Remedies for Expanding Liability*

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Abstract—This paper deals with the claims of industrial operators and their insurers that expanding liability is being experienced in many legal systems in Europe and will lead to the uninsurability of certain risks. In this paper we address some aspects of this insurability problem by trying to identify precisely what might make an expanding liability risk uninsurable. Then we examine whether there are remedies for expanding liability that might result in certain risks remaining insurable. In that respect we shall consider alternative compensation systems, financial caps, differentiation of risks, and the application of insurance policies over time, more specifically related to so-called 'long-tail' risks. Although each of these aspects might merit a separate paper, we prefer to discuss them in an integrated way by providing a balanced answer to current questions concerning the insurability of modern industrial hazards.

1. Introduction

Predictions of an insurance crisis and forebodings about the uninsurability of certain risks have become common in the USA since the 1980s. Even in Europe many industrial operators and their insurers are claiming that expanding liability is being experienced in many legal systems and will lead to the uninsurability of certain risks. Uninsurability of risks is discussed under various headings, one of them being compensation.¹

In this paper we address some aspects of this insurability problem by trying to identify precisely what might make an expanding liability risk uninsurable. Then we examine whether there are remedies for expanding liability that might result in certain risks remaining insurable.

Following this introduction there is a brief summary of the economic theory of liability and insurance. We shall focus particularly on specific problems, such as moral hazard and adverse selection, which have often been advanced as reasons for uninsurability in the economic theory of insurance (section 2). Then we shall focus briefly on several developments in (European) legislation and case law that potentially widen the liability of industrial operators. We shall examine

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whether this expansion of liability in legislation and/or case law will of itself lead to uninsurability. Then we shall focus on two specific problems in case law that can indeed cause uninsurability: namely, retrospective liability and causal uncertainty (section 3).

After this short assessment of the risks of expanding liability we shall address several potential remedies against the risk of uninsurability (section 4). In that respect we shall first consider alternative compensation systems, such as funds. Next, we shall discuss the desirability of financial caps, either in legislation or in insurance policies. A third obvious remedy, which has been advanced in economic theory, is a further differentiation of risks. In addition, the application of insurance policies over time, more specifically related to so-called 'long-tail risks', will be discussed. In that respect attention must be given to the question of whether claims-made policies, which are now often recommended, can provide an adequate remedy for expanding long-tail risks. Finally, some analysis will be made of whether clauses can be included in policies to limit or exclude cover should there be expansion of liability.

In this paper we attempt to indicate some of the issues that determine the insurability of certain risks, and we suggest some remedies for uninsurability, using the methodology of law and economics. Given the ambitious stance of the paper, we shall obviously only be able to discuss some aspects, such as, for example, risk differentiation and the claims-made policy, briefly. Although each of these aspects might merit a separate paper, we prefer to discuss them in an integrated way by providing a balanced answer to current questions concerning the insurability of modern industrial hazards.

In this paper the case law examples will in general be Dutch. One should bear in mind that the tendencies that we see are not particularly Dutch. Dutch case law is just used as an illustration.

2. Economic Principles of Accident Law and Insurance

A. Economic principles of accident law

The economic analysis of law in general and of accident law more specifically starts from the belief that a legal ruling and more particularly a finding of liability will give incentives to potential parties in an accident setting for careful behaviour. Tort law should give incentives for a reduction of the total social cost of accidents. These are the costs of accident avoidance and the expected damage.

Economists use classic cost-benefit analysis to determine the level of care required to minimize the social cost of accidents. Not surprisingly this can be found where the marginal costs of taking care equal the marginal benefits of accident reduction. Liability law should therefore give an incentive to potential

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parties to an accident to adopt this optimal care level. Looking at an accident situation in which only one party can influence the accident risk (a unilateral accident), one can state that two legal rulings would give the potential injurer incentives for taking optimal care. If a negligence ruling is adopted he will take optimal care, provided the due care required in the legal system is equal to the optimal care as defined in the economic model. Indeed, under this ruling he can avoid liability by taking due care. Thus he will have to take care to avoid the accident, but if he does so he can avoid paying for the expected damage. A negligence ruling will, therefore, lead to an efficient outcome as long as the legal system defines the due care as equal to the optimal care.

A strict liability rule will also lead to the optimum solution. A strict liability rule basically means that the injurer has to compensate the victim in any case, no matter how much care he took. By making the injurer strictly liable, in fact the social decision is shifted to the injurer. In a unilateral accident, it simply means that he has to bear all the social costs of the accident, both his own cost of taking care and the expected damage. Therefore, he will take exactly the same decision, that of minimizing his total expected accident costs. Therefore, the injurer will take optimal care since this is the way to minimize his total expected costs.

This leads to the conclusion that in a unilateral accident setting both a negligence and a strict liability rule will lead to the minimization of the social cost of accidents.

The analysis can of course be considerably refined by examining, for instance, the bilateral accident situation. In that case a contributory or comparative negligence defence has to be added to a strict liability rule so that the victims may also have an incentive to take optimal care.

B. Economic principles of (liability) insurance

Liability insurance comes into the picture as soon as we abandon the assumption of risk neutrality and the risk aversion of the injurer is assumed. His utility can be increased by means of loss spreading or by exchanging the small probability of a large loss to the injurer for the certainty of a small loss. The latter is, of course, exactly the way insurance works. The risk averse injurer wants insurance; he prefers the certainty of a small loss (the payment of the insurance premium) so that the probability of sustaining a larger loss is shifted to the insurance company, which increases the utility of the potential injurer.
The insurance company takes over the potential injurer's risk and spreads it over a larger group of people. The insurer only has to take care to build relatively small risk groups in which the premium is as far as possible aligned to the risk of the members of that group. If the risk groups are too large the average premium would be relatively high for low-risk members, who would then leave the group. This is the well-known phenomenon of adverse selection, which has been described in a seminal paper by Akerlof.9

In addition to this adverse selection problem the insurer should also control for moral hazard. Moral hazard is the phenomenon that the behaviour of the insured injurer (and of every insured person for that matter) changes as soon as risk is removed from him. This is the real problem with liability insurance. The disutility the injurer suffers because of exposure to risk is exactly that needed to give him the required incentives for taking care. If risk is entirely removed from the injurer and shifted to the insurer, the injurer will indeed lack the incentive for taking care that was given to him precisely by the deterrent effect of having to pay compensation in case of an accident.

In the literature two ways of controlling this moral hazard problem have been indicated.10 The first is to control the insured party by an appropriate amendment of the premium; the second is to expose the insured party partially to risk. The best solution would be a detailed control of the insured party.11 In that case the premium conditions would be exactly adapted to the behaviour of the insured party and the premium would reflect the care taken by the insured party. In an optimal world this should give the insured party an incentive to behave exactly as if no insurance were available and the premium would reflect the true risk of an accident. Of course, this best solution is only possible in an ideal world, where control by the insurance company would not cost anything and information on the behaviour of the insured party would be readily available. In practice, of course, this is not true. There are, however, some means of control of the insured party and some differentiation of premium conditions according to certain groups of risk. This can either be an ex ante screening with a higher premium for certain high-risk groups or an ex post premium increase or change of policy conditions based on previous loss experience.

