Great Hanshin Earthquake – A Japanese Insurer's View*

by Takashi Kagawa **

1. Introduction

These comments are made only a few months after the disaster of the “Great Hanshin Earthquake”.

The Japanese non-life market has various natural disaster issues including typhoons as was illustrated by more than 5.5 billion dollar insured losses of “Mireille” in 1991, but these comments today will be focused on “earthquake”.

As a lot of information concerning this earthquake is widely spread, I do not touch upon the details of the event but just have given its outline in the Annex 1.

2. Insured losses and insurance matters arising from the catastrophe

In spite of an estimated financial loss of as high as US\$ 120 billion, the total insured losses are estimated relatively low. Our non-life association gave a provisional estimate of Yen 120 billion (US\$ 1.4 billion) in total for non-life companies most of which is of earthquake insurance. Life insurance companies are reported to have estimated more than Yen 40 billion losses last month.

Our overseas reinsurance partners are probably aware of the reasons for these comparatively low losses. To summarize:

2.1. In the field of dwelling risks, the diffusion rate of homeowners taking out earthquake insurance in addition to the usual homeowners policy was low because people were not conscious of the gravity of earthquake risks in this region because of no serious event in the past and also because the general feeling of the people was that the earthquake premium is high compared with the level of fire premiums which is very low in Japan.

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Insurance companies have been making efforts to increase the diffusion rate since the Earthquake in Hokkaido in 1993. Therefore, they regret the present position has been highlighted on the occasion of this disastrous event.

2.2. The unique scheme of the Japanese earthquake insurance on dwelling risks is basically not aiming at giving a full indemnity of the loss but, according to the law stipulating the scheme, the purpose is “to contribute to the stabilization of livelihood of victims of earthquake”. The amount insured is limited to 30% to 50% of the sum insured of a fire policy with a maximum fixed amount. Discussions were raised about the insufficiency of protection.

2.3. Therefore, the actual work of study for a substantial improvement of the scheme has already been started immediately after the earthquake by the government with the cooperation of the industry. There will be various points of study such as the increase of the insured amount and the aggregate limit, improvement of coverage and an introduction of automatic inclusion of earthquake risks in some type of fire policies and so on. This will not be an easy task but the conclusion should be reached as early as possible.

2.4. In the field of industrial earthquake risks, the Japanese insurers have no other way than restricting the acceptance by way of a “reduced percentage indemnity”. The insurance companies are not satisfied with the present position.

But this is solely because of a tremendous shortage of capacity with continuity in the world market for the accumulation of high severity earthquake risks in Tokyo and other industrial areas in Japan. Consequently, industries are not encouraged to buy earthquake coverage.

These are the main points of the smaller insured losses in total.

3. The merits of the earthquake insurance scheme

However, I would like to draw your attention to one point. That is, in my observation, the present scheme has proved to function effectively as a protection of homeowners in the form of insurance supplied by a joint cooperation between the Government and private insurers.

The outline of the scheme is given Annex 2 and I do not go into details, but the aggregate losses will trigger the second layer and a payment will be made by the Government for the first time since the inception. Then, even if much more homeowners were covered by this scheme in Kobe, the limit of the scheme would have been amply sufficient even now.

I shall briefly explain what I consider to be the merits of this system. The no loss no profit principle is a unique feature of this scheme, but what is most important is that insurance companies can be and actually are “positive” in accepting earthquake risks and fire policyholders can buy earthquake coverage at any time during the policy period. The reserves are untaxed, the scheme is supported by the governmental budget and stable.

To sum up, the Japanese system is a good model of cooperation between the Private and Public Sectors against earthquake risks. Therefore, I think that the improvement of the current system is on the right track. In fact, after the earthquake people are making a rush for newly getting earthquake coverage under the present scheme.

4. Industrial earthquake risks in Japan

4.1. Tremendous shortage of capacity

As I mentioned earlier, the Japanese insurance companies have long been facing a grave problem that they cannot supply sufficient coverage against earthquake risks to industries which need it.

