

The Making of Modern Insurance: A Sociological Approach

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The origin of insurance is undoubtedly one of the most intriguing topics of both the history of law and the history of economy dealing with the transition from late-medieval to early-modern society. The same topic is also crucial for historical sociology simply because insurance is a core institution of modern society. However, a sociology of insurance is not yet available. This is all the more surprising if one takes into account its close link with the sociology of risk – a discipline which has already been extensively developed (Beck 1986; Luhmann 1991).

To fill this gap, a sociological theory of insurance decision-making should first be developed (Tönnies 1917; Luhmann 1996), and an in-depth investigation of the interplay between insurance and social structures in modern society should be carried out. In my research project, I focus on the second issue.

A large historical research argues that late-medieval insurance mostly was a form of gambling. Yet it must be clarified in what sense this is to be understood. To clarify this statement, one can turn to the important distinction introduced by Ludwig von Mises ([1949] 1998, 106ff.) between case probability and class probability.

According to von Mises, “case probability” is a contradiction in terms since the singular event is itself unpredictable. Any probability estimate associated with the individual case depends on a calculation that starts from the class to which the case belongs. The probability assigned to the individual case is thus a probability of the case *as a member* of a given class. For the case *as such* (as for any real future event), one can only speak of pure chance, which means that the individual case escapes any calculation and remains as such unpredictable. Only a class can be calculated.

Following von Mises’ distinction, I argue that late-medieval insurance contracts were stipulated on the individual case, but they quantified the premium based on some estimate of claim frequency. These contracts should therefore be regarded as gambles not simply because an established form of statistical and probabilistic calculation was lacking, but because the practice of distributing losses over all members of the same class was lacking.

Precisely in this sense, as von Mises ([1949] 1998, 109) states, the “basic idea [of insurance business] is pooling and distribution of risks, not the calculus of probability”. It is only in the distribution of losses among all members of the same class, in fact, that that particular effect of insurance business is generated whereby it is advantageous for everyone to share the uncertainty of the other members of the same class, since only in this way can everyone be certain of being financially covered in the loss event.

This principle had not escaped the early-modern merchants who made insurance business. In his famous treatise on commerce, Benedetto Cotrugli ([1458] 1602, 75) had recommended to underwrite “continuously, & upon every ship, because the one offsets the other, & by pooling, [the insurer] cannot but make a profit”. In this way, Cotrugli had well ahead of his time formulated the second fundamental principle – after the principle of loss expectation – underlying modern insurance business.

The implementation of the risk pooling and spreading mechanism, however, took place definitively when insurance became a joint stock company based on actuarial calculations. This transformation occurred rather late, between the first half of the 18th century and the first half of the 19th century. The reasons for this delay, or even for the resistance of society to the establishment of insurance companies, are manifold and it is not easy to trace them back. Antonio La Torre (2000, 198) has spoken, in this respect, of a transition from (separate) “acts” to (entrepreneurial) “activity”. In this way, however, the problem is simply indicated, not solved. Insurance becomes modern when spread becomes pool-and-spread, but this is precisely what socio-historical research should explain.

In this project, I argue that sociological investigation should focus both on the structural change of modern society and the evolution of ideas.

(I) With respect to the evolution of ideas, I explore the impact of the doctrine of aleatory contracts on the idea of probability underlying mathematical calculus. As Lorraine Daston (1988) observed, the development of classical probability theory has been driven more by legal problems than by mathematical ones. Because these problems – especially, equity and the determination of fair price of aleatory contracts – were already present in the late Middle Ages, one wonders however why probability theory had not been developed earlier (Coumet 1970).

It is not easy to explain why a calculation that, as Daston (1987, 237ff.) has pointed out, was custom-made for insurance practice has been so long neglected. A sociological hypothesis is that statistical-probabilistic calculation, before being employed in insurance practice, had to overcome

not so much mathematical problems as plausibility thresholds. In this research, I argue that there were at least three thresholds:

a) the first is what is now usually termed “law of large numbers”. Underlying this law there is the idea that, while the individual case is unpredictable, the aggregation of many similar cases gives rise to regularities that can be very useful when it comes to decision-making.

The striking aspect of the insurance principle of risk pooling and spreading lies in the fact that it turns this complexity, which is first and foremost a problem, into a solution. The spread of chance in the pool and over time is an unsolvable problem only if one reasons in terms of individuals. It becomes a solution, instead, if one reasons in terms of aggregations. Insurance, being an aleatory contract, takes advantage of this opportunity when it calculates the “lawfulness (Gesetzmäßigkeit) of chance” – that is, when it uses chance to overcoming chance (Hülße 1916).

For early-modern insurance companies, however, this meant accepting the not immediately obvious idea that increasing risks meant reducing risks taken by the company. Statistical and probabilistic calculations contradicted, in this respect, common sense and required a special effort to accept the credibility of what looked like a paradox.

b) This implied a second form of implausibility: the calculation could also show that there are regularities in the social and temporal distribution of chance, but nothing could ensure that those regularities were regular. If uncertainty could somehow be calculated, the issue remained as to how to ensure that the results of calculations were a reliable basis for decision-making. The matter was therefore that of believing “in the reality and stability of averages” (Daston 1988, 115). How did insurance institution overcome this improbability?

c) Finally, there was a further plausibility threshold to overcome. Lorraine Daston (1987, 238ff.) observed that gambling and insurance shared, as aleatory contracts, the idea that a bet is fair if both players have the same odds. If instead one of the players, whatever the reason may be, has higher odds of winning, the play is not fair. In the case of insurance agreements, indeed, the situation could appear unequal in favour of the insurer: by playing on large numbers, the insurer can calculate the bet and have a high chance of profit. The insured, on the other hand, is confronted with a single chance, hence with a genuine and by definition incalculable uncertainty. How did this disparity come to be normalized?

