

Chapter 2: Insurance systems today

I. Types of insurance systems

1. General information

The answer to the threat of natural disasters on building values will turn out differently depending on the country. Several types can be distinguished based on the relevant characteristics of insurance systems.

Subsequently, the specific insurance systems of a variety of countries will be introduced and allocated to the corresponding types. This will allow a transparent discussion to be held on which types have what advantages and disadvantages.

2. Type 1: Statutory insurance

Statutory insurance refers to the obligation of the building owner to take out insurance against natural hazards, namely *from a specific insurance organisation*. This insurance organisation *has a legal monopoly*. This means two things. First, the building owner must take out insurance from this particular insurance organisation and cannot take out insurance elsewhere. Second, the monopoly insurer cannot reject the potential policyholder, i.e., the insurer is forced to accept the risk. This is therefore a case of compulsory insurance (obligatory insurance) that is implemented by monopoly insurance. Since all building owners are included, the maximum possible risk collective is created and thus the *maximum possible solidarity* among the insured.

3. Type 2: Compulsory insurance (obligatory insurance)

Compulsory insurance refers to the obligation to take out insurance against natural hazards. This also subsumes the situation where the obligation is not created until another insurance agreement (e.g. fire insurance as a basic agreement) is entered into. Strictly speaking, an compulsory insurance no longer exists if this basic agreement was entered into voluntarily, for in this case it can be circumvented by waiving the basic agreement; insurance protection is absent. If this set-up is nonetheless subsumed under the heading of compulsory insurance, it is because, at least in Europe, entering into a basic agreement (as a rule, fire insurance in the form of a household or BII insurance⁶¹) is so widespread that compulsory insurance is approximately achieved. The term “obligatory insurance” is used synonymously with compulsory insurance, even though the two terms are understood to mean something different in some cases in this respect⁶². According to Swiss legal understanding, obligatory

⁶¹ Business interruption insurance.

⁶² Cf. for example the classification in SCHWARZE/WAGNER, in: Märkte und Politik, p. 177 et seq., who describe obligatory insurance as merely the above-described obligation of insurance against natural

insurance describes the obligation to obtain insurance protection independent of a basic agreement.

The main difference to type 1 consists of the fact that compulsory insurance is not effected by a monopoly insurance but by different insurances. Thereby, several smaller risk collectives are created. Frequently, insurance against losses caused by natural hazards cannot be formulated freely, particularly if it is coupled with a basic agreement; instead the scope of coverage and the premium are provided for by law.

4. Type 3: State aid and optional insurance according to market supply

There is no compulsory insurance for this type, not even based on a basic agreement (and thus, there is no basis for statutory insurance either). Whether insurance protection exists is instead at the discretion of the building owner. He decides whether he wants to take precautions by taking out insurance or not, *provided that insurance is offered on the market at all*. Since there is no compulsory insurance and much less so any statutory insurance, the insurance industry is also not obligated to offer insurance protection. Whether insurance protection exists at all is accordingly left to the market forces. In a loss event, and all the more in a disaster situation, state aid is of particularly eminent importance. The claims burden is borne primarily by the state by means of state aid; the aggrieved party is not legally entitled to it.

At most, small risk collectives arise in the absence of statutory insurance and compulsory insurance, if they arise at all.

II. Germany

1. State aid and insurance option according to market supply

A. Market supply in residential buildings as well as supplementary insurance according to the ZÜRS

There is no compulsory insurance in Germany and thus also no statutory or monopoly insurance for natural hazards. Even if a household or BII insurance were taken out, there is no obligation to extend coverage to elementary hazards. The owner of a building decides on a voluntary basis whether he wants to take precautions against natural hazards. Whether it will even be possible at all to take out insurance (a suf-

hazards to be linked to a basic agreement; likewise, Alternative Finanzierungs- und Versicherungslösungen, p. 10. It is, however, stated in both cases that this results in compulsory insurance.

ficiently large offering on the part of the insurers is required as well), is left to the market forces alone. Specifically, the following market supply is available⁶³:

