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Non pecuniary losses

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8.1 Introduction

Non pecuniary losses can be characterized as losses that are suffered by damaging goods or interests which have in themselves no economic price or value on a financial market. Examples are damage to goods with a primarily sentimental value, such as an album of wedding photos, pain and suffering as a result of physical injury, damage to personal reputation, or even the death of a person. Due to the fact that these goods or interests have no substantial or direct market value, non pecuniary losses are often characterized as losses that cannot be undone with money. Rogers (2001, p. 246) defines non pecuniary losses as "*losses which are not damage to a person's assets or wealth or income and which is are therefore incapable of being quantified in objective financial manner by reference to a market*". Tort law, however, generally recognizes non pecuniary losses to some extent as losses that should be compensated with money.

The paradox described above gives rise to several questions that have attracted attention in the field of law and economics. To address these questions we will first pay attention to some aspects of tort law and economics in general (Section 8.2). Then we will deal with visions on the question of why non pecuniary losses should be compensated (Section 8.3), with aspects of valuation of non pecuniary losses (Section 8.4) and with risks of high awards (Section 8.5). In Section 8.6 we will come to conclusions.

As a preliminary remark, it should be noted that most of the literature on law and economics that is relevant for the issue of non pecuniary losses, is not strictly limited to this type of loss. Authors often, for instance, pay attention to physical injury in general, which may include financial losses as a result of this injury. Likewise, the aspect of prevention of accidents is usually discussed with regard to all costs of accidents, thus not limited to non pecuniary losses. For this reason the scope of this overview **[216]** is not strictly limited to law and economics literature on non pecuniary losses. A first conclusion may be that there are in fact very few authors who isolate questions that consider economic aspects of non pecuniary losses as such (exceptions are Adams, 1989; Croley and Hanson, 1995; Faure, 2000).

8.2 Tort law and economics

To consider the economic aspects of non pecuniary losses, the broader perspective of economic aspects of tort law in general must be taken into account.

Economic theory analyzes legal rules on the basis of efficiency, which generally means maximizing total benefit and minimizing total cost. The founding fathers of economic theories of law, Ronald Coase and Guido Calabresi, have, independent of each other, greatly contributed to the law and economics approach (Landes and Posner, 1981, pp. 852-864).

Coase developed the theorem that given the conditions of rationally behaving actors, perfect information and zero transaction costs, an optimal allocation of resources will always be reached, irrespective of the legal system (Coase, 1960). The Coase theorem can also be applied to torts. If parties could negotiate under the above mentioned condi-

tions, they could reach an optimal level of precaution at which the total cost of accidents is minimized. However, since we do not live in such a reality, the optimal allocation is not automatically reached. Yet, the Coase theorem can be helpful in identifying the optimal allocation of resources. Then tort law comes into play. In a world with transaction costs and other imperfections, tort law is necessary to determine people's rights and to influence people's behavior such that an optimal allocation is reached (Cooter and Ulen, 2004, pp. 95-98) and the total expected costs of accidents are minimized. Note, however, that the studies of Dewees, Duff and Trebilcok (1996) doubt the influence of tort law on behavior. In a slightly different setting Landes and Posner (1981) state that – although judges might not act consciously – common law is best explained as if judges are trying to maximize efficiency.

Calabresi identified two principal goals of tort law: it should be fair and it should reduce the costs of accidents. Calabresi mentions fairness as the most important objective of tort law. This is, however, not an independent objective in an economic sense. That is why Calabresi considers fairness rather as a constraint on measures to lower costs (Calabresi, 1970, p. 25). Calabresi's most important contribution to the economic approach of tort law is the division of total costs of accidents in three categories: primary, secondary and tertiary costs. Primary costs are the costs of the accidents themselves and can be reduced by lowering the number and severity of **[217]** accidents. Secondary costs are the costs due to an inefficient distribution of the losses over the population and can be reduced by spreading the risk of accidents or by averting the risks to people that "are best able to pay, […], regardless of whether this involves spreading" (Calabresi, 1970, p. 21). This leads to the demand for insurance against losses. Tertiary costs are the costs of administering the treatment of accidents and are, in fact, made to reduce primary and secondary accident costs.

