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The Law and Economics of Insurance: Catastrophic Risks, Competition on Insurance Markets and Insights from History

by Roger Van den Bergh*

This first part of this issue contains seven papers selected from contributions to the Tenth Bi-annual Joint Seminar of The Geneva Association for the Study of Insurance Economics and the European Association of Law and Economics (EALE). Over the past 20 years this co-operation has been extremely useful and enriching for both sides. Insurance policies are provided within a legal institutional framework that may have either positive or negative effects on the efficiency of the insurance markets. Hence, for The Geneva Association, the study of the economic effects of legal rules is crucial for a better understanding of real-life insurance problems. Conversely, for EALE, the co-operation has generated a lot of information that has made it possible to test empirically the predictions of economic models. This has certainly contributed to bridging the gap between pure theory and practical problems of daily insurance practice. The Tenth Joint Seminar took place in Rotterdam on 14–15 April 2003, and was organized by the Rotterdam Institute of Law and Economics of the Erasmus University, under the auspices of the Dutch Research School for Safety and Security in Society. I would like to thank The Geneva Association for its generous sponsoring of this event, and the anonymous referees who have helped me carry out the difficult task of selecting papers for publication in this issue of *The Geneva Papers on Risk and Insurance – Issues and Practice.*

The Tenth Joint Seminar between The Geneva Association and the European Association of Law and Economics covered a broad range of topics. The first session was devoted to catastrophic risks. After some spectacular calamities, the insurability of catastrophic risks has become firmly established on the political agenda. The damage caused by the flood disasters in the summer of 2002 impelled the insurance industry to reassess the existing flood insurance regimes. Two papers published here provide a critical evaluation of flood insurance in two countries: Germany and the United Kingdom. In addition, a third paper discusses the economic features of catastrophe bonds. A second set of papers discussed at the seminar focused on competition in insurance markets. The fourth paper in this issue is an empirical study of the effects of deregulation in the Italian motor insurance industry. The next paper also discusses the Italian market, and more particularly the question of the conditions under which exchange of information can be seen as proof of collusive behaviour. The two last papers in this section are written by economic historians. In the past, insurance has carried out functions that are much broader than a traditional analysis restricted to issues of risk aversion would predict. The papers published here are a nice illustration of how history may enrich the traditional law and economics research agenda.

* Professor, Erasmus University Rotterdam, The Netherlands.

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The first paper, "In the aftermath of Dresden: new directions in German flood insurance", is by Reimund Schwarze and Gert Wagner. German flood disasters in summer 2002, which were most visible in the city of Dresden, highlighted a dilemma regarding insurance against damages caused by natural forces. On the one hand, mindful of the rising incidence of natural disasters, private insurance companies are increasingly withdrawing coverage against natural catastrophes such as wind storms and floods. On the other, the availability of emergency relief and private donations is systematically weakening the incentive for potential victims to implement preventive measures so as to reduce the risk of damages. The dilemma is further exacerbated by the evident overestimation of the extent of damages in the immediate aftermath of natural disasters, resulting in the unnecessary withdrawal of private demand and ad hoc reprogramming of public investment. Most of these problems could be resolved by the introduction of a general mandatory insurance against natural catastrophes. This paper proposes a practicable natural hazard insurance for Germany that is based on two principles. First, all basic natural disasters (wind storms, floods, earthquakes, etc.) would be covered by a single policy. This pooling approach would increase the efficiency of risk coverage as well as the level of acceptance for the new type of insurance. Second, in the case of floods, only "once-a-century" damages would be insured. Regularly recurring floods, however, would not be covered. The state would step in as the final insurer in cases of accumulating damages, but state intervention would be strictly limited to covering extreme losses.

The second paper, "Insurability and regulatory reform: is the English flood insurance regime able to adapt to climate change?", is by Michael Huber. In the context of flood insurance, it is often suggested privatizing natural hazard insurance, as private insurance is more efficient. This paper analyses the English flood insurance regime that is the only European private regime, and asks how it was able to adapt to the new situation. The regime is based on a division of responsibility between state and industry; flood protection and compensation are independent areas of flood management. When floods generate unexpected costs and put pressure on the insurance industry new arrangements have to be made. The paper outlines the main features of the original regime, and sketches the main areas of reform in order to re-establish a stable flood management regime after the disastrous flood of 2000. The overall goal is to allow the industry to select the risk in a more rigorous way and to commit the state to invest more in flood protection. Good intentions have unintended effects, in this case not only opening up insurability negotiations to experts, local authorities and regulators, but also changing the role of industry with respect to the state in a fundamental way. The original construction of flood management is bound to fail under the new conditions.