- Storm and hail: these risks are regularly included in residential building (household) and BII insurance. Thus, insurance protection exists provided that the appropriate insurance has been taken out.
- Flood/deluge, heavy rains, landslides, snow pressure, avalanches, earthquakes: insurance protection exists only if a separate insurance against natural hazards has been taken out as a supplementary insurance. There is no obligation to grant this protection automatically in terms of a linkage if, for example, a residential building insurance has been taken out. Even if the owner of the building is willing to take out such a supplementary insurance, he will receive insurance protection only if the risk is classified as insurable according to the ZÜRS zoning system, that is, if insurance coverage is even offered on the market in the first place, and this is not a given. ZÜRS was created by the Gesamtverband der Deutschen Versicherungswirtschaft (GDV).
- ZÜRS: the zoning system for flooding, backwater and heavy rain subdivides all of Germany into four hazard classes ("HC") according to recurrence periods (1: more than 200 years; 2: more than 50–200 years; 3: 10–50 years; 4: less than 10 years). Thus, HC 4 means that a loss event, in particular flood damage, takes place more frequently than once in 10 years. Buildings in HC 4 are *not insurable*. The insurance industry simply does not offer any insurance protection, there is no market supply. This means that in a loss event the affected building owners must hope for state aid exclusively.

As shown above already, climate change results in an increase in the loss potential. Recurrence periods are shortened; areas that have thus far experienced little damage are increasingly affected by damage caused by natural hazards. This is bound to affect the ZÜRS, and it remains to be seen whether the HC 4 is extended to include other areas and buildings that will thus become *uninsurable*⁶⁴

⁶³ Brochures by the Gesamtverband der Deutschen Versicherungswirtschaft (GDV) "Land unter—Schutz vor Überschwemmung und Hochwasser" and "Stürmische Zeiten—Schäden vorbeugen und richtig versichern", version as published on and downloaded from www.gdv.de/Themen on 25 August 2009. In addition, detailed information is available from the website of the Bavarian state government, www.elementar-versichern.bayern.de/naturgefahren.html (information as per 25 August 2009). In the brochures listed above, the insurance system is described as well. On the insurance system cf. also WEISS, Handbuch Naturkatastrophenrecht, p. 386; SCHWARZE/WAGNER, in: Märkte und Politik, p. 186 et seq.; CONSORCIO, Diversity of Systems, p. 71 et seq.; VW 2000, Hochwasser, p. 275.

⁶⁴ Cf. also SCHWARZE/WAGNER, in: Märkte und Politik, p. 185 et seq.

B. Ad hoc state aid

Since there is no compulsory insurance at all, it is left to the owner of a building whether he wants to obtain insurance protection or not. If he has not taken out insurance, then he is dependent on state aid in Germany in a loss event. The same holds true if, although the owner of the building would like to take out insurance coverage, none is available on the market because insurances are classifying the risk as being uninsurable. The aggrieved party is thus dependent on payments that it is not legally entitled to. With respect to the remaining adverse consequences of state aid, we refer to the discussion on p. 26 above and p. 79 et seq. below. State aid is not institutionalised but is delivered on an ad hoc basis through government decisions; this, in addition, magnifies the uncertainty.

In addition, the expectation of receiving state aid leads to negative incentives for the owner of a building who will be tempted to rely on state aid instead of purchasing insurance protection (charity hazard). Why should money be spent on insurance premiums if the government is going to pay the loss anyway? Furthermore, state aid also undermines the motivation of the owner of the building to take loss prevention measures (e.g. constructional adjustments) (moral hazard). Why should the owner of a building invest in prevention measures if the government will come to the rescue anyhow and absorb the loss? The building owner's own provisions, which are an important element in loss reduction and in reducing the need for state aid, is itself undermined by state aid.⁶⁵

The Federal states have recognised this problem. In the Federal state of Bavaria, for example, state aid is principally paid out only to those aggrieved parties whose houses were not insurable due to a lack of market supply. This is designed to counteract the charity and moral hazard and put pressure on the owner of the building to take out insurance. Thus, in any case, aggrieved parties remain dependent, however, on state aid where there is no market supply. Furthermore, aggrieved parties that have not obtained insurance protection even though insurance was offered on the market, will demand state aid nonetheless; ultimately, it is politics that decides on whether these aggrieved parties are awarded state aid even though they neglected to take their own precautions.

The German insurance system corresponds to type 3 of the types of insurance systems presented.

⁶⁵ Cf. Alternative Finanzierungs- und Versicherungslösungen, p. 10 et seq.

2. Comparison with the situation of the German statutory insurances until 1994 and the Swiss statutory insurances

A. Comparison with the situation of the German statutory insurances until 1994

In Germany, the fire risk was covered by the twelve state monopoly insurances of the various federal states until 1 July 1994 within the scope of statutory insurances. Two of these monopoly insurances, namely the *Badische Gebäudeversicherung* and the *Württembergische Gebäudebrandversicherung*, extensively covered natural hazards as well. In the course of implementing the Third EU non-life insurance Directive⁶⁶, Germany abolished these insurance monopolies as of 1 July 1994⁶⁷. With respect to the question of whether the revocation of these monopolies was even legally required, we refer to p. 104 et seq. below.

