Boletín del Grupo Internacional de Trabajo
"Nuevas Tecnologías, Prevención y Seguro"

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NEW CHALLENGES FACING INSURANCE AND REINSURANCE MARKETS

THE INFLUENCE OF ICT, GENETICS AND NANOTECHNOLOGY IN RISK ANALYSIS, DESCRIPTION OF INSURANCE RISK AND CLAIMS MANAGEMENT, AND PREVENTION IN INSURANCE POLICIES

Meeting of the Working Group on New Technologies, Prevention and Insurance, Hamburg, 22nd May 2008

I.- Technology challenges facing insurance and reinsurance markets

Insurance and reinsurance markets are today facing up suggestive challenges posed by technological development and scientific research. Technology is the driven force of modern economies, and offers business new opportunities of innovation and growth. Nevertheless, technology engenders also new and unexpected risks likely to cause damages of unpredictable order and inestimable extent.

Understanding the described phenomenon, identifying new risks, assessing the impact on coverage, description of insurance risk and claim management and evaluating the role of prevention and mitigation measures are the aims guiding the work of the AIDA Working Group on New Technologies, Prevention and Insurance. Diagnosis stage is based on the drafting of a questionnaire to be distributed among national delegations in order to gather useful information from every country and elaborate therefrom a catalogue of proposals and recommendations for the sector. The ultimate goal is providing professionals with efficient tools to manage risks and profit from the opportunities created by new technologies.

One of the first tasks to carry out is to identify those areas posing most suggestive challenges to insurance and reinsurance industry. In this regard, for the purposes of the meeting of the International Working Group held in Hamburg on 22 May 2008 (AIDA Europe Conference) three main areas were proposed for discussion: Information and Communication Technology (ICT), Biotechnology and Genetics, and Nanotechnology.

II.- Insurance policies and ICT

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The greatest and most popular exponent of ICT is Internet, but role played by technology is wider and multifaceted. Three dimensions might well be worth noting: technology as channel, as medium, and as space. Firstly, as far as ICT as channel supporting communication networks is concerned, some legal concerns are evoked regarding use of computers by employees, disciplinary power of employer thereon, scope of insurance coverage or damages caused by virus. Secondly, ICT as entailing the provision of a new medium, the digital one, arouse issues pertaining to the realms of privacy, data protection and prevention measures and contingency plans. Thirdly, under the most sophisticated approach the Web is a new space where emerging possibilities for insurance industry range from the simplest website models for advertising and trade to the most complex electronic platforms (e-Marketplaces).

Once having spotted the undisputable advantages of ICT, the question turns to understand the involving risks. Several factors determine the extent of possible risk scenarios: damages are amplified and uncontrollably multiplied by effect of network-shaped structure; events are hard to monitor due to the decentralized operation of Internet; territorial connecting factors to establish applicable law and competent courts are uncertain; information are highly vulnerable on electronic form; and technological dependency locks business in.

III.- Risks and opportunities of Nanotechnologies

Broadly defined the term nanotechnology comprises a range of technologies perfomed on nanometer scale with widespread applications in various industries. Along with the discussion of their enormous technological and economic potential, from the use in cosmetics, sports equipment and drugs to the varied applications as enabling technologies in electronics and communications, chemical industry, manufacturing or space exploration, a debate about new and specific risks has started.

From an insurance perspective, nanoparticles are likely to draw some risks scenarios defined by the following features: increasing exposure to potential harmful effects; disconcerting lack of knowledge about consequences deriving from manufactures or free nanoparticles; complex interaction of different risk factors hampering the establishment of causal link; unforeseeable losses from accrued unrevealed risks; optical, electronic and magnetic behaviors of materials according to quantum physics rules.

IV.- Biotechnology and Genetics

Evolution of biotechnology and genetics bodes the arousing of fascinating issues in next future; but suggestive legal concerns as well as regards insurance policies.

Two examples might be quite revealing. On the one hand, risks on environment, agriculture or health likely to stem from contained use, voluntary release and commercialization of GMOs. On the other hand, an indiscriminate use for insurance purposes of genetic tests is enough to evoke alarming concerns regarding the adoption of insurance practices on discriminatory basis, the emergence of "non-insurable" citizens or the unavoidable encroachment of the right not to know.

