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FOREIGN EARTHQUAKE INSURANCE PROGRAMS

By:

Richard Roth Sr.

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The Institute for Catastrophic Loss Reduction (ICLR) was established in 1998 with the mission to reduce the loss of life and property caused by severe weather and earthquakes through the identification and support of sustained actions to improve society's capacity to adapt to, anticipate, mitigate, withstand and recover from natural disasters.

For Further Information, please contact:

**Institute for Catastrophic Loss Reduction
151 Yonge Street, Suite 1800
Toronto, Ontario, Canada M5C 2W7
Telephone: (416) 362-2031 Extension 352
Fax: (416) 361-5952
E-mail: twaddington@iclr.org**

This paper was prepared by Richard Roth Sr. for the Institute for Catastrophic Loss Reduction. Richard Roth Sr. is a private insurance consultant with extensive experience in the insurance industry and with the issue of earthquakes and insurance. A Fellow of the Casualty Actuarial Society, Mr. Roth began his career as a weather officer with the U.S. Air Force in 1942. He has worked as Meteorologist and Statistician, as Manager of the Crop-Hail Insurance Actuarial Association, and in actuarial and senior management positions with a number of major insurance companies.

The opinions expressed in this paper are those of the authors and not necessarily those of the Insurance Bureau of Canada or the Institute for Catastrophic Loss Reduction.

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PREFACE

This report was commissioned by the Insurance Bureau of Canada (IBC) to describe earthquake insurance programs in certain selected foreign countries based on information contained in SCOR Reassurance Company's 1996 SCORTECH Report. It was requested that the resulting summary should be in a format similar to that appearing in a 1985 report by the National Committee on Property Insurance, Boston, Massachusetts, but with a level of detail similar to that contained in the SCORTECH Report.

There were seven foreign countries selected out of the thirteen contained in the SCORTECH Report based on their susceptibility to seismic events and the existence of some type of earthquake insurance. Six of the foreign countries are Australia, France, Italy, Japan, New Zealand, and Spain. The seventh is the United States, but only the state of California.

In preparing the report it was fortuitous that information in addition to that contained in the SCORTECH Report became available for Japan and New Zealand. This additional information was included in the summaries for these two countries.

Since the report is intended for an audience that is not familiar with technical insurance terms, it was hoped that examples and definitions of such terms could be included in the descriptions wherever possible. This turned out to be an impossible task due to the complexity and differences of the various foreign earthquake insurance programs described, the difficulty in ascertaining just what a reader would consider a technical insurance term, and the necessity to keep the descriptions as concise as possible to allow understanding and comparisons of the various approaches. However, the non-technical insurance individual was constantly kept in mind as the descriptions of the various programs were prepared.

The development of a glossary in the future might be considered for selected terms designated as a technical, but this is beyond the scope of the this report. The Bureau may wish to consider such a project at some time in the future.

The opinions expressed concerning the insurability of earthquakes and the significance of the various features of the different programs are strictly that of the author of this report, and does not intend to imply that they are necessarily the opinions of either the Insurance Bureau of Canada, or SCOR Reassurance Company.

EXECUTIVE SUMMARY

Introduction

Insurability of the Earthquake Risk

Strictly speaking, the earthquake risk is not insurable by the private insurance industry. It is not insurable because it lacks three of the requirements for insurability, which are italicized below. Although there are differing opinions on the conditions of insurability, one that has generally been accepted over the years is as follows:

There should be a large number of homogeneous, independent exposures to permit the operation of the theory of probability.

1. The insured event must be accidental. The timing or the severity of the loss should be out of the control of the insured.
2. The peril must produce a loss definite in time and amount. The insurer must be able to verify the loss promptly, and objectively measure its amount.
3. The loss must cause an economic hardship on the insured.
4. The risk must not be subject to a catastrophic loss where a large number of exposure units can be damaged or destroyed in a single event.
5. The chance of loss must be calculable. The insured group of risks must not be exposed to an incalculable catastrophe hazard.
6. The premium must be reasonable in relation to the potential financial loss so that there will be sufficient demand for policies to cover the up-front costs of development and marketing.

If the above is true, one may ask why does the private insurance industry offer insurance against earthquake damage? One explanation is that the coverage was initiated in the last years of the 19th century or the early years of the 20th century when scientists believed that the planet earth was shrinking as it cooled, and that the contraction produced occasional earthquakes. It was not until the 1960s when the tectonic plate theory was accepted, that it was realized that what we have is a relatively thin layer of the earth's crust consisting of different plates constantly moving on a molten interior. As these plates impinge on each other, eventually pent up energy is released resulting in earthquakes of different magnitudes proportional to the amount of energy released. We now know that the question is not whether an earthquake will occur, but when.

