

newsletter

Emerging Risks

Emerging risks are becoming a significant issue for insurers.

Emerging risks

Alongside classic risks that are rateable in monetary terms, a new series of risks is now posing a problem for insurers, risks that cannot as yet be classified as bona fide perils. The common element linking these emerging risks is that they are genuine and represent a high potential for major losses, the consequences of which cannot be defined in monetary terms, at least not to any satisfactory degree. Conventional actuarial approaches to projecting loss size and frequency are ineffective here. It is often difficult to establish causality between the source of the risk and the ensuing loss with conventional technical or scientific data. What is more, emerging risks share many of the above characteristics with what are known as phantom risks and this serves merely to exacerbate the problem of classification.

While "emerging risk" is gradually becoming an established notion in insurance, there is as yet no all-encompassing definition for the phenomenon. In the following, we draw on specific examples to examine the relevance of these risks to the insurer and the problems that can be encountered.

Literature: Emerging risks - A challenge for liability underwriters, Swiss Re 2003.

Examples:

EMF (electro- magnetic fields)

The danger of electromagnetic fields (EMF) is among the most hotly debated issues surrounding emerging risks. Electromagnetic fields occur naturally in the environment; however, those generated artificially have, in recent decades, become omnipresent. Rapid technological development has meant that it is virtually impossible today to avoid this form of radiation. Its sources include power lines, cell phone masts, electricity sub-stations and cell phones themselves. But even home equipment such as TVs or PCs produce electromagnetic fields. The wide scale usage of such equipment means that humans and animals alike are exposed to the radiation whether they like it or not. In many cases, artificially produced electromagnetic radiation operates at a different frequency to its natural counterpart. EMF is thought to be a cause of sleep disturbances, migraines, neurodegenerative illnesses such as Alzheimer's and Parkinson's disease, and even leukaemia in children. Anecdotal evidence suggest that pastures located close to cell phone masts have been the cause of deformities in the offspring of grazing animals. However, there is as yet no scientific evidence to prove or indeed disprove the link between electromagnetic fields and impairment to the health of humans and animals. Empirical limiting values have been introduced to prevent health impairment. Whether causality will ever be proved, however, remains to be seen.

Literature: EMF – A phantom risk, Swiss Re 1996; apropos – Electrosmog, AssTech 1993.

**TSE
(Transmissible
Spongiform
Encephalopathy)**

BSE and its transmissibility to humans in the form of Creutzfeldt-Jakob Disease (vCJD) is an insurance risk that is at once unpredictable and incalculable. In particular, the lengthy incubation period (up to 35 years for vCJD) means that the manner and form of infection has been clarified in only very few cases so far. Among other things BSE and vCJD are set to occupy insurers for many years to come due to the following factors:

- rapid progress in scientific knowledge;
- development of new technologies (eg tests to detect the disease early in humans and animals);
- increase in public awareness (eg in the wake of the first case of vCJD in Germany);
- the possibility to identify how the disease was transmitted, even over a long period of time (eg by carefully documenting blood lots and surgical instruments).

Only the future will tell what consequences and risk profiles may be deduced from the data captured on occurrences of BSE in beef cattle and vCJD in humans. Potential developments (eg number of as yet undiscovered cases of BSE or vCJD, other countries affected, new methods of analysis) mean that insurers may well be impacted to a much greater degree in many areas. This applies particularly to liability risks involving the pharmaceutical industry, the medical field (especially units where operations are carried out), the blood donation and inoculation services, the agricultural industry, the food and animal feed industry and the cosmetics industry.

Literature: Prion infection on the rise?- Hospitals in need of modern risk management, Swiss Re 2003; apropos – Prions, AssTech 1997; apropos – Prions - A follow-up, AssTech 2002.

Toxic mould

Toxic mould is a generic term relating to the negative effect on health of various types of fungus to which buildings that are host to warm, moist climatic conditions are exposed. Toxic mould can destroy construction materials and, in extreme cases, result in the loss of an entire building. It can cause serious allergic reactions in humans including infections of the skin and the respiratory tracts. Some kinds of mould are suspected of causing cancer.

Property and liability insurers can be impacted by losses, eg house owner covers, construction firms or architects. In the USA, lawsuits involving toxic mould have already become a big financial headache for insurers. Indeed, the peculiarities of the U.S. legal system coupled with the increasingly litigious nature of the population have quickly transformed toxic mould from an emerging risk to a bona fide risk. Current claims for damages in this sphere amount to around US\$ 12 billion. In 2002 alone, the insurance industry paid out more than US\$ 2.2 billion for toxic mould claims. It is interesting to note that some lawsuits have been claiming sums that exceed the value of the insured property.

Whether this trend spills over to other countries remains to be seen.

Literature: www.epa.gov/iaq/molds/moldresources.html; www.moldupdate.com

Genetic engineering; GMO (Genetically Modified Organisms)

The German Bundestag's Enquete Commission defines genetic engineering as the methods used to characterise and isolate genetic material with the aim of forming new combinations of genetic material, and of multiplying and re-introducing the recombined genetic material into a different biological environment. Genetic engineering is used in many areas, eg in agricultural products, foods, in genetic therapy, in the manufacture of drugs, and in genetic diagnostics. Its numerous applications in industry include detergents, extractive metallurgy, oil, and waster water purification. As far as the insurance industry is concerned, genetic engineering is an extremely exposed technology giving rise to varying degrees of risk potential that are, in some case, hard to define. Insured losses so far have had less to do with health impairment than with averting risk. The most likely liability-relevant scenario is where GMO-free products are mixed or contaminated with GMO products. A well-known example and the biggest loss so far was when traces of genetically modified "StarLink" corn were detected in various foods. The products in question were removed from supermarket shelves. As the number of GMO products increases, so does the probability of potential scenarios materialising. When assessing a risk, therefore, underwriters must consider that local legislation also plays an influential role in loss definition and the subsequent measures to be taken, and that this legislation can vary from country to country.

Literature: Genetic engineering and liability insurance, Swiss Re 1998; apropos – Genetic engineering, apropos – Genetic engineering in the food sector, AssTech 1998.

Information for the underwriter

Emerging risks pose a major challenge to underwriters. Because these risks cannot be assessed using traditional actuarial methods alone, special strategies are needed to manage them. These include re-assessing risks on a regular basis and implementing early warning systems. Experience shows that when emerging risks do materialise, their effect can be dramatic; indeed, if an entire portfolio is impacted, such risks can threaten a company's very existence. Asbestos is one such issue. Originally classified an emerging risk, it began to "re-emerge" after the insurance industry had considered the problem "overcome" at the start of the nineties. Asbestos has since become the biggest insured event of all time in terms of total claims payments.

Detecting emerging risks as early as possible has therefore become very important. These highly complex risks and the associated technologies need to be understood and comprehensively analysed from the technological, economic and social standpoints. Only by doing this will it be possible to instigate measures in good time and customise the relevant insurance products. What is more, it is important that a method of accumulation control is developed during the early-watch phase.

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