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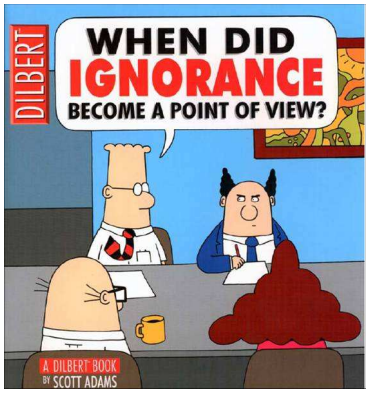
Genetic Engineering and Liability Insurance

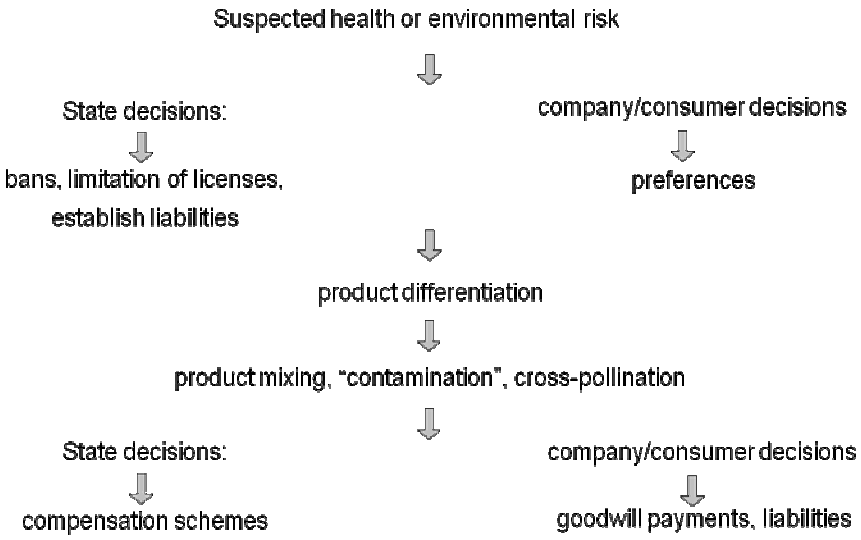


The debate on the risks of genetic engineering differs from debates on other risks. It extends the risk aspect in two directions. More than with other technologies, it includes the anticipatory field of hypothetical or speculative suspicion of risk – risk to health, to the environment or to crops. And it serves as a vehicle for expressing reservations of all kinds regarding the social, cultural, political and economic consequences of genetic engineering.

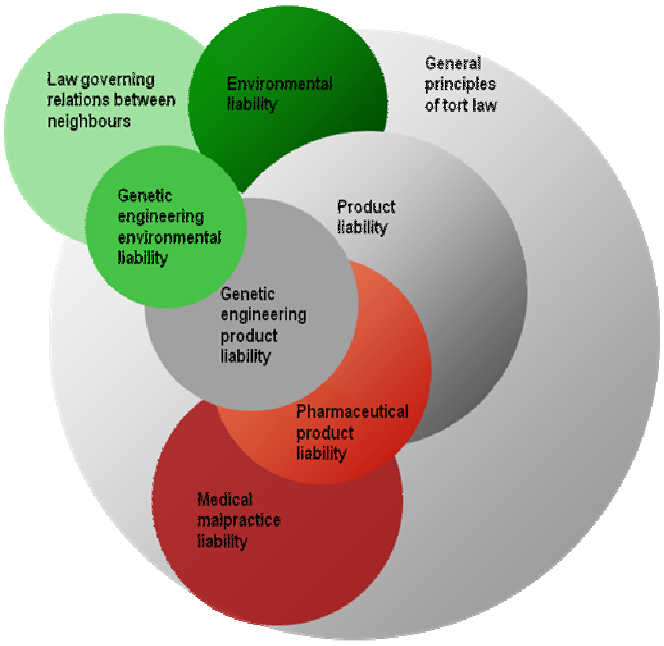
There is no democratic control over the forces of social change: under liberal regimes of innovation, the mandate of political decision making is limited to regulation, to containment of risk. Safeguarding health and environment does not reflect or address other issues at stake in the political battles. But risk perception is a psychological and social construct: Escalating risk perception is a strategy to maximize political control over technology within the liberal regime of innovation. Risk perception not only a recourse but also a product of the political process. See .v.d. Daele, Legal framework and political strategy in dealing with the risks of new technology, in: Elgar (ed.), The Regulatory Challenge of Biotechnology, 2007, 118-137.

Liability insures have so far been barely confronted with the core of the problem – development risks for health and the environment. However, they have been already confronted to a massive extent by the consequences and side effects of precautionary measures. These measures are, in turn, influenced by the above-mentioned characteristics of the risk debate on genetic engineering: decisions in the field of speculative risk, shaped by the many different aspects of the debate. Such decisions give rise to commercial risks involving liability, recall, property in agriculture and credit insurance.