A second-best solution is to expose the insured party to some risk. This has the advantage that the insured injurer will still have some incentive to take care, even though he is insured. One could imagine a system with a deductible whereby a lower threshold applies or one could introduce an upper limit on cover whereby the insured bears his own loss if the damage exceeds the insured amount.

In practice, of course, a combination of both systems is used to control moral hazard. Usually there is some degree of differentiation within the policy conditions, a deductible and an upper limit on cover. Of course, the methods

used depend upon the cost of getting information, and also on the value of the insurance policy.  

If moral hazard is controlled optimally by using these devices the insured party will once again behave as if no insurance cover were available, with the benefit that the disutility of risk neutrality is removed from him. The incentives for taking care are in that case no longer given by liability law, since the threat of having to pay compensation to a victim is shifted to the insurance company. This also explains why liability insurance has a very important social function. Under liability insurance the insurer has to guarantee that the insured party will take efficient care and thus have an incentive to avoid accidents. Therefore, an appropriate control of moral hazard is not only in the interest of the individual insurer, but also of society. If there were no efficient control of moral hazard, insurance would on the whole do more harm than good.  

3. Uninsurability?  

A. Foreseeable risks  

The starting point for this paper is the complaint often heard nowadays in the insurance world that an insurance crisis is threatening Europe as well as the USA. In general it seems realistic to assume that there will be more recourse to liability law in the near future and thus greater claims on liability insurers. This is not only due to changes in substantive law, but also to an increasing willingness to claim and to a tendency to privatize social security. European governments are increasingly withdrawing from that arena, which gives rise to an increasing need to use the tort system for compensation. Although it is unlikely that Europe will blindly follow the American example of compensating pain and suffering through high awards established by juries, with lawyers paid on a contingency fee basis, it seems nevertheless fair to expect a general rise in the amounts claimed and awarded. As a consequence of these developments, insurers claim that this growing liability in Europe is no longer insurable.  

The crucial questions in our paper are, on the one hand, to what extent this claim is justified and, on the other hand, whether it is possible to provide remedies against the threat of uninsurability. We believe that, when answering these questions, one has to take into account the economic principles of accident law and insurance discussed above. As far as the first question is concerned, it can be said that, apart from exceptional situations, there should be no reason for anxiety as long as the present-day insurer can see a growing liability threatening  

his position and can adjust his policy conditions accordingly. As long as insurers can foresee new risks, they can calculate the risk beforehand, demand a corresponding premium and build up a reserve. Indeed, as long as the insurer is able to demand a premium that is equal to the probability \( p \) of an event with a damage \( d \) occurring, together with a surplus for administrative charges, there should not be a problem of insurability provided that the problems of adverse selection and moral hazard mentioned above can be controlled as well. Irrespective of the fact of whether the change in the scope of liability involves a higher probability of being found liable (an increase in \( p \)) or an increase in the damage \( d \), a competitive insurance market will in principle be able to cope with the accompanying rising demand for insurance, provided that there is sufficient capacity.

Many of the changes presently occurring in liability law do not as such cause uninsurability because they are relatively foreseeable. Changes in liability law have been taking place since the beginning of the 1960s and most of these changes have only amounted to an increase in the liability of businesses. Since the new case law or legislation applies to future situations, an insurer can assess whether this increase in liability amounts to a change in \( p \) and/or \( d \), and hence necessitates a change in premium or another change in policy conditions. Legal practice has also demonstrated that insurers are well able to deal with some of these changes. A nice example is seen in the European Product Liability Directive of 25 July 1985. For some Member States, which already had product liability regimes at the time of the promulgation of the Directive, this European initiative probably did not substantially enlarge the scope of liability for manufacturers. For other Member States, such as Spain and Greece, the Directive probably did substantially change the liability of producers. However, the strict liability regime of the new Directive only applies to situations which occur after the entering into force of the new regime. Article 17 of the Product Liability Directive explicitly states that the Directive only applies to products put into circulation after the legislation implementing the Directive has entered into force. Hence, the implementation of the European Product Liability Directive does not seem to have posed too many problems from an insurance perspective, since it respected the golden rule that the new regime only applies to new risks. This obviously complies with the general finding in the literature of law and economics that strict liability will lead to a demand for third-party insurance from risk-averse injurers. A shift from negligence to strict liability will, therefore, lead to a shift from first-party victim insurance to third-party liability insurance. As long

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18 Above n 3 at 211.
as strict liability also allows a narrowing of risk groups, this shift towards strict liability should not as such lead to uninsurability.\textsuperscript{19}

This leads to the conclusion that the foreseeable expansion of the scope of liability itself should not worry insurers as long as enough capacity is available and moral hazard as well as adverse selection can be controlled. If these conditions are met, one could even, teasingly, state that an insurer should welcome an expanding scope of liability since this will create an increasing demand for insurance and hence new markets.\textsuperscript{20}

\textbf{B. Uninsurable risks}

We have just noted that relatively few problems arise when liability expands in a foreseeable manner and policy conditions can be adapted \textit{ex ante}. The question arises whether this changes when the contents of liability rules are changed halfway through the course of the insurance contract. In practice, problems occur when insurers are faced with exorbitant environmental liability claims today which they allegedly could not have foreseen under policies concluded in the 1950s. One could, of course, concentrate on the question as to how an insurer can cover himself in the policy against these mid-term changes by stipulating, for instance, that a change of liability will entail cover being limited or excluded.\textsuperscript{21} In this part of the paper we shall focus on two situations where developments in the law seem so unpredictable that they may endanger an effective estimation of the risk. This can be the case (1) if enterprises are held liable in retrospect for risks which were hardly foreseeable at the time when the insurance contract was concluded and for which, therefore, no premium was requested nor any reserve set aside. Assessment of the risk according to the essential principles of insurance economics certainly becomes impossible (2) if insurers are required to provide cover for damage which may possibly have been caused by third parties, that is to say parties other than the one they had insured.

(i) \textit{Retrospective liability}

Examples of both situations can be found in the case law of a number of legal systems. There is a jurisprudential trend towards an increased use of retrospective liability, especially in cases where the victims have suffered physical harm.\textsuperscript{22} However, when it concerns environmental damage, such as the liability for the cost of cleaning up the soil, judges or legislators seem increasingly to have

\textsuperscript{19} Priest claimed that the liability insurance crisis in the USA has to a large extent been caused by a shift to third-party liability insurance, combined with too little risk differentiation by insurers: G. Priest, 'The Current Insurance Crisis and Modern Tort Law', \textit{Yale Law Journal} 1521–90 (1987). The need for effective risk differentiation will be discussed in this paper in section 4.C.

\textsuperscript{20} Insurers have indeed also provided policies for new pollution risks, see M. Katzman, 'Pollution Liability Insurance and Catastrophic Environmental Risk', \textit{Journal of Risk and Insurance} 75–100 (1988).

