Foreseeability and Law & Economics

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Introduction

In Swedish law, as well as in the other Scandinavian countries, there is a principle that any person who suffers a loss caused by another person's negligence shall be compensated. However, compensation is granted only to the extent that the loss was a foreseeable consequence of the negligent act (or omission). When a detrimental effect is said to be foreseeable, in this legal sense, it means that the effect is a computable function of an action.

Basically, there are two competing doctrines. One doctrine with German origin is commonly known as the doctrine of adequate causality.[1] The other doctrine, which I will call the doctrine of foreseeability seems to go back to the old English land mark contract case *Hadley v. Baxendale*.[2] Both doctrines deal with the normative problems of foreseeability in a similar way.[3] The basic normative problem is twofold. Firstly, we have to determine what level of knowledge the acting person shall have when he makes a list of all possible consequences of his intended action. Secondly, we have to determine what degree of probability we should require in order to say that the damage was a computable function of the negligent act. I shall not attempt to discuss the possible differences between these two doctrines. It will be sufficient for my purposes to note that the doctrine of adequate causality is generally connected to negligence as the basis for liability and that it is considered to put the damaged party in a relatively better position, since it uses as a standard what an experienced observer could foresee at the time of the detrimental action as the test for the damage to be compensated whereas the doctrine of foreseeability is

1 For an overview of the development of the doctrine, see Andersson, *Skyddsändamål och Adekvans. Om skadeståndets gränser*, p 29 et seq. and p 75 et seq., Uppsala (1993).

2 9 Ex. 341, 156 Eng. Rep. 145 (1854).

3 The doctrine of adequate causality has been much discussed and a target for critique in the Nordic countries. For a summary of the critique, see Andersson, (footnote 1), p. 106 et seq. and a constructive elaboration, p. 351 et seq.

based on what a reasonable person could foresee at the time when the contract was made.[4]

Instead I shall try to examine whether the economic analysis of law can be used to support real world judicial decisions. I will sometimes refer to court cases which, with one exception, are taken from Swedish courts. This is only a matter of convenience and they merely serve as illustrations without any pretence that they should be particularly suitable to illustrate the law as is (apart from the fact that they are generally supposed to be known by Swedish law students).

The issues to be examined here arise once it is clear that there is a basis for liability, i.e. any form of negligence or strict liability, and that it is clear that a certain action has caused a damage, but the person responsible for the action argues that he shall not have to pay damages as far as the damage caused by the action was not a computable function of it.

A good starting point for an economic analysis might be to make a distinction between the categories *indirect* damage and *direct* damage.[5] In both categories the risk for damage may be low (*ex ante*); the risk being defined as a function of the probability for a certain effect and the expected monetary consequences should the effect be realised.

In indirect damage cases, the problem is that the chain of causal inferences between the action and the damage is so extended that the damage may be regarded, in a legal sense, to be unforeseeable. An action can cause consequence A with a probability of 10%, which may cause consequence B with a probability of 10%, which may cause consequence C with a probability of 10%, which finally may cause damage with a probability of 90%. The aggregate probability for damage is here only 0,09%.

In direct damage cases, the causal correlation between the action and the damage is close. The problem is that the damage is unexpectedly extensive, typically due to pre-existing conditions of the injured ("eggshell skull cases") or unexpected values at stake.

As we shall see, there are good reasons for making a distinction between the two categories of problems outlined above. Furthermore, there is good reason to make a distinction between the doctrine of forseeability in contracts on the one hand and in torts on the other hand, although it seems as if the analysis *de lege lata* is basically the same in both these branches of the law of obligations.[6]

Foreseeability according to Law & Economics

The economic analysis of foreseeability is based on the wealth-maximisation axiom. The normative goal in order to further social welfare should be to induce an efficient level of care and foresight. Social welfare is defined as the sum of

4 See Lando [ed.], *The Principles of European Contract Law*, p. 202 et seq., Dordrecht (1995).

5 Cf. Rodhe, *Obligationsrätt*, p. 303, Stockholm (1956). See however Andersson (footnote 1), p 364.

6 See Hellner & Johansson, *Skadeståndsrätt*, p. 205, 6th Ed. Stockholm (2000). Cf. Andersen & Lookofsky, *Lærebog i Obligationsret*, p. 269, København (2000).

benefits that people derive from their activities, less the cost of precaution, expected accidents and judicial administration.