In order to remain competitive, the former monopoly insurers were unable to maintain their extensive coverage against natural hazards. The consequences of the revocation of the insurance monopolies or statutory insurance were and are negative for building owners⁶⁸:

- Administrative costs for building insurers rose between 60% and 100%.
- Premium levels rose by 40% to 80%.
- Expenditures for prevention were cut by about 50%.
- Bad risks were barred from insurance.
- Excesses were increased.

B. Comparison with Swiss statutory insurances

In August 2005, considerable flood damage occurred as a result of heavy rain in the tri-border region of Switzerland-Austria-Germany. The Canton of Grisons, in particular, in Switzerland, Vorarlberg and Tyrol in Austria, and Upper Bavaria in Germany were affected. Since the regions were affected by the same event, and since they have a similar topography and were affected to the same extent, a comparison can be made as to how the respective insurance systems overcome this natural disaster. The special situation allowed an empirical examination of the efficiency of the different insurance systems. In the Canton of Grisons, building values are insured via a statutory insurance, the state building insurance organisation of the Canton of Grisons, which has a monopoly.

⁶⁶ Directive 92/49, see footnote 297 below.

⁶⁷ VON UNGERN-STERMBERG, p. 144 et seq., 149 et seq.; QUINTO, p. 29.

⁶⁸ VON UNGERN-STERMBERG, p. 157 et seq.; VKF annual report 2007, p. 21.

Specifically, loss coverage and insurance density as well as the promptness of claims settlement were compared⁶⁹.

a) Loss coverage and insurance density

- Canton of Grisons: Since all buildings were included in the statutory insurance, the insurance density was 100%, and 100% of the damage could be covered.
- Upper Bavaria: Insurance density was only about 3.3%, i.e. only about 3.3% of buildings had the appropriate insurance protection. Furthermore, Bavaria was relatively consistent with respect to paying state aid. Owners of buildings whose buildings were insurable and who did not take out insurance coverage, were not paid any state aid. 18.3% of the damage was covered by private insurance against natural hazards, 22% was covered by state aid payments. This left behind a “hole” of 60% of damage.

b) Promptness of claim settlement

Specifically, the interval between the time the loss was reported and the time the first compensation was paid were compared:

- Canton of Grisons: The first payment was made within 14 days in 50% of cases, within 21 days in 90% of cases (average).
- Upper Bavaria: 38 days passed in 50% of cases, 135 days in 90% of cases (average).

Accordingly, the insurance system in Upper Bavaria required 6.4 times as much time compared to the Swiss system.

c) Conclusion

The comparison shows that the statutory insurance system is far superior in overcoming the natural disaster compared to the market solution with state aid. Statutory insurance naturally results in a much greater insurance density and thus in far greater loss coverage. No damage is left undone, and the owner of a building is left neither to his own devices nor to state aid. In addition, claims are settled much faster. This is not surprising, for both the claims as well as the organisation of claims settlement are prespecified.

⁶⁹ Alternative Finanzierungs- und Versicherungslösungen, p. 14 et seq., p. 15 et seq.

III. France

1. Compulsory insurance in the sense of obligatory extension of coverage

The French system of overcoming natural disasters is a combination of government intervention for direct insurance and government reinsurance. The owner of a building is not obligated to take out insurance against natural hazards directly. If the owner of a building does, however, take out any household or BII insurance (e.g. building and household insurance against fire and burglary), coverage must compulsorily be extended to include the following hazards (statutory extension of coverage)⁷⁰:

- Storm, hurricane and cyclone. Hail, snow pressure and frost, on the other hand, should already be included in the standard coverage of the property insurance;
- Natural disaster hazards, namely floods, mudslide, landslides, earthquakes, submergence of ground (as the result of desiccation), storm surges (ocean), water/mud/lava flows, moving snow and ice masses. For the French overseas territories, storms that reach average speeds of at least 145 km/h (for ten minutes) or gusts of at least 215 km/h are considered natural disaster risks as well. The list is not conclusive. It is designed to insure the typical natural disaster risks commensurate with French requirements that are considered uninsurable on the common market.

The corresponding statutory, formulated coverage clauses must be incorporated into the basic agreement⁷¹.

