

Christopher Kopper
Dept. of History
Universität Bielefeld
e-mail: ckopper@hotmail.com

Knowledge and (re)insurance. The Munich Re and the shifting limits of reinsurance after 1945

Before 1914, the Munich Re had already become world biggest reinsurance company with a global range encompassing Europe and North America. But World War I and Germany's post war hyperinflation limited the regional scope of the Munich Re to Germany, the former Central Powers and the neutral nations of Europe. After 1923, the Munich Re re-gained a foothold in the European reinsurance business. Due to the sequestration of her American assets, the Munich Re did not manage to re-establish a foothold on the American market during the 1920s and 1930s. But the territorial reduction from a global to a European player did not prevent the Munich Re from re-attaining the position of world's biggest reinsurance company until 1936.

World War II re-limited the spatial field of the Munich Re to the countries under German occupation and the neutral nations of Europe. Thanks to an elaborate camouflage scheme, the Munich Re managed to continue business with some pro-allied countries in and outside Europe even during the war. The Zurich-based Union Rück, a 100% affiliate company of the Munich Re, acted as a trustee of the Munich Re and stepped into several hundred of her foreign reinsurance contracts.

After Germany's unconditional surrender, the German reinsurances were not allowed to re-enter the foreign markets until 1950. But the re-globalization of Munich Re already started off in the early 1950s. Unlike the 1920s, the Munich Re managed to enter markets in South Asia and Japan.

The re-emergence of the Munich Re as a global player can be explained by the fact that her professional reputation as a knowledgeable and dependable insurance had not been affected by the National Socialist foreign trade and foreign exchange policies. Second, the Munich Re emerged as an innovative reinsurer with a greater determination to take risks than her biggest competitor, the Swiss Re. During the 1950s, the Munich Re was the first mover in the world-wide re-insurance of industrial machines.

Since the beginnings of reinsurance in the 19th century, re-insurance was a knowledge-based and highly internationalized business. But until the 1950s, the management of the Munich Re was dominated by lawyers, and not by engineers, mathematicians and scientists. So far, the scientific application of stochastic math was limited to a field of insurance where mathematical skills had been applied since the 19th century: Life Insurance. In the non-life fields of insurance such as home and building insurance, the statistical knowledge for the premium and reserve calculations was applied by actuaries. Actuaries were insurance professionals with statistical skills, but without research qualifications and university degrees in math. Their knowledge of damage probabilities was generated through the statistical analysis of damage events. This kind of knowledge was stochastic and based on ex-post experience. If damage probabilities were underrated, future losses could be prevented through the re-adjustment of premiums and commissions. Re-insurance contracts were closed on an annual base and were routinely canceled by the reinsurances for re-negotiations. Reinsurers avoided operating deficits through the ex-post adjustment of the premium level to the damage level.

Globalization confronted the Munich Re with challenges to its traditional underwriting principles. Re-insurance companies like the Munich Re and the Swiss Re had developed a long-standing practice about the exclusion of “bad” risks. Until the 1950s, the Munich Re did deliberately excluded incalculable geological risks like earthquakes and unpredictable weather-related risks like floods from coverage. But during the course of globalization in the 1950s and 1960s, the Munich Re experienced a perforation of the borderline between “good” and “bad” risks. The Munich Re had to adapt its non-admittance policy of “bad” climatic and geophysical risks to the demand structures of non-European insurance markets and the expectations of their foreign clients. In some European insurance markets, the Munich Re had to accept the regulatory standard to include comprehensive weather-related risks into home insurance contracts

The U.S. affiliate of the Munich Re could not refuse to re-insure the hurricane insurance contracts of the American primary insurers. In a similar case, Munich Re had to admit earthquake risks on the growing reinsurance market in Japan. Globalization pushed the limits of re-insurance and forced the Munich Re and its competitors to deal with risks they had previously perceived as incalculable. The activities of the Munich Re outside Europe triggered significant learning effects. Through their presence on the Japanese market, the Munich Re learned a lot about risk cumulation control in earthquake areas.

The unknown risk structures of non-European markets were important push factors to build sophisticated databases for the regional probabilities of climate-dependent weather hazards and geological risks. The experience-driven actuary knowledge of insurances was falling behind the epistemological challenges of the global (re)insurance business. As a consequence, the Munich Re started with the build up of scientific research

units for the assessment of geophysical and climatic risks in the 1960. But it should take until the early 1970s until the non-life branches of the Munich Re started to employ sophisticated stochastic knowledge. The success of global reinsurance required more than solid knowledge of national and international insurance law and the actuary monitoring of premium/damage coefficients.

The emergence of new technologies formed another push factor for the integration of scientific and technological knowledge in the reinsurance industry. When the first serial jet planes were introduced into civilian aviation around 1960, primary insurances and reinsurance companies were confronted with the challenge to assess the risk structure of an unknown technology. As a consequence, primary insurances assessed this new and unpredictable risk very cautiously and started with high insurance premiums. The problem of the unknown risk behavior of jet planes was even aggravated by the missing experiences with cumulative risk structures. A plane crash does not only involve the compensation for the plane loss, but includes cumulative risks in the life insurance of passengers and crew and the third party liability for damages of other planes and of ground installations. Following the traditional piecemeal engineering process of the insurance industry, the insurances adjusted the premium level to the previous accident rate – which turned out to be considerably lower than expected.

The demand for scientific knowledge became most evident for the insurance of nuclear power stations. As a consequence of their high value and their unprecedented – and unknown - risk potential, primary insurances and reinsurances had to form national insurance pools to ensure a sufficient coverage of reactors. Nuclear power stations were the first

technological artefacts which confronted the reinsurances with the financial limits of private liability insurance. But the insurance of nuclear power stations would have failed if the national governments had not provided an unlimited liability ceiling. The liability of the German nuclear insurance pool was limited to a maximum of 500 Million Deutschmarks per reactor, whereas the total liability for the greatest expected nuclear accident was incalculable. All third party damages above 500 Million Marks were to be covered by the German government. In the late 1960s, the Munich Re hired a nuclear physicist to provide professional expertise for the risk assessment of nuclear power stations.