Under this theory, the legal norms should deter from under-investing in information-gathering and foresight as well as deter from over-investment in these activities.[7] The theory is based on the assumption that the exercise of foresight and care are costly activities. Therefore, as expressed by Steven Shavell "the first-best level of care is determined by the cost of taking care and the degree to which lack of care is a cause *of expected losses*."[8]

The optimal level of care is basically arrived at after applying the von Neumann-Morgenstern expected utility function[9]. The potential injurer is assumed to have a complete list of events that may follow as a consequence of a contemplated action and he is also assumed to assign to each one of these events a probability for its realisation. The uncertainty is limited to which one of the many possible consequences will be realised. Of course this is a totally unrealistic assumption, but this is beside the point. The true test is whether the model is capable of explaining the law as it is applied or whether it allows us to predict how people will react.[10]

If the goal is to induce an optimal level of foresight it is an indispensable requirement that the agents in the models are making informed decisions, i.e. that they are aware of all possible consequences of their actions and that they are assessing the correct probabilities to each one of the consequences. As observed by Calabresi it is meaningless to try to deter a potential injurer from an action if he does not in fact foresee any damage or if he assigns the subjective probability zero to the event.[11] This observation is, as we shall see, particularly relevant with regard to the indirect damage cases.

Let us, however, start by examining how the theory of law and economics can be applied to direct damage cases, the group to which the "eggshell skull cases" belong.

One could argue that only damages measured to fit a person with average physical conditions (an average thick skull) should be awarded. If the damage that may result if the person were to have an eggshell skull would be deemed a computable consequence of an action, this would lead to over-investment in care.

This argument does not hold all the way. Optimal incentives would be produced if we are prepared to award average damages to people with more than average thick skulls, thus overcompensating them, and under-compensate people

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7 The problem of foreseeability is closely connected to the problem of causality. For an excellent summary of law and economics theories, see Ben-Shahar, *Causation and Foreseeability*, Tel Aviv (1999) in Encyclopedia of law and Economics 3300, p. 644 et seq., at "http://encyclo.findlaw.com/3300book.pdf".

8 Shavell, *An Analysis of Causation and the Scope of Liability in the Law of Torts*, 9 Journal of Legal Studies, 463 at p. 475 (1980).

9 Regarding expected utility, see Varian, *Intermediate Microeconomics*, p. 216 et seq., 3rd Ed. New York, London, (1987).

10 Cf. Baird, Gertner & Picker, *Game Theory and the Law*, p. 46, Cambridge MA (1994).

11 Calabresi, *Concerning Cause and the Law of Torts: An Essay for Harry Kalven*, 43 University of Chicago Law Review, 69 (1975).

with thin skulls. If we instead were to let damages correspond to the damage inflicted to people with thick skulls and we would cap liability with regard to people with thin skulls, the average damage caused over time would exceed the average liability, which would, under this theory, weaken the incentives for foresight.[12] This weakening effect does not follow if awarded damages correspond to actual damage. Statistically an average level of damages would be attained which would lead to an efficient level of foresight.

Calabresis's observation does not seem to deprive the theory of its explanatory value, since the injurer can be assumed to have the opportunity to act on reasonably good beliefs about normal statistical variations. The possibility to be hit by a damage claim should give an incentive to take that opportunity. The economic theory therefore appears to offer a rationale for the tendency[13] to award damages in spite of the fact that the pre-existing conditions of the injured or his property may lead to a damage of an unexpected magnitude. As we shall soon see, the theory should however be limited to non-contractual relations.

The futility in trying to give incentives for wealth-maximisation to potential injurers who do not perceive any probability of harm, or who underestimate it, is far more troublesome when we examine the indirect damage cases.