Although the earth scientists are increasing their knowledge at a rapid pace, the fact is that the probability of the occurrence of an extremely large earthquake is not known. The same is true for estimating the amount of resulting damage.

The private insurance industry today is currently at risk for the earthquake coverage written regardless of the size of the earthquakes. Further, insurance companies in Canada and the United States are subject to an even greater exposure because a loss due to fire following an earthquake is considered a fire coverage, and is covered under the fire policy. Thus, even though earthquake

coverage may be included in only a percentage of their fire insurance policies, 100 percent of these policies are exposed if the damage is the result of fire following an earthquake.

The earthquake peril without a federal, or central government partnership is not insurable in the long run by the private insurance industry. Only a central government has the resources able to weather the financial losses caused by an extremely large earthquake which occurs once in five hundred years, or once in a thousand years, or longer. It should be noted that even if a given size earthquake has a probability of occurring only once in a hundred years, that doesn't necessarily mean that its occurrence will be delayed to one hundred years from now. It could happen at any time!

The government has a lot at stake in the event of a mega-earthquake, and will not be able to avoid its responsibility to the citizenship. It is much to its advantage if it seeks a partnership with the private insurance industry by offering a very high level excess of loss reinsurance program. A reinsurance program of this nature would have several benefits for the central government in the event of a mega-disaster. First, it would keep the private insurance industry viable preventing an almost certain economic disaster. Second, it would give it an opportunity to insist on earthquake loss-reduction measures as a condition of reinsurance. The only long-term solution to reducing natural disaster losses is the careful and constant attention to appropriate building construction and land use.

It seems, therefore, that the most desirable program would be one in which there is a partnership between the private insurance industry and the government. Private insurance companies, then, would be able to offer earthquake insurance in a similar manner to all of their other lines of insurance. This would include policy-servicing, setting rates, and claims handling. It should also allow companies to establish catastrophe reserves for their part of the exposure. Above the given earthquake magnitude the government reinsurance program would come into play. It would reimburse the participating private insurance companies for losses above a given threshold. The new computer models would be helpful in establishing the proper thresholds.

The programs that seem to operate best are those requiring mandatory participation by the public. Studies indicate that the average insured is not inspired to pay money for insurance that has a low probability of occurring, even if the consequences are very substantial.

Comparison of Earthquake Insurance Programs

Type of Program:

The earthquake peril is insured by the government in three countries, France, New Zealand, and Spain. It is mandatory, and is included in every fire policy written by the private insurance companies. Japan has a government-private shared separate policy for household risks as does California. Purchase of the policies are voluntary. Australia and Italy leave the insuring of the earthquake peril to the private insurance industry.

In general, industrial risks are left to the private market.

Basis of Indemnity/Insurance Conditions:

Inclusion of earthquake insurance in the fire policy is a convenient way for either voluntary or mandatory participation. In any case, fire following earthquake should be considered as an earthquake risk, not a fire risk.

Earthquake coverage must be included in every policy written in France, New Zealand, and Spain. A separate policy for residential risks is issued in California, and Japan. Australian residential, commercial, and industrial policies usually include earthquake insurance. Coverage in Italy is purchased as an extension to the fire policy.

Administration:

Policy servicing and claims adjusting are best done by the individual insurance companies. The role of government is most effective when performed at the financial level, and in establishing standards.

The individual private companies in Australia and Italy administer the earthquake insurance that is written. Spain is administered by a state-owned company, although it operates as if it is a private company; half of its Board members are representative of private insurance companies. California, USA and New Zealand are administered by government-appointed boards. Household risks in Japan are all reinsured in the Japanese Earthquake Reinsurance Company (JER) where losses are shared by the insurers, the JER, and the government according to the total cost of damages. In France a declaration of a natural disaster is made by the government at a joint meeting of officials from a number of ministries.

Property Insured:

Insurance for residential risks is written under all of the government insurance programs (California, France, Japan, New Zealand, and Spain).

In addition, France's guarantee applies to all other property (building and contents) covered by a property insurance policy. Spain's *Consortio* also covers all other standard policies except that agricultural property, construction risks, and erection risks are not covered.

