THE ECONOMICS OF PURE ECONOMIC LOSS AND THE INTERNALISATION OF MULTIPLE EXTERNALITIES

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ABSTRACT

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1 Introduction: legal doctrines versus economic analysis

Despite the terminology, the concept of pure economic loss originally lies in the domain of legal doctrines. It refers to damage consisting of a financial loss unaccompanied by physical harm.¹ Several factors stimulate the interest of the economist in pure economic loss problems. First, the treatment of pure economic loss in contracts seems to be less problematic than in torts, as contract relies on the Roman formant that allows compensation for both damnun emergens (the concrete damage actually incurred) and lucrum cessans (the lost profit).² Secondly, although the great disparity in the treatment of accidents involving financial loss from accidents involving physical loss has been tackled from an economic viewpoint and fruitfully interpreted, the heterogeneity in the treatment of the former accident typology in different legal systems is largely unexplained.³

In relation to the first point, contract law furnishes parties with the legal environment in which negotiation takes place.⁴ Since contractual parties generally desire protection of their economic interests, contract law does not hesitate to admit compensation for pure economic loss.⁵ Likewise, it has been shown that, in cases in which the willingness of the parties not to protect such interests is


⁵ Contract law concerns situations in which transaction costs are low and parties can bargain. As a result, costs and benefits that a party may produce and that may affect the other party will be taken into account by the parties themselves, without the need for and irrespective of legal intervention (see on this point Coase, 1960, supra note 4). Thus, the economic function of contract law is to reduce the cost of contractual arrangements by facilitating the exchange of information, optimising the allocation of risk concerning unforeseeable events, and improving mutual commitment and coordination. The rule that generally allows compensation for financial loss between parties to a contract can be seen under this perspective. On the economic analysis of contracts, see in general Richard Craswell, ‘Contract Law: General Theories’, in Boudewijn Bouckaert and Gerrit De Geest (eds.), Encyclopedia of Law and Economics, vol. III, Cheltenham: Edward Elgar (2000) 1-24, and Avery Wiener Katz, ‘Contract Formation and Interpretation’, in Peter Newman (ed.), The New Palgrave Dictionary of Economics and the Law, vol. 1, New York: Macmillan (1998) 425-432.
clear from the outset, pure economic loss should not be compensated. By contrast, tort law enters the arena when bargaining is not possible, i.e. when some of the costs (or the benefits) of a party’s activity might fall on others without any contractual relationship being previously established (e.g., motorists may injure pedestrians). Thus, unlike contract law, liability rules provide mechanisms that make parties consider those external effects, by entitling victims to compensation. The internalisation of external effects poses peculiar problems in the case of pure economic loss. The analysis of such problems will be the focus of this study and will enable us to tackle the second issue mentioned at the beginning of this introduction.

Legal doctrines characterise the economic loss problem on the basis of the nature of the harm: purely financial loss contrasted to physical damage to property or personal injury. This dichotomy does not find favour in the economic analysis of law. From the latter perspective any loss is regarded as a decrease in the victim’s welfare, irrespective of whether such a decrease derives from a physical or a monetary loss. Thus, from an economic perspective both ought to be considered as losses of the same importance. Arguing that physical loss is of greater importance for the law than is financial loss only transforms the problem of what loss should be compensated into the problem of how different losses should be ranked. Economists have criticized this approach.

Likewise, maintaining that financial loss opens the way to litigation of potentially endless suits or that

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6 Cases of tort liability for financial loss often concern potential contractual relationships. Victor P. Goldberg, ‘Accountable Accountants: Is Third-Party Liability Necessary?’, 17 Journal of Legal Studies (1988) 295-312, discusses cases in which the parties to the tort suit could have actually protected their economic interests through contract. It is argued that, since they did not, such protection is to be considered undesirable and the law should not impose it through tort liability for pure economic loss. The case of accountants’ liability towards third parties that relied on their statements is distinguished from the case (apparently similar) of notaries’ and lawyers’ liability towards the intended beneficiary of a will negligently delayed. In the former case, liability should be excluded as parties could have specified it in contracts and they did not (Goldberg, 1988, at 299-308). In the latter, liability should be admitted, as the intended beneficiary should be seen as pursuing the interest of the testator in his intended will, which would otherwise be frustrated (Goldberg, 1988, at 308-311). Victor P. Goldberg, ‘Recovery for Pure Economic Loss in Tort: Another Look at Robins Dry Dock v. Flint’, 20 Journal of Legal Studies (1991) 249-275, argues in an analogous way. My analysis applies instead to cases in which transaction costs are so high as to prevent parties from contracting and hence can only be analysed under tort law.