Non pecuniary losses can be related to both theories. By recognizing these losses, they can be seen as (primary) costs of accidents. Allocating the burden of compensation of non pecuniary losses provides these losses with a role in spreading the risks of accidents. A preliminary question is, however, why non pecuniary losses should be recognized as compensable losses.

8.3 Why should non pecuniary losses be compensated?

8.3.1 Why compensation?

Compensation of non pecuniary losses is – to varying extents – recognized in at least all Western jurisdictions (Rogers, 2001). Non pecuniary losses are also considered to form an important aspect of tort liability (for an explanation of this: see Comandé, 2005, p. 250-255, who states that an increase in resources in a society enhances the recognition and protection by law of "new" personal interests. Compensation of non pecuniary losses can be seen as a relatively new personal interest). Viscusi (1991, p. 102) uses an International Organisation for Standarization (ISO) data set to show that the share of the award paid for non pecuniary losses in 1977 ranges between 30 percent and 57 percent of the total awards paid. A study by Towers Perrin Tillinghast (2003, p. 17) shows that in 2001 the shares of tort costs that went to pecuniary and non pecuniary losses were equal. But not only empirical data show the importance of the topic, the quantity of studies and criticism already indicates its importance.

The paradox presented earlier of the monetary compensation for losses that have no financial origin gives, at least from an economic point of view, rise to the fundamental question as to why this type of loss should be compensated at all. At this point different aims can be recognized. From an economic point of view usually the aim of prevention is put forward as the main reason to award compensation for non pecuniary loss. From a more traditional legal point of view, usually compensation of the victim and vindication of his rights as such are seen as the main objectives of the compensation of non pecuniary loss.

In order to explore the economic relevance of non pecuniary losses they are often related to the demand for insurance. Given that non pecuniary **[218]** losses cannot be undone with money *ex post*, the conclusion is drawn that these losses do not generate a demand for insurance *ex ante*. It would be to no avail to insure oneself and pay premiums, if the (*ex post*) cash benefit does not lead to a higher utility level (Adams, 1989, pp. 215-216). Support for this opinion is said to be found in the absence of demand for insurance against non pecuniary losses. Yet, although by definition non pecuniary losses cannot be undone with money, these losses are considered to be compensable with money. Therefore, the statement that non pecuniary losses do not generate an extra demand for money after an accident, is questionable. Croley and Hanson (1995) disagree with this statement and try to make the apparent absence of demand for these insurances plausible with other explanations. There is no consensus on this point in literature, and empirical studies will have to answer this question (Faure, 2000, p. 158).

There have been several empirical and theoretical studies with proposals to change the system or to withhold from awarding for non pecuniary losses at all (for an overview of some of these see Croley and Hanson, 1995, pp. 1787-93). However, from an economic point of view (partially) awarding for those losses is considered to be desirable to provide individuals with the right incentives for their behavior (Adams, 1989).

8.3.2 Prevention

In an economically perfect society, individuals know exactly the benefits and costs of every action they are going to undertake. They will weigh up carefully wether the intended action is beneficial for their utility and act according to this deliberation (Shavell, 1980). Tort law could prevent accidents, or at least enforce precautionary measures, using this line of reasoning. Individuals that have to compensate for losses they cause, will weigh these losses against the benefits the intended action brings. Consequently they will make a decision on whether or not to undertake the action and, if undertaken, how many precautionary measures are to be taken.

To make the outcome of the individual deliberation the socially desirable one, all costs of accidents should be charged to those who could avoid them by taking precautionary measures (Adams, 1989, p. 213). An individual faced with all the costs and benefits of its action, will make an optimal decision for himself and consequently (as Adam Smith already stated with his 'Invisible Hand-theory') for society as a whole. As non pecuniary losses are real losses for the victims, these costs should for deterrence purposes be fully compensated as well (Adams, 1989, p. 213). However, charging total accident costs to injurers does not automatically mean that injurers incur total accident costs. Income taxes make that injurers only incur a certain (tax rate-dependent) percentage of the total

accident costs. This **[219]** means that injurers do not include total accident costs in their deliberations before undertaking preventive measures. A less than 100 percent likelihood of a successful claim has the same distorting influence (Shavell, 2004, pp. 274-5). Injurers do not incur total accident costs, but only expected costs, which are a percentage (dependent on the likelihood of a successful claim) of total accident costs.