Earthquake insurance in Australia and Italy is written by private insurers for both residential and business insureds. Commercial and industrial risks in California, Japan, and New Zealand are insured by private insurance companies.

Perils Covered:

The earthquake insurance programs of the countries described include additional perils depending on associated hazards. Volcanic eruption is included in Italy, Japan, New Zealand, and Spain. Tsunamis, or tidal waves, are included in Australia, Japan, New Zealand, and Spain. New Zealand also includes natural landslip and hydrothermal activity. Fire following an earthquake is included in all United States' fire insurance policies.

Area Covered:

Earthquake insurance is available in all areas of each country. The California Earthquake Authority, applies to the state of California only. Earthquake insurance for the rest of the United States is available from the private insurance companies.

Rates/Premiums:

Each country has their own unique rating system (see individual country program sheets).

Claims Handling:

The private insurance companies handle the claims for every country except New Zealand and Spain. New Zealand's Earthquake Commission uses independent claim assessors and adjusters. Spain's state-owned Consorcio handles its claims through 18 regional offices concentrated in the most vulnerable areas.

Deductibles:

Every country applies deductibles to its earthquake insurance policies. Thus, insureds participate in the various programs by absorbing the amount of damages up to the level of the deductible. For example, the 15% deductible of the California program applied to a residence valued at US\$200,000 (\$274,160) means that the first US\$30,000 (\$41,124) of damages must be paid for by the insured. All damages above US\$30,000 (\$41,124) will be paid by the California Earthquake Authority through one of its participating private insurance companies. The deductible programs of each foreign country are unique and different, and designed to fit in with their rating programs which determine the amount of premiums payable.

Catastrophe Reserves:

It is essential that insurers be able to establish catastrophe reserves for earthquake insurance that are tax-exempt. Present accounting practice in the United States prohibits this for private insurance companies; reserves can only be established for events that have already happened. Earthquake insurance, in particular, needs a pre-funding mechanism that can endure long periods of inactivity of the peril. Sufficient sums cannot be accumulated unless protected from taxation.

The California Earthquake Authority's fund is exempt from the U.S. federal income tax, state income tax, and state premium tax. All of the other countries included this report, except

Australia, allow the establishment of catastrophe reserves. Australia has no financial incentives for insurance companies to increase their reserves for major disasters.

Reinsurance:

There is simply not enough worldwide catastrophe reinsurance to service the demands of earthquake insurance; not to mention the other natural disaster perils. Whether any of the new financial products will successfully fill this void is an unanswered question. There is a great need for government reinsurance programs at very high levels.

All of the countries described except Spain make extensive use of the worldwide reinsurance market.

Comments:

The distinguishing feature of France's hazards insurance program is its emphasis on loss-reduction measures. This is missing from all of the other countries' programs. From a societal viewpoint loss-reduction measures are the only solution to the reduction of natural hazards losses. Insurance by itself does not necessarily promote loss-reduction measures. It is important that carefully designed programs be developed to work with natural hazards insurance programs to promote the adoption of loss-reduction measures.

Foreign Earthquake Insurance Programs by Country

Monetary values are expressed in the currency of each individual country. The equivalent in Canadian dollars is shown in parentheses immediately following. The exchange rates used were those in effect on May 15, 1997.

Country	Currency Name	Canadian Value
Australia	Dollar (AU\$)	\$1.0657
USA	Dollar (US\$)	1.3708
France	Franc (FRF)	0.2398
Italy	Lira (ITL)	0.0008192
Japan	Yen (JPY)	0.008624
New Zealand	Dollar (NZ\$)	0.9553
Spain	Peseta (PTA)	0.009585

Australia

Private, voluntary. Insurance against earthquakes is provided by private insurance companies. There is disaster relief which is provided by the government, but it is not an insurance program, and it is not pre-funded.

Type of Program

Earthquake insurance is usually included in residential, commercial, and industrial fire insurance policies.

Basis of Indemnity/ Insurance Conditions

The private insurance market will take on any risks it considers insurable. The State authorities and Commonwealth also provide relief through the Natural Disaster Relief Arrangements (NDRA) and the Rural Assistance Authority (RAA).

Administration

Dwellings, Commercial and Industrial Structures

Property Insured

Earthquake, fire following earthquakes, tsunamis

Perils Covered

All of Australia. Considerable seismic activity has been recorded in the West (Darling fault) and South (Adelaide geo-system and Lincoln fault).