Catastrophe bonds (cat bonds) often use index triggers, such as, for instance, parametric descriptions of a catastrophe. This implies the problem of the so-called basis risk, resulting from the fact that, in contrast to traditional reinsurance, this kind of coverage cannot be a perfect hedge for the primary's insured portfolio. On the other hand, cat bonds offer some very attractive economic features. Besides their usefulness as a solution to the problems of moral hazard and default risk, an important advantage of cat bonds can be seen in presumably lower risk premiums compared to (re)insurance products. Cat bonds are only weakly correlated with market risk, implying that in perfect financial markets these securities could be traded at a price including just small risk premiums. Furthermore, there is empirical evidence that risk aversion of reinsurers is an important reason for high reinsurance prices. In the paper by Nell and Richter, the authors introduce a simple model that enables them to analyse cat bonds and reinsurance as substitutional risk management tools in a standard insurance demand theory environment. The authors concentrate on the problem of basis risk versus reinsurers' risk aversion and show that the availability of cat bonds affects the structure of an optimal

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reinsurance contract as well as the reinsurance budget. Primarily, reinsurance is substituted by index-linked coverage for large losses.

The paper "How deregulation shapes market structure and industry efficiency: the case of the Italian motor insurance industry", by Giuseppe Turchetti and Cinzia Daraio, provides new empirical evidence of the effects of deregulation in financial services markets by analysing the Italian motor insurance industry. It offers a contribution to the debate on market liberalization by using a large and detailed database on the whole Italian insurance sector over the period 1982–2000. The data available span the introduction of the European Union (E.U.) directives aimed at deregulating the E.U. insurance market and offer the opportunity to test several effects of deregulation measures on market structure and industry efficiency, along with their dynamics, over time. The authors provide evidence of the dynamics of Italian insurers, the entry-exit process, the evolution of concentration of the motor business, the rate of growth of insurance activity and the efficiency and productivity of a sample of Italian insurers active in the area of motor liability, distinguishing between insurers hit by the Italian antitrust measure, and those insurers who were not fined. They estimate cost efficiency, allocative efficiency, scale efficiency, total factor productivity change and technical change.

The paper "Information exchange as collusive behaviour: evidence from an antitrust intervention in the Italian insurance market", by Donatella Porrini, aims to show the effects of information exchange in the insurance market: on the one hand, pro-competitive effects deriving from the solution of asymmetric information problems; on the other hand, anti-competitive effects as consequences of collusive practices. On this last point, a decision by the Italian Antitrust Authority with reference to the automobile insurance market is examined. In this decision, the exchange of information between insurance companies through an external consultant company was considered proof of collusion. Finally, there are some concluding remarks on the general problem of the link between Antitrust Authority decisions and the contributions of the economic literature.

The next paper, "The emergence and development of fidelity insurance in 19th-century Britain" by Greg Anderson, explores the evolution of fidelity insurance in 19th-century Britain. Prior to the development of this form of insurance there was uncertainty associated with employee dishonesty, especially among key employees such as clerks. The high-trust culture associated with gentlemanly capitalism provided a partial solution to this problem as did institutional arrangements such as commercial apprenticeship and private suretyship. From around 1840 weaknesses became apparent in private suretyship while at the same time the risks of employee dishonesty increased as the number of clerks and the number, size and complexity of businesses expanded. Fidelity insurance emerged at a critical juncture in the transition from traditional to corporate forms of clerical employment.

The last paper in this section, "Insurance as an instrument of war in the 18th century", is by Geoffrey Clark. During the War of the Austrian Succession (1740–48), the British Parliament outlawed marine insurance policies for which no insurable interest could be shown in an effort to suppress speculation and fraud. An examination of this legislative history and surrounding debates reveals a close connection between marine insurance regulation and the prosecution of war against Spain and France. Exceptions to the parliamentary ban on "interest or no interest" policies served the strategic interests of the state by aiding British privateers and by encouraging speculation and fraud in the shipping of its enemies.

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