Insurance and Expanding Systemic Risks*

I. Introduction

The OECD has just released an in-depth analysis on the assessment, management and compensation of the so-called “expanding systemic risks” to which enterprises and insurers are exposed.

This comprehensive study responds to the growing concerns of economic, financial, political and social actors regarding the ever increasing exposure to emerging risks. These risks are in particular related to natural disaster/environment pollution, technology, health and terrorism. Appraising adequately and covering the potential liability stemming from these risks is a challenging task for insurers. The report sketches out some policy recommendations for decision makers in governments and in the business community on how to prevent, limit and manage such risks.

Below is the authors’ introduction to the report, which describes the background of the study as well as the main issues it addresses.

II. Background of the study

Newly emerging systemic risks

It is well known that many new risks are emerging as a result of various causes. Technological progress may have led to substantial benefits and gains for society but an unavoidable side-effect has been that substantial health risks have arisen and that serious environmental pollution is threatening the global commons. By the latter, we refer to global warming and the depletion of the ozone layer. Some argue that there is a direct causal link between human activities and climate change.

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As a result of these well-known trends, which have been extensively described in the literature, many have argued that humanity is today increasingly exposed to a whole new type of risks. Sociologists such as Ulrich Beck have studied this phenomenon closely and have even described our society as a “risk society”.1 Mankind, they argue, is more and more exposed to risks; citizens seemingly are no longer involved in decisions concerning the acceptance of those risks.

Although this evolution has been studied at many levels and has prompted many policy and legislative responses (e.g. the increasing importance given to the so-called precautionary principle),2 it has apparently not come to an end yet. In the summer of 2001, after the conference of the parties in Bonn reached an agreement saving the Kyoto protocol3 and the corresponding climate change regime, there was initially great optimism concerning the possibility that a global agreement could be reached and implemented to reduce the threat of climate change. However, merely six weeks after the agreement was reached in Bonn, the world was shocked by yet another event in the US which may change the course of history.

It is obvious that it is not within the scope of this study to even start thinking about a possible solution for dealing with all of these emerging risks. However, they have a number of consequences for industrial enterprises, which merit specific attention. In particular, the role that the legal system can play (positively or negatively) with respect to these seemingly ever-expanding risks will be examined. Undoubtedly, the emergence of these risks will have serious consequences for industrial enterprises. Just thinking about the events in the US one can imagine the catastrophic financial consequences for the business community. Again, it is obviously not possible within the scope of this study to examine how the law could help to prevent all of these risks.

**Implications for liability and insurability**

There is, however, one specific aspect of these emerging risks that merits closer attention: the implications of these increasing and expanding risks for the liability of enterprises.4 For example, new health risks (such as electromagnetic fields or repetitive strain injury as a result of computer use) may lead to increased liabilities for enterprises. The same is obviously true not only of health risks but for other risks as well, such as the consequences of natural disasters, technology-related risks and environmental pollution.

Regarding increased corporate liability for such risks, the question of their insurability inevitably arises.5 Indeed, one can imagine that many catastrophes are of such a magnitude that they can hardly be considered insurable, at least in the long run. For this reason, the insurance and business community have developed new mechanisms for generating the financial resources which may be needed if such high-risk events materialise.
Consequences for insurers and government

These developments, e.g. towards an increasing use of capital markets and alternative risk transfer mechanisms, have to some extent taken place on a voluntary basis, this is to say without formal intervention or regulation by government. However, one can imagine that the increasing emergence of risks obviously has consequences not only for the business and insurance world but may also shed a different light on the role of government. On the one hand, the emergence of new risks will always lead to calls for regulatory intervention by the government with a view to preventing them; on the other hand, after a catastrophe has occurred, victims may well turn to the government for compensation. One has to realise that the ability of the liability system to provide coverage for specific risks depends on the extent to which a liable, solvent party can be identified in the event of an accident. Even then, one might ask whether there should not be a specific role for the government, either in facilitating the financing of new risks or in mandating the provision of financial coverage, e.g. by introducing compulsory insurance. But again, in addition to such intervention, one should realise that many risks and catastrophes (especially national disasters but also terrorist attacks) may well be caused by unknown sources, or at least by sources that cannot be held liable or are insolvent. The question then arises as to whether, for such cases, the government should intervene, not only with precautionary measures to prevent the risks but also ex post with funding to compensate the victims. It may be noted that, in addition to the social security already provided by most governments in Western Europe, some legal systems tend to introduce compensation funds to ensure that victims are compensated.