Area Covered

Private insurance companies.

Rates/Premiums

Private insurance companies.

Claims Handling

Private insurance companies.

Deductibles

There are no financial incentives for insurance companies to increase their reserves for major disasters. Any reserves are not tax-exempt.

Catastrophe Reserve

Australian insurance companies make heavy use of the worldwide insurance market. Australia is the third largest purchaser of catastrophe reinsurance behind the United States and the United Kingdom.

Reinsurance

California, USA

Public-private, voluntary. The California Earthquake Authority (CEA) is a privately financed, publicly managed state agency that will provide insurance coverage for earthquake damage to residential property owners, mobile homeowners, and renters.

Type of Program

The enabling legislation provided that the California Earthquake Authority could only be activated if insurers whose cumulative residential market share is 70 percent or more agreed to participate. Participating insurers had to contribute startup capital in proportion to their premium writings. If 100 percent of the residential insurers participated, the startup capital would be \$1 billion (\$1.37 billion). Since the number of companies agreeing to participate had a cumulative share of only 72 percent of the residential market, the startup capital amounted to \$720 million (\$987 million).

The policy will pay for structural damage to the dwelling, but not for damage to pools, patios, fences, driveways, and detached garages. Also, insurance is written for tenants as well as condominium or cooperative unit owners. For condominium or cooperative units a loss assessment coverage is available to help owners pay their share of any association earthquake loss. All coverages apply on a replacement cost basis.

Basis of Indemnity/ Insurance Conditions

California, USA (cont.)

A Board consisting of the Governor, the Treasurer, and the Insurance Commissioner, or their named designees, govern the Authority. There is also an Advisory Panel with 11 members, 4 of which are representatives of insurers, 2 agents, and 5 public members.

Administration

Policies are serviced and claims adjusted by the participating insurance companies in conjunction with their basic residential policies. The CEA reimburses the participating companies for servicing CEA's policies and adjusting the claims. CEA coverage is available only to customers of insurance companies which participate in the CEA. Insurance companies not participating in the CEA are still required to offer earthquake coverage to their customers, and if purchased, will underwrite it with their own resources.

Dwelling: insured for the same amount as the companion homeowners policy. Other coverages have the following limits: personal property, US\$5000 (\$6,854), and loss of use, US\$1500 (\$2,056). Tenants: personal property limit, US\$5000 (\$6,854), and loss of use limit, US\$5000 (\$6,854). Condominium or cooperative units: real property limit, US\$25,000 (\$34,270); personal property and loss of use limits same as dwelling or tenants. The loss assessment limit is either US\$25,000 (\$34,270) or US\$50,000 (\$68,540).

Property Insured

Earthquake-caused damage.

Perils Covered

California (cont.)

There are 19 different rate categories with further breakdown by date of construction, and whether frame construction or other. Separate rates quoted for personal property, loss of use, and loss assessment.

Rates/Premiums

Claims are adjusted by participating companies. The CEA reimburses the companies for the claim handling. All claims are on a replacement cost basis.

Claims Handling

Dwelling: 15 percent of the dwelling insured amount is deducted from the loss. Tenants: US\$750 (\$1,028) deducted. Condominium or Cooperative: real property, US\$3,750 (\$5,140) deducted; personal property, US\$750 (\$1,028) deducted ; loss assessment, US\$3,750 (\$5,140) deducted for US\$25,000 (\$34,270) limit, and US\$7,500 (\$10,281) deducted for US\$50,000 (\$68,540) limit.

Deductibles

California (cont.)

The CEA's fund is exempt from federal income tax, state income tax, and state premium tax.

Catastrophe Reserve

A rather complicated plan has been authorized by the legislation to address the occurrence of an earthquake which could not be handled by a startup capital of US\$1 billion (\$1,371 billion). If necessary, \$US3 billion (\$4.112) more can be assessed against the participating insurers. Then comes a layer of reinsurance: US\$2 billion (\$2.742 billion) excess of US\$4 billion (\$5.483) is authorized to be purchased from the worldwide reinsurance industry. If the damages exceed US\$6 (\$8.225 billion) billion, then a contingent policyholder assessment of up to US\$1 (\$1.371 billion) would be assessed (the assessment may not exceed 20 percent of the earthquake premium). Above US\$7 billion (\$10.007 billion) a layer of US\$1.5 billion (\$2.056 billion) is to be provided by the financial markets, and above this is an industry contingent assessment of US\$2 (\$2.742 billion).