It is argued that compensating victims for total accident costs should only take place in certain accident situations. Unilateral accidents should be distinguished from bilateral accidents (for example. Shavell, 1980, Shavell, 1987; Adams, 1989). Unilateral accidents are accidents in which the victim itself cannot do anything to avoid the accident. Bilateral accidents are accidents for which both the victim and the injurer can take measures to avoid them. This distinction is decisive for the (share of the) losses that should be charged to the injurer.

In unilateral accidents all losses (non pecuniary and pecuniary) should be charged to the injurer, for he is the only one that can take precautionary measures to avoid the accident. If he would not have to compensate for all the losses he causes, he will take too few precautionary measures from a social point of view (Adams, 1989, p. 214).

In case of bilateral accidents the situation is different. As stated, both parties involved in the accident can take precautionary measures to avoid it. To force the injurer to take precautionary measures, he should be charged the losses he causes. However, if the victim is compensated fully for the accident (as in the unilateral situation), he is - from an economic point of view - indifferent between the situation in which he gets involved in an accident or and one where he does not. As a result, a victim will not take the precautions he would have taken in the case where he would not be compensated for the losses he suffers (Shavell, 1987, p. 247-254).

Many jurisdictions use one of the systems of contributory or comparative negligence defense in deciding on the amount of compensation. These systems will enforce some precautionary measures by the victim. However, there might be many other precautionary measures that do not affect his liability position and which are therefore not enforced by this system (Posner, 2007). Consequently a victim will not take these measures. In contrast, Van Randow (1988, p. 219) thinks that this fault position is enough to enforce all the precautionary measures. Cooter and Ulen (2004, p. 337) mention the problems of proving negligence. This will make potential injurers act with fewer precaution. Shavell (1987, p. 79-83) shows how errors by judges can influence the precautionary measures potential injurers and victims take.

Hence, on the one hand, the injurer should be charged with all the losses he causes to provide him with the right prevention incentives. On the **[220]** other hand, the victim should not always be compensated fully in order to provide him with the right prevention incentives. How much the victim should be compensated depends on which of the two parties is better able to take precautionary measures (Calabresi, 1970, p. 135).

A possible solution for this conflict of interests is to make the injurer pay a fine to a third party. Then all costs of the accident are charged to the injurer and the victim is not compensated fully, so that he will take precautionary measures as well (Shavell, 2004, pp. 272-5).

Calabresi denominates the mechanism of prevention described in this paragraph, by which all accident costs are internalized and individuals decide individually on the amount of precaution to take, general deterrence (Calabresi, 1970, p. 68). This in contrast to specific deterrence, where a political process leads to regulation of dangerous behaviour (Calabresi, 1970, p. 95). This is of course the well-known standard setting trough safety regulation; the literature has developed criteria to indicate under which circumstances safety regulation may be better suited than liability rules in order to provide optimal deterrence (Shavell, 1984a, 1984b).

8.3.3 Efficient distribution and insurance

Inevitably people will face pecuniary and non pecuniary losses in their lives. Not everybody is equally able and willing to bear these losses. An efficient distribution of losses among the population is very important to reduce total accident costs. Calabresi expects that by taking measures in this field total accident costs 'can be reduced as significantly as by taking measures to avoid accidents in the first place' (Calabresi, 1970, p. 27).

An efficient way to distribute losses is insurance. The demand for insurance can be seen as a desire to distribute resources across different states of the world (Croley and Hanson, 1995, p. 1822). People move resources from the non-accident state of the world to the accident state of the world. In this way all the insured cooperate to compensate victims for the losses that would result from a possible accident. Every individual can decide exactly for how much he wants to insure for, in other words how much of the losses he will possibly face, he is willing to bear. Thus the losses will be distributed among society in an efficient way. From this point of view, tort law should compensate a victim only for the suffered losses that he would have liked to insure himself for (Croley and Hanson, 1995, pp. 1797-98; Cook and Graham, 1977, pp. 10-14).