\textsuperscript{21} We shall discuss some of these possibilities in section 4.E.

become aware of the fact that it is not reasonable to shift all the costs of historic pollution onto those operators still in business today. This caused the Dutch Supreme Court to limit the pollutor's liability to the period starting 1 January 1975.\(^{23}\) Indeed, a subsequent Soil Protection Act limits the 'retrospective' effect of this liability in the Netherlands.\(^{24}\) However, this limitation can almost totally be removed through the compensation orders under administrative law, which do have retrospective force. In Flanders a Soil Clean-up Decree has been promulgated following the work of the Interuniversity Commission for the Reform of Environmental Law in Flanders.\(^{25}\) This commission and the subsequent decree provide for grounds of excuse for the owner of polluted soil who is in good faith, i.e. who was not aware of the fact that that specific area of soil was polluted.\(^{26}\) Also in a House of Lords' decision, Cambridge Water Co. v Eastern Counties Leather plc,\(^{27}\) liability was denied because the foreseeability requirement was not met in this case of pollution which occurred in the distant past.\(^{28}\) Note, however, that a different approach was taken in the UK's Environment Act 1995, where strict retrospective liability was laid down for the restoration of contaminated sites.\(^{29}\)

Such a retrospective application of new standards seems, at first sight, to collide with the main economic principles of tort law and insurance discussed above under section 2, the idea that foreseeing a liability \textit{ex post} should give incentives \textit{ex ante} for the prevention of accidents. Since the behaviour was not considered wrongful at the time, a retrospective application of new standards either through case law or through regulation could not affect the incentives for future behaviour of any specific operator. However, foreseeing that there may be liability \textit{ex post} will obviously give incentives to obtain information about risk.\(^{30}\) But in some cases it might be hard to foresee not merely whether new


\(^{24}\) Soil Protection Act of 10 May 1994; on its importance see J. Spier, 'De Novelle inzake art. 47 lid 5 ontwerp inbouwwet bodemsanering' (1994) \textit{Aansprakelijkheid en Verzekering} 43–4 and G. Betlem, 'It's No Use Crying Over Spilt Chemicals' (1995) \textit{Maastricht Journal of European and Comparative Law} 300. Retrospective soil clean-up liability is only possible if the conditions of Art. 75, s. 5 of the Soil Protection Act are met (the tortfeasor must have known the serious dangers of the substances brought on or into the soil and must have acted in a grossly negligent way).


\(^{26}\) According to Art. 31, s. 2 of the Soil Clean up Decree of 22 February 1995, there is no duty to clean up pollution which occurred in the distant past if the user of the soil was in good faith: see M. Deketelaere, 'Aansprakelijkheid voor historische, nieuwe en gemengde bodemverontreiniging' in K. Deketelaere (ed.), \textit{Het decreet betreffende de bodemsanering} (Brugge: Die Keure, 1995) 135–42.

\(^{27}\) (1994) \textit{Journal of Environmental Law} 137 with case note by Ogus.

\(^{28}\) For a discussion, see Betlem, above n 24 at 289–305, and W. V. H. Rogers, 'Liability for Environmental Pollution in the Common Law: the Cambridge Water Case' (1994) \textit{Aansprakelijkheid en Verzekering} 64ff.


risks might emerge, but also that the contents of the law might change. The economics of tort law assume that future incentives for prevention will be affected, given the legal regime in force. It is hard to argue that \textit{ex post} liability will positively affect the incentives for behaviour which was not considered wrongful at all at the time when the act was committed. Retrospective liability hence seems problematic from an efficiency point of view.

The reason retrospective liability is nevertheless introduced often has to do with compensation. It is used because of the redistributive motive behind compensating victims. However, from a distributive point of view, retrospective liability can be criticized. Indeed, in many cases, the operators who caused, say, soil pollution in the past, are out of business now. It is, therefore, questionable whether it is fair to shift the cost of soil clean-up operations to those unlucky operators who can still be found in business today and whose behaviour at the time was not considered at all wrongful.

The question also arises whether a change in the liability regime leads to uninsurability when this is applied in a retrospective manner. At first sight one could argue that this certainly is the case. If the insurer was not aware that the behaviour of this insured party might potentially have been considered wrongful, no premium would have been charged for this risk, no preventive measures would have been required in the policy conditions and no reserves against losses would have been set aside. Indeed, insurance assumes that the insurer covers future risks which are at least to some extent foreseeable. Insurance requires some degree of predictability. However, the mere fact that insurers of, say, industrial waste disposal sites in the 1960s have – as a matter of fact – not foreseen that the activities of their insured parties could lead to a liability in the future, does not make this event totally unforeseeable. The potential of a change in the scope of liability is an uncertain element which the insurer can – in principle – take into account \textit{ex ante}. We are dealing here with the concept of ‘insurer ambiguity’ addressed by Kunreuther, Hogarth, and Meszaros. If insurers could foresee the likelihood of a possible change in the liability system, they could react to uncertainty by estimating the probability that this event would occur and charge an additional risk premium to account for this legal uncertainty. In sum: in an \textit{ex ante} perspective one can argue that nothing is totally unforeseeable or unpredictable; insurers can in principle cope with ‘hard to predict’ events such as the introduction of retrospective liability by charging an additional premium. However, in an \textit{ex post} perspective this message is not very helpful for insurers who, at the time, did not take this risk into account and now have to provide cover to enterprises for risks which the insurers considered apparently unforeseeable. Hence, no additional premium was charged and no

31 This is related to so-called development risk, which is widely discussed, for example, in the products liability area.
32 See Spier, above n 1 at 418.
33 Some have, therefore, argued that actions to recover clean-up costs are in fact quite a lottery.
reservations were made, which explains why the retrospective liability which is now laid down, say, for soil clean-up costs, leads to major problems for insurers.\textsuperscript{35} There is, therefore, no problem of uninsurability of retrospective liability as such, but only the simple fact that insurers did not take these risks into account when the policy was drawn up.

(ii) \textit{Causal uncertainty}

There is a second trend in liability law, which may indeed seriously endanger the predictability, and therefore the insurability, of certain risks. This concerns the tendency to shift the risk of causal uncertainty to enterprises (and therefore to their insurers).\textsuperscript{36} There are two well-known situations that arose in Dutch case law to illustrate this tendency.\textsuperscript{37}

The first example concerns the drug DES. It was a fact that this product caused birth defects and that certain daughters of mothers who took DES during pregnancy suffered physical harm. The causal link between the use of DES by the mothers’ and the daughters’ symptoms was not disputed. It was also known that certain manufacturers had brought DES onto the market. However, uncertainty existed with respect to which manufacturer had sold a specific product to a particular mother. Several ‘DES daughters’ sued all the producers who had brought DES onto the market at the time, although they could not prove from which manufacturer their mother had bought the drug. This gave rise to a lengthy debate about whether some sort of proportional liability rule should be applied to apportion the burden of liability between the manufacturers. A market-share liability would be an example of such a proportionality rule. The Dutch Supreme Court, however, applied a so-called ‘alternative causation’ rule, namely that the DES daughters are allowed to claim full compensation from any of the manufacturers.\textsuperscript{38} A manufacturer can still rebut the presumption by proving that he did not sell DES to the particular mother, but this will often be impossible in practice.\textsuperscript{39} Hence, this result is like a joint and several liability rule.\textsuperscript{40}

A second example of shifting the burden of causal uncertainty relates to the


\textsuperscript{37} This topic is also discussed in the recent dissertation by A. Akkermans, Proportionele aansprakelijkheid in onzeker causal verband (Deventer: Tjeenk Willink, 1997).

