Nuisance Law versus Tort Law When Transaction Costs Are High. A Law and Economics Perspective of the Italian Legal System

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Abstract: The aim of this paper is to formulate an economic explanation for the presence in the Italian legal system of two distinct categories of liability rules, represented by Nuisance Law and Tort Law. The conclusions, which are based on the Italian legal system, can easily be extended to other legal systems. More precisely, we will examine in detail aspects of Nuisance Law with particular reference to situations in which the high transaction costs prevent negotiation between the injurer and the victim. From the study carried out it appears that limiting indemnity in nuisance cases can be efficient in that it deters excessive investment on the part of the victim. In that respect, Tort Law, which involves full compensation, would not be able to determine efficient results, if applied to cases covered by Nuisance Law. In nuisance cases the full extent of the damage grows in accordance with the investments set in place by the victim and a full compensation would not create optimal incentives to limit the level of investments.
1. Introduction

In the Italian legal system there is a clear distinction between Tort Law and Nuisance Law. Nuisance Law includes those cases in which it is necessary to establish whether a nuisance is allowed or prohibited.

In the present paper, we consider cases where Nuisance Law is applied and where it is characterized by high transaction costs, which prevent negotiations between the injurer and the victim.

The structure of the paper is as follows: In Section 1 we will identify the nuisance cases on which we will focus; Section 2 will address the distinction between property rules and liability rules; in Section 3 we will examine some of the results of the economic analysis of Tort Law; in Section 4 we will show what is meant by the activity level of the party incurring nuisance damages; in Section 5 we will look into the possible consequences where the party incurring nuisance damage might have a claim to full compensation; in Section 6 we examine the efficient results that can be obtained by way of a fixed indemnity, without regard to the actual damage incurred by the victim; and finally, Section 7 concludes the paper.

1) We can put forward the results reached by law and economics scholars relating to the Tort Law system\(^1\) as a coherent body of rules that induce actors to choose an optimal level of precautions and optimal activity levels to maximize the difference between social utility and social costs related to human activities. However, from a similar perspective scholars have underlined that Nuisance Law can also be viewed as a normative solution that induces actors to choose socially optimal activity levels by imposing liability when externalized costs far exceed externalized benefits or background external costs.\(^2\) In that case, however, it would be necessary to establish whether an economic justification exists that explains in nuisance cases (particularly in the Italian legal system) the involvement of an indemnity that is not always commensurate with the extent of the damage incurred by the victim while in Tort Law there is a full compensation.

In the following pages, such examination will be carried out according to the conceptual categories of law and economics, which view individual norms not as orders issued to the individuals, the latter called upon to fulfil unconditional and blind compliance, but as mechanisms that incentivize or deter given forms of conduct. The reactions of legal regulation toward lack of respect for rules should not be viewed so much as sanctions, but rather as a “price” to be paid if one wishes to break the rules.\(^3\)

We are aware of the difficulties in conducting such analyses along the lines indicated, i.e. using a methodological approach with the aims we have set out, if only due to the heterogeneity of the cases conducted within the framework of Nuisance Law. It is precisely for this reason – and within the context of the said category – that we will consider those acts where a possible agreement between the violating party and the injured party is prevented by high transaction costs.

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\(^1\) Monateri P. La responsabilità civile, Torino, 2006, 21, which shows how the function of civil liability is that of “obtaining a general order, decentralised and spontaneous, of social actions, which is founded on the private transactions system, and of referral to a Court, in the case of failure of those same private parties in the attempt to reach an agreement that regulates the costs issue, which emerged during the fulfillment of given activities” (own translation).

\(^2\) Hylton

For example, a situation arising from the hypothesis of a bee owner and his neighbour\(^4\) is characterized by the fact that reaching an agreement between the two parties would involve the kind of time and cost framework that would make the recovery of the escaped bees impossible. In another hypothesis, however, involving servitude by necessity, there does not seem to be any transaction costs that might hinder an agreement between the owners. Finally, the analysis will be restricted to situations in which it is possible to imagine an optimal level of precautions that the injurer party can take. Thus chasing after the swarm of bees is feasible to devise an efficient level of precautions that the bee owner can adopt, while in the case of servitude by necessity it is not possible to identify a level of precaution that the property owner – for whose advantage the servitude is set up - can choose. Therefore, in essence one can identify three models in the Italian Civil Code which display the characteristics here described: the model of the intolerable but lawful emissions as per Article 844 paragraph 2, c.c., which constitutes by far the most important hypothesis; the example of the bees (ex. Article 924 c.c.); and finally, the example of the chasing of tame animals (ex. Article 925 c.c.).\(^5\)

The analysis of the consequences that legal ordinances link to nuisance-causing hypotheses that are examined here can facilitate the understanding of the effectiveness of deterrence as set out in the indemnification system.