8 Mauro Bussani, Vernon Palmer and Francesco Parisi, ‘The Comparative law and Economics of Pure Economic Loss’, George Mason University, Working Paper Series (2001), forthcoming in American Journal of Comparative Law, at 15-24 examines and criticizes approaches based on the dichotomy between absolute and relative rights or grounded on some scale of human values. According to these theories, pure economic interests should not be given compensation for they attain to relative rights or are to be ranked at a lower level than other interests meritorious of protection. It remarks that these and similar arguments are ultimately bound to stimulate the question why economic loss should not be protected as absolute rights in the first place or be classified at a higher level. Though they might be defended on the pragmatic ground, both arguments fail to provide a convincing theoretical explanation of why pure economic loss should or should not be compensated. See also Fernando Gomez and Juan Antonio Ruiz, “The Plural and Misleading Notion of Economic Loss in Tort: A Law and Economics Perspective”, working paper, 4 Indret (2002).
financial loss is less foreseeable than physical loss is objectionable on the basis that the functioning of the law of torts seems not to be impaired by this problem where the damage is physical in nature. Consider for example class actions in product liability. Furthermore, financial loss does not seem to generate a distinguishable set of problems. Thus, specific legal treatment is difficult to justify on these grounds. Economists have expressed related concerns.9

Nevertheless, financial loss features a distinguishing characteristic. Physical harm always implies the destruction of some societal resources (in the broadest sense). In contrast, financial harm may or may not amount to a social loss. It might, to a certain extent, simply signify a redistribution of wealth from one subject to another, so that the total wealth of society remains unaltered.10 This point is a crucial tenet of economic analysis.11 The pure economic loss problem may be regarded as a divergence between the social cost of an accident and the private cost thereof.12 Only the former is relevant to society, but the concern of private parties is with the latter. The social and private costs diverge when an accident produces a loss for a party – the victim – while resulting in a gain for another party – the gainer,14 as for instance in the typical case of lost profits due to temporary impairment of the victim’s premises (being to the advantage of the victim’s competitor). The socially

9 Bussani, Palmer and Parisi (2001), supra note 8, provide two main reasons for the rejection of such arguments. First, there is no qualitative difference between physical and financial loss in relation to foreseeability and with respect to the potential effects of accidents; if a concern applies to financial loss, a similar concern should apply to physical loss as well. Secondly, for the purpose of providing optimal incentives, all consequences of an accident, no matter how widespread or unlikely, should be imputed to the injurer and the exclusion of some of them might impair the functioning of the tort law system. In addition Gomez and Ruiz (2002) at 12, supra note 8, have remarked that many, if not most, cases of pure economic loss concern a limited number of parties and often only one: the contracting party of the victim who suffered personal or proprietary harm.

10 I wish to emphasize that a financial loss does not necessarily correspond to a pure transfer. While physical loss can never be a pure transfer, a financial loss may or may not be such. For example, forgone sales of a manufacturer may amount to a loss that is higher than the increased profits of its competitor, for production costs might be higher, transport costs might be relevant and consumers’ preferences might be frustrated. Hence, a financial loss may amount to a social loss. The effort of the economic analysis of law has been indeed mainly focused on ascertaining whether and to what extent financial loss can be considered as a social loss.

11 It might be argued that an accident that causes the destruction of an automobile also generates a gain for the automobile industry; thus, the accident produces a transfer from the victim to the producer and no real social loss. However, the gain is only apparent. In fact, resources that are used to replace or repair a damaged good are diverted from other uses. After replacement, society ends up with the same number of automobiles but a lower level of some other activity. It is easy to verify that this is not the case when the accident causes a pure transfer from one party to another.