There is *no* obligation to conclude a basic agreement, that is to say, property insurance or BII insurance. Thus, no protection exists if *no* such basic agreement has been concluded. Hence, the policy can be circumvented (by the owner of the building). Since the basic agreements mentioned above are, however, very common, the system will nevertheless be referred to here as compulsory insurance (see p. 29 et seq. above). Furthermore, the private direct insurer is under an obligation to contract regarding statutory extension of coverage when a basic agreement is entered into. If the private direct insurer refuses to follow the statutory extension of coverage, for example by not incorporating the coverage clauses, the rejected insured party can involve the Bureau Central de Tarification (“BCT”). The BCT is a state regulatory authority that enforces compulsory insurance in a wide variety of sectors (e.g. also

⁷⁰ Art. 1 Loi no. 82-600 due 13 juillet 1982 relative à l’indemnisation des victimes de catastrophes naturelles; Art. L 122-7 Code des assurances; Art. L. 125-1 et seq. Code des assurances; Art. 13 loi d’orientation pour l’outre-mer du 13 décembre 2000; CCR, Catastrophes Naturelles, p. 5 et seq., 18, 21.

⁷¹ Art. 2 Loi no. 82-600; Art. L125-2 Code des assurances; Art. A125-1, Art. Annexe I art. A125-1 and Art. Annexe II art. A125-1 Code des assurances.

with respect to the mandatory motor vehicle indemnity insurance). The BCT examines the insured party's complaint and compels the specific direct insurer, under penalty of having his licence withdrawn, to grant the extension of coverage⁷².

In addition to concluding a basic agreement, another requirement must be met so that compensation can be paid *due to the occurrence of natural disaster hazards*. The occurrence of a natural disaster must *be declared by an interdepartmental decree*. The mayors of the affected municipalities put together a report for the attention of the department prefect. The latter sends a corresponding, comprehensive dossier to an interdepartmental commission with a motion to declare a natural disaster. In its decree, which is published in the Journal Officiel de la République Française, the commission specifies which regions are affected, the time period of the natural disaster, as well as the natural hazards and types of losses that have occurred⁷³.

Furthermore, the following should be stated for natural disaster coverage⁷⁴:

- The insured property and the insurance sum depend on the basic agreement. Thus, the building must be insured against fire, for example, in the basic agreement, so as to be insured against natural disasters as well. Compensation is paid according to the value or according to the compensation principle in the basic agreement. If replacement value coverage is provided for in the basic agreement, this applies equally therefore even if the building is destroyed by a mudflow.
- The premium is set by decree as a percentage of the premium of the basic agreement and is currently 12% for buildings. It is a *state-regulated standard premium*, i.e., no gradation takes place based on the building's risk exposure. This facilitates and strengthens *solidarity* among insured parties.
- The excess is €380.

Even in France, the necessity of *preventing losses caused by natural hazards* has been recognised against the background of increasing natural disasters. In order to finance the corresponding measures, the Fonds de Prévention des Risques Naturels Majeur ("FPRNM") is increased continuously. Part of the premium for coverage of natural disasters is transferred to the fund for the purpose of monetary injection, namely currently 8% of the premium (thus, the contribution is included in the premium and, accordingly, fewer funds are available for covering losses); the

⁷² Art. L 125-6 and R 250-1 to R 250-6 as well as A 250-1 and A 250-2 Code des assurances; CCR, Catastrophes Naturelles, p. 8 et seq.

⁷³ Art. 1 Loi no. 82-600 du 13 juillet 1982 relative à l'indemnisation des victimes de catastrophes naturelles; Art L 125-1 al. 4 Code des assurances; CCR, Catastrophes Naturelles, p. 5, 11, 18; Consorcio, Diversity of Systems, p. 62 et seq.

⁷⁴ Art. L 125-2 al. 3, Art. Annexe I and Art. Annexe II art. A125-1 Code des assurances; CCR, Catastrophes Naturelles, p. 6 et seq.; Consorcio, Diversity of Systems, p. 64.

contribution can be increased to 12%⁷⁵. In addition, the same is fixed for the excess and pressure is exerted in this way on the municipalities and on owners of buildings. The municipalities must develop a Plan de Prévention des Risques naturels prévisible (“PPR”) that contains and implements specific loss prevention measures with respect to foreseeable natural hazards. If a municipality does not have a PPR and if a natural disaster occurs, it is examined how often, prior to the corresponding interdepartmental decree, other decrees had been issued for this municipality already which referred to the same (foreseeable) natural disaster (e.g. flooding). The excess is then multiplied based on a scale. If it turns out, for example, that, after renewed flooding, a natural disaster due to flooding has already been recorded in three decrees prior to the decree in question, and if nevertheless no PPR is on hand, the excess is tripled; these excesses are mandatory, i.e., they will also be applied if the basic agreement does not contain such a provision, and they cannot be absorbed by separate insurance⁷⁶. In addition, the state re-insurance Caisse Centrale de Réassurance (“CCR”) promotes the prevention of loss caused by natural hazards as well.