**2 Property rules and liability rules.**

From a law and economics perspective, nuisance cases presuppose a conflict situation between two parties, both of whom aspire to enact behaviour that affects the other’s activity. This is a reciprocal issue, where the property owner inflicting the external effect aspires to act in a way that causes emanation of smoke or exhaust fumes onto the property of the victim, while the potentially damaged parties aspire to enjoy their possessions without having to undergo negative effects.

\(^4\) Article 924 of the Italian Civil Code states that “the owner of a swarm of bees has the right to chase after them entering someone else’s property but is liable for any damage done to that property; if he has not chased the bees within two days or has interrupted the chase for two days, the owner of the that property may take and keep them”.

\(^5\) Article 844 of the Italian Civil Code establishes that “the owner of a property may not prevent the emission of smoke or heat, exhaust fumes, noises, shakings and similar propagation coming from a neighbour’s property where these do not exceed normal tolerability, taking also into account the condition of the locations involved. In applying this norm the legal authority must temper the needs of production activities with the nature of the property. He may take into account the priorities involved in any given use”.

Here it is assumed that the constraints of Article 844, Paragraph 2 c.c., apply to those cases where the nuisance inflicts damage on several property owners, and as a result, negotiation would be hindered, save by transaction costs. If in fact property rules were to be implemented, negotiation would be hindered by the holding-out and the free-riding phenomena (respectively pertaining to whether a right is applied to the party potentially injured or the party causing the nuisance).

Article 925 of the Italian Civil Code states, “Tame animals may be pursued by their owner into other properties provided the right of the property owner to compensation for any resulting damage be observed”. We maintain that there is no distinction between trespassing and nuisance ratings in that as yet no valid reason for such a distinction has been put forward. In fact, R. Posner in ECONOMIC ANALYSIS OF LAW, 1998, p. 70, note 4, states that “Trespass differs from nuisance in being an unpermitted entry onto one’s land as opposed to an interference with its use or enjoyment, but this is a nominal rather than a real difference. Rarely (though not never) will there be an interference with the use or enjoyment of land that does not involve entry onto the land of waves of particles of some kind”.

According to Merrill T, in Trespass, Nuisance and The Costs of Determining Property Rights, 13 International Review of Law and Economics 135 (1985), trespass law should be used when transaction costs are low while nuisance law should be used when transaction costs are high.
The conflict situation described puts the legal system in front of a dual set of problems, in that one has to attribute entitlement,⁶ and secondly establish both the form and the degree of protection to be accorded to the entitlement holder.⁷

In this context, Calabresi and Melamed introduced a dichotomy of property rules and liability rules. In the first case the entitled has full protection of his legal position, given that he may even obtain injunction against another's action which causes a violation of the entitlement. Resorting to property rules does not result in an immutable situation in which the prerogatives of each individual are foreseen and crystallized by the legal system. On the contrary, the individuals may—by way of drawing up contracts—transfer the right to the party that values it more, but in the absence of an agreement, such transfer cannot be enacted.

By contrast, with liability rules the entitled may not prevent his right from being transferred to another party, but may obtain payment from the party that has taken the entitlement. The existence of these two forms of protection is justified by way of the consequences stemming from the existence of transaction costs.⁸ Where transaction costs are low, the market makes possible the attribution of the entitlement in the hands of the party that values it most. When transaction costs are high, however, such socially desirable transfer may not arise, because the costs of reaching and subsequently enforcing an agreement could be greater than the relative increase in wealth.⁹ In these cases, for the purpose of promoting an efficient allocation of the entitlements, a liability rule authorizes to take another person's entitlement without the consent of the owner, provided he is willing to pay a certain sum of money.¹⁰ This takes place in the nuisance cases described here and

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⁶ In law and economics such a situation is viewed partly in a symmetrical perspective in that it expounds on how the presence of a party that aspires to the enjoyment of the violated property may bar the owner of the violating property from carrying out the activity the latter wishes to exercise. It is a matter of the principle, identified by Coase, who used the expression “the reciprocal nature of externality”. (Coase R. The Problem of Social Cost, 3 Journal of Law & Economics 1 (1960). See Baffi, Enrico, The Problem of Internalization of Social Costs and the Ideas of Ronald Coase (August 2, 2006). Available at SSRN: https://ssrn.com/abstract=920588 or http://dx.doi.org/10.2139/ssrn.920588.