14 See also Israel Gilead, ‘Tort Law and Internalization: the Gap between Private Loss and Social Cost’, 17 International Review of Law and Economics (1997) 589-608, who maintains that the divergence between private loss and social cost
relevant loss is equal to the victim’s private loss minus the gainer’s (private) gain. Looking at gains deriving from someone else’s misfortune might seem odd. However, legal systems ordinarily deny compensation to victims of harmful activities that are beneficial for the majority. No legal system would award compensation if a manufacturer built a better mousetrap, thus damaging rival manufacturers, their employees and creditors. Moreover, after an accident has occurred, it is desirable for society to mitigate its impact by recognising, when necessary, the legitimacy of third party gains. No legal system would disgorge the profits of a hotel owner who accommodated the customers of its competitor, which suffered a reduction in capacity through an accident that was not the fault of the gainer.

Some scholars have maintained that the private versus social loss antinomy may furnish a general economic explanation of the legal doctrines concerning pure economic loss. Others have emphasized that “the problem is multiform rather than uniform in character” and, hence, that the correct approach is not to attempt to formulate a general theory, but to adopt a pluralistic perspective. In this study, I will show how the explanatory power of the integrated approach can be enhanced. For this purpose, I will regard the tort law system as a system to provide parties to an accident with incentives to take precautions. Usually, tort liability is said to provide injurers and victims with incentives; the pure economic loss cases are more complex in that they also require the gainer to be incentivized, in so far as he can mitigate the impact of the accident on society. I will show that ordinary liability rules may fail at times to provide all parties with optimal incentives. This is because tort law – a system conceived to deal with the internalisation of accidental harm – is confronted in economic loss cases with an unsuitable goal – the internalisation of accidental benefits.

As regards future comparative analysis, I will suggest that the economic explanation of legal doctrines on pure economic loss and of the seemingly disparate treatment that it receives in different legal systems, may be enhanced by taking into account some additional factors that bear on the incentive effects of liability rules: the determination of negligence, the presence of other incentives generated by regulation, taxes or subsidies and the way the socially relevant loss depends on the precautions taken by the injurer, the victim and the gainer.

This study will first illustrate the dominant economic definition of pure economic loss and provide the reader with an intellectual history of the economic analysis of pure economic loss in section 2. Section 3 will revise the traditional economic approach and underline its pros and cons. Section 4 constitutes the analytical part of this study and provides a formal economic analysis of the problem. With these results in mind, section 5 will relate my findings to the literature and formulate some new research hypotheses to be tested by the intersecting disciplines of comparative legal scholarship and law and economics. Section 6 will provide some concluding remarks. For the sake of clarity, it is worthwhile remarking that the terms ‘recovery rule’ and ‘exclusionary rule’ will be employed throughout this study using their economic meanings. Under the ‘recovery rule’, the victim is entitled to full compensation of his loss. Under the ‘exclusionary rule’, the victim is only entitled to compensation of the socially relevant loss (victim’s loss minus gainer’s gain).

2 An (unsettled) intellectual history of the economic theories of pure economic loss

The question of whether a pure economic loss should or should not be compensated was first analysed through an economic lens by Bishop.\(^\text{19}\) He remarked that in the majority of the cases in which the law hesitates to award compensation to the victim for financial loss there is a divergence between the social loss (the loss that the accident inflicts upon society at large) and the private loss (the loss that the victim suffers), which justifies such denial of recovery.

For the purpose of socially optimal deterrence, injurers should be made liable for the harm they cause to society, which constitutes an external effect of their activity. Intuitively, ceteris paribus, the level of precaution that an injurer should take depends on how serious the accidents he may cause are. If the harm is very low or improbable, it is not desirable to spend too much on preventing it; on the contrary, for very probable harm, a very high level of precaution should be required. For

example, if the expected harm\textsuperscript{20} of an accident amounts to €20 and preventing it would cost €30, then it is desirable not to prevent the accident and indeed an injurer who has to decide whether to take precaution in order to prevent the accident or to pay damages to the victim will choose the latter. On the contrary, were the expected harm equal to €31 or higher, an expenditure of €30 on precautions would be worthwhile, and the threat of liability would be sufficient to induce the injurer to take such precautions. Therefore, it is important correctly to determine the magnitude of the expected harm imputable to the accident.

The core of Bishop’s argument is that some victims’ losses do not amount to a social loss because they are set-off by someone else’s gain. Suppose that A damages B’s shop causing a physical damage of €20 and lost earnings equal to €25. However, the nearby shop owned by C takes over B’s customers and increases its sales by the same amount (€25).\textsuperscript{21} The social loss in this case is only the physical damage to B’s shop, the resources that are destroyed in the accident. B’s lost earnings are not a social loss because there is no resource actually destroyed; since consumers can buy from C, the accident causes a mere transfer from B to C. If A’s precaution costs amount to €30, then it is socially desirable that A does not take precautions to prevent the social loss of €20. If A is only rendered liable for €20, he will take no precautions. However, if he has to compensate B also for his lost earnings, he will face a liability equal to €45, and will find it advantageous to spend €30 on precautions – which is an inefficient outcome, given our assumptions.