With pecuniary losses this is not too problematic. Assuming risk aversion of individuals, it is likely that individuals will take out insurance coverage against pecuniary losses. Besides this, the magnitude of pecuniary losses is relatively easily determined. Given that risk-averse individuals will insure themselves against pecuniary losses, the fact that these losses are **[221]** easy to determine and the fact that the preferences regarding these losses do not vary as much as those regarding non pecuniary losses, a law-based tort system could fulfill the role of individual insurances. Such a system will not cause as much inefficiency in the redistribution of resources among the population, as a law based tort system for non pecuniary losses would. However, Kaplow and Shavell (2002, p. 151) and Posner (2007) point out that a tort system is a much more expensive insurance system than a system in which every individual insures himself.

The situation is different for non pecuniary losses. Since non pecuniary losses are real losses, these losses lead to a decrease in utility. Besides this, non pecuniary losses also seem to influence the marginal utility of money an individual derives from money (Friedman, 1982, p. 82; Shavell, 2004, pp. 269-71). It is not too hard to imagine that the loss of a child would influence the pleasure of going on a holiday for a family or that the loss of a leg would influence the pleasure of going to a swimming pool. In principle a non pecuniary loss could increase or decrease the marginal utility of money. Empirical studies tend to show that the marginal utility decreases when faced with a loss of personal health (Viscusi and Evans, 1990).

However, authors disagree on the demand for insurance against non pecuniary losses. It should be noted that the relevance of the demand for insurance against non pecuniary losses is related to the aim of compensation of non pecuniary loss, because it is assumed that this demand reveals something about the needs and perceptions of the victim.

No demand for insurance

Adams (1989) draws the conclusion that since, by definition, non pecuniary losses cannot be undone with money, there will not exist extra demand for money after an accident that causes non pecuniary losses. As there is no demand for money *ex post*, the assumption is that people will not insure themselves for non pecuniary losses *ex ante*. The payment of an insurance premium ex ante would lead to a decrease in utility for something that does not generate extra demand for money *ex post*.

Moreover, if the marginal utility of money would be lower after an accident, this would lead to an inverse insurance desire. People would want to transfer money from the state of the world after the accident to the state of the world before the accident, since they enjoy money more there (Shavell, 1987, pp. 228-31).

Suurmond and Van Velthoven (2005, p. 1935) develop an economic model that shows that – even if non pecuniary losses could be fully compensated – a risk averse individual would never insure himself against non pecuniary losses.

Using this line of reasoning, applying tort law for compensating non pecuniary losses does not seem appropriate. Since there is no demand for insurance **[222]** of these losses *ex ante*, compensating for them would be inefficient. This would lead to an increase in prices for everybody (the extra liability has to be charged somewhere), for something that nobody would want to insure himself for (Adams, pp. 216-17).

A potential problem is the subjectivity of non pecuniary losses. Cook and Graham (1977, p. 144) state that non pecuniary losses can only be valued personally and that their valuation will change with one's wealth. Schwartz (1998, p. 411) even speculates on the possibility that the size of non pecuniary losses might be determined partly by the tort system itself.

As a consequence, even if non pecuniary losses were to generate demand for money, it is undesirable to use tort law for compensation. These losses are different for every individual. This means that the prices would increase for everybody, whereas only those who experience large non pecuniary losses are compensated for this. Individual first-party insurances would solve this problem (Priest, 1987, p. 1543).

Support for the opinion that there is no demand for insurance against non pecuniary losses is said to be empirically based (for example, Shavell, 1987, p. 231). However, Zelizer (1981) tries to explain the demand for insurance on the death of a child. It might be true that insurances solely for non pecuniary losses rarely exist, but there do exist some integrated insurances that include a non pecuniary component. Empirical studies do not seem to provide unambiguous evidence.