\textsuperscript{38} For a discussion of alternative causation under German law, see J. Köndgen, ‘Multiple Causation and Joint Tortfeasors in Pollution Cases According to German Law’ in J. M. Van Dunne (ed.), Transboundary Pollution and Liability, the Case of the River Rhine (Lelystad: Vermande, 1991) 99-106, and the interesting article by Th. Bodewig, ‘Probleme alternativer Kausalität bei Massenschäden’ (1985) Archiv für die civilistische Praxis 505-58.

\textsuperscript{39} Note, however, that the Dutch Supreme Court only considered the causation question. Formally, it still has to be decided whether bringing DES onto the market was in itself wrongful. See Dutch Supreme Court, 9 October 1992, Nederlandse Jurisprudentie (1994) 323 (C J H B). See on this case, J. Spier and J. H. Wansink, ‘Joint and Several Liability of DES Manufacturers: A Dutch Tort Crisis’ (1993) International Insurance Law Review 176-81.

employer's liability for occupational diseases. In a well-known Supreme Court case, *Cijsouw v De Schelde*, a victim of asbestosis could not prove at what time he had been in contact with the fatal asbestos fibre that caused his disease. The determination of this moment was crucial for the case since Cijsouw had worked for the defendant firm for several years, but in a first period the employer could not have known that he had to take measures to protect his employee against asbestos and thus could not be liable. The Supreme Court once more shifted the uncertainty concerning causation to the enterprise by holding that it was presumed that the employee had been in contact with the fatal asbestos fibre during the second period of his employment with the defendant. This presumption could have been rebutted if the defendant had been able to prove that it was not during the second period that Cijsouw was employed by the defendant that he was in contact with the fatal fibre. Obviously, this would have been practically impossible for the employer.

In both cases there is some causal uncertainty whereby the burden of proof is shifted to the enterprise. Since causation issues are very often difficult to prove with scientific certainty, this shift of the burden of proof will often be decisive for the outcome of the case. Other legal systems than that of the Netherlands have been confronted with the consequences of causal uncertainty. This plays a special role in the so-called toxic torts, whereby some of the population have been exposed to hazardous substances or radiation and subsequently a certain disease, such as cancer, is discovered. The problem is that, unfortunately, people do get this particular disease from various sources. So the identity of the injurer is certain, but there is uncertainty about who the victim is. Indeed, they may well have got the disease from some background risk and not from the presence of, say, a nuclear power plant. Such questions have indeed arisen both in Belgium and in the UK. Causal uncertainty played a role in the famous British Sellafield case where an English court had to decide on the causal relationship between childhood leukaemia and the nearby presence of a nuclear power plant at Sellafield. Similarly, Belgian courts have been confronted with the question of whether the physical complaints of inhabitants of the community of Mellery in the Walloon Region were caused by emissions from a nearby waste site.

An example will illustrate the difficulties that may arise when deciding questions such as these. Suppose that in an average population only 20 people would be

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41 J. Spier, above n 40, at 124–5.
victims of cancer, whereas it is suddenly established that the number is significantly higher in a population living near, say, to a power plant. Assume that in that particular population we find 30 cases of cancer. If we further assume that the marginal increase in the number of victims by 10 has been caused by the presence of the power plant, the question further arises of which of the 30 victims got cancer from the background risk and which are really victims of the presence of the power plant. The Dutch Supreme Court cases that shifted the risk of causal uncertainty to the enterprise would lead to dramatic consequences in this example.47 In this particular case it would mean that we would have to presume that all 30 cases of cancer had been caused by the power plant, unless the plant can prove that some of the cancers had not been caused by its presence. This shift in the burden of proof puts an impossible load on the enterprise and will effectively lead to the result that it will have to compensate all 30 victims. The result then is that the enterprise pays in 20 out of 30 cases for victims whose cancer was not caused by the presence of the plant.48 This perverse result could be avoided through a proportionate liability rule, such as a market-share liability in product liability cases. This proportionate liability rule has been defended by several American scholars and is also defended in the economic analysis of law.49 The negative consequences of causal uncertainty could then be limited. A proportionate liability rule is less rigorous than the all or nothing approach of the reversal of the burden of proof.50 The proportionate liability rule would mean that all victims can claim a proportion of their damage equal to the amount by which the power plant contributed to the loss. Thus the exposure to liability of the enterprise corresponds precisely with the amount to which the power plant contributed to the risk.51

In sum, the danger of shifting the burden of causal uncertainty to the enterprise is that the insurer of the specific employer or producer will be required to compensate for damage which, on the whole, had probably not been caused by the insured party.52 Unless a proportionate liability rule is followed, it is not possible to cover a risk if that would mean that the insurer would not only cover the damage of his own insured parties but also the damage that might possibly have been caused by another party. These tendencies lead to the liability of

47 Nevertheless this has been advanced by some authors. See, e.g. G. E. Van Maanen, 'De civielrechtelijke aansprakelijkheid voor kernongevallen naar Nederlands Recht' in M. Faure (ed.), Aansprakelijkheid voor het Nucleaire Risico (Antwerp: Maklu, 1993) 19-36.


52 Also K. Abraham, above n 13 at 959-60 and Katzman, above n 20 at 89-90.
enterprises for risks which they have not caused themselves (in the case of causal uncertainty) or for risks which were not foreseen at the time when the tort was committed (in the case of retrospective liability). They are largely caused by a hidden redistributive agenda: the wish to provide victim protection no matter what it may cost. These tendencies may be far more problematic from an insurability point of view than the shift towards strict liability itself. Indeed, whereas we argued under section 3.A that strict liability as such is insurable, this is no longer true if retrospective liability is introduced or the risk of causal uncertainty is shifted to the enterprise.

4. Remedies for Expanding Liability

A. Alternative compensation systems?

Some may overstress the current developments in tort law in a way that raises doubts whether traditional insurance markets are able to deal with some of the major industrial risks in any way. Therefore, in many legal systems the question has been asked whether compensation for, say, environmental damage should be provided through compensation funds instead of using insurance markets. A well-known example in that respect is the US Superfund, which has, however, incurred a lot of criticism from economists. 53 Also in several European legal systems, pleas can be heard in favour of establishing compensation funds to cover damage caused by hazardous waste. In the Netherlands this has been proposed in the literature, 54 and in the Flemish region the Interuniversity Commission for the Reform of Environmental Law recently proposed the introduction of a compensation fund for environmental damage. 55

In this paper, which deals with remedies for uninsurability, we cannot focus in detail on the question of whether compensation funds may be able to cope with some of the problems of uninsurability better than traditional insurance markets. 56

There may be situations where damage occurs for which no individual injurer can be made liable. Consider the degradation of a particular habitat by acid

there are specific cases where no individual injurer may be found who could be held liable for the damage and hence no claim can be made on an insurance company. For this type of case particularly, compensation funds are often advanced as the solution.

In general one should keep in mind that it must always be asked what the specific reason for uninsurability is before funds are advanced as miraculous solutions. For instance, in the case of toxic torts, the reason why inadequate compensation occurs is often not that insurance markets fail, but that causal uncertainty leads to undercompensation of victims. The problems that the liability system faces because of causal uncertainty could be avoided if a fund would compensate anyone who has a specific disease (such as cancer) without the necessity to prove causation. This solution would, however, inevitably raise the question of whether it would be just and who should contribute to the fund and in what proportion. Hence, many of the problems of the liability system arise with compensation funds as well. Therefore, we shall now focus on possible remedies for expanding liability within the traditional framework of liability and insurance.