⁷ Ibidem

The authors state: “These decisions go to the manner in which entitlements are protected and to whether an individual is allowed to sell or trade the entitlement. In any given dispute, for example, the state must decide not only which side wins but also the kind of protection to grant. It is with the latter decisions, decisions which shape the subsequent relationship between the winner and the loser, that this article is primarily concerned”.

⁸ Precisely in this perspective, Coase R., The Problem of Social Cost, cit., shows how, in the absence of transaction costs, assigning initial entitlement would actually be irrelevant, in that the parties, by way of exercising their own private autonomy, would in any case be able to allocate the resource to the party that values it most. The CD Coase’s Theorem or Theorem of the Irrelevance of a Right was elaborated based on Coase’s intuition.

⁹ In reference to nuisance cases, where a party’s activity inflicts detriment and nuisance on the property of others, Hylton K., The Economics of Nuisance Law, in AA.VV., Research Handbook on the Economics of Property Law, Edward Elgar, 2011, highlights the efficiency of injunction, where the costs of external effects are undoubtedly greater than any benefits.

This is a solution similar to that stipulated in Article 844, Paragraph 1, c.c., which allows the owner of the damaged property to prohibit the activity of the owner of the inflicting property when the infringements are intolerable.

¹⁰ One problem that law and economics scholars have not yet examined is the description of the exact category of transaction costs that could prevent negotiation between the parties. In particular, what remains unresolved is the question of the presence of high transaction costs in the situation of a bilateral monopoly.
is characterized by the presence of high transaction costs, where there is a party authorized to act, possibly inflicting damage, in the face of the payment of an indemnity in favour of the injured party.

The same reasoning can also be put forward in any case in relation to torts, in that the party that exercises a potentially damaging action could not negotiate with all the potentially injured parties in order to have this right recognized. For instance, in the classical case of a car accident, if the pedestrians were protected by property rules, the driver would have to set up negotiations with each of them in order to have his right to drive recognized. As such a negotiation is impossible, it can be postulated from an economic perspective that the rule of tort liability on the basis of which a motorist must fully compensate the pedestrian for the damages caused by negligent driving, does nothing other than mimic the allocation of those rights which would have applied if the transaction costs had been negligible.

3. Economic analysis of law and the concept of deterrence

Liability rules are not only a solution for getting around high transaction costs that prevent the conclusion of agreements that are advantageous to both parties. In fact, a complementary reading can be found by considering the need of deterring activities whose benefits are inferior to the social costs linked to them.

The perspective under examination can be somewhat consolidated by examining the rules of tort liability, seen as a system of deterrence that induces the individuals to act only when the private benefit is higher than social costs. The pursued result is that of maximizing the difference between injurer and victim utilities and the costs (both the expected damages and the cost of precautions).

In this framework, three distinct variables can be observed, which influence the costs deriving from the exercise of activities: the expected damage, the level of precautions and the level of activity. Expected damage is determined by the product of entity and likelihood of the damage. The likelihood of the damage, moreover, is inversely proportional to the level of care adopted by the parties involved.


It is, however, true that this interpretation of the norms on tort liability clashes with the system of unlawful acts that characterize many of the legal systems. The tort liability borne by the injurer arises when the latter performs actions that are not authorized and, as such, are defined as unlawful. Such actions, despite being forbidden by law, could, nevertheless, be considered socially desirable, because they bring benefits to the injurer that are greater than the costs the victim has to bear. Were one to consider only the assumptions specific to law and economics, the motorist could decide to drive the vehicle in a negligent way, causing injury to a third party, in that his own private benefit might be even greater than the damage suffered by the victim. Such unlawful acts, however, are not sanctioned only by way of rules of tort liability, but along with civil sanctions there are also administrative or criminal ones. These sanctions ought not to be contemplated, as they lead the assumptions on law and economics principles to extreme consequences.


For the purposes of the current article, however, what is of greater interest, quite apart from the problematic issues just mentioned, is to proceed with the analysis, from an efficiency perspective, of the dichotomy of liability deriving from nuisances and liability deriving from torts.