Reinsurance

This sums up to US\$10.5 billion (\$14,393 billion) protection. If damages exceed this amount, the losses will be prorated among the policyholders. The legislation provides specifically that the General Fund of California will not be available to pay California Earthquake Authority losses.

It should be noted that the above is predicated upon a 100 percent participation. Since the participation is actually 72 percent, each of the above figures should be multiplied by 0.72. This means the total protection available is US\$7.56 billion (\$10.363 billion).

France

Private-public mandatory. The compensation system is set out in the 1982 Act, as amended in 1990 and 1992.

Type of Program

Cover for wind damage (storms, cyclones, and hurricanes) is compulsory. It must be included in any insurance policy covering fire damage. Each company is free to set conditions relative to storm damage.

Basis of Indemnity/ Insurance Conditions

The state-owned central reinsurance fund, the *Caisse Centrale de Reassurance* (CCR), covers the uninsurable losses of a natural disaster defined as the abnormal intensity of a natural agency, when usual measures to prevent damage have been unable to prevent losses, or it has been impossible to take any prevention measures. Thus, the earthquake peril is included.

The guarantee covers the cost of direct damage to property up to the value specified in the underlying policy. If the policyholder is covered for consequential loss, the guarantee is extended. Indirect losses are excluded from the guarantee.

The declaration of a natural disaster is made by the government at joint meeting of officials from the interior ministry and the economics and finance ministry. The meeting is also attended by one representative from the CCR, and representatives from the environment ministry who give technical advice.

Administration

France (cont.)

The state guarantee applies to all property (buildings and contents) covered by a property insurance policy. The conditions are the same as those governing the policy's underlying cover.

Property Insured

The private companies cover wind damage (storms, cyclones, and hurricanes). The CCR does not list the events covered by the state reinsurance guarantee, but wind damage is excluded.

Perils Covered

All of France.

Area Covered

Rates for wind damage are set by each of the insurance companies.

Rates/Premiums

Rates for the CCR reinsurance:

Land motor vehicles: 6 percent of theft and fire premiums

Other lines: 9 percent of underlying policy premiums.

The primary insurers are responsible for adjusting the CCR claims for which they receive FRF450 (\$108) per non-motor claim, and FRF50 (\$12) for each motor claim.

Claims Handling

Dwellings and vehicles: FRF1,500 (\$360).

Deductibles

Business assets: 10 percent of the amount of direct damage, per business and per event: minimum FRF4,500 (\$1,080).

Business interruption: three working days, minimum FRF4,500 (\$1,080)

France (cont.)

The CCR had reserves of FRF2,700 million (\$647 million) at the end of 1994. This would not be sufficient to bear the costs of a major catastrophe. There would have to be recourse to the government's guarantee.

Catastrophe Reserve

The reinsurance cover involves a quota-share treaty (cessions 40 percent to 90 percent), and a stop-loss treaty protecting the insurance company's retention.

Reinsurance

Forty percent of total market premiums are ceded to the CCR. The reinsurance commission on the premiums ceded in quota-share treaties for the non-motor lines is 24 percent, and 28 percent for motor business.

A distinguishing feature of France's program is its emphasis on prevention. The 1982 Act provided for the drawing up of risk exposure plans (PER's). The plan provides for a description of the commune, the risks it faces, lists the preventive or remedial work that needs doing, and a land use plan. There are thought to be about 10,000 communes particularly exposed. By mid-1995, however, only 850 PER's had been ordered, and only 390 approved.

Comments

Enabling legislation in 1987 was passed in response to the setbacks experienced with the PER's for the implementation of risk prevention plans (PPR's). The procedure for drawing them up was laid down in a decree in October 1995. PPR's, financed by the government, are now ordered by the Prefect and the mayors are simply notified. The methods to be used were only finalized towards the end of 1995. PPR's, which are simpler than PER's, are supposed to be carried out rapidly, and impose fewer restrictions on land use. They should enable the state to play a more active role in the areas of urban planning and safety, for which it has traditionally shared responsibility with the communes.

France (cont.)

When these plans have been drawn up, insurers will be able to refuse natural disaster cover for property built in the red zone. Risk prevention work must be carried out within five years on property built in the blue zone. Preventive work may be ordered on property built according to regulations, up to a limit of 10 percent of their market value. Failure to obey the new rules will attract legal penalties.