B. Financial caps on liability as a remedy for uninsurability?

The first question that arises is how one should cope with risks where the potential magnitude of the damage is quite high. The argument is often heard that very large risks cannot be covered by classical insurance schemes. These arguments see the potential magnitude of the harm as the principal reason for the possible uninsurability of a particular risk. This argument has led the legislation in many countries (and also international conventions) to put a financial limit on the amount of compensation to be paid by the injurer. In many areas of tort law where jurisprudential innovations can be found, for instance with respect to environmental and professional liability, financial caps are advanced as a 'means to keep the risk insurable'.

(i) Economic analysis of caps

One may, however, question whether statutory caps on liability are an adequate answer to uninsurability. The magnitude of the harm is as much a problem for the capacity of the individual insurer. More serious, however, is the low and

57 On causal uncertainty, see section 3.B.ii.
58 See above n 1 at 419–20.
59 For an overview of financial caps in Dutch liability legislation, see F. De Vries, Wettelijke Limitering van Aansprakelijkheid (Zwolle: Tjeenk Willink, 1990).
uncertain probability of the accident occurring. There are usually no reliable
statistics relating to losses from catastrophes. Insurers of course prefer accident
risks with a relatively high probability and low damage, which makes premium
calculation easier. The question, however, arises whether the high magnitude of
the harm as such makes a certain risk uninsurable. First, one should remember
that competitive insurance markets have worked out all kinds of devices to cope
even with large risks. Reinsurance, coinsurance or pooling of risks are well-
known phenomena that allow insurers to provide large amounts of insurance
cover.

Second, the question arises whether the limited availability of insurance cover
(which is always hard for a legislator to assess, if possible at all) should lead to
a limitation of the liability of the injurer. Indeed, in this respect one can point
to the fundamental objective of an exposure to liability\(^{61}\) being to give an incentive
for careful behaviour. There exists a linear relationship between the magnitude
of the harm and the efficient care to be taken to avoid that accident. Hence, the
greater the amount of expected damage, the higher the care should be. If a
limitation of liability is introduced this can lead to a problem of underdeterrence.\(^ {62}\)
Indeed, if the real magnitude of the harm is substantially higher than the limited
amount of liability, the problem will arise that the injurer will consider the
accident as one with a magnitude equal only to the limited amount of liability.
Thus, he will take only the necessary care to avoid an accident with a magnitude
of the statutorily limited amount. The efficient care to be taken to avoid an
accident with the real magnitude of the harm should thus be much larger. A
limitation of liability is therefore inefficient if the statutory limit is lower than
the real magnitude of harm caused by a potential accident. In that case a problem
of underdeterrence will arise. This result is in line with the general finding in
the literature that the level of prevention will be too low if the tortfeasor is not
(fully) financially exposed to liability, perhaps because of limited assets.\(^ {63}\) In
addition to this efficiency argument against financial caps, one might also deploy
the fairness argument. From a corrective justice point of view it could be argued
that a potential victim whose injurer is found liable for the accident is entitled
to full compensation and not just to a statutorily limited amount. A financial cap
will therefore not only lead to underdeterrence, but also to undercompensation of
victims.

Third, it should be noted that the insurability argument itself should certainly
not be an argument to introduce a financial limitation on liability. If it appears
that the possibility of obtaining liability insurance cover is limited to a certain
amount, there is no reason to limit the liability itself to that same amount. A
clear alternative would be to introduce a duty to insure up to the available

\(^{61}\) Discussed in section 2.A.
Journal of Legal Studies 417.
Jost, "Limited Liability and the Requirement to Purchase Insurance" (1996) International Review of Law and
Economics 259–76.
amount of insurance cover, but to keep the liability of the injurer unlimited. This would, on the one hand, have the advantage that the duty to insure would be limited to realistic amounts, whereas, on the other hand, the incentives for the injurer to take care would remain at least partially in existence because the injurer would still be exposed to risk where the magnitude of the harm was higher than the insured amount. In sum, from an economic point of view, there are very few convincing reasons to limit the amount of compensation due to the victim. If insurability problems exist they can be solved by limiting the duty to insure.

(ii) Legal objections
Moreover, in addition to these economic arguments, the legal literature also raises several objections against statutory caps on liability. Legal authors of course argue that a limitation would be contrary to the principle of full compensation of victims; the economic argument is also advanced that a limitation – specifically in a case of professional liability – would lead to a reduction in the quality of the service. Finally, it is also argued that granting a limitation to a specific group of professionals would violate the equality principle, since there are no specific reasons to protect one group by financial caps while others are still exposed to full liability. It could also be argued that an insurer has no interest in statutory limitations. Such a limitation could even be contrary to the insurer’s interests since it eliminates one way of reducing the moral hazard problem, which is to expose the insured party to risk for the uninsured top slice of liability.

(iii) Contractual limitations
Although there are, in sum, very few arguments in favour of a statutory limitation of liability, this does not mean that there may be no reasons for a contractual limitation in insurance policies. In many insurance policies these limitations already exist since an insurer hardly ever provides unlimited cover for the liability. A contractual limitation could take two forms. First, an insurer could consider lowering the amount of liability cover generally. Such a general indiscriminate reduction might, however, be difficult to sell to the intermediaries, especially given the fact that the European tort crisis does not so much relate to the amount of compensation, but more to the probability that the insured injurer will be

66 See M. Faure and T. Hartlief, 'Gevolgen van de uitbreidende werkgeversaansprakelijkheid: beleidsconsequenties voor verzekeringsbedrijven' in M. Faure and T. Hartlief (eds), Verzekering en de Groeiende Aansprakelijkheidslast, een juridisch, gezondheidskundig en economisch onderzoek naar ontwikkelingen met betrekking tot de Aansprakelijkheidslast en de consequenties voor verzekeringsbedrijven naar aanleiding van de werkgeversaansprakelijkheid voor bedrijfsgeneeskundige en beroepsziekten (Deventer: Kluwer, 1995) 313. The fact that the legislation nevertheless often introduces financial caps for one specific activity can be explained as the result of effective lobbying by the specific interest group representing that activity.
found liable.67 Second, it might be more appropriate to focus on the specific components of the damage where an increase may be expected. Depending upon the legal system this may be the case for the amounts awarded for pain and suffering. If an insurer expects substantial increases in these amounts in a particular legal system, a contractual limitation of the insured amounts for pain and suffering may be appropriate. The same may be true for so-called punitive damages, a phenomenon that is not yet widely known in Europe. If an insurer considered it likely that in a particular legal system punitive damages will be introduced,68 a limitation or exclusion of this kind of damages from the insurance cover may be appropriate.

