PT Reasuransi MAIPARK

PT Reasuransi MAIPARK Indonesia is a special risk insurance company owned by all licensed general insurance and reinsurance companies in Indonesia. MAIPARK Indonesia currently provides reinsurance cover for earthquake, volcanic eruption and tsunami risk, and is a member of the General Insurance Association of Indonesia (AAUI).

MAIPARK and IFC have together been developing EQII since 2014. Extensive data collection and analysis of the impact of earthquakes on loan portfolios was conducted for financial institutions in Yogyakarta and West Sumatra in Indonesia.

The analysis and index insurance design process included:

- Using historical earthquake data and models from MAIPARK;
- Collecting 10 year, month-wise historical loan portfolio data from the financial institutions;
- Then modeling the impact of earthquakes on bank loan default rates to price and structure the new product.

EQII was submitted to the regulator (OJK) by the AAUI on behalf of the industry, approved to be sold by all general insurance companies in Indonesia.

Banks/financial institutions interested in buying this new insurance product will need to provide their aggregate loan portfolio data per district to the insurer.

For further information, please contact:

Asosiasi Asuransi Umum Indonesia (AAUI)
- t. (+62 21) 2906 9800 (hunting)
- f. (+62 21) 2906 9828/29
- w. www.aaui.or.id

PT Reasuransi MAIPARK
- Contact Person: Heddy Pritasa
- t. (+62 21) 2958 0088
- f. (+62 21) 2958 0089
- e. heddy@maipark.com
- w. www.maipark.com

**EARTHQUAKE INDEX INSURANCE (EQII)** is a new insurance product that triggers an automatic payout based on pre-determined earthquake parameters – it is designed to protect the lending portfolios of banks and microfinance institutions (MFIs) from liquidity crises in the aftermath of an earthquake. The intended insured party of this product is a bank/MFI.

**Rationale**

Around 133 million people in Indonesia live in or near high risk earthquake zones, with economic exposures reaching an estimated $79 billion.

These risks are especially high in areas such as Yogyakarta and Padang, where the worst-hit banks lost between 15 and 35 percent of income following recent earthquakes. These losses erode the banks’ capital reserves and compromise their ability to lend.

EQII is particularly relevant for MFIs/rural banks to be able to continue lending to communities when funds are needed most.

**Benefits of EQII**

EQII offers immediate pay outs to financial institutions after an earthquake, which is crucial to manage their liquidity risk. It provides cash payouts to banks/MFIs that can experience higher than normal non-performing loans (NPLs) as a result of earthquakes, within agreed policy terms and conditions.
Protection for Loan Portfolio of Banks or Financial Institutions against Earthquake

**EQII Zones**

<table>
<thead>
<tr>
<th>EQII Zones</th>
<th>Vulnerability to Earthquakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZONE 1</td>
<td>low</td>
</tr>
<tr>
<td>ZONE 2</td>
<td>medium</td>
</tr>
<tr>
<td>ZONE 3</td>
<td>high</td>
</tr>
</tbody>
</table>

1. **An Earthquake Hits**

The BMKG (Indonesia Meteorological Department) or USGS announces 2 Earthquake Parameters: **Magnitude and Intensity**.

2. **Parameters Triggered**

When the earthquake parameters exceed the pre-determined insurance triggers, insurers pay out to the insured parties (banks or microfinance institutions).

3. **Insurance Payout**

The payout depends on the Option (A or B) purchased by the Insured Party. The amount varies depending on the level of earthquake parameters triggered, and option chosen.

4. **Result**

The financial institution receives the payout:
- This prevents a liquidity crisis; and
- Allows them to continue lending to their community.

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**EQII Payout Triggers**

<table>
<thead>
<tr>
<th>Magnitude</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moment Magnitude Scale (Mw)</td>
<td>Mercalli Scale (MMI)</td>
</tr>
<tr>
<td>Measures amplitude of earthquake</td>
<td>Measured the magnitude of effects and damages caused by earthquake</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EQII Rates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option A</td>
</tr>
<tr>
<td>Zone 1</td>
</tr>
<tr>
<td>Zone 2</td>
</tr>
<tr>
<td>Zone 3</td>
</tr>
</tbody>
</table>

Rates in % per mill
Rate = pure premium + loading factor 25%

*These are indicative rates and will vary depending on the bank’s risk profile.

**Index Table**

<table>
<thead>
<tr>
<th>Trigger parameters</th>
<th>Indemnity insurance index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnitude</td>
<td>Intensity (MMI)</td>
</tr>
<tr>
<td>VI</td>
<td>5%</td>
</tr>
<tr>
<td>VII</td>
<td>10%</td>
</tr>
<tr>
<td>VIII</td>
<td>25%</td>
</tr>
<tr>
<td>IX</td>
<td>45%</td>
</tr>
<tr>
<td>X</td>
<td>75%</td>
</tr>
<tr>
<td>XI</td>
<td>85%</td>
</tr>
<tr>
<td>XII</td>
<td>100%</td>
</tr>
</tbody>
</table>

Payout Amount = (Percentage of compensation Index) x (amount of insurance)

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1.6 Nias
March 28, 2005
1,345 victims

7.9 Padang
September 30, 2009
1,117 victims

6.3 Yogyakarta
May 26, 2006
6,254 victims

6.6 Bali
January 20, 1917
± 1,500 victims

7.8 Flores
December 12, 1992
2,500 victims

7.1 Papua
June 23, 1976
5,422 victims