Treatment of Catastrophic Risk (Experience of the Great East Japan Earthquake)

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Introduction

Damage by the Great East Japan Earthquake

Earthquake Insurance Framework in Japan

Impact on Japan’s Non-life Insurance Industry

Actions responding to Policyholders

Points of Measures against the Catastrophe

Challenges in the Future
Market Failures and CAT Risk

- Prerequisites of Insurance Market
  - Law of Large Numbers etc.

- Realization of CAT Risk
  → The total loss of one-shot disaster could be tremendously huge and much higher than private insurance sector’s payment ability.
  → Law of Large Numbers could not be applied because of difficulty to predict when and how often the catastrophe happens.

  **Market Failures**

- There are some schemes taken by the private sectors against CAT Risk, but ...

- In the case of market failures resulting from extraordinary disasters, private sector could not take any actions without public sector’s engagement.
## Damage by the Great East Japan Earthquake and Tsunami

(On 15 Nov.)

### Human

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dead</td>
<td>15,838</td>
</tr>
<tr>
<td>Missing</td>
<td>3,647</td>
</tr>
<tr>
<td>Injured</td>
<td>5,950</td>
</tr>
<tr>
<td>Evacuees</td>
<td>71,565</td>
</tr>
</tbody>
</table>

### Building

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Destruction</td>
<td>120,233</td>
</tr>
<tr>
<td>Partial Destruction</td>
<td>189,583</td>
</tr>
<tr>
<td>Some Damage</td>
<td>598,131</td>
</tr>
</tbody>
</table>

(Source: Headquarters for Emergency Disaster Control)

### Major Past Earthquakes (billion $)

<table>
<thead>
<tr>
<th>Earthquake (year)</th>
<th>Damages Cost</th>
<th>Death Toll</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Great East Japan Earthquake (2011)</td>
<td>200 - 312.5</td>
<td>15,838 (as of 15 Nov.)</td>
</tr>
<tr>
<td>(damage cost is estimate on stock base)</td>
<td>\ 16-25 trillion</td>
<td></td>
</tr>
<tr>
<td>The Sichuan Earthquake (2008)</td>
<td>100</td>
<td>69,000</td>
</tr>
<tr>
<td>The Indian Ocean Earthquake and Tsunami (2004)</td>
<td>0.97</td>
<td>227,898</td>
</tr>
<tr>
<td>The Earthquake in Turkey (1999)</td>
<td>22</td>
<td>17,127</td>
</tr>
<tr>
<td>The Great Hanshin-Awaji Earthquake (1995)</td>
<td>100</td>
<td>6,434</td>
</tr>
</tbody>
</table>

(Source: each country governments’ publication and press materials)
Earthquake Insurance Framework in Japan

- “Earthquake Insurance on Dwelling Risks” is the framework in which Japanese Government plays role of reinsurer.
- Both Public and private sectors share liability.

(as of 11 March, 2011)

<table>
<thead>
<tr>
<th>(Share of Liability)</th>
<th>~ 115 billion</th>
<th>115 ~ 1,925 billion</th>
<th>1,925 ~ 5,500 billion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-life Insurance sector</td>
<td>100 %</td>
<td>50 %</td>
<td>5 %</td>
</tr>
<tr>
<td>Japanese Government</td>
<td>0 %</td>
<td>50 %</td>
<td>95 %</td>
</tr>
</tbody>
</table>

(Source: Japan Earthquake Reinsurance)
Earthquake Insurance Framework in Japan

- **Objective:** “To contribute to the stabilization of the lives of the affected people” (Article 1, Act for Earthquake Insurance)
- **Unified product with industry-wide rates** (“no-loss, no profit” principle)
- **Simplified damage assessment in three categories for prompt payment**

→ **No substantial impact damaging non-life insurance companies’ profit.**
→ **Loss of insurance companies was within the reserves.**

※ Earthquake insurance on commercial & industrial risks are provided as optional coverage to fire policy, and the product is partially dependent on capital provided by reinsurance.
   Net loss was covered by the reserve for extraordinary casualty. And Japanese non-life insurance companies hold enough reserves.
Impact on Japan’s Non-life Insurance Industry (Profitability)

[Non-life insurance]
(Financial Results (FY 2010) of Major 3 Non-life Insurance Groups)

- The impact of the earthquake disaster, that is realized insurance payment and estimated outstanding claims related to the disaster, is approximately 202 billion yen. (net amount deducting reinsurance recovery)
  Non-life insurance companies increased Reserve for outstanding claims in the FY2010.
- As a result, that decreased underwriting profit/loss in FY2010.
  (The loss is ¥149 bil. The profit decreased by ¥200.5 bil. In FY2010)
- But no more impact on profits/loss after FY 2010

- Net income for the period is 64.4 billion yen.
  (It decreased by 175.6 billion yen in the fiscal year.)
  ※ In all 3 groups it decreased in the fiscal year.
Responses to Policyholders (Government Actions)

“Joint press statement by the Minister for financial services and the BOJ Governor” (on 11 March, 2011, when the earthquake happened)

- The FSA requested insurance companies to take the following measures for insurance policy holders;
  1) giving every assistance to extent possible to policyholders who lost insurance policy or registered seal as an personal identification tool,
  2) taking possibly prompt actions in payment of life insurance and non-life insurance money,
  3) taking proper measures such as extending the grace period for paying premium according to the policyholders’ condition hit by the earthquake and tsunami,
and so forth.
Reponses to Policyholders
( Industry’s Actions )

[Non-life Insurance] The General Insurance Association of Japan (GIAJ) took industry-wide actions such as follows.

