

# Disaster Risk Financing and Insurance Program

## Japan Tōhoku Earthquake & Tsunami

March 21<sup>st</sup> Update



### Economic losses

Estimates of total economic losses from the disaster are broadly between **2 and 6%** of the country's GDP. The 1995 Kobe earthquake caused approximately ten trillion yen of economic losses, 2.5% of Japan's GDP at the time.

### Insured losses

Insured losses are currently estimated at between **\$12bn and \$35bn** by AIR and EQECAT. This would be at least double the \$6bn insurance recovery from the 1995 Kobe earthquake event, estimated by RMS.

Source of estimate	Economic loss (¥tr)	Economic loss (\$bn)
Credit Suisse	15	185
EQECAT	>8	>100
Goldman Sachs	16	197
RMS	24	200 - 300
Barclays Capital	15	185
Societe Generale	10	123
Citigroup	10	123

Homeowners will receive limited payouts. Current homeowner insurance penetration is estimated by Fitch Ratings at 14-17% and earthquake policy coverage is limited to 50% of fire cover. Before the Kobe event, homeowner earthquake insurance penetration was estimated at below 5%. The current homeowner penetration rate for earthquake cover is not atypically low; the Chilean Insurance Association reported a rate of 24% across Chile at the time of the 2010 earthquake, whilst penetration in California is estimated at 12% by Aon.

### Retention within the domestic market

#### *Residential property losses will be concentrated within the domestic market*

Domestic direct insurance is concentrated between three domestic carriers (MS&AD Insurance Group, Tokio Marine Group, and NKSJ Group) who hold a majority market-share. Domestic insurers pass homeowners risk onto the Japanese Earthquake Reinsurance Co (JERC) which distributes risk through retrocession agreements to a consortium of the domestic insurers using the pool, the JERC itself, and the government. The program covers up to ¥5.5tr. EQECAT estimates that the scheme will take up to \$4bn of losses.

Japanese mutual insurers (Kyosai) are also expected to sustain substantial property catastrophe losses, including residential losses, but Kyosai utilize the international reinsurance markets as opposed to JERC.

#### *The international reinsurance and insurance markets will principally take losses through the facultative market and treaty reinsurance for commercial and industrial risks*

It is unclear how much of the insured loss will be transferred out of the domestic market, but there are many sizeable facultative and reinsurance treaty programs in place for large companies and large individual risks. Lloyd's of London is expected to take a significant marine loss from the event, and the East Japan Railway company has a reported \$120mn international reinsurance program in place. Losses from the nuclear disaster still unfolding are not expected within the commercial market due to policy exclusions.

#### *Capital markets investors could contribute up to \$1.6bn of the insured total*

10 catastrophe bond issuances totaling \$1.6bn are exposed to the earthquake. Four of these require multiple events to trigger, so are unlikely to release funds. The two largest programs are for the East Japan Railway Co. (\$260mn Midori transaction) and the domestic Kyosai Zenkyoren (\$300mn Muteki transaction). The remaining bonds cover international reinsurers such as Swiss Re, Scor and Flagstone Re. The majority of the bonds exposed feature parametric triggers that release funds based on hazard thresholds.

### Contact

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