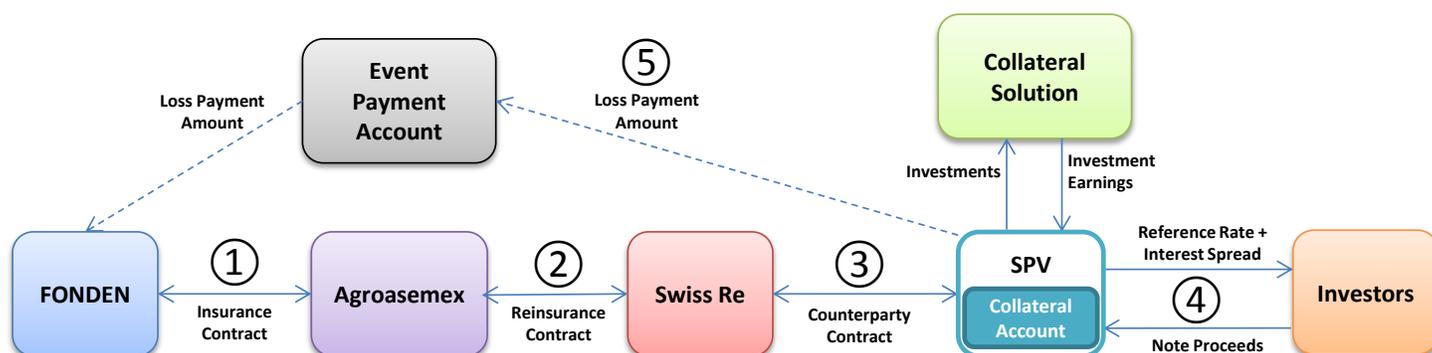
In MultiCat 2009, Mexico issued a four-tranche cat bond (totaling US\$290 million) with a three-year maturity under the MultiCat Program. The issuer is a Special Purpose Vehicle (SPV) that indirectly provides parametric insurance to FONDEN against earthquake risk in three regions around Mexico City and hurricanes on the Atlantic and Pacific coasts. The subsequent MultiCat 2012 was a three-tranche cat bond (totaling US\$315 million) covering two additional regions (5 regions total) for earthquake risk. The parametric triggers for earthquake and hurricanes were tailored to a greater degree than in the 2009 transaction. The cat bond will repay the principal to investors unless an earthquake or hurricane triggers a transfer of the funds to the Mexican government.

Outcome

The bond was oversubscribed, with broad distribution among investors. With this bond, Mexico transferred a pool of disaster risk to the market for the first time; secured multi-year protection for the covered risks at a fixed price; and reduced potential pressure on public budgets. Mexico effectively locked in funding for disaster relief prior to the event happening, rather than relying only on public budgets after the event.

The demonstration effect of this transaction for other emerging market countries is significant. It has paved the way for other highly exposed countries to manage fiscal volatility and stabilize government budgets by transferring extreme natural disaster risks to capital markets, while obviating the need to build up excessive budget reserves.

Operating Structure



1. FONDEN enters into an insurance contract with local insurance company Agroasemex.
2. Agroasemex enters into a reinsurance contract with Swiss Re to transfer all of the catastrophe risk.
3. Swiss Re enters into a derivative counterparty contract with a Cayman Islands-based special purpose vehicle (MultiCat Mexico 2009 Ltd. and MultiCat Mexico 2012 Ltd.) to transfer the catastrophe risk.
4. The SPV issues floating rate notes (Cat Bonds) to capital markets investors to hedge its obligations to Swiss Re under the counterparty contract. The proceeds received from investors are invested in US Treasury money market funds and deposited in a collateral account.
5. A separate event payment account is established with a third party bank to allow FONDEN to receive parametric loss payments directly from the SPV, subject to the insurance contract.

Lessons Learned

1. **Countries need to have a strong legal and institutional framework in place for disaster risk financing** to facilitate the implementation of risk transfer mechanisms, which should be part of a disaster risk management framework.
2. **There is potential to replicate this type of transaction for other middle-income countries.** The Mexico bond was significantly oversubscribed, showing that investors continue to exhibit strong appetite for non-peak risks.
3. **The availability of data and statistics about the probability and severity of a catastrophic event is key.** New countries and regions attempting to tap the catastrophe bond market will need a supporting cat risk model. Donor countries with a specific interest in working on the development of disaster risk management capacity in developing countries can play an important part by financing risk modeling and transaction costs.
4. **The World Bank's role as arranger significantly increased investor comfort.** Future transactions will benefit from the standardized fees and design structure offered by the MultiCat Program.

Summary of Terms: Mexico MultiCat 2012

	Class A	Class B	Class C	
Peril	Earthquake	Atlantic Hurricane	Pacific Hurricane	
Notional (US\$m)	140	75	100	
Trigger	Different magnitude and depth parameters for each of the 5 regions	920 mb Central pressure	Between 920 ~932mb Central pressure 50% payout	920 mb Central pressure 100% payout
S&P rating	B	B+	B-	

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