C. Risk differentiation

(i) The case for risk differentiation

It follows from the economic principles of liability insurance69 that an adaptation of the policy conditions to the individual risk is essential to control both moral hazard and adverse selection. George Priest has claimed that the adverse selection problem has caused an insurance crisis in the USA and that it can only be cured by an appropriate differentiation of risk.70 If the insurance policy requires preventive action from the insured party and provides for a corresponding reward in the premium this should give optimal incentives to the insured for accident reduction. Thus risk pools should be constructed as narrowly as possible so that the premium reflects the risk of the average member of that particular pool.71

A further differentiation of the risk is obviously only efficient as long as the marginal benefits of this further differentiation outweigh the marginal costs of such a differentiation.72 Risk differentiation certainly does not mean that insurers would have to use an individual tariff in each case.73 The possibilities for individual differentiation will inevitably also depend upon the value of the

67 See, on the features of the expanding exposure to liability in Europe generally, M. Faure and T. Hartlief, above n 14 at 235-70.
69 Priest, above n 19 at 1521-90. Priest has been criticized by Viscusi, who claims that there were other reasons for the product liability crisis in the US than adverse selection alone: W. K. Viscusi, ‘The Dimensions of the Product Liability Crisis’ (1991) *Journal of Legal Studies* 147-77.
70 Priest, above n 19 at 1521-90. Priest has been criticized by Viscusi, who claims that there were other reasons for the product liability crisis in the US than adverse selection alone: W. K. Viscusi, ‘The Dimensions of the Product Liability Crisis’ (1991) *Journal of Legal Studies* 147-77.
particular insurance policy. For mass insurance products with a low premium, risk differentiation can only take place in general categories. In professional liability insurance of enterprises, however, the benefit of detailed differentiation, rewarding an enterprise for preventive action, may well outweigh the costs.

It is, thus, not difficult to make an economic argument in favour of effective risk differentiation as a remedy for a growing liability risk. If good risks are not rewarded for preventive action, either they will not have an incentive for prevention or they will leave the risk pool, and consequently the risk pools will be unravelled, as described by Priest.

(ii) Risk differentiation in practice

Considering the current practice of many European insurers, especially as far as the liability risk of enterprises is concerned, one is struck by the fact that so little use is made of the possibilities of risk differentiation. In that respect we specifically refer to the insurance of the risks of enterprises in the Netherlands where premiums merely depend on the turnover of a company and almost no individual differentiation takes place.\(^\text{74}\) Up to now, one lump sum premium has been charged for a whole variety of risks from environmental liability to occupational health. Such a global tariff for a whole variety of different risks obviously does not correspond to the economic need for individual risk differentiation. This system might have worked in a legal system where liability law was not used as the main source for compensating victims. But now that governments in Western Europe are increasingly withdrawing from social security systems, victims may need to use the tort system more often.\(^\text{75}\) This will inevitably force insurers into more effective risk differentiation. Looking at the Dutch example, there are many ways to improve risk differentiation in practice. One could start with specific categories of risk, such as environmental liability and occupational health.

Moreover, the insurer will have to invest in procuring information on the specific risk so as to be able to differentiate. This may trigger a need for specialization. If an insurer can recognize good risks through his specialized information, he may offer these risks a reduced premium and thus receive a comparative advantage. Insurers should recognize that they can only provide an adequate answer to growing liability and at the same time improve their competitive position by investing in obtaining information on specific risks. As far as the liability risk is concerned, case law may give a good indication of the circumstances under which enterprises are held liable. This information, combined with adequate statistics, may lead to specific obligations, as far as prevention is concerned, being laid on the insured party and amendment of the premium.

Some of the information the insurer may need to form an 'adequate risk differentiation is publicly available. Administrative agencies, for instance, often

\(^{74}\) See Faure and Hartlief, above n 66 at 316-22.

\(^{75}\) See Faure and Hartlief, above n 14 at 254-9.
publish statistics on specific health risks within various enterprises that provide valuable information for insurers. Furthermore, some of the information may be acquired through research performed at the request of an association of insurers. Obviously, the question will arise whether such an intervention by an association of insurers limits competition. However, as long as the association only makes the information available, individual insurers can still make different uses of it and hence policy conditions and premiums may still vary. The recent group exemption of insurance companies also does not exclude this type of cooperation as long as no fixing of the premium takes place.

In sum, the Dutch example shows that insurers may yet learn from the economic argument in favour of risk differentiation. In a world of growing liability this seems to be one of the remedies which allows insurers to compete on the basis of specialized information on risk while at the same time providing an adequate answer to increasing liability. It should be noted, however, that interesting legal questions arise with respect to the limits of risk classification; for example, whether very detailed risk differentiation collides with the non-discrimination principle. Recently Wils argued that too detailed differentiation according to age, gender or sexual preference of the insured could, under certain circumstances, be considered a violation of the non-discrimination principle, laid down in European law. This may not, however, directly cause problems in the field of enterprise liability where risk differentiation is much needed.

D. Cover over time

We have already indicated above that insurance problems may arise with so-called ‘long-tail exposure’, meaning that the damage can occur much later than the wrongful act. In such cases it is of utmost importance to examine what the precise period of cover under the particular insurance policy is. In that respect a distinction is usually made between three systems:

a. The act-committed system: in that case the wrongful act must have taken place during the period of insurance cover;
b. The loss-occurrence system: in that case the damage must have taken place within the period of insurance cover;
c. The claims-made system: in that case the claim for damages must have been received by the insured or his insurer during the period of insurance cover.

76 The problem is, however, that under a system of strict employer’s liability for occupational diseases, such as in the Netherlands, there is no incentive to keep data, so that a lot of valuable information is lost (Advies Asbestslachtoffers, Prof. J. de Ruiter, March 1997, p. 43 ff.).
77 Actually the group exemption (Regulation 3932/92, O.J., L 398/7) even allows for indicative premiums, which could lead to inefficient restrictions of competition (see Art. 2 that refers to concerted practices with respect to pure premiums). For a critical analysis of this exemption, see M. Faure and R. Van den Bergh, ‘Restrictions of Competition on Insurance Markets and the Applicability of EC Antitrust Law’ (1995) Kyklos 65-85.
78 See Wils, above n 73 at 449-67.
79 On the importance of this issue for environmental liability insurance, see Abraham, above n 13 at 970-2.
Nowadays a definite increase in claims-made policies throughout Europe is clearly apparent. This is due to the obvious disadvantages, at least for insurers, connected with the two other systems in cases of long-tail exposure.

In the act-committed system, which was especially popular in the 1950s and 1960s, there is only cover if damage can be attributed to a wrongful act of the insured that took place during the period of insurance cover. Obviously, this system is advantageous for the insured party since the potential claim remains in existence until a statute of limitation has passed. In addition, cover is in accord with the policy conditions valid at the moment that the damage was caused, meaning the moment that the wrongful act occurred. As a consequence limitations of cover which might be introduced at a later stage cannot be invoked against the insured. For insurers this act-committed system can be highly disadvantageous.

Indeed, if an insurer provided cover for example for product liability and the policy expired shortly after a certain product was brought onto the market, under an act-committed system of cover the insurer can still be held liable if, several years later, it appears that this particular product caused damage to a victim. This may be problematic, especially when the insurer has not ex ante foreseen the possibility of this ‘long tail’ and has therefore not charged an adequate premium.