Scope and limits of the study

Within the scope of this project and within the limits sketched out above, some of these issues will be examined. As far as the scope of the project is concerned it should be clear that it is not possible in any way to discuss, describe or analyse the nature of newly emerging systemic risks. These are also too diversified and complex to be described in one project in an adequate manner. For the same reason it is not possible either to analyse which precautionary measures could be taken to prevent those risks. What can be analysed, however, is what the role could be of traditional legal institutions in the prevention and compensation of the consequences of those risks. Therefore attention will be given to liability law, and the question will be asked whether a trend towards expanding liability in law is noticeable as a result of the emerging risks. This trend towards expanding liability undoubtedly has consequences for the business world. Therefore the question has to be asked in what way the legal system can expect the business world to cover the consequences of increased liability.
In this study we will mainly address the insurance issues related to the emergence of systemic risks, as defined in the OECD study on emerging systemic risks. In this study, these are defined as risks that occur as a result of current or future functioning of major systems. These major systems lead to complex interactions, which therefore lead to increasing risks. Examples that are given in the OECD studies relate to the provision of health services, transport, energy, food and water supplies. We will therefore focus on the consequences of natural disasters, technology-related risks and health-related risks. The recent events in the US highlight moreover the importance of terrorism-related risks, so these will be addressed as well.

Obviously the reader should be aware of the fact that this is a preliminary study providing merely an overview of the possible consequences of emerging systemic risks for insurers and the possible reactions of insurers. The responses to these increasing systemic risks have a lot in common; however, we will give examples from different areas to show that there are differences as well.

The traditional system providing compensation for the consequences of risks is obviously insurance. The question therefore arises as to what the consequences of newly emerging risks and expanding liability for the insurance system are. In this respect, one can also ask whether alternatives to traditional liability insurance exist that might better be able to provide compensation.

Finally, within the overall framework of liability and insurance, one may ask what the appropriate role of government should be, and whether government should merely provide regulation that facilitates the provision of financial coverage by private markets or whether more regulatory-type intervention is necessary.10

Some of these issues will be highlighted within the scope of this project. However, it will be clear that even when one focuses just on liability, insurance and the role of government in the emergence of new risks, the topic is that broad that it might warrant various sub-studies. Within the scope of this study, it is possible only to highlight several issues that will play a role in liability, insurance and the corresponding role of government as a result of emerging new risks.

Methodology

This study will have several thrusts. First, as a general background economic analysis of law to law will be used.11 This seems to be a highly important and interesting approach which has been developed in the United States and is now well-known in Europe as well. The economic literature analysing the role of law has the advantage that it deals specifically with the way the law should respond to newly emerging risks and the role of liability and insurance in that respect. Moreover, the law and economic literature have always stressed, which is highly important in the
context of this project, that any system of financing cover for risks should try to achieve two goals, on the one hand prevention and on the other hand compensation. Indeed, some seem to take an excessively _ex post_ approach to risk, merely stressing the need for compensation, whereas economists stress that the primary role of law should be accident prevention. Moreover, the influence of compensatory measures (either insurance or compensation funds) on the prevention of those risks has to be examined.

In addition to the economic analysis of law, a legal analysis will also be provided. Within the framework of this study, it is obviously not possible to provide detailed information on developments in liability or insurance law in many countries. Some information in this respect may be provided on the basis of a questionnaire. However, examples will be given of the way the law deals with new risks in various countries, to illustrate particular points made in the study.

A central issue in this study will be the question of how emerging systemic risks can be prevented by using legal rules. Therefore the role of preventive measures and more particularly the preventive effect of both the liability and the insurance system will be stressed. It will be argued, moreover, that no matter what compensation scheme is chosen, this may never lead to an increase in the accident risk. Hence, the idea that “prevention is better than cure”, will be a guiding principle when analysing all of the legal and insurance mechanisms in this study. Only when prevention has failed – and thus a risk has materialised – will the question be asked as to what kind of financial mechanisms should be used to cover the consequences _i.e._ the compensation, of the damage.

With this as a background, the following issues will be examined in more detail.

### III. Set-up of the study

Within the limits sketched above, it is clearly not possible to address all the possible aspects of liability, insurance and financing of new systemic risks. Within the scope of this study, the following aspects will be addressed more closely:

**Expanding liability for systemic risks?**

**Developments in liability law**

First of all, the factors influencing the expanding liability of enterprises for health risks will be examined. There have been many changes in tort law with respect to the scope of liability. We shall briefly address the shift towards expanding liability that has taken place at the international level (conventions, Council of Europe and European Union) as well as in some national laws. In various national
laws, expanding enterprise liability both in legislation and case law may be noted. In case law, one can note an increasing shift from negligence towards strict liability.

There are, moreover, several trends in case law or legislation, which may severely increase the liability of enterprises. They concern, on the one hand, the notion that enterprises can be held liable for behaviour that was not considered wrongful at the time when it was committed. Only through changes in case law or regulatory standards will specific behaviour in the past be considered wrongful today. This is a so-called retroactive application of standards. Another, potentially dangerous trend in liability law is the shift of the risk of causal uncertainty to enterprises. There are various situations, for instance in the areas of product liability and employer's liability, where uncertainty often exists concerning the causal relationship between certain behaviour by an enterprise and specific health damage. If the risk of causal uncertainty is *de facto* shifted to the enterprise (*e.g.* through a reversal of the burden of proof or through a joint and several liability rule), this may seriously increase corporate exposure to liability.