Demand for insurance

Schwartz (1998, p. 365) and Croley and Hanson (1995) disagree with the idea that there is no demand for insurance for non pecuniary losses. Croley and Hanson try to invalidate extensively both theoretical and empirical evidence for the idea that there does not exist a demand for insurance.

In deciding whether or not to take out an insurance, individuals try to equalize the marginal utility of money in the accident state of the world and the marginal utility in the non-accident state of the world. If the marginal utilities in both states of the world would differed, people could make themselves better off by transferring money from one state of the world to another (by taking out more or less insurance). If it is assumed that a non pecuniary loss does not influence the marginal utility of money, the marginal utility in both states of the world is not affected by the non pecuniary loss and consequently will be no demand for insurance. As stated before, it is assumed that the marginal utility of money decreases after suffering a non pecuniary loss. This would mean that people will not take out insurance against non pecuniary losses and even that people will not fully insurance themselves against pecuniary losses. (Shavell, 1987, p. 230).

[223] Croley and Hanson use another way of studying marginal utility. They state in accordance with for instance Schwartz (1988, p. 362) that marginal utility partly depends on an individual's total level of utility, the so called baseline-utility. They postulate that baseline independent utility (the concept of utility referred to by Shavell) is appropriate for explaining choices within a certain state of the world. It is less reliable in predicting choices of individuals among different states of the world, each with its own utility level (Croley and Hanson, 1995, p. 1816).

Croley and Hanson present the example of going to the opera: only one of two friends can go to the opera, while one of them is an opera lover and the other is not. Normally, it would be best to give the opera lover the ticket, since he derives more utility of the opera. However, if the other friend is in a bad mood, the opera might give him more pleasure than it would give the opera lover. Taken into account the baseline utility, the marginal utilities of the friends might change with respect to each other (Croley and Hanson, 1995, p. 1815).

Inevitably, after an accident with non pecuniary losses an individual faces a new state of the world with a lower level of utility (Croley and Hanson, 1995, p. 1818). Given this, Croley and Hanson argue that is it plausible (in order to find support for this statement Croley and Hanson cite scholars as Rawls, Sen, Dworkin and Nagel) to assume that individuals aim for equalizing baseline utilities among the two states and maximizing total expected baseline-independent utility. In striving for this joint objective, individuals will demand partial insurance against non pecuniary losses (Croley and Hanson, 1995, pp. 1816-20).

Besides this, Croley and Hanson also state that empirical data show that individuals do demand insurance against non pecuniary losses and that these insurances in fact exist. Only due to a lack of information for instance it is difficult to offer these insurances on a large-scale basis. Tort law could play a role here to overcome some of these obstacles (Croley and Hanson, 1995, pp. 1896-917).

8.4. Valuation of non pecuniary loss

The paradox that non pecuniary losses should be valuated in terms of money raises the fundamental question of valuation of this type of loss.

Several studies consider the valuation of non pecuniary losses (for an overview see Viscusi and Aldy, 2003). This valuation is often derived from the 'willingness to pay' approach (Viscusi and Aldy, 2003, p. 2). The approach uses the implicit tradeoff between money and risk in many market choices to value non pecuniary losses. This may be rather useful in cases of loss of, for instance, a family photo album, but it is more complex when the approach attempts to value the loss of an arm or even loss of a life.

[224] Viscusi (1998, pp. 660-61), however, presents some options to value the loss of a human life. He distinguishes three methods and shows that the method of valuation depends on the economic objective of tort law. The first method is the *compensation of the victim ex post*, which seeks for the amount needed to compensate for the loss. This value approaches infinity. That is why the Value of a Statistical Life (VSL) is derived from decisions made by individuals. The VSL is the value that people attach to their lives *ex ante*. A widely used method is to look at the implicit tradeoff between the risk of death associated with the job and the wage in the choice of a job. Schelling (1968) introduced this method. Revesz (1999) stressed the difference between the risk of instantaneous death and latent harms that cause death later in a person's lifetime. The VSL derived from data from the US labor market varies between $4 million and $9 million. Results from product markets and housing markets show similar results (Viscusi and Aldy, 2003, p. 4). The second method focuses on *the amount needed for deterrence.* This value is meant to set incentives for those who can take measures to avoid the accident. The third approach relates the value to *the amount of insurance one would prefer*. People try to equal marginal utilities before and after the accident. Since an accident changes the utility function, it is likely that the preferred income after an accident will be different from the preferred income before an accident (Croley and Hanson, 1995, pp. 1797-804).