In response to Calabresi's observation, it has here been suggested that accidents, the probabilities of which are likely to be underestimated by potential injurers, should be excluded from the scope of liability, unless assigning liability for unforeseen consequences can be expected to deter from activities that are known to cluster many unforeseen risks.[14]

The theory is that if the probabilities are likely to be underestimated by the potential injurers, the administrative costs would increase without the benefits associated with a change in the injurers' behaviour.[15]

As pointed out by Sullivan, the cost-benefit analysis becomes suspect as soon as cognitive biases are introduced. Squaring the model with substantive law "requires a descent into the murky world of the *n*-th best. If agents are unable to correctly assess low probabilities, then prices fail to correspond to opportunity costs at the margin in any number of different markets, and the judge cannot be sure that she is making improvements to social welfare via piecemeal tinkering with the scope of liability."[16]

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12 See Landes & Posner, *The Economic Structures of Tort Law*, p. 249 et seq., Cambridge MA (1987).

13 See Hellner & Johansson (footnote 6), p. 209 and 211.

14 See Landes & Posner (footnote 12), p. 250.

15 Shavell (footnote 8), p. 490 et seq. Cf. however Shavell, *Economic Analysis of Accident Law*, Cambridge, MA (1987).

16 Sullivan, "…or should have known…" *On Foreseeability and Paradox in Law and Economics*, p. 141, Paper: ewp-le/0004003 published at "http://econwpa.wustl.edu/eprints/le/papers/0004/0004003.abs". Sullivan suggests instead of the traditional utility function a model based on the work of Kirzner, *Competition and Entrepreneurship*, Chicago (1973). The model leads to the suggestion that liability ought to be strict, but seems to have little to say about foreseeability once the basis for liability is set.

The assumed interest to deter from activities that are known to cluster many unforeseen risks might explain why it could be economically sound to impose liability on certain injurers as in Högsta Domstolen NJA 1947 s 626.

> Two custom house officers were assaulted and battered. One of them fired a warning shot whereby a bystander was accidentally hit. The bystander got her compensation, but the minority of the Swedish Supreme Court was of the opinion that the assaulters should not be held liable, since the correlation between the assault and the damage was not such that liability could be imposed.

But this seems to be relevant only as far as the activities, as such, are questionable, eg. assault and other criminal actions. See also Högsta Domstolen NJA 1983 s 419. When we examine socially desirable activities, known to cluster many unforeseen risks, the outcome may be the opposite. As an example Högsta Domstolen NJA 1928 s 65 can be mentioned.

> Flooding was caused by lumber floating. A land owner suffered damage. The damage was aggravated by a heavy inflow of melted snow beyond the scope of what the floating association (defendant) had to calculate with. The floating association was held liable, but not for the aggravation of the damage caused by the abnormal inflow.

The fact that the activities of the injurer may be socially desirable does not, however, appear to be the decisive criterion for excluding liability as can be seen in Högsta Domstolen NJA 1981 s 622.

> A municipality was liable for damage to fish, partly caused by the fact that a private enterprise without the knowledge of the municipality had accessed its floor drains to the surface water pipes of the municipality. If was found that the action of the private enterprise was neither so peculiar nor unforeseeable that the municipality could escape liability.

It seems that the theory of law and economics has little explanatory value when it comes to foreseeability problems in the indirect damage cases, at least in respect of cases arising in the context of socially desirable activities. It neither helps us to determine what level of knowledge we should require nor to determine what degree of probability we should require in order to say that a certain detrimental effect was a computable function of a certain action.

The Signalling Model

When we come to foreseeability problems in contractual settings, we have reason to examine another model, the signalling model.[17]

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17 See eg. Perloff, *Breach of Contract and the Foreseeability Doctrine of Hadley v. Baxendale*, 10 Journal of Legal Studies, 39 (1981), Ayres & Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 Yale Law Journal, 87 (1989), Johnston, *Strategic Bargaining and the Economic Theory of Contract Default Rules*, 100 Yale Law

The model is generally discussed and applied to the previously mentioned English case, *Hadley v. Baxendale*.