Bishop suggested that only social losses should enter the calculation of the damage award, while any private loss should be left uncompensated. His paper was the progenitor of the economic analysis of pure economic loss cases and it was the subject of an immediate debate with Rizzo.\textsuperscript{22} Rizzo’s critique was predominantly based on the observation that, in the example, C’s ability to absorb B’s customers in the event of an accident depends on the fact that C can serve more customers than he ordinarily does. Such excess capacity is in itself inefficient as it diverts resources from alternative valuable uses.\textsuperscript{23} If financial loss is not compensated, there will be more accidents and consequently greater incentives to increase capacity.

\textsuperscript{20} The expected harm is the product of probability of an accident and magnitude of the consequent harm.

\textsuperscript{21} The example should not confuse the reader who finds that C’s gain might be lower than B’s lost profits. The point I wish to make is not that all financial losses are set-off by someone else’s gain, but rather that the portion of B’s loss (not necessarily all of it) that corresponds to C’s gain is not a social loss.


\textsuperscript{23} See Rizzo (1982a) at 202 and (1982b) at 286 ff., supra note 22.
The divergence between Bishop’s and Rizzo’s approaches does not rest on the fundamental explanation of the problem, but rather on the weight that each gives to the discrepancy between private and social loss in the real world: Bishop argued that sometimes the private loss is greater than the social loss and, therefore, that a private loss should be compensated only to the extent to which it corresponds to a social loss. Rizzo did not contest the correctness of such an argument, but maintained that in the real world, due to excess capacity, any private loss should be considered a social loss. Nevertheless, he defended the exclusionary rule for a different reason: it provides parties with incentives to channel economic loss into contracts and reduces the administrative costs of the judicial system. This argument did not succeed in providing a general alternative to Bishop’s approach and has been the target of several criticisms. Nevertheless, it is important to notice that also Rizzo grounded his analysis on the (factually criticized but theoretically accepted) divergence between social and private loss.

Rizzo’s argument can be summarised as follows: if A causes B to suffer physical damage (e.g. A damages B’s shop) and C to bear merely financial loss (due to the fact that B cannot supply C), then C’s loss should be compensated to the extent to which it is taken into account in the contract between B and C. This saves the transaction costs of ascertaining ex post the size of C’s loss and induces parties to determine it ex ante. The problem that might arise is that B and C might intentionally exaggerate the ex ante estimation of the loss, as the benefit of overvaluing the loss goes directly to C – and indirectly, through the price of the contract, to B – while the cost is completely borne by A. In other words B and C determine what A will have to pay as damage compensation to C. The judicial system is called to ensure that the estimate is reasonable. Ultimately, the reduction in the cost of estimating C’s loss might be offset by the cost of controlling B and C’s determination of the same loss so that no transaction-cost saving might derive from the denial of compensation for financial loss not channelled into contracts and transaction costs might actually increase.

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24 See Rizzo (1982a) at 201 and Rizzo (1982b) at 281 in the asterisked footnote, supra note 22.
25 See Rizzo (1982b) at 283 ff., supra note 22.
26 See Rizzo (1982b) at 295, supra note 22.
27 For other critiques of Rizzo, see Bishop (1986) at 74 to 77, supra note 3, who remarks that (1) few business relationships are disrupted as a consequence of an accident, while Rizzo’s theory requires all those who expect a future financial gain to indemnify themselves through contracts, with relevant negotiation costs; (2) negotiation costs may be very high even within a contractual relationship; (3) contracts may be standardized and not allow for indemnification; (4) indemnification might be excessive, as explained in the text; (5) litigation might result in settlement and hence trigger lower costs than expected; (6) Rizzo presents no theory of how to change the law. Gomez and Ruiz (2002) at 15, supra note 8, further remark that channelling is not possible in all those instances in which there is no direct physical victim with whom those who suffer financial damage might negotiate an indemnification clause.
All subsequent analyses of the problem, though taking slightly different directions and yielding often contrasting conclusions, have been based on these theoretical foundations: to the extent to which the private loss of a party is set-off by the private gain of another party, such loss should not be compensated. Such an approach has proven to be highly successful in explaining the logic behind recovery and exclusionary rules. Nevertheless, it has failed to explain the variety of legal solutions to the problem of pure economic loss.