Precautionary principle and GMO: creating economic losses and liabilities



If we look at all kinds of application of genetic engineering, the traditional rules of tort and property law apply, as well as the more specific rules of product, environmental and medical liability and the correspondent liability insurance cover concepts. The issue of extended interpretation of bodily injury, property or ecological damage may arise. And there are debates around specific liability rules in connection with genetic engineering in the agricultural sector, or around channeling of liability to the detriment or in favor of producers, farmers, users, or doctors. Only such specific rules may create the need for specific liability insurance wordings.



Redactor: Christian Lahnstein, Munich Re

GMO liability: options for the insurers

Ina Ebert/Christian Lahnstein

I. Introduction

If a traditional farmer suffers a loss of income due to unwanted cross-pollination, insurance coverage of such a loss might theoretically involve different insurances of the affected parties, depending on the liability structure of such losses: the commercial third-party liability insurance of the GMO farmer, the product liability or recall insurance of his supplier, an agricultural insurance against material damage of the traditional farmer or, if the cross-pollination was only discovered after the genetically modified (GM) products had been

passed on to customers, the product liability or recall insurance of the traditional farmer. However, determining the existence of coverage for each of these types of insurance is problematic for a variety of reasons. In addition to this, GMO cross-pollination losses are usually explicitly excluded from insurance coverage due to the incalculability of associated risks, particularly in countries with stringent liability laws governing GMO farmers that are independent of proof of causality. Two alternatives for settling such cross-pollination losses sustained by traditional farmers have been developed in practice parallel to insurance solutions: variously organised and financed compensation funds and also contractual constructions under which the seed producer obligates himself to buy any plants of farmers in the neighbourhood of the seed producer´s customers affected by unwanted cross-pollination at the price of not genetically modified crops. In such cases, any need for insurance or options for insurers arise only insofar as some area not covered by these alternatives remains to be dealt with by liability law. This will mostly be the case where funds are activated or any purchase obligation arises only if the GMO farmer has adhered to all safety requirements or if the unwanted cross-pollination cannot be traced back to a specific GMO farmer.

If cross-pollination losses are to be covered by insurance, the question arises of the scope and terms and conditions at which such insurance protection can be granted. Apart from restricting insurance protection to certain types of plants and GMs as well as agreement of monetary limits, consideration must primarily be given to setting safety standards for preventing unwanted cross-pollination.

II. Coverage of cross-pollination losses in individual classes of business

1. Commercial third-party liability insurances of GMO farmers

Since GMO farmers are in any case exposed to liability for unwanted cross-pollination, it would in principle be logical to have cross-pollination losses (at least also) be included under their commercial third-party liability insurance. Originally, the largest obstacle to this was the fact that the maximum sums insured for pure financial loss were frequently low, if it was included in the cover at all.

Moreover, unwanted cross-pollination might also be regarded as environmental damage, in which case the wide variety of exclusions of non-sudden pollution contained in various forms in all commercial third-party liability insurance, would probably stand in the way of coverage. In the case of cross-pollination losses related to plant types where the cultivation of GM crops almost inevitably leads to cross-pollination, coverage would conceivably also be refused because of a lack of fortuitousness of a loss event, although this would depend on the structure of the insurance contract.

Particularly in countries that have stringent liability laws under which the GMO farmer's liability is independent of proof of causality, coverage of cross-pollination losses has however met with widespread doubt in the insurance industry, particularly in the wake of the first large recall campaigns resulting from unwanted cross-pollination. As a consequence of this, the cross-pollination risk is in some countries – for instance in Germany – considered to be uninsurable in the present legal environment and GMO-related losses are usually excluded from coverage. The most important point of criticism of the insurance industry here is the uncertainty of whether GMO farmers are only liable in the event that the legal limit of 0.9 % is surpassed or also if the insured neighbouring traditional farmer has guaranteed his customers observance of lower threshold values by contract. This distinction is important, because, even if all conceivable safety standards are adhered to, it appears to be virtually impossible to avoid any trace of cross-pollination, at least in the case of commercial cultivation of GM crops. Another pre-condition for the insurability of the GMO farmer´s liability would be the establishment of legal regulations for good professional practice (requiring the erection of barriers, separation of GM and traditional products in storage and transport, etc.).

2. Property insurances of traditional farmers

Even if the traditional farmer has agricultural insurance without any specific GMO exclusion, the loss of income due to unwanted cross-pollination will usually not be covered, since the coverage is limited to (named) natural hazards. Besides, at least as long as traditional farming is the rule and

GMO farmers are the exception, it would also seem unfair to let the possible victim of unwanted cross-pollination pay for having the risk set by the GMO farmer covered by insurance.