The Barnier Law (February 1995). This act put in place a new legal scheme for expropriating, in the public interest, property exposed to imminent peril from landslips and subsidence, avalanches, and flash floods. It also provides for financing by a new major natural risks prevention fund, *Fonds de Prevention des Risques Naturels Majeurs* (FPRNM), capitalized by a 2.5 percent levy on additional income from natural risk premiums. The fund, expected to have FRF100 million (\$24.0 million), will be managed by CCR.

Italy

Private, voluntary. Private insurance companies offer insurance against earthquakes. Coverage is voluntary.

Special cover that also includes flood risk can be bought as an extension to the fire policy. In fact, less than 5 percent of households, and about 30 percent of commercial and industrial policyholders take out this insurance. Indemnity limit varies between 10 percent and 50 percent of insured value for fire, but are usually between 30 percent and 40 percent.

Handled by each insurance company.

Residences, commercial risks, industrial risks.

Damage caused by shaking, fire following earthquake, and volcanic eruptions.

All of Italy.

Rates vary according to risk exposure (there is a 6-point risk exposure scale for every commune), type of construction (5 types), deductible, and indemnity limit. The national insurance association recommends rates between 0.20 percent and 6.60 percent, although in practice the recommendations are rarely followed.

Policies cover only physical damage. Business interruption is usually excluded.

Type of Program

Basis of Indemnity/ Insurance Conditions

Administration

Property Insured

Perils Covered

Area Covered

Rates/Premiums

Claims Handling

Italy (cont.)

Between 1 percent and 2 percent of the sum insured, with respective minimums of ITL10 million (\$8,192) and ITL20 million (\$16,384), and maximums of ITL100 million (\$81,920) and ITL200 million (\$163,840).

Deductibles

Reserves for earthquake and volcanic eruption cover can reach 70 percent of gross premiums, with a maximum of 100 times premium.

Catastrophe Reserve

Most Italian insurance companies reinsure in the international market.

Reinsurance

Japan

Public-private shared, voluntary: Household Risks:

Type of Program

Private, voluntary: Industrial Risks.

Household Risks: Separate policy with own general conditions. Insured values between 30 percent and 50 percent of amount of fire policy. Maximum insured value for each building is JPY10-15 million (\$118,200-\$177,300), and JPY5-10 million (\$59,100-\$118,200) for contents insurance. Compensation based on one of three strictly defined categories: Total Loss (100 percent of insured value), Half Loss (50 percent), or Partial Loss (5 percent).

**Basis of Indemnity/
Insurance Conditions**

Industrial Risks: Uniform conditions for all companies. Fire following shake covered by a pool of all companies. Two types of cover: (1) reduced percentage indemnity clause where compensation is cost of damage multiplied by a risk location percentage, (2) first loss policy where compensation is limited to a stated amount in the policy for the first loss. Limits vary according to one of twelve risk locations from 15 percent of value, 30 percent of value, or 100 percent value depending on the zone's risk exposure and asset concentration.

The Japanese Earthquake Fire Expenses Insurance Pool: The limits applied to losses due to fire following earthquake are:

Household Risks: 5 percent of the sum insured, with a maximum of JPY3 million (\$35,460) per site and per event.

Industrial Risks: 5 percent of the sum insured, with a maximum of JPY20 million (\$236,400) per site and per event.

Japan (cont.)

Household Risks: All earthquake insurance written by insurers wholly ceded to the Japanese Earthquake Reinsurance Co. (JER). All non-life insurance companies must participate in funding the JER. Losses are shared by the insurers, the JER, and the government according to the total cost of the damages.

Administration

Industrial Risks: Optional endorsement for shaking and fire following added to fire policy for additional premium. Loss from fire following can also be added by adding cover from the Japanese Earthquake Fire Expenses Insurance Pool even if the earthquake extended coverage endorsement is not taken up.

Household Risks, Industrial Risks
Earthquakes, Volcanic Eruptions, Tsunamis.
Damage caused by water leaks and explosions due to earthquake may be covered by a policy extension for an additional premium.

Property Insured Perils Covered

Household Risks: Japan is divided into four zones.
Industrial Risks: Japan is divided into 12 zones for cover limits, and 7 risk exposure zones.

Area Covered

Household Risks: Earthquake rates vary according to location (4), type structure (2), and whether the insurance is for the building or contents.

Rates/Premiums

Industrial Risks: Rates depend on the structure of the building insured (five classes) and risk exposure (seven zones).

By individual insurance companies.

Claims Handling

Japan (cont.)