The valuation of a human life, therefore, depends on the objective of tort law. Law economics authors mostly concentrate on the second and third objective (Calabresi, 1970; Shavell, 1987; Adams, 1989; Faure, 2000), because they strive for maximizing total utility of society. Their view is that compensation of the victim will only increase total utility of society if the victim enjoys a higher marginal utility of the transferred money than the injurer. People with a higher marginal utility of money usually are poorer people. So only if poor people would have a higher probability of becoming a victim in an accident than rich people, compensation would serve a utility increasing goal (Kaplow and Shavell, 2002, p. 33).

The concentration on deterrence and insurance as important viewpoint for the valuation of non pecuniary losses, differs substantially from the regular approach in tort law (Rogers, 2001), which usually concentrates on compensation of the victim *ex post*. It must be noted that loss of a human life can - as is shown above - not only be seen as a matter of non pecuniary loss, but also or even primarily, as a financial loss.

8.5. Risks of high awards

The lack of a market price for non pecuniary losses and of other specific tools for valuation creates the risk of high awards (Viscusi, 1991, pp. 99-101). The increase of awards for non pecuniary losses in federal **[225]** products liability lawsuits involving personal injury in the United States is considered to have been an important cause of increase in of insurance premiums (American Law Institute, 1991, p. 199). The increase of awards also causes other economic effects, such as higher prices of consumer products and altering product innovation (for a broader overview, see Croley and Hanson, 1995, pp. 1787-8). These effects are considered to have caused a liability crisis. Recently a new increase of insurance premiums has been signaled. To keep the insurance market functioning, tort law is being reformed (Viscusi, 2003, pp. 1-2).

An often proposed treatment is imposing caps on awards for non pecuniary damages. These caps are criticized by Viscusi. Rather than solely imposing caps, having stable and predictable awards for all categories of non pecuniary losses should be the objective (Viscusi, 2003, pp.10-11). Rubin and Shepherd (2007, p. 225) conclude that imposing caps does in fact lead to more predictable situations and therefore to a decrease in the amount of accidents (Rubin and Shepherd, 2007, p. 235).

6. Conclusions

In the literature non pecuniary losses are defined as losses that do not have a value on a financial market. For individuals that face non pecuniary losses, these losses are, however, real. Economic theory aims for efficiency. From this point of view tort law should minimize total accident costs. This should be done by decreasing primary and secondary accident costs as long as the decrease outweighs the increase in tertiary costs it causes.

A decrease in primary costs is reached by prevention of accidents. In order to encourage precautionary measures, injurers should be charged all costs of the damage they cause. This means that they should also be charged the non pecuniary costs of the damage. However, if the victim is better able to take precautionary measures to prevent the accident than the injurer, the victim should not be fully compensated for the damage he has suffered.

A decrease in secondary costs is reached by distributing the costs of accidents over society in a way that those who are more willing to bear the costs do bear them. The value for which individuals insure themselves is a good way to identify the willingness to bear these costs. There is no consensus about the question of wether individuals demand insurance against non pecuniary losses. If they were to demand for such insurance at all, the valuation of non pecuniary losses is different for every individual. This implies that from an economic viewpoint, tort law is not appropriate to compensate for non pecuniary losses. This would lead to a negative redistribution, in which everybody would pay the same increase in prices for awards that not everybody values equally.

[226] The valuation of non pecuniary losses is subjective and therefore difficult. Various methods to value these losses have been developed, of which the ‘Value of a Statistical Life’ method is the one most often used. In spite of the methods available, the awards for non pecuniary losses are substantial and regarded as one of the main problems leading to the high insurance premiums in the United States. The search for a proper solution for these problems has not yet been completed.

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