> A miller contracted with a carrier to transport a broken crankshaft from one town to another. The transport was delayed. The mill was shut down and lost profits due to the delay. The miller sued for lost profits. The court rejected the miller's claims since he had not told the carrier about his sensitivity to a delay. Hence, the damage was not reasonably foreseeable.

The signalling model, illustrated by *Hadley v. Baxendale*, is based on the assumption that there are two types of millers. One type is low-damage (millers equipped with an extra crankshaft) and the other type is high-damage (millers without an extra crankshaft). The carrier cannot tell to which category a certain miller belongs. Prices for carriage are assumed to reflect the cost of shipping and the expected costs of damages.

If the foreseeability rule were to treat the shut down of mills as a computable consequence of delays, the carrier would have to pay consequential damages. If it is regarded as a non-computable consequence (in a legal technical sense), then the carrier would only have to pay for direct damages.

In order to induce optimal care and foresight, it seems as is if the carriers should be liable for consequential damages. Otherwise, the average damage caused over time would exceed the average liability as in the "eggshell skull cases" discussed above.

In the contractual setting, however, the strategic implications of the chosen foreseeability default rule should be considered.

If prices reflect the average risk, the low damage millers are subsidising the high-damage millers in a consequential damages regime and the carriers are insuring high-damage millers without regard to whether the carriers are efficient insurers. The high-damage millers have weakened incentives to move from the high-damage category to the low-damage category and they have certainly no incentive to signal during the contract negotiation that they are in fact high-damage millers. The low-damage millers have weakened incentives to remain in the low-damage category, but they have clearly an incentive to signal, if possible, that they belong to the low-damage category in order to be able to negotiate a discount.[18]

In the opposite regime, the carriers would adapt prices, care and foresight to fit the low-damage millers. The high-damage millers would have to bargain in order to include an insurance against consequential loss into the price. This would only succeed if the carrier is an efficient insurer.

If contractual default rules are to be designed so as to lead to a minimum of contracting around the rule, the signalling model seems to lead to the conclusion

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Journal, 615 (1990), Bebchuk & Shavell, *Information and the Scope of Liability for Breach of Contract: The Rule of Hadley v. Baxendale*, 7 Journal of Law, Economics, and Organization, 284 (1991), Ayres & Gertner, *Strategic Contractual Inefficiency and the Optimal Choice of Legal Rules*, 101 Yale Law Journal, 729 (1992). The signalling model is also discussed in Baird, Gertner & Picker (footnote 10), p. 147 et seq.

18 The fact that a certain miller does not try to signal his category would signal that it is a high-damage miller.

that a foreseeability rule should give incentives to welfare enhancing moves between the two groups of millers and/or place the burden of signalling and contracting on what is believed to be the minority group.

In order to have any value, the signalling model requires that it is applied to situations where it is reasonable to assume that the parties know (or ought to know) to which group they belong.[19] To this observation it can be added that a proper default rule can induce the agents concerned to make (optimal) efforts to find out.

The signalling model is based on an *ex ante* perspective. In principle, signalling and insights *ex post* are irrelevant. To this extent, the model is fairly consistent with Article 4.503 of the Principles of European Contract Law and Article 7.4.4 of the UNIDROIT Principles of International Commercial Contracts. The signalling model is however considerably harder to square with the doctrine of adequate causality if applied to contractual relations.

Conclusions

Law and economics may offer useful analytical tools when it comes to make decisions in tort based direct damage cases. Statistical variations in respect of the sensitivity to damage should in principle be allowed to have an effect on the average level of liability. In contractual settings, where default rules are to be applied or created, this analysis should be subject to the signalling model so as to allow for the always present strategic dimension on the bargaining process.

The theories developed so far do not, however, appear to offer much help in cases involving extended causal chains or generally desirable activities that are known to cluster many risks that can hardly be foreseen in a practical sense. We have to find a good explanation for the phenomenon that part of the loss now and then shall be allocated *not* to the negligent person acting, but to the innocent person next door. To explain this with a reference to bad luck and unforeseeability does not seem satisfactory.

19 See Sullivan (Footnote 16, p. 141 et seq).