I would just repeat that this is exclusively because of a tremendous shortage of capacity in the world insurance market for this risk in Japan. There is no other reason.

As a matter of fact, the Japanese insurance companies are already retaining this risk to the full extent of their capacity and overseas reinsurers including many of you are giving them a good support. However, as far as the heavily concentrated industrial earthquake risks in Japan are concerned, the world insurance market has very limited additional capacity, in my understanding.

As the examples of governmental involvement in the natural disasters, there are the flood insurance scheme in the U.S. and the French scheme for natural catastrophes. But in Japan there is no argument that the government should be involved in industrial earthquake risks, even after the event of this time. Perhaps, it is not easy to justify such an argument. We must also say that even the government will have difficulty in doing it financially.

4.2. International cooperation

There seems to be a widespread misunderstanding that the earthquake insurance is not afforded sufficiently in Japan because of the strictly regulated market structure.

For instance, the editorial of the May 3 issue of the "Insurance Day" of the Lloyd's List stated, "both householders and businesses face stringent statutory limit on the cover they can purchase against earthquake". This is untrue. There is no statutory limit in the field of business earthquake risks. The insurance companies are just obligated to restrict the acceptance based on their underwriting judgement in the face of the absolute shortage of capacity.

The same editorial also concludes "The deregulation of Japan's insurance market in 1996 will undoubtedly provide significant encouragement for the insurance industry to offer cover in greater depth". This is again off the point in respect of this risk.

Deregulation will certainly take place in Japan. But the deregulation will do nothing to increase the capacity for earthquake risks both in the domestic and world markets.

The Japanese insurance market is open and many of the international insurers are established there already. The only exception is Lloyd's but Lloyd's will also be admitted after the next year and some more companies will also come. They are all welcome, but the future new entrants will be just a small addition for solving the capacity problem for earthquake risks.

I support the importance of international cooperation among the insurers. But I also realize that this grave problem facing the Japanese insurers will not be solved easily by it. Still it is important to promote the cooperation in various ways including the exchange of information and views on various occasions.

Regarding the world reinsurance market for natural disasters in general, it is encouraging that the leading reinsurers are maintaining a positive and firm attitude in underwriting and the capacity is increasing recently. But I think the Japanese insurers wish that a continued capacity is afforded with a stable market condition.

ANNEX 1: DATA OF THE GREAT HANSHIN EARTHQUAKE

1. Summary

- a) Time and date of occurrence: 05:46 AM, 17th January, 1995.
- b) Epicenter: North-end of Awaji Island (23 km from Kobe city centre).
- c) Magnitude: 7.2 on the Richter scale.
- d) Cause of earthquake: lateral shift in a fault.
- e) Number of victims: 5,502 dead, 37,000 injured.
- f) Number of destroyed/damaged homes: 266,537 (as at 3rd March).
- g) Past large earthquake in the area: Magnitude 6.1 in Awaji area in 1916.
- h) References:

Ref.1) GREAT KANTO EARTHQUAKE

(Tokyo area, 1st Sep., 1923)

Magnitude: 7.9

Number of victims: 142,807 dead

Number of destroyed/damaged homes: 702,495

Ref. 2) SAN FRANCISCO EARTHQUAKE (Loma Prieta)

(California, 17th Oct., 1989)

Magnitude: 7.1

Economic loss: \$ 7 billion

Insured damage: \$ 1 billion

Number of victims: 63 dead

Ref. 3) NORTHRIDGE EARTHQUAKE

(California, 17th Jan., 1994)

Magnitude: 6.6

Economic loss: \$ 30 billion

Insured damage: \$ 10 billion

Number of victims: 60 dead

2. Damage (0:1\$ = ¥85)

- a) Economic loss estimate: ¥10,300 billion (\$121 billion).
- b) Insured damage estimate:
(as at 21st April, 1995, Japanese non-life insurance companies total figure)

Earthquake insurance	¥ 75 billion
on dwelling risks	(\$ 882 million)
Others (Cargo, etc.)	¥ 45 billion
	(\$ 529 million)
TOTAL	¥120 billion
	(\$ 1.4 billion)
- c) Insurance payment:
97.4% of the claim had already been paid as at 21st April, 1995.