3 Revising the economic approach

3.1 Pure economic loss and the simultaneous internalisation of positive and negative externalities

As a matter of theory, the traditional economic interpretation of the pure economic loss problem is only the second step in the analysis of the problem. I shall step backwards and, before asking what a pure economic loss is, shall define the framework in which a pure economic loss takes place.

In its simplest and most basic formulation, the problem of pure economic loss is a problem of internalising externalities. In this respect, it is a common problem in tort law, for tort law – from a law and economics standpoint – is a mechanism for internalising externalities that voluntary bargaining would not internalise due to high transaction costs. In fact, the problem is one of internalising multiple externalities. However, this problem is also common in tort law, as it often happens that a single injurer harms more than one victim. The fact that one single act may cause more than one (external) harm does not change the functioning of the tort law system. What is peculiar to the case of pure economic loss is the sign of the externalities produced in the accident:


30 In this respect, I endorse Goldberg’s desire for a rethinking of the intellectual apparatus employed in analysing pure economic loss cases. See Goldberg (1991) at 275, supra note 6.

31 Calabresi and Melamed (1972), supra note 7.

besides a negative externality (the victim’s harm) the accident generates a positive externality (the
gainer’s gain).\textsuperscript{33} Tort law is a system for the internalisation of negative externalities, but it is less
suitable in the case of positive externalities, as the production of incentives for all the parties involved
becomes a difficult task.\textsuperscript{34}

My claim is, therefore, that the problem should be characterized as the simultaneous
internalisation of positive and negative externalities, which does not necessarily imply that
externalities of different signs should be set-off against each other in the calculation of the net social
cost. I will show that the latter procedure is a mere theoretical shortcut, often justified by the factual
situation. However, it may not always be the best solution to the problem. I will argue that a mere
algebraic summation of the externalities produced in an accident and the definition of such a
summation as the social cost is a dangerous step and might yield sub-optimal outcomes even if the
gain really sets-off the harm.

3.2 Capacity as precaution: Unilateral, bilateral, and trilateral precaution accidents

We have noticed that the economic analysis of pure economic loss has been centred on the crucial
problem of the size of damages, the question being whether the injurer should compensate the
financial loss borne by the victim. This insistence is anomalous in two respects.

First, economic models of tort law have clarified that the size of the damage award has
different effects on the behaviour of the injurer depending on whether the rule in force is strict
liability or simple negligence. The literature on pure economic loss has not taken into account such a
difference, which will be stressed in the next sections.

Second, in the academic exchanges over the compensation of financial loss, it has often been
supposed that the size of the loss – and of the corresponding third party gain – is likely to depend on
the capacity of the parties involved in the accident.\textsuperscript{35} If it is evident that the injurer can reduce the

\textsuperscript{33} See Bishop (1982a) \textit{supra} note 19 at 9-10. Parisi (2003), \textit{supra} note 13, suggests the use of negative liability in those
cases in which the gainer’s gain overtakes the victim’s loss. This issue is not considered here. See also \textit{infra} note 38.

\textsuperscript{34} Donald Harris and Cento Velijnovsky, ‘Liability for Economic Loss in Tort’, in Michael Furmston (ed.), \textit{The Law of
that when both the victim and the injurer can take precautions in order to prevent an accident that may generate pure
economic loss, providing the injurer with incentives often conflicts with providing the victim with incentives. The tort
system may not be able to extract both parties’ optimal precaution, rendering a second best solution the only feasible
outcome. In my analysis, I further elaborate this line of reasoning and furnish a more general analysis of the behaviour of
the three parties to an accident.

\textsuperscript{35} The earliest criticism to Bishop’s economic interpretation was in fact based on this point. See Bishop (1982a), \textit{supra}
note 19, and Rizzo (1982a), \textit{supra} note 22.
expected accident loss by taking precautions, it is likewise clear that, on the one hand, the victim can often mitigate the harmful effects of the accident by increasing his capacity and, on the other hand, the gainer can similarly augment his gain by doing the same. Imagine the case in which a firm’s production is impaired by a shortage of supply: the size of the firm’s storage affects the magnitude of the loss. Likewise, the gain of the firm’s competitor also depends on his storage, which enables him to absorb some of the foregone sales of the other.