II) The change in attitude towards insurance between the second half of the 17th century and the first half of the 19th century, however, cannot be explained on the level of the evolution of

ideas alone. The transformation of social structures produced by functional differentiation should also be taken into account. The case of insurance is, in this respect, a striking evidence of how complex the interplay of social structures and ideas is, and that socio-cultural evolution cannot be reduced to causal interpretations of this interplay.

The success of insurance in modern society goes hand in hand with a generalisation of risk orientation. In terms of social structures, this means that solidarity against dangers is gradually replaced by a risk market (Cevolini 2014, 196ff.). How was such transition possible?

I argue that underlying such transition there was the replacement of hierarchical stratification with functional differentiation of society. One effect of functional differentiation, in fact, is the exemption of interaction systems and typically medieval mutual-help associations from many of their functions. The latter are assigned to social subsystems that implement them through their own organisations. As the function of education, for example, no longer takes place in the family but is assigned to the education system through schools and university institutions, so many welfare and provisions functions previously implemented by family networks and self-help corporations are assigned to the money mechanism-based economic system, which implements them through business companies (Ewald 1989; Luhmann 1996).

This opens up a field of research still largely unexplored by the sociology of risk and insurance. An investigation into the structural changes of modern society should explain

- a) the transition from “concrete mutualities” to “abstract mutualities” (Ewald 1991, 203);
- b) how this transition coincides with the emergence of secondary structures, i.e. structures characterised by the fact of being “non-interactional ways of relating to others” (Luhmann 1987, 118);
- c) and how a correlate of these structures are all those pools of policyholders that actuarial calculations create as “fictions” (Rohrbeck 1949, 240) which make, in the end, the insurance business work.

Literature

Beck, Ulrich (1986): *Risikogesellschaft. Auf dem Weg in eine andere Moderne*. Frankfurt a.M.: Suhrkamp.

Cevolini, Alberto (2014): *Der Preis der Hoffnung*, in: Alberto Cevolini (ed.), *Die Ordnung des Kontingenten. Beiträge zur zahlenmäßigen Selbstbeschreibung der modernen Gesellschaft*. Wiesbaden: Springer VS, 177–207.

- Cotrugli, Benedetto (1602): *Della mercatura e del mercante perfetto* [orig. ed. 1458]. Brescia: Alla Libreria del Bozzola.
- Coumet, Ernest (1970): *La théorie du hasard est-elle née par hasard?* *Annales. Economies, Sociétés, Civilisations* 25, 574–598.
- Daston, Lorraine (1987): *The Domestication of Risk: Mathematical Probability and Insurance, 1650-1830*, in: Lorenz Krüger et al. (eds.), *The Probabilistic Revolution, I*. Cambridge (MA): The MIT Press, 237–260.
- Daston, Lorraine (1988): *Classical Probability in the Enlightenment*. Princeton: Princeton University Press.
- Ewald, François (1989): *Die Versicherungs-Gesellschaft*. *Kritische Justiz* 22, 385–393.
- Ewald, François (1991): *Insurance and Risk*, in: Graham Burchell et al. (eds.), *The Foucault Effect. Studies in Governmentality*. London: Harvester Wheatsheaf, 197–210.
- Hülße, Friedrich (1916): *Die Überwindung des Zufalls durch Ausnutzung des Zufalls. Das Wesen der Versicherung*. *Mitteilungen für die öffentlichen Feuerversicherungs-Anstalten* 48, 262–266; 376–378.
- La Torre, Antonio (2000): *L'assicurazione nella storia delle idee. La risposta giuridica al bisogno di sicurezza economica: ieri e oggi*. Milano: Giuffrè.
- Luhmann, Niklas (1987): *The Evolutionary Differentiation between Society and Interaction*, in: Jeffrey C. Alexander et al. (eds.), *The Micro-Macro Link*. Berkeley/Los Angeles: The University of California Press, 112–131.
- Luhmann, Niklas (1991): *Soziologie des Risikos*. Berlin and New York: Walter de Gruyter.
- Luhmann, Niklas (1996): *Das Risiko der Versicherung gegen Gefahren*. *Soziale Welt* 47, 273–283.
- Mises, Ludwig von (1998): *Human Action. A Treatise on Economics* [orig. ed. 1949]. New Haven: Yale University Press.
- Rohrbeck, Walter (1949): *Il valore della persona umana nell'assicurazione e la coscienza di gruppo dell'assicurato*. *Assicurazioni* 16, 239–262.
- Tönnies, Ferdinand (1917): *Das Versicherungswesen in soziologischer Betrachtung*. *Zeitschrift für die gesamte Versicherungswissenschaft* 17, 603–624.