The introduction of the concept of activity level owes its origin to Shavell S. Strict Liability versus Negligence, 9 The Journal of Legal Studies 1 (1980)
Regarding the minimization of damage, both the fault liability rule and the strict liability rule (with a defense of contributory negligence or of comparative negligence) may be considered efficient. With a rule of fault liability, in fact, the injurer – for the purpose of not seeing liability assigned to him – is incentivized to adopt the level of precautions set down by law or described by the judge. \(^{14}\) Assuming that the injurer will not be negligent,\(^{15}\) the victim will thus be aware that she will bear the consequences resulting from an accident; so that she too, therefore, will be led to adopt\(^{16}\) those precautions required in order to minimize the sum between precaution costs and expected damage.\(^{17}\)

The same result can be obtained using a strict liability rule. In this case, in fact, since the consequences of the harmful event fall on the injurer, the latter will be incentivized to take optimal precautions. In a model of bilateral accidents, however, the rule of strict liability must be corrected with a defense of contributory negligence\(^{18}\) or by way of a defense of comparative negligence.\(^{19}\) In the first case the injured victim can obtain damage compensation only if his behaviour has been assessed by the judge to be diligent, whereas in the second case the extent of fault borne by the victim goes toward reducing the compensatory amount. In both cases, however, the victim will have an incentive to behave diligently in order to obtain compensation.

\(^{14}\) With a rule on fault liability, of course, the decision about precaution costs of both sides can be efficient only if the degree of diligence is quantified in an efficient manner either by the law or by the judge. For this reason what takes shape, in the context of models of unilateral incidents, is the opportunity to adopt rules of strict liability, since in that case the judge is called on solely to establish the causal link between behavior and accident and the extent of the damage produced, without having to look into the faulty nature of the behavior of the injurer. See Shavell S, *Economic Analysis of Accident Law*, Cambridge, 1987, as well as Craswell R. and J Calfee, *Deterrence and Uncertain Legal Standards*, 2 Journal of Law, Economics, & Organization, 279 (1986).

\(^{15}\) In the accident models, it is maintained that the injurer tends never to be at fault in that it would be convenient for him to adopt the necessary precautions in order to escape any allocation of liability. Of course this kind of simplification of reality attracts critical commentary in that not always do the actions of the parties involved encompass rational considerations.

\(^{16}\) In the *Economic Analysis of Law* there is a tendency to differentiate the models relating to unilateral accidents, where only the injurer is able to adopt due precautions, from those relating to bilateral accidents where both parties are in a position to take precautions. Clearly, the efficiency of the different liability rules needs to be assessed by the standard of the characteristics that connote the liability models. In a unilateral model, the rule relating to fault liability can give rise to efficient outcomes if the degree of diligence prescribed by the law or by the judge is determined in an optimal manner. With the rule of strict liability, however, it will be the injurer who determines the level of precaution to be adopted, in the knowledge that he has to internalize every possible cost resulting from his behavior. See Shavell, *Economic Analysis of Accident Law*, op. cit.

\(^{17}\) The efficient level of precaution is determined by referring to Hand’s rule. In particular, it is efficient to adopt an additional level of precautions, inasmuch as the cost of such additional precautions will be less than the marginal reduction of the expected damage.

In the court decision United States vs Carroll Towing Co., 159 F.2d 169 (2d Cir.1947), the judge, Learned Hand, had pinpointed this rule for determining – in light of a costs/benefits analysis – the required standard for precautionary measures.


Thus far we have highlighted how liability rules can minimize social costs stemming from performing activities. The economic analysis of law, however, assumes first and foremost a comparison between costs and benefits, and both the victim and the injurer, besides bearing the cost of expected damages and of precautionary measures, derive utility from the setting up of their own activities. In micro-economic models it is assumed that such utility will marginally decrease at an activity level. This is easily perceived, in light of the fact that the first time a certain behaviour arises the benefits are greater than those obtained by reiterating the same behaviour for the hundredth time. Consequently, it can be assumed that the utility to the parties involved will increase at a marginally reduced rate, until it becomes nil, as the individual involved has no more interest in pursuing his behaviour.