Industrial Risks: 2 percent of value with a minimum of JPY10,000 (\$118) and a maximum of JPY100,000 (\$1,182).

Deductibles

All Japanese non-life insurance companies must establish reserves for natural disasters set at levels with reference to premiums for Fire, Marine & Aviation, and Other Classes lines.

Catastrophe Reserve

For industrial and commercial risks in the fire line, the finance ministry requires a minimum level of disaster reserve capitalization equal to 2 percent of the annual line net premiums. These annual additions are tax-exempt up to an overall limit of 100 percent net premiums.

Reserves for household risks are constituted by different methods. Companies are authorized to draw down reserves for a given line when the claims ratio for the line exceeds 50 percent. The 1994 disaster risk reserves held by non-life insurers, including TOA Re, stood at JPY1,200 billion (\$14.2 billion).

Household Risks: Maximum contribution is fixed each year by the Diet (parliament) in order to limit total commitment. In 1995 the limit was raised from JPY1,800 billion (\$21.3 billion) to JPY3,100 billion (\$36.6 billion). If the limit is exceeded, losses will be prorated. All earthquake risks written by the direct writers are ceded to the Japan Earthquake Reinsurance Company (JER). The first JPY60 billion (\$0.7billion) in losses are paid by JER. The next layer between JPY60 billion (\$0.7 billion) and JPY92 billion (\$1.1 billion) is paid by the direct writers together with TOA Fire and Marine Insurance Company (TOA Re). The layer between JPY92 billion (\$1.1 billion) and JPY468 billion (\$5.5 billion)

Reinsurance

is paid as follows:

JPY188 billion (\$2.2 billion) by the government,

JPY168 billion (\$2.0 billion) by the direct writers,

and JPY20 billion (\$0.2 billion) by JER.

The layer between JPY468 billion (\$5.5 billion) and JPY3,100 billion (\$36.6 billion) is paid JPY2,500.4 billion (\$29.5 billion) by the government, and JPY131.6 billion (\$1.6 billion) by JER.

Industrial Risks: Only 20 percent of reinsurance needs of Japanese companies are met by the international reinsurance market. Present compensation systems are very far from meeting the demands of Japanese policyholders, not only because the compensation limits (even after being raised) are still low, but also because premium rates for highly exposed assets are sometimes unaffordable. The finance ministry is considering the possibility of reintroducing compulsory earthquake for households (it has been voluntary since July 1980). This would allow all sites to be covered, but would greatly increase exposure.

Comments

It was estimated that only 7.2 percent of Japanese household were covered before the Great Hanshin earthquake (Kobe) in January 1985. It is currently estimated at 10 percent. Only 3 percent of the Kobe households were insured

New Zealand

A mandatory government program applicable to every residential fire insurance policy written by private insurance companies.

Type of Program

A natural disaster insurance cover, called EQCover, is added automatically to each home or contents fire insurance policy. The premium paid to the private insurance company includes the premium for EQCover. The private insurance company then transmits the EQCover premium to the Earthquake Commission (EQC).

Basis of Indemnity/ Insurance Conditions

< Dwellings and personal effects are insured up to a maximum of NZ\$100,000 (\$95,530) plus goods and services tax (GST) for a dwelling, and NZ\$20,000 (\$19,106) plus GST for personal property. (GST is currently 12-1/2 percent).

< Dwellings are covered on a replacement value basis. Personal property is issued on the same terms as it is in a household insurance policy. Some retaining walls are covered but on a cash value basis.

The Earthquake Commission Act (1993) came into effect on January 1, 1994, and replaced the Earthquake and War Damage Act (1944). The Act provides for a board of five to nine members, appointed by the Government. There are currently six Board members.

Administration

- ❖ Dwellings (self-contained premises used as a home, including apartments.
- ❖ Most personal property but excluding some types (e.g. motor vehicles and art)
- ❖ The land immediately around the dwelling, main access ways, and retaining walls, within certain limits

Property Insured

Earthquake, Natural Landslip, Volcanic Eruption, Hydrothermal Activity, Tsunami

Perils Covered

All of New Zealand

Area Covered

The cost of cover is 5 cents a year for every \$100 value of property insured. The maximum premium payable is NZ\$67.50 (\$64.48):

Rates/Premiums

- ❖ Dwelling (max NZ \$100,000) (\$95,530)
NZ\$50.00 (\$47.77)
- ❖ Personal Effects (max NZ \$20,000) (\$19,106)
NZ\$10.00 (\$9.55)
- ❖ Sub-total NZ\$60.00 (\$57.32)
- ❖ Goods & Services Tax NZ\$ 7.50 (\$7.16)
- ❖ Total **NZ\$67.50 (\$64.48)**

Claims are handled directly by the Earthquake Commission through independent claims assessors and adjusters. Claims must be made within 30 days from the date of damage.