- Prompt Payment of Claims
  - Producing and sharing lists of all the companies’ contracts by region
  - Simplifying claim procedures
  - Clarifying “total loss areas” by aerial and satellite photography
  - inviting and responding to inquiries from policyholders, and delivering information and consulting services
  - providing a grace period for policy renewal and premium payment

- Total Amount of Claims Paid for Earthquake Insurance on Dwelling Risks is ¥1,177 billion (as of 9 November).
  ※ The amount of claims paid by biggest 5 non-life insurance groups for earthquake insurance on commercial & industrial risks is ¥170 billion (as of 30 September).
Reponses to Policyholders (Industry’s Actions)


- Full Payment of Insurance Money and Benefits
  - Not applying the exemption clause for earthquake

- Extension of the grace period for paying premiums

- Prompt Payment of Claims
  - Simplifying claim procedures without submitting the usually-required documents
  - The Center for Searching for Life Insurance Contracts in Disaster Areas
  - Establishment of industry-shared database

- Amount of Insurance Payouts is ¥140 billion (as of 2 November).
Impact on Japan’s Insurance Industry
(Profitability)

[Life Insurance]
(Financial Results (FY 2010) of Major 12 Life Insurance Companies)

- The realized amount of insurance payment for the earthquake disaster is approximately 0.5 billion yen, and the amount of estimated outstanding claims is 177.9 billion yen.
  
  Life insurance companies increased Reserve for outstanding claims by 158.5 billion yen in the FY2010.

- As a result, that decreased Fundamental profit in FY2010.
  (The profit is ¥1,903 bil. It decreased by ¥191.5 bil. in FY2010.)
- But no more impact on profits/loss after FY 2010

- Net income for the period is 800.5 billion yen.
  (It decreased by 0.5 billion yen in the fiscal year.)
  ※ It increased in 6 companies and decreased in 6 companies.
Impact on Japan’s Insurance Industry (Soundness)

[Life insurance] (Major 12 Life Insurance Companies)
- Net Assets decreased.
- But Solvency Margin Ratio is 1,011.7% on average. Every company’s SM Ratio is over 200%, which is alarm point for early warning.

[Non-life insurance] (Major 3 Non-life Insurance Groups)
- Net Assets decreased.
- But Solvency Margin Ratio is 760.4% on average. Every company’s SM Ratio is over 200%, which is alarm point for early warning.
Points of Measures against Catastrophe
~ From the Experience of the Great East Japan Earthquake and Tsunami ~

- Japan’s earthquake insurance system was workable and supportive. It is an indispensable framework for the tremendous scale earthquake.

- Various actions were taken promptly by both public and private sectors in responding to the earthquake and tsunami, and they supported the people hit by the disaster.

  → In special circumstances beyond people’s ordinary expectation, such prompt and flexible actions are essential.

  → Both Public and Private sector’s role are essential in the disastrous situation.
Challenges in the Future (1)
(Continuing Improvement Efforts)

- Enhancement of Earthquake Insurance Framework
  - Revision of shares between public and private sectors (2nd May)
  - Increase of the number of policyholders

(Source: Japan Earthquake Reinsurance)
Revision of shares between public and private sectors responding to the post - East Japan Great Earthquake

(before 2nd May) 115 1,925 5,500 (billion ¥)

Government's liability : 4,301

Private insurers' liability : 1,198

※ Expected total amount of claims payment : ¥ 968 billion (in which private insurers' payment is ¥ 541 billion)
※ Reserves of private insurers : 1,034 (bil.¥) -> 493 (bil.¥) (forecast at the end of FY2010)

<Great East Japan Earthquake>

(revised) 115 871 5,500 (billion ¥)

Government's liability : 4,775

Private : 724

(Source: Japan Earthquake Reinsurance)
Challenges in the Future (2) (Continuing Improvement Efforts)

- Risk Control (Risk Aversion, Risk Reduction)
  - Disaster Drill at ordinary times
  - Producing and Dissemination of Hazard Maps etc.
  → effective, but not enough

- Risk Finance
  - Risk transfer measures taken by private sector
  → Reinsurance, CAT Bond, Catastrophe Derivative etc.

- Others
  Are there any other possibilities?
Thank you for your attention and support to Japan!!