Commentators have often argued that overcapacity – i.e. a higher capacity than in a world without mishaps – is inefficient. However, capacity can be seen as a form of victim’s and gainer’s precaution, both leading to a reduction in the social loss. The optimal solution will often be a combination of some levels of injurer’s, victim’s and gainer’s precaution. Thus, the question is not whether or not overcapacity is efficient; the correct question is what the optimal level of capacity is. In most cases, such optimal level will be higher than in an ideal world without mishaps.

Since more than one party is usually involved in an economic loss problem, the problem is not only the determination of the size of the damage award, but also (in fact mainly) the determination of the correct negligence criterion to apply. The next sections will be devoted to an examination of the interaction between the magnitude of the damage award – characteristic of pure economic loss cases – and the determination of negligence. It will become soon clear that the design of a rule that provides optimal incentives to all the parties is rather a cumbersome exercise and that often neither the recovery rule nor the exclusionary rule guarantees the efficient outcome.

4 A formal analysis of the pure economic loss problem

We will analyse accidents involving only three parties: the victim as the party that suffers the loss, the gainer as the party that benefits from the gain and the injurer as the final party. We will separately consider three general cases: first, unilateral precaution accidents (only the injurer can take precautions); secondly, bilateral precaution accidents (either the injurer and the victim or the injurer and the gainer can take precautions); and thirdly, trilateral precaution accidents (all three parties can take precautions).

For the sake of simplicity and without loss of generality, it will be assumed that the injurer is able to reduce the probability of the accident without affecting the magnitude of the loss and the

36 See Rizzo (1982a) and (1982b), supra note 22.
37 On the possibility that parties other than the injurer may be able to mitigate the accident loss see also Goldberg (1994) supra note 28.
gain. The victim is assumed to be either passive (sections 4.1 and 4.3) or able to mitigate the magnitude of the accident loss by increasing his capacity. The gainer’s gain depends on the victim’s loss. For simplicity we only consider cases in which the gainer’s gain is lower than the victim’s loss, as for instance in the case in which a seller takes over some sales of the temporarily closed competitor. Therefore, it also seems reasonable to assume that the gainer’s gain decreases if the victim’s capacity increases (the smaller the number of customers that the victim is unable to serve after the accident, the lower the gainer’s potential gain). The gainer is either passive (sections 4.1 and 4.2) or able to increase the size of his gain by increasing his capacity.

All parties are assumed to be strangers to each other and rational, wealth maximizing, and risk neutral actors. Causation is assumed to be satisfactorily established. Issues related to the activity levels of the parties are not considered. Only tort liability applies: that is, the gainer is never asked to pay compensation for the gain received. The objective of tort law is considered to be the minimization of the aggregate costs of the accident, defined as the algebraic sum of precaution costs, accident loss and benefit.

4.1 Unilateral precaution accidents

In this section, we will analyse accidents that can only be prevented by the injurer’s precautions. The victim and the gainer are passive actors. For simplicity, we will assume all functions to be continuous and continuously differentiable to any desired order.

Let (subscripts denote derivatives):

\[ x = \text{the injurer’s precaution cost}; \]
\[ p(x) = \text{the probability of an accident occurring, } 0 < p(x) < 1, p_x < 0, p_{xx} > 0; \]
\[ h = \text{the magnitude of the harm to the victim}; \]
\[ g = \text{the gainer’s gain, } h > g > 0; \]
\[ d = \text{damage compensation paid by the injurer to the victim}. \]

We will prove the following proposition:

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38 It has been remarked that the gain might be greater than the loss and that the accident might actually be beneficial to society at large, while being detrimental to the victim; see Parisi (2003) at 7, supra note 13, and Arlen (2000), supra note 28, and the examples provided in the introduction. In order to confine the analysis to the domain of pure economic loss we assume that the gain cannot exceed the loss.
Proposition 1. When only the injurer can take precautions, the exclusionary rule is optimal under strict liability, while both the recovery rule and the exclusionary rule are optimal under simple negligence.

Other negligence rules, such as strict liability with defence available of negligence, comparative negligence and contributory negligence, make no sense as the victim is assumed to be passive. Hence he cannot be found negligent.