These problems caused the international reinsurance market to introduce a loss-occurrence system of cover. Under loss-occurrence, the damage must have taken place within the period of cover. Under loss-occurrence, therefore, cover is also provided if the wrongful act which caused the damage took place before the insurance contract entered into force. However, a loss-occurrence system does not completely eliminate the problem of the long tail; indeed, if an injury manifests itself during the period of cover, the insurance policy will apply for future consequences over, say, 20 years in the case of long-lasting diseases. Therefore, insurers changed to claims-made cover. Although claims-made policies may exist in different forms, it is essential to a claims-made system that the claim for damages should have been received by the insured party or his insurer during the period of insurance cover. Although this system may have some benefits for the insured party as well the most important effect is that it will allow the insurer effectively to control the long-tail risk. This ‘long tail’ may be a particular problem in those cases where insurers cannot acquire information on the (perhaps highly technical) risks and thus cannot demand a risk premium.

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81 In this respect we can inter alia refer to the discussion of the Dutch DES case above: section 3.B.ii.
83 See a discussion by Wansink, above n 80 at 110-12; and see O. A. Haazen and J. Spier “Feitelijke ontwikkelingen en verzekerbaarheid” in A T. Bolt and J. Spier (eds), De uitzijdende rechtsvijde van de aansprakelijkheid uit onrechtmatige daad (Zwolle: Tjeenk Willink, 1996), 56-79.
84 Insurance cover is indeed awarded immediately, even if the damage had its origin long before the insurance policy entered into force.
to cope with insurer ambiguity. This hardly manageable long-tail risk is indeed fully excluded in a claims-made policy. As soon as the insurance policy expires, the cover ends. This also applies for claims filed after the period of insurance cover for damage that occurred during the period of insurance cover. For this reason many legal systems have been rather critical of so-called claims-made cover. Spanish case law has held claims-made cover void. In Belgium the insurance Act of 25 June 1992 originally did not allow claims-made cover. However, in these two countries this rather rigorous point of view with respect to claims-made cover has recently been relaxed. A recent legislative change in Spain allows claims-made cover on the condition that the cover extends at least one year after the insurance contract expires. The Belgian Insurance Act has been amended with respect to the problem of insurance cover over time. The starting point is still the loss-occurrence system, but the Act now provides for the possibility of allowing claims-made cover for certain types of liability insurance via royal decree. Again the Belgian legislation prescribes that some long-tail risk must be covered: cover should extend at least to claims made within 36 months after the insurance contract expires relating to damage that occurred during the period of cover or referring to circumstances that could give rise to a claim and which have been announced to the insurer during the period of the insurance cover.

This brief overview of legislative and jurisprudential responses to claims-made cover shows that although claims-made cover may be the appropriate response of insurers to the long-tail risk, legislators and judges apparently pay much attention to the interests of the insured, which might be seriously restricted under claims-made cover. The most important argument against a pure claims-made system is that insured parties may not be awarded cover due to coincidental circumstances, although they paid a premium for the risk that occurred. In addition, claims-made cover may cause problems if the insured party wishes to move to a new insurer who will immediately have to cover the 'old' risk. Therefore, legislators or judges assuming that insured parties may lack appropriate information on the precise consequences of claims-made cover may react by limiting the effects of claims-made cover in order to protect the insured parties.

85 See above in section 3.B.i.
89 Katzman argues that claims-made policies are less risky for insurers than occurrence-based ones, since there is no commitment into the indefinite future: above n 20 at 88.
Nevertheless, the tendency increasingly to use claims-made cover is apparently unstoppable. In the Netherlands recently the insurers' association advised their members to move to a claims-made system of cover.90 The idea in the Netherlands is that the interests of the insured parties can be protected by mitigating the harshest consequences of claims-made cover. One possibility is to provide for an extension of the period of cover after the insurance contract has expired; another possibility is to stipulate that the insured party can report circumstances or facts that may lead to a claim to the insurer during the period of insurance cover although no damage has occurred yet. Provided that these relevant circumstances or facts have been reported during the period of the insurance contract, cover will be awarded even if the damage only occurs after the insurance contract has expired.91 This is apparently the system that is currently followed in the Belgian Insurance Act.

In fact, there does not seem to be anything inherently unfair about claims-made cover: the cover ends in principle when the insurance policy expires, but the insured party obviously does not pay for cover after expiry. Another system whereby the risk of the 'long tail' is shifted to the insurer is worthy of consideration. In that case one would go back to, for example, the traditional act-committed cover systems. The insurer, knowing that he will have to cope with the uncertain long-tail risk will then charge a risk premium so that in the end the premium charged would be higher than under a claims-made cover system. Once more one should realize that the sudden enthusiasm of insurers for claims-made cover can largely be explained as an ex post – and therefore late – reaction to risks which they had not foreseen at the time when the insurance policies were drawn up.

E. Policy conditions as a remedy for expanding liability

(i) Reactions to changes with respect to the scope of liability

We indicated above that problems may arise if the scope of liability is changed in a retrospective manner.92 If the policy conditions do not provide for a solution of this problem, cover will be provided for events for which no premium was paid, no reserve was set aside, and for which no preventive measures have been required through policy conditions, simply because the insurer actually did not foresee the particular risk. Some of the problems of the retrospective application of new liability regimes may be dealt with by insurance policies with a relatively short period of cover based on a claims-made system.93 However, this cannot completely remedy the retrospectivity problem. Ex ante the ideal solution may be to assess the risk of a change in the scope of liability and charge a corresponding

91 See Wansink, above n 86 at 116-18.
92 See section 3.B.1.
premium. However, this may not always be possible because of competitive pressures or simply because the insurer lacks the information to set an accurate risk premium. Therefore, one has to look for alternative solutions. One possible solution is to formulate the cover ex ante in such a way that it only refers to the scope of liability applicable at the time that the insurance contract was drawn up. Another possibility is to stipulate that the insurer has the right to terminate the insurance contract as soon as the scope of liability is increased through changes in legislation or case law.

Obviously, the advantages of such policy conditions favour the insurer. The insurer knows under what legal regime he is offering cover and can ask for a corresponding premium in accordance with the principles set out above. The disadvantage for the insured parties is that they are only insured in a very relative sense. They may indeed be held liable, according to, for example, a new development in case law, for events that occurred in the past and hence lack insurance cover. A practical disadvantage of policy conditions limiting insurance cover to the scope of liability applicable at the time of the drawing up of the insurance contract is that it is often not very clear whether there is a change in the scope of liability. Especially as far as case law is concerned, courts will seldom indicate that they have formulated a rule that constitutes a change in comparison with earlier rulings. Sometimes courts also suggest that they only apply already existing legal rules (such as the negligence rule of Art. 1382 of the French Civil Code of 1804) to new situations, so that in fact no new legal rule is created. In such situations the insurer may often be unable to avoid providing cover.

(ii) Exclusion of certain risks

Insurers of enterprises are not only concerned with changes in liability law, but also with, for example, the fact that new diseases are discovered by victims and by the fact that higher amounts may be awarded for specific claims. As far as the risk is concerned that new diseases, such as repetitive strain injury (RSI) or the Organo Psychic Syndrome (OPS), may give rise to claims, the insurer could opt for cover limited to the European list of occupational diseases. The advantage is that this makes clear which diseases are covered. Current insurance policies, for example, in the Netherlands, provide for an open cover for all diseases relating to work. Another option would be to exclude certain risks from cover. One risk that may give rise to large claims is stress at work. Insurers may wish to exclude this type of disease. Obviously, the disadvantage of such an approach is that insurers then choose to make certain risks uninsurable, whereas this may not be necessary as long as it is predictable that claims will be made for these

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94 In addition, Hogarth and Kunreuther showed that the willingness to pay of an insured party may be less than the required risk premium, since individuals may underestimate these low-probability events: R. Hogarth and H. Kunreuther, 'Ambiguity and Insurance Decisions', American Economic Review 386-90 (1985) and see also Katzman, above n 20 at 86.