2. Effective defrayment of loss in the natural disasters sector by the state reinsurance Caisse Centrale de Réassurance (CCR)

For the owner of a building, the natural disaster risk is “insurable” only because it can be widely passed on to the state reinsurance, the CCR, by private direct insurers. Although the CCR has the legal structure of a stock company, 100% of the share capital is, however, owned by the state⁷⁷.

Although the CCR does not have a legal monopoly with respect to reinsuring natural disaster risks, i.e. the direct insurers can cover their natural disaster portfolio with any reinsurer, the terms and framework conditions of the CCR are, however, so advantageous that assigning it to a private reinsurer makes no sense. In particular, the CCR can absorb the natural disaster risk without limits and is itself safeguarded by an unlimited state guarantee⁷⁸.

Reinsurance by the CCR takes place in the following framework⁷⁹:

⁷⁵ Loi no. 95-101 du 2 février 1995 relative au renforcement de la protection de l’environnement; Loi de Finance no 2008-1425 du 27 décembre 2008; Rapport Annuel 2008 of the CCR, p. 23.

⁷⁶ Art. Annexe I and Annexe II art. A125-1 as well as Art. A125-3 Code des assurances. CCR, *Catastrophes Naturelles*, p. 7; Consorcio, *Diversity of Systems*, p. 65.

⁷⁷ Art. L431-9 Code des assurances, Art. 11 Loi no. 92-665 du 16 juillet 1992; CCR, *Catastrophes Naturelles*, p. 3; Consorcio, *Diversity of Systems*, p. 67;

⁷⁸ CCR, *Catastrophes Naturelles*, p. 3, 19 et seq.; Art L431-9 Code des assurances; Décret no 82-706 du 10 août 1982; Consorcio, *Diversity of Systems*, p. 66 et seq.

⁷⁹ CCR, *Catastrophes Naturelles*, p. 3, 19 et seq.; Consorcio, *Diversity of Systems*, p. 67 et seq.

- Quota share reinsurance: the direct insurer can currently transfer exactly 50% of his *entire* natural disaster portfolio to the CCR, while the remaining 50% remain with the direct insurer as a priority (point of attachment) (on the problem of negative selection see below).
- Stop-loss reinsurance: above an agreed annual loss sum (priority/annual aggregate), the loss is absorbed by the CCR (annual excess of loss); there is no limit regarding the defrayment of loss by the CCR.

Even the CCR continually strives to assess the damage-causing event and to limit the potential extent of losses a priori by means of prevention measures. For this purpose, hazard maps are prepared in order to render risk exposure and loss potential more transparent⁸⁰

Finally, it should be noted that the CCR does not only operate the reinsurance of natural disaster risks with a state guarantee, but reinsures other risks as well, without state guarantee. In this respect, the CCR differentiates between “réassurance avec garantie de l’État” and “réassurance de marchés”. The latter, however, should not amount to more than one third of the entire premium revenues, while reinsurance of natural disaster risks should continue to represent the focus of the CCR’s activity, amounting to two thirds. The CCR at any rate consistently makes sure that its premium revenues from “market reinsurance” do not exceed the rate of one third⁸¹.

The French insurance system corresponds to type 2 of the types of insurance systems presented.

3. Adaption of the French system due to moral hazard and negative selection

The current framework conditions of the French system presented above are the result, not least, of numerous adaptations made in recent years. These adaptations had to be undertaken because the French system was affected to a considerable extent by the problems of moral hazard and negative selection which threatened to unhinge the entire system. *Negative (risk) selection (also described as “anti-selection” or “adverse selection”)* refers to the problem whereby only insured parties with high risks (*bad* risks) take out insurance, which will lead to an accumulation of bad risks with the insurance organisation and thus to financial imbalance. The *good* risks, however, do not take out any insurance at all and/or have alternatives that are not open to bad risks⁸².

⁸⁰ Rapport Annuel 2007 of the CCR, p. 7, 17.

⁸¹ Rapport Annuel 2005 of the CCR, p. 23; Rapport Annuel 2007 of the CCR, p. 6 et seq., p. 11 et seq.; Rapport Annuel 2008 of the CCR, p. 11 et seq.

⁸² Cf. VON FÜRSTENWERTH/WEISS, p. 443; SWISS RE, Manual, p. 243.

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