Claims Handling

New Zealand (cont.)

NZ\$200 (\$191) for property claims NZ\$20,000 (\$19,106) or less. Claims over NZ\$20,000 are paid 99 percent of the total amount. Land claims have NZ\$500 deducted for each claim \$5000 or less. Claims over NZ\$5000 are paid 90 percent of the total amount except that the maximum amount that may be deducted is NZ\$5000.

Deductibles

All premiums are paid into the Natural Disaster Fund and claims are paid from it. It is exempt from the payment of income taxes. Its current balance is NZ\$2.5 billion (\$2.39 billion). This is not thought excessive as a 7.5 Richter Scale earthquake along the Wellington faultline could cost as much as NZ\$6.5 billion (\$6.21 billion). If the Natural Disaster Fund is exhausted, the Government steps in to pay the remaining claims. The fund is invested primarily in New Zealand Government securities with about half of the sum through the Reserve Bank in Foreign Bond Linked Notes.

Catastrophe Reserve

A substantial amount of catastrophe insurance is carried with some 150 separate entities. The total amount of reinsurance protection is NZ\$1.5 billion (\$1.43 billion) once the total claims from a single event exceeds NZ\$750 million (\$716 million).

Reinsurance

Spain

Government, mandatory. The *Consortio de Compensacion de Seguros* is a state-guaranteed insurance company providing insurance against natural disasters. Although operating originally as an extension of a government body set up in June 1941 after the 1936-39 civil war, it was formalized into law in 1954.

Type of Program

Disaster cover is mandatory in all fire, motor, railway, and other property damage policies. Where the private insurance company does not include disaster cover in its standard policies, the *Consortio* will do so automatically. It is rare for an insurance company to include disaster cover in its policy. Also, if an insurance company is unable to meet its obligations due to insolvency, the *Consortio* will stand in its place for claims due to abnormal events.

Basis of Indemnity/ Insurance Conditions

Abnormal events consist of exceptional natural phenomena, terrorism, rebellion, war, and popular uprisings. The *Consortio* is responsible for declaring an occurrence abnormal. The decision is based on the type of occurrence and its intensity rather than on the number of victims, or its geographical scope. These terms of cover were formalized in a law dated August 29, 1986.

The *Consortio* is a state-owned company, although it operates as if it were a private company. Half of its Board members are representatives of private insurance companies.

Administration

The same as covered in the standard policy except that agricultural property, construction risks, and erection risks are not covered.

Property Insured

The natural disasters it covers include earthquakes, tidal waves, and volcanic eruptions as well as floods and atypical storms of a cyclonic nature. Spain is only moderately vulnerable to seismic activity. A tremor measuring as high as VIII on the Mercalli scale cannot be ruled out, although the probability of such an event is extremely low.

Perils Covered

Spain (con't)

All of Spain

Area Covered

The premium covers all disaster risks, and is based on the sum insured. Modification to the general rate can be made on a case-by-case basis.

Rates/Premiums

The general rate is as follows:

Household risks	0.092 percent
Commercial risks	0.180 percent
Industrial risks	0.250 percent

In order to react quickly, the *Consortio* has set up 18 regional representative offices concentrated in the most vulnerable areas. Only direct damage to property is covered. Loss of profit may be insured by the private sector. Salvage costs can be reimbursed up to a limit of 4 percent of the insured sum.

Claims Handling

The deductible is usually fixed at 10 percent of the claim (15 percent for policies with high sums insured) with a maximum of 1 percent of the sum insured, and a minimum of PTA25,000 (\$240).

Deductibles

The *Disaster Fund* is financed by premiums received from insurance policies, with a special technical reserve in the case of a catastrophic event.

Catastrophe Reserve

The *Consortio* has the state's guarantee in the case of an extremely costly event.

Reinsurance

The *Consortio's* results for the period 1972-1992 is as follows:

Comments

Premiums	PTA343,695 million (\$3.294 billion)
Losses	PTA319,939 million (\$3,067 billion)
Loss Ratio	93 percent

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