95 This and other suggestions have been formulated by T. Hartlief and J. Spier, 'Verzekering en aansprakelijkheid met 'terugwerkende kracht'' (1994) Aansprakelijkheid en Verzekering 28-9.

96 See Dommering-Vui Rongen, above n 86 at 28-9.
‘new’ diseases. In that case a corresponding premium could be charged and a reserve set aside.

(iii) Limiting or excluding certain components of the damage
If the insurer fears the unpredictability of the amounts awarded for specific types of damage, limitations or exclusions could be provided to face that risk: for example, the exclusion of punitive damages or, though this may lead to problems in case law, excluding damages awarded for pain and suffering. The most important reason for the increase in the scope of liability seems to be the tendency to award higher amounts specifically for pain and suffering. It might be more attractive to opt for maximum amounts for specific components of the damage. The damage as such, including pain and suffering, is obviously not unpredictable; only the amount may be. Therefore, there might be limitations for specific components of the damage instead of general limitations for the whole insurance contract, as is often the case nowadays.97

(iv) Acceptability
The options we discuss in this section obviously cannot provide a remedy for general problems of uninsurability, but may cure the specific problems of insurers which touch upon the predictability of certain risks. A key question will, however, often be whether the solutions suggested are also socially acceptable. From a strictly legal point of view there should not be a problem as long as the insured party and the insurer freely choose a specific limited amount of cover for which the insured party pays a correspondingly low premium. This also complies with the economic principles of insurance. Problems may, however, arise, especially in fields where compulsory insurance exists, where it is widely held that the risk of unpredictability should rest with the insurers instead of on the shoulders of the insured party. This may put pressure on insurers, not only from politicians but also from powerful brokers, to be extremely cautious with the introduction of policy conditions as suggested above. The legal ex post approach of nullifying certain policy conditions deemed unreasonable in order to protect an individual insured party may in the end lead to the adverse effect that certain risks will indeed become uninsurable.

5. Concluding Remarks
This paper has dealt with problems of uninsurability. Instead of discussing remedies to expanding liability and threatening uninsurability the paper could just as well have focused on the mirror image, the conditions of insurability. These conditions are inevitably an important guide in addressing some of the remedies for uninsurability.

Interest in the topic was raised by increasing comment in the legal literature

97 See section 4.B.iii.
on the 'liability crisis'. This has caused a great deal of commotion in the insurance world of late. We have not focused on the reasons for the expanding scope of liability in this paper. We only hold that there are a number of reasons why it is realistic to assume that there will be greater recourse to holding enterprises liable in the near future, and thus that there will be a greater claim on their insurers. Alongside changes in the law, one can point to an increased willingness to claim but also to the tendency to privatize social security. In the past many claims were not invoked because the real costs of an accident were spread over the community by means of social security. Now that it is argued that the social security system is in danger of becoming unaffordable, governments are increasingly withdrawing from that arena. These developments have led insurers to complain bitterly that the growing liability is no longer insurable. It has led to calls for legislative action, either to limit the possibilities of claiming in tort or to limit the amount of damages.

Our paper has not been concerned with the issue of expanding liability as such, but with the question of whether an increase in the scope of liability would necessarily lead to uninsurability. We have argued that this need not necessarily be the case when the changes are predictable, so that the insurer can command a commensurate premium beforehand and set aside a reserve. We have also argued that statutory caps on liability are not an appropriate answer to growing liability since these caps may lead both to underdeterrence and to under-compensation of victims. They are therefore neither efficient nor just.

It is generally important to focus clearly on the causes of so-called uninsurability before certain remedies can be advocated. Indeed, one cannot escape the impression that among certain professions a generalized sense of panic is spreading as far as expanding liability is concerned, whereby the argument is advanced that a further expansion of liability may make the risks uninsurable. Apart from the question of whether this is necessarily the case for all risks, it seems questionable whether the liability issue itself depends upon claims on the insurability of a certain risk. This may lead the legislator or judge to limit the scope of liability inefficiently, as the discussion of caps made clear, with less deterrent effect. Indeed, one must not forget that liability's principal role is that of deterring accidents by giving incentives for preventive measures. Hence, the tendency to reduce the scope of liability on grounds of insurability should not go unquestioned either.

Our general finding was that as long as the general principles of liability and insurance are respected and new rules only apply to new risks, there should be no insurability problems, as the example of the introduction of the European Product Liability Directive has shown. There was no major problem with the implementation of this Directive because the Directive itself stipulated that the new regime was solely applicable to products which were brought onto the market after the national amending legislation had come into force. There was, in other words, no retrospective force.
Our paper has also focused on what could be done in response to the expansion of liability. Obviously, one could first have analysed whether there are mechanisms within tort law to 'keep the floodgates shut', but we have addressed the problem from the angle of the insurer. It has been argued that the growing liability, moral hazard, and the adverse selection problems should each be responded to by means of adequately differentiating risks. This assumes that insurers, much more than has been the case to date, should endeavour to obtain adequate information on the risks constituted by their own insured parties and operate a policy to differentiate risks accordingly. Insurers' inability to identify the various risks properly could indeed lead to uninsurability. Hence, insurers may be able to react to growing liability through effective risk differentiation. Obviously, problems may still arise if the amount of the damage largely exceeds the capacity of an individual insurer. But in that case reinsurance or pooling of risks may provide an answer. Clearly, the insurer will, specifically in cases of catastrophe insurance, always provide an upper limit on cover. If the actual risk is higher than the amount provided through insurance, this uninsurability should not lead to legislation limiting liability. Other solutions, such as the pooling of resources by industrial operators, may provide additional funds.

From the topics treated normatively in this paper, economic analysis provides specific hints for legislators or judges: first of all, do not introduce legislative caps on liability; second, be careful with the introduction of retrospective liability; and third, do not shift the risk of causal uncertainty to one enterprise.

As far as advice to individual insurers is concerned, the need for adequate risk differentiation must be re-emphasized. In addition, we have suggested various policy conditions that could be used to limit the risk of unexpected changes in the law. Moreover, a claims-made policy may provide an adequate answer for long-tail risks with unknown consequences.

It is also important, with respect to these suggestions, that legislators realize that these policy conditions may be necessary to keep a risk insurable. Some politicians tend to believe insurers should provide compensation for any loss that occurs nowadays, no matter what the reason is. This wish to find a solvent debtor may lead a judge or legislator, for instance, to prohibit policy conditions excluding specific components of the damage or declaring, for example, a claims-made policy void, as was the case in France and Spain. These reactions would inevitably have the perverse result that insurers would have to withdraw from specific markets altogether. Hence, it seems to be more appropriate to focus on specific conditions that have to be fulfilled ex ante to provide insurance cover and respect these, instead of aiming for short-term ex post success, which would protect consumers or victims today but result in the total lack of insurance for some risks in the long term.

99 Mechanisms to reduce uncertainty in environmental liability insurance have also been addressed by Abraham, above n 13 at 976-88.