The general trend towards expanding liability will also be critically analysed by means of an economic analysis of tort law. Indeed, it is particularly in the economic analysis of tort law that attention has been paid to the specific functions of deterrence and compensation in tort law. These economic tools will therefore be used to review critically some of the aforementioned trends.

**Developments in social security**

The expanding exposure to liability is not only determined by developments in liability law itself, but also by developments in social security law. Indeed, a basic assumption for a long time was that victims in Western Europe, unlike their American counterparts, did not have many incentives to bring a liability suit, since the social security system in many Western European countries provided for relatively wide coverage of many expenses that a victim incurs when an accident happens. Partly as a result of international conventions and European directives, many countries have put in place systems of compulsory first-party insurance covering medical expenses and lost income. Therefore, if one wishes to analyse the scope of liability in a particular legal system, one should also take into account the extent to which damage is already compensated for via other (private or public) compensation mechanisms which remove the need to use the tort system. In addition, if one wishes to analyse changes in the scope of liability, one should also address possible changes in social security law. The withdrawal of government from the social security arena may well increase enterprises' liability exposure.13

**Towards a “claim culture”**?

Finally, exposure to liability is influenced by a notion which is less tangible but which is sometimes referred to as the “willingness to claim” or the “claim culture”.
Indeed, the question whether in a particular case a law suit will be brought will to a large extent depend on the role of the actors in the legal system, whether they are the victims or consumers themselves in the first place, the providers of legal services – mostly attorneys, or the judiciary. The attitude of these groups may to some extent influence the probability that the tort system will be used.\textsuperscript{14}

**Insurability of systemic risks**

The study also analyses the insurability of liability risks. Here attention will be given to the influence of increasing liability as a result of expanding health risks for the insurability of the liability of enterprises. Indeed, in many countries, enterprises are now held liable for so-called new systemic risks, which were largely unknown, say, ten years ago. The question obviously arises as to how this affects insurability and, more generally, how the insurability of systemic risks can be defined. Attention will thus be given to the importance of the predictability of risks but also to the importance of sufficient capacity for insurance providers. The latter point is obviously important given the increasing scale and concentration of emerging systemic risks. This may have an important effect for the insurance and reinsurance industry.

Moreover, when addressing insurability, attention also has to be given to the potential remedies for uninsurability. In many countries insurers are now well aware of the fact that liability for systemic risks is expanding. As a result, they are taking all kind of measures to limit their exposure to liability. Some of these remedies, such as increased risk differentiation but also changes in insurance cover and the limitation of coverage, will be studied in further detail.\textsuperscript{15}

**Influence of liability law on insurability**

Another chapter addresses how the legal system can affect insurability. After the developments in liability have been sketched, they are then reviewed critically from an insurance angle. The question arises whether some of the developments in liability law towards increasing liability for systemic risks are such that it is to be feared that they will negatively affect insurability. For example, will the shift from negligence towards strict liability lead to insurance problems? The question can also be asked whether the issues mentioned above, namely retroactive liability and the shifting of the risk of causal uncertainty, will have an influence on insurability.

**Alternative compensation mechanisms**

Next, the question that inevitably has to be addressed is whether useful alternatives could be worked out for liability law and liability insurance to cover
increasing health risks. If it has been noted that to some extent liability risks are hardly insurable, the specific reasons for these insurance problems have to be identified and the question has to be asked whether alternative ways could be found, both within and outside the insurance business, of providing financial coverage for these risks on another basis. Insurance is basically a system of risk transfer and risk-spreading but there may be other mechanisms that can achieve the same goal. This is, by the way, obviously not a theoretical question either. Indeed, one can notice that both insurers and enterprises have not only tried to protect themselves against expanding liability by limiting their exposure but they have also looked for alternative mechanisms to cover the financial consequences of new health risks. This obviously is in the interests of enterprises. If, as a consequence of expanding liability, insurers limit the cover on liability insurance, this would mean that enterprises would increasingly face those risks themselves. Therefore, one can understand that they have been looking actively for alternatives.

Capital markets

One alternative that has been developed especially in the United States, but is still less developed in Europe, is the use of capital markets. Economists have long predicted that capital markets may well be able to provide financial coverage for catastrophic risks. The question arises as to how it would precisely work, what the benefits could be compared to insurance, and what the practical consequences would be of such a system.

