

# Disaster Risk Financing and Insurance Program

## Japan Tōhoku Earthquake and Tsunami

April 25<sup>th</sup> Update



### **Economic losses**

The Japanese Government estimates total economic losses from the Tohoku disaster to be between US\$198 to 309 billion, approximately 3.6 percent to 5.7 percent of 2010 GDP. The 1995 Kobe earthquake caused approximately ten trillion yen of economic losses, 2.5% of Japan's GDP at the time.

### **Insured losses**

Total property insurance loss from this event is currently estimated at between \$18bn and \$26bn by RMS and \$20bn and \$30bn by AIR Worldwide. This would be greater than three times the \$6bn insurance recovery from the 1995 Kobe earthquake event, estimated by RMS. Homeowners will receive between 50 percent and 60 percent of total insured property payouts.

### **Distribution of insured losses**

Residential property losses are shared among domestic insurers and the Japanese Earthquake Reinsurance Co (JERC). The Japanese Government will cover the first \$1.4 billion through JERC; above this amount losses are shared evenly between JERC and insurers; the portion of losses borne by insurers are expected to total between \$4bn and \$5.5bn, as estimated by RMS.

Japanese mutual residential insurers (Kyosai) are expected to sustain greater losses than commercial insurers, between US\$6.5bn and \$8.5bn, although Kyosai utilize the international reinsurance markets as opposed to JERC.

Commercial and industrial losses and specialized lines such as railway, marine and aviation, and auto are expected to total between \$7.5bn and \$12bn. There is still significant uncertainty around these estimates; although business interruption is a small share of total insured sum for commercial and industrial risks, high uncertainty remains around contingent business interruption, or insurance for interruption of receipt of goods from suppliers. The facultative component of these losses is expected to be minor, with the East Japan Railway Company (EJRC) being the singular loss case. EJRC has filed an indicative loss of \$120mn but has coverage up to \$850mn, so this amount could increase once a full loss assessment is complete.

The international reinsurance and insurance markets will principally take losses through the facultative market and treaty reinsurance for commercial and industrial risks discussed above. Of international reinsurers, Munich Re and Swiss Re have provisionally estimated the largest claims, \$2.1bn and \$1.2bn, respectively (net of retrocession and before tax). Chartis has estimated \$700mn and PartnerRe has estimated \$500mn. These estimates are subject to a high degree of uncertainty; it remains unclear exactly how much of the insured loss will be transferred out of the domestic market.

Losses from the nuclear disaster are not expected within the commercial market due to policy exclusions. Under Japanese legislation, nuclear operators are not liable for any nuclear damage arising from natural catastrophes; these losses will be incurred by the Japanese Government.

### **Capital markets investors could contribute up to \$840mn of the insured total**

Although around \$840mn of capital is believed to be vulnerable to losses from Tohoku by investors, only one bond has been signaled to be certain of default. This amount is out of the \$1.7bn worth invested in ten catastrophe bonds exposed to the earthquake. Moody's has downgraded the \$300mn Muteki bond covering the National Mutual Insurance Federation of Agricultural Cooperatives of Japan against earthquake risks; it is expected that investors in this bond will incur full losses. The bond features a parametric trigger is based on seismic data from K-Net.

### **Contact**

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