4.1.1 The socially optimal level of precaution

The social cost minimization objective is given by

\[ \min_x [p(x)(h - g) + x]. \]

Let \( x^* \) be the (unique) level of \( x \) that minimizes Exp. (1). Thus, \( x^* \) is the socially optimal level of the injurer’s precaution.

4.1.2 Strict liability

Under strict liability, the injurer pays damages \( d \) to the victim with probability \( p(x) \) and bears also his precaution costs. The injurer’s minimization problem is:

\[ \min_x [p(x)d + x]. \]

It is clear that the total cost the injurer bears is equal to the total cost society at large bears only if \( d=h-g \), that is, only if the exclusionary rule applies, where the damage award equals the true social cost and does not include the private cost for the victim that is set-off by the gainer’s gain. It is easy to verify that: if compensation equals \( h-g \), the injurer will take optimal precaution \( x^* \); if compensation exceeds \( h-g \), the injurer will take too high a level of precaution \( x>x^* \); while, if compensation is lower than \( h-g \), the injurer will take too low a level of precaution \( x<x^* \).

4.1.3 Simple negligence

Under a rule of simple negligence the injurer has to pay compensation to the victim only if he is at fault, i.e. only if his level of precaution is lower than the required level. Let us assume that the required level of precaution is equal to the optimal level \( x^* \). His minimization problem becomes:

\[ \begin{cases} x & \text{if } x \geq x^* \\ p(x)d + x & \text{if } x < x^* \end{cases} \]
Clearly, the injurer has no incentive to take more precaution than $x^*$, because he would only increase his precaution costs without any further benefit, since he does not pay damages when he is non-negligent. Thus, a non-negligent injurer bears $x^*$. Both the cost that a negligent injurer bears and the choice between being negligent and being non-negligent depend on the size of $d$.

If $d \geq h-g$, the injurer will take $x^*$; in fact, if $d \geq h-g$ the second expression in (3) is minimized by $x \geq x^*$; thus, it is anyway advantageous for the injurer to take at least $x^*$, in order to reduce his total cost. Nonetheless, once he takes $x^*$, he is non-negligent and pays no damages. Hence he will not take more than $x^*$.

If $d < h-g$, however, there is a risk that the injurer will not take $x^*$, but will opt for a lower level of precaution. In fact, the second expression in (3) is minimized by $x < x^*$ this time, and hence if $d$ is sufficiently low, it might be convenient for the injurer to be negligent and pay (a low) damages award rather than to be non-negligent and bear a (high) precaution cost. Let $x^* < x^*$ be the level of precaution that minimizes $p(x)d + x$ when $d < h - g$: the injurer will be negligent if $p(x^*)d + x^* < x^*$.

This analysis shows that both the exclusionary rule (under which a negligent injurer pays only the socially relevant harm, $h-g$) and the recovery rule (under which a negligent injurer pays the private loss, $h$) are efficient, provided that the required level of precaution is set at the optimal level. Problems only arise when not even the socially relevant loss is compensated.

4.2 Bilateral precaution accidents (injurer and victim)

In this section, we will analyse accidents that can be prevented by the injurer’s precaution and by the victim’s. In this case, the victim can increase his capacity in order to mitigate the loss he bears and consequently reduce the potential gain for the gainer. On the contrary, the gainer is a passive actor. In addition to what was specified in section 4.1, let:

\[
\begin{align*}
y & = \text{the victim’s capacity (mitigation) cost;} \\
h(y) & = \text{the victim’s loss, } h_y < 0, h_{yy} > 0; \\
g(y) & = \text{the gainer’s gain, } h(y) > g(y) > 0, h_y < g_y < 0, h_{yy} > g_{yy} > 0, \text{ for any } y. \quad (40)
\end{align*}
\]

We will prove the following proposition:

---

39 Note that under the model described by Grady and Kahan, where the negligent injurer does not pay for the damages that would have occurred anyway even if he were non-negligent, the injurer takes $x < x^*$ whenever $d < h - g$. See Mark F. Grady, ‘A New Positive Economic Theory of Negligence’, 92 Yale Law Journal (1983) 799-829 and Marcel Kahan, ‘Causation and Incentives to Take Care under the Negligence Rule’, 18 Journal of Legal Studies (1989) 427-447.

40 See footnote 38 supra.
Proposition 2