Self-insurance

In addition to using the capital markets to cover risks, some enterprises have looked for other alternatives in the simple form of self-insurance, reserves or captives. The basic principle of all of these alternatives, obviously with different modifications and conditions, is that companies, either alone or jointly with other companies facing similar risks, set aside a specific sum to cover future risks. These systems of self-insurance and so-called captives thus also have to be analysed. A critical review has to be made of them, both from the perspective of the enterprises themselves (there may be advantages from the insurance standpoint, but also risks) as well as from a policy perspective (what is the guarantee that the money will actually be available when the risk materialises).

First-party or direct insurance

There is a major trend in the insurance world today to move to a different system of insurance to cover all kind of new risks, namely, a shift from third-party to first-party or direct insurance. Insurers have long claimed that third-party liability insurance has a lot of disadvantages as far as predictability and hence insurability
is concerned. Risk differentiation with third-party liability insurance is difficult and it is often hard to predict under what kind of circumstance a judge will hold a particular insured injurer liable. Insurers have therefore moved in many areas away from liability insurance and prefer to cover similar risks on a first-party basis. A clear trend in this respect can be found in many countries in the area of occupational diseases and accidents at work. Before, many of these risks were covered by liability cover, linked to the employers’ liability. Now many countries have abrogated employers’ liability (except for cases of gross negligence or intent) and have set up financial schemes (often in the form of social security) which provide cover for all the employees of a particular employer. Today, only in the Netherlands and the United Kingdom are occupational diseases and work accidents still financed via employers’ liability.

But one can also find this shift from liability towards first-party or direct insurance in areas like medical malpractice (a move towards patient insurance) and environmental liability (a move towards environmental damage insurance). We will therefore analyse what the specific benefits may be of first-party/direct insurance schemes and whether they can be considered better equipped to cope with the newly emerging systemic risks.

In general, it seems important to examine the possibilities of first-party coverage for all these risks where no liable injurer can be found (e.g. with natural disasters) or where the damage largely exceeds the possibilities of the liability insurance of the injurer (e.g. in case of a terrorist attack). In all these cases the question can be asked whether the potential victims can seek (first-party) coverage themselves.

Role of government

Finally, the role of government with respect to these newly emerging risks should be addressed. Is there any particular action that can or should be expected from a government? Here one can see a variety of roles that a government could play, both in the prevention of systemic risks as well as in the compensation sphere.

Safety regulation

As far as prevention is concerned, the question obviously arises as to whether one can expect that liability law will give sufficient incentives to prevent health risks. There may be strong arguments in favour of regulation of certain activities or products that could cause health risks. Hence, the criteria for safety regulation should be examined as well as the question of how regulation can be combined with liability law.

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Social security

Secondly, as far as compensation is concerned, the question of the role of the government in social security needs to be addressed. In a number of European countries it may be seen that the government is increasingly withdrawing from social security, as a result of which victims have to rely more on tort law. Therefore, some basic differences between tort law and social security as far as the financing of health risks is concerned, have to be examined, and, more particularly, the difference between social security and private health care insurance.

Compensation funds

Thirdly, the question can of course also be asked whether there should be a particular role for government in the compensation of those types of damage that occur from unknown sources and where no liable injurer can be found (as in the case of natural disasters). Many catastrophic accidents lead to serious damage and go far beyond the possibilities of liability law. In these cases, the question can be asked whether compensation funds can provide an adequate solution. Again one may see in many areas and many legal systems, the introduction of compensation funds (e.g. for asbestos victims), especially when traditional tort law fails to provide coverage. This could obviously also play a role when a very large number of victims is involved, such as in the case of a terrorist attack.

Compulsory insurance

Fourthly, the question can of course also be asked whether there should be regulation obliging potential injurers and those who may cause systemic risks to secure financial coverage for those risks. This is the traditional question of compulsory insurance. For many areas, e.g. in the above-mentioned sphere of occupational health and work accidents, compulsory insurance exists. Therefore, the reasons for introducing compulsory insurance have to be examined carefully, and the question can be asked whether it may be warranted to extend compulsory insurance to other areas as well.

Facilitative strategies

Finally, the question can be asked whether, even if one leaves the provision of financial coverage for systemic risks totally to the market, the government can take measures to facilitate the optimal provision of financial coverage for those risks. Information strategies could be envisaged to inform both potential victims and potential injurers of preventive measures that could be taken, of the availability and benefits of insurance, and of their exposure to risk. In addition to information strategies, other policies are possible. In this respect, one could mention the importance of an adequate competition policy for the optimal provision of...
insurance. The past has shown that if insurers conclude cartel agreements whereby they agree not to cover particular risks (this happened with respect to natural disasters such as flood risks), then the availability of insurance will inevitably be limited as a result of those agreements. Some attention should therefore be given as well to the importance of competition policy for the optimal provision of financial coverage for health risks.
Notes


9. This issue has, moreover, already been addressed in an OECD study on emerging systemic risks.