The function of Tort Law then becomes that of maximizing the difference between social benefits and social costs. In the traditional model of Tort Law developed by law and economics, it is not possible to simultaneously obtain both efficient precaution levels and efficient activity levels. In fact, with a strict liability rule with a defense of contributing negligence, the level of activity of the injurer (residual bearer) is controlled, but the activity level of the victim is not. The latter, knowing that he could be fully compensated, will continue his activity until his marginal utility is equal to the cost of the precautions without taking into account the expected damage, which will continue to be borne by the injurer. With a rule of fault liability, on the other hand, the level of activity of the victim is under control but that of the injurer is not. In such a case it is the injurer who will choose an excessive level of activity, reiterate his behaviour to the point at which the marginal benefit is equal to the marginal cost of the precautions, and not consider the expected damage. Thus, as highlighted by Shavell, in choosing the liability rule, not having the option to normally include in the concept of fault the excessive activity level, one would have to identify which of the two behaviours—injurer or victim—is the one that it is more desirable to control.

4. Nuisance-based liability and activity levels

In light of the positions taken on the subject of tort liability, one could maintain that the tort model should also apply to nuisance cases. It would follow that a strict liability rule with a defense of

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20 The solution that is recommended for these cases is called *decoupling*, i.e., the mechanism according to which both the injurer and the victim tolerate the damage caused by the incident. One can assume, for instance, that the injurer will pay a sum equal to the damage caused and that the victim will put up with the damage. The fact that this solution is not adopted shows that such mechanisms have their own problems – the first of which concerns enforcement – as the victim has no interest in promoting a course of action against the injurer. See Polinsky M. and Che, Polinsky M. and Y. Che, *Decoupling Liability: Optimal Incentives for Care and Litigation*, 22.4 RAND *Journal of Economics* 562 (1991).

21 In this regard, it may be useful to consult E. Baffi and D. Nardi, *Colpa e livelli di attività. Il contributo della Law and Economics*, in *Rivista Critica di Diritto Privato*, 2014, 32, 1, 137.


23 In Cooter R., T. Ulen, *Law and Economics*, 6th edition, 2016 p. 190, there is no definition of a Nuisance Law, seen as a form of liability rule, different from Tort Law. “Tort liability is only one of several policy instruments available to internalize externalities created by high transaction costs. Alternative policy instruments include criminal statutes, safety regulations, and tax incentives. Each alternative has its advantages and disadvantages”. In Miceli T., *Economics of the Law*, New York, 1997, 120 Nuisance Law is traced to liability rules, but it is based on the notion of full compensation: “Since one function of damages is to compensate the victim, the polluter’s liability is typically set equal to the victim’s actual damages, L(x)=D(x). Clearly this form of liability will induce the factory to engage in optimal abatement for the same reason that strict liability induces injurers to take optimal care in accident settings”. Law and economics scholars maintaining that compensation in nuisance cases and in high transaction costs situations should be full. See Swandon T and A Kontoleon, *Nuisance, Encyclopedia of Law and Economics*, Volume 5, Second
contributory negligence (or of comparative negligence) would prevent checking the activity level of the victim. On the other hand, a straightforward fault rule would prevent checking the activity level of the injurer, were typical tort liability models to apply. It would, therefore, be a case of choosing which activity it is more desirable to check, assuming full compensation, with the result that the activity level preferred by one of the two parties will certainly be excessive.

What is noticeable, however, is a fundamental difference between the tort cases and the nuisance ones being examined here. In a nuisance case, total damages do not remain constant with the increase of the activity level of the victim. In such cases, in fact, the activities presuppose (and from a conceptual point of view coincide with) the investments made by the victim. As an example, let us take the various forms of land cultivation. These are inevitably reflected in the total amount of potential damages. It is noteworthy, in fact, that the more intense the agricultural exploitation of the land, the greater the damages will be in the hypothesis that a beekeeper has to chase after his bees. It is true that the victim’s activity level might not affect the damage level. In the case of the neighbour who cultivates his land, the activity level may be quantified as the number of times he carries out the planting of that land. In such cases the amount of the damage, where a beekeeper invades that land, does not grow in line with any increase in activity on the part of the injurer. But one can reasonably state that many of the common and typical activities that can be carried out on a property will determine an increase in the damage level strictly correlated to the activity level. Thus, it may be stated that the damage the beekeeper may bring on his neighbour depends basically on the number of plants he has planted on his land. The same reasoning can be applied to chasing after domesticated animals. Finally, it can be stated that the damage inflicted by industrial polluting will depend on the level of investment made by the victim on his property.