3. Product liability and recall insurances of traditional farmers

If unwanted cross-pollination is not noticed before the traditional farmer has delivered his crops to customers, the product liability insurance of the traditional farmer could in principle be involved, if the farmer is liable for exposure due to cross-pollination under guarantees afforded to his customer. This of course presupposes that the insurance protection of the traditional farmer does include pure economic loss (if the national legal system considers the consequences of cross-pollination not as damage to property but as pure economic loss). With the product liability insurances, this will frequently not be the case, since these insurances usually only cover losses to property and personal injury.

However, all the differences in the national legal systems concerning the classification of cross-pollination do not really matter in the end since more recent product liability policies for farmers usually have an explicit GMO exclusion.

4. Product liability and recall insurances of GMO seed producers

Coverage of cross-pollination losses under the product liability or recall insurance of the GMO seed producers is not likely to play a significant role, since the producer will as a rule not be held liable since his products are not defective and a voluntary recall appears to be improbable. A link to liability that might be covered under product liability or recall insurance of the seed producer might therefore only materialise from some violation of the seed producer´s obligation to caution the GMO farmer about the risks related to the cultivation of GMO seeds and inform him about safety precautions. This however presupposes that the seed producer has insufficiently cautioned the GMO farmer and that such an obligation to caution exists under the respective legal system.

III. Alternatives and supplements to the insurance of cross-pollination losses

1. Fund solutions

Regardless of how they are organised and financed, funds can bear the liability in cases of unwanted cross-pollination, provided that they compensate for all financial disadvantages of the traditional farmers. They thus make both special liability regulations governing the consequences of cross-pollination that go beyond general liability law and insurance protection for such financial losses redundant. There is however no evidence of such a comprehensive fund having been established anywhere in Europe. Instead the concept of GMO funds is rather limited to supplementing the traditional liability system, particularly in Denmark and the Netherlands: They ultimately more or less indemnify only those traditional farmers who sustain losses, although no GMO farmer has violated existing protective regulations or because the unwanted cross-pollination cannot be traced back to a specific GMO farmer. In contrast to this, if causality or even a wrongful act on the part of the GMO farmer can be proven, cross-pollination loss is still settled under liability law. This means that the options are the same for the commercial third-party liability insurer as in countries without funds.

2. The seed producer's purchase of products affected by cross-pollination

At least with certain plant types (e.g. maize), products which must be labelled as GM can be sold as cattle fodder without significant shortfalls in selling price. If, despite the adherence to established safety regulations, unwanted cross-pollination occurs, mass producers of GMO seeds therefore occasionally offer to buy the affected crop of the traditional farmer in the neighbourhood of the seed producer´s customer for the price of non-GM crops (e.g. in Germany the Märka model of Monsanto). This concept is already being tested (in Germany since 2005), but has not yet progressed far beyond that stage (there are however plans to expand it in 2007).

Of course, such a solution is only viable for the seed producer if involuntary cross-pollination is rare, or, as in the case of maize, if there is only a small price discrepancy between GM and non-GM products.

Even under the most favourable legal and actual parameters, the buying up solution can therefore only help to solve the problems of indemnifying a small cross-section of traditional farmers for unwanted cross-pollination. Replacing liability law and liability insurance in this area on a large scale, however, does not seem possible, even for cases where the GMO farmer has not committed any wrongful act. Much less is a contractual obligation of the seed producer to buy up the crop of the traditional farmer in the event of unwanted cross-pollination suited to replace liability if the cross-pollination is due to a violation of legal safety requirements by the GMO farmer.

IV. Options of the insurers in structuring the insurance of cross-pollination losses

In case insurers should decide to offer some form of insurance coverage for the consequences of unwanted cross-pollination, they have several options for structuring the offered protection: Apart from the possibility of agreeing upon certain maximum sums insured (event and annual aggregate limits, as well as deductibles), there is the question of which plant types and GMs are to be included. In the past, the discussion of these options has essentially focused on maize and maybe potatoes. At present however more than 40 additional plant varieties are already being tested or at least planned for GM plant cultivation. Since the probability of unwanted cross-pollination differs greatly with each of these varieties, and, in some cases, cross-pollination even appears to be almost inevitable (e.g. with oilseed rape), it does not seem likely that one comprehensive insurance solution can be found for GMO crop. Finding a uniform insurance solution for all plant types seems virtually impossible.

On the other hand, similar to seed producers and the purchase model, insurers will have to impose well-defined rules of good professional practice in cultivating GM plants as a prerequisite for covering cross-pollination losses, at least where adequate state regulations are missing. This could for instance include provisions for erecting barriers between traditional and GM crops, cleaning agricultural machines used on fields of both varieties, as well as criteria for separating both types of products in storage and transport.

The next meeting of our Working Party will be held in Budapest, 26□ □ November, Wednesday, at 14:00, in the Hotel Gellért (1113 Budapest, Gellért tér 1) on the occasion of the X. Aida Budapest Insurance Colloquium.