3. * Diffusion rate of earthquake insurance on dwelling risks (figures as at 31st Jan., 1995)

- a) Top 5 prefectures
 - 1. Tokyo 16.42%
 - 2. Kanagawa 14.93%
 - 3. Shizuoka 13.19%
 - 4. Chiba 11.39%
 - 5. Saitama 10.06%
- b) % in the affected area
 - Hyogo 3.25% (Kobe city is located in Hyogo prefecture)
- c) Nationwide average: 7.59%

4. Specific features

- a) The Great Hanshin Earthquake is the first large earthquake to hit a major city in Japan since the Great Kanto Earthquake in 1923.
- b) The depth of the hypocenter was shallow, 20 km below surface level, and very close to the city of Kobe, which has led to the tremendous damage.
- c) Great efforts have been made to restore lifelines (electricity, water and gas), as below:
 - electricity – 100 % restored after one week
 - water – 68.6% restored as at 6th Feb.
 - gas – 15.4% restored as at 6th Feb.

ANNEX 2:

OUTLINE OF THE EARTHQUAKE INSURANCE ON DWELLING RISKS IN JAPAN

In 1966, the Japanese insurance market started to sell this insurance which is based on the Law concerning Earthquake Insurance enacted in the same year.

This insurance can be effected, at the insured's option, in conjunction with fire insurance policies.

1. Subject matter of insurance

Building and contents therein for dwelling purposes.

2. Amount insured

The insured amount is limited to the range between 30% and 50% of the sum insured in the main fire insurance policy, with the maximum amount of ¥10 million (\$118,000) on building and ¥5 million (\$59,000) on contents respectively.

3. Covered perils

Earthquake, volcanic eruption and tsunami, including ensuing fire losses.

4. Deductible

Nil.

* Number of contracts divided by number of households.

5. Reinsurance scheme

- a) Reinsurance with Japan Earthquake Reinsurance Company (hereinafter referred to as JER):

All acceptance written by direct insurers are wholly reinsured with JER.

- b) Retrocession with direct insurers:

JER cedes a certain portion of the portfolio back to the original direct insurers and also to the Toa Fire and Marine Reinsurance Company by way of an excess of loss reinsurance.

- c) Retrocession with the government:

The remainder of the earthquake portfolio is guaranteed by the excess of loss reinsurance coverage concluded between the government and JER as stipulated in the Law concerning Earthquake Insurance.

- d) The aggregate limit of indemnity:

The aggregate limit of indemnity is always reviewed in the interest of the policyholders so as to provide sufficient coverage for an earthquake similar to the Great Kanto Earthquake in 1923. It now stands at ¥1,800 billion (\$21.2 billion). In case the total amount of claims for any one earthquake exceeds the aggregate limit of indemnity, claims payable shall be reduced pro rata by the proportion of the excess amount to the total amount of claims.

- e) Sharing scheme of aggregate limit of indemnity among insurers, JER and the Government for the fiscal year 1994:

JER = Japan Earthquake Reinsurance Co.

DI = Direct Insurers (incl. Toa Re.)

G = Government

(I) Up to ¥66 billion (\$ 776M)	Private Insurers for 100%
(II) Over ¥66b up to ¥336b (\$ 4b)	Government for 50%
	Private Insurers for 50%
(III) Over ¥336b up to ¥1,800b (\$21.2b)	Government for 95%
	Private Insurers for 5%

Consequently, the total limit of indemnity (¥1,800 billion) per any one earthquake for the fiscal year 1994 is shared as follows:

JER	¥106.2 (\$ 1.25b)	}	¥274.2b (\$ 3.2b)
	(¥40b + ¥66.2b)		
Direct Insurers	¥168b (\$ 1.95b)	}	
	(¥26b + ¥135b + ¥7b)		
Government	¥1,525.8b (\$ 18b)		
	(¥135b + ¥1,390.8b)		
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TOTAL			¥1,800 billion (\$ 21.2 billion)