5. Perfect compensation and over-reliance

The authors, in outlining differences between Tort Law and Nuisance Law, draw an analogy – in the second context just mentioned – between activity level and investment level.
Concerning examples of nuisance cases, the correlation that exists between the extent of possible damage and activity level is relevant for determining optimal and efficient solutions in law. Where there is a perfect compensation case for the victim, the latter, aware of the fact that liability is borne on the part of the injurer, could carry out any investment that provides a positive return, even minimal, without taking into account that this investment could be lost as a result of behaviour of the injurer. This hallmark of nuisance action seems to distinguish such actions from tort ones. Referring to the latter category, in fact, the amount of the damage does not grow in step with the number of times the injurer and victim meet. The amount of damage incurred when a mother goes to the park with her child and comes across a person with a dog, remains the same irrespective of whether it is the first such encounter or, say, the fourth.

In order to understand which discipline is optimal in these situations one can refer to the model worked out by Robert Cooter in the 1980s.27 The author highlighted how the end of liability rules, both contractual and tort ones, is to incentivize parties to take optimal precautions. At the same time certain differences exist, the first of which is to be found, on a discipline level, precisely in the setting of the compensation amount. In Tort Law there is a full transfer of the economic consequences of the unlawful act, while in the case of breach of contract, the compensation amount is correlated to foreseeable damage, which does not always coincide with the level of investments the creditor has made and that are lost as a result of the breach.28 Thus, the compensation amount beyond a certain level does not increase in line with increases in the investments made by the creditor.29

In Cooter’s work this discipline is justified by referring to investments that the creditor implements, investments that, on the one hand, maximize the utility of the creditor deriving from the implementation of the transaction, but on the other hand, also contextually increase the damages that arise as a result of non-performance.

Consider as an example the case where a debtor has taken up the obligation to deliver to the creditor a given property by a certain date, property that must be used as the premises for the sale

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28 Note that Cooter utilizes a nuisance example to elaborate a model of efficient discipline relating to torts. See Cooter R., *Unity in Tort* cit.
This difference comes from the option the creditor has — unlike the victim in a tort liability system — of influencing the compensation award, by making specific investments. On the contrary, in the tort liability system, it is usual to assume that the potential injurer may exclusively influence the likelihood of damage.
29 It could be argued that where the creditor has not relied much on the implementation of performance and consequently has made few investments, the compensation award would correlate with the level of investments actually chosen by the creditor. This hypothesis presupposes that the creditor does not act rationally. Where choices are rational, the creditor will carry out all the efficient investments and the actual damages will coincide with the indemnity award. Moreover, what remains unresolved is the hypothesis where the creditor has not acted rationally and has chosen a level of investment below optimal level. In this instance, one would need to determine whether the indemnity award should be equal to the actual damages or should rather coincide with the fixed damages sum (which is greater) set down by law. In other words it is a case of determining whether the indemnity award should be wholly unbound by the creditor’s investments or whether it should be capped at a maximum level. In Cooter R and T Ulen, Thomas, *Law and Economics*, 6th edition (2016) Berkeley Law Books Book 2 http scholarship.law.berkeley.edu/books/2,336 the capping solution is put forward as the efficient one in cases of damage from breach of contract. “The foreseeability doctrine in common law compensates for foreseeable reliance and does not compensate for unforeseeable reliance. The foreseeability doctrine thus imposes a cap on damages. If foreseeable reliance equates with efficient reliance, then the foreseeability doctrine caps damage at the level required for efficient incentives”. 
of foodstuffs. The creditor has to decide whether to buy, before the opening date of the store, products with a long or short shelf life, taking into account that the long shelf-life products carry a loss factor, which is significantly lower than those with a short shelf life, should breach of contract occur. Suppose, moreover, that, given the precaution costs the debtor has to sustain, it is efficient to purchase long shelf-life products and not purchase any short shelf-life products. With a compensation rule involving any damage case suffered by the creditor, he would not have to bear the losses that might accrue in case of non-performance, and, therefore, would buy both product types.

A rule of full damage compensation, therefore, guarantees a form of “insurance” for the creditor enabling him to make all the investments, thereby increasing the possible level of damage compensation.\(^{30}\) This situation could thus seem inefficient: With optimal precautions taken by the debtor, the creditor’s marginal expected benefits by an additional increase of investments could be lower than the marginal expected costs in a case of non-performance.\(^{31}\)

In the example just considered, as we have said, the creditor would purchase costly items with a shelf life that does not go beyond the opening date of the store, in the knowledge that, in case of non-performance, any losses would be covered by a compensation payment.

An initial solution, for purposes of efficient choices on the part of the creditor, would be to deny any compensation payments, thereby encouraging him to internalize all the consequences of his investments. But in that way the debtor would not have any incentive to bear performance costs.\(^{32}\)

Cooter, in highlighting this issue, which he defines as the “paradox of compensation”, underlines the efficiency of the capped compensation rule. In doing this he does not take into account the actual investments made by the creditor. Thus what arises is a rule similar to a nil compensation rule – and therefore efficient – in order to get the creditor to make optimal choices,\(^{33}\) since for each marginal increase in investment, given a fixed compensation amount, there will not be any marginal increase in damage compensation. Thus a fixed compensation should be equal to the damage borne by the creditor in case of breach of contract, assuming that he has made efficient investments. That way the debtor will be encouraged to adopt an efficient precaution level and the creditor will be encouraged to adopt efficient investments.

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\(^{30}\) The full damages compensation award, foreseeable and non-foreseeable, brought about by an unlawful act, is, however, provided for in various legal ordinances and is confirmed as an efficient discipline by law economists. Cfr. Kaplow L. and S. Shavell, _Economic Analysis of Law, in Handbook of Public Economics_, Volume 3, editors Auerbach and Feldstein 2002, p. 1675: “To sum up, we can say that in simple cases damages should equal harm under strict liability and under the negligence rule, although there are complications such as that concerning uncertainty in the negligence determination. In fact, the law generally does impose damages equal to harm, but subject to some exceptions”.

\(^{31}\) In the example in question, the efficient precaution level and the efficient investment level are determined simultaneously by means of the instrument of partial derivatives, a solution for which the current authors have nothing to add. For a mathematical formula regarding this question see Cooter R. and T. Ulen, _LAW AND ECONOMICS_, cit., 373.

\(^{32}\) In this regard see Posner E., _Contract Remedies: Foreseeability, Precaution, Causation and Mitigation_ in http://encyclo.findlaw.com/. In particular, the author highlights how “one possibility is a rule that awards zero damages. To see why, imagine that the breach would result in an expected loss of $100 if the promisee fails to take a precaution, and in an expected loss of $50 if the promisee takes a precaution that costs $10. Under the zero damages rule, the promisee expects to bear the full loss and so would take the $10 precaution in order to reduce the loss from $100 to $50. The problem with zero damages, however, is that it gives the promisor no incentive to take precautions. Thus there is a tension between creating incentives for the promisor to behave properly and creating incentives for the promisee to behave properly”.

In the above example, it can be supposed that, given the precaution costs that have to be sustained by the debtor, there is an optimal level of investments where gains coming from the sale of products multiplied by the probability that the promisor will fulfil obligations are equal to the loss due to the lack of sale of such products multiplied by the probability that such products will not be sold (in case of a non-performance). It could be possible to determine the damage that the debtor has to pay as being simply the value of goods with a long shelf life. The creditor will consider the probabilities that an event may arise that induces the debtor to fail to fulfil obligations, and as the expected benefits from the purchase of goods with a short shelf life are less than the expected cost (in that the benefit, in the case of fulfilment, multiplied by the probabilities of the promisor fulfilling his obligations, is less than the damages in the case where the debtor does not fulfil obligations, multiplied by the chances that he might not fulfil obligations), he will choose to purchase only the goods with a long shelf life and not others. The result will be, as described by Robert Cooter, that an equality between fixed compensation and actual damages will only come about where the promisor has behaved rationally. If the latter, in fact, has not taken into account the risk of non-performance and has carried out an excessive amount of investment, he will receive compensation that is lower than the actual damage sustained. If the creditor, therefore, were to apply over-reliance, and were to rely excessively on performance, he would end up receiving a compensation amount lower than the damage sustained.

6. Liability in nuisance cases and predetermination of the indemnity amount.

In the case of contractual liability, damage resulting from non-performance increases in line with investments made by the creditor. In order to avoid excessive reliance, it is an efficient compensation level not depending on the level of investments made.

A similar situation can be seen where possible damage against landlords' rights are sustained by the owner in the case of nuisance. As previously stated, the damage borne will grow as a result of the victim activity level (or of his investment level). Imagine, for example, a case in which the land owner runs the risk that his neighbour has to pursue bees. The amount of damage that might be incurred by this neighbour grows in line with the increase in his investments (e.g., an increase in the amount of grain cultivated). If there were full compensation, the owner of the land would carry out any activity whose results - even if modest in scope – could be easily compromised, in the event that a neighbour had to chase his bees. If no damages were to be awarded to the owner of

34 He will not purchase fresh products because the obtainable earnings coming from the sale of same, multiplied by the chances of the debtor fulfilling obligations, is less than the loss he would sustain in the case of non-fulfillment, multiplied by the chances of the non-fulfillment coming about. Behavior would be different if instead of a predetermined indemnity level, the creditor had the right to damages correlated with the actual loss.

35 See Cooter R. Unity in Tort, Contract and Property, cit., 15, according to which “the stipulation of damages at the efficient level is a self-fulfilling prophecy: the stipulation of efficient damages causes the actual damages to equal the stipulation”.

36 The precise level of compensation in the case of violations is indicated in dubitative form by Calabresi G and D Melamed, Property Rules, Liability Rules and Inalienability, cit, 1110; “More often, once a liability rule is decided upon, perhaps for efficiency reasons, it is then employed to favor distributive goals as well. Again accidents and eminent domain are good examples. In both of these areas the compensation given has clearly varied with society’s distributive goals, and cannot be readily explained in terms of giving the victim, as nearly as possible, an objectively determined equivalent of the price at which he would have sold what was taken from him”.
the land, he would internalize all the consequences of his investments, choosing an efficient level of investment. But as we have already pointed out, even with a fixed compensation, the victim’s optimal behaviour would not be modified, since any further marginal investment would not bring about a marginal increase in his utility. Legal systems, therefore, being able to adopt solutions that do not distort the incentives of the injured party, will have to determine the amount of damage in such a way as to cause the injurer to take efficient precautions.

The amount of the sum to be awarded will be equal to the efficient investment that the potentially injured party should have made. From this it follows that if the neighbour behaves rationally, the indemnity will be equal to the actual damage. But equally, where the neighbour has exercised over-reliance, and has, therefore, made investments without taking into account the risk of losing investments, he will receive an indemnity payment that is below the actual damage level.

Such a result cannot be achieved in the traditional hypothesis of tort law, in which any increase in activity level there is no increase in the potential damage level. A party who has to decide whether to carry out a certain activity will consider the chances of an accident with resulting expected damage, while if he decides not to carry out that activity, there will be no accident risk. Only in this respect can it be said that the sum total of damage incurred varies in line with the activity level. However, as already pointed out, if a mother decides to go with her child into a park where there is a person with a dog, the total amount of damage that can come about as a result of a dog bite is the same both when he enters the park for the first time and when he enters for a fourth time. From this point of view, applying the law and economics tort model to the nuisance cases under consideration here, does not seem to lead to valid results. One must rather resort to a model, such as the contractual liability discussed, where the potential damage increases in line with the increase in activity level (or in investments made) on the part of the potential victim.

We can, in other words, assert that in the same way that compensation restricted to the foreseeable damages prevents the creditor from making a moral hazard, so the expectation of a fixed indemnity level in the cases of nuisance considered here prevents any moral hazard on the part of the victim of the nuisance, consisting of investments made without taking into account the fact that these investments may be lost.

7. Conclusion

From this point of view, therefore, the efficient discipline of Nuisance Law (in those cases where transaction costs are high) must necessarily be distinct from Tort Law. The research carried out thus far seems to be potentially applicable to other behaviours that affect property rights. Even in cases that have not been examined here, in fact, the need arises to limit investments on the part of potential victims. For example, the social loss caused by the setting up of a servitude by necessity will depend on the level of investments made by the victim. If, in fact, the latter has created a built up area of the whole land, the social cost of setting up a servitude by necessity will be greater than would be the case where the party involved has limited his investments, leaving the way free, for instance, for possible servitude. In order to avoid an outcome where the owner does not take into

37 It should be noted, moreover, that a party, in a case of fixed compensation, will avoid carrying out the act where the expected damage is greater than the expected compensation figure (excluding, for simplification purposes, precaution costs), while he will carry out those extra activities needed in case the compensation is made in full. The expectation of a fixed compensation amount thus creates in any case a disincentive to choosing an excessive activity level.
account the possibility of servitude by necessity, in the place of perfect compensation, what would
turn out to be more socially desirable is an indemnity that is not always equal to the investments
put in place by the owner of the land. In this way one avoids the moral hazard of the party
concerned. All the same, the differences indicated remain in place and these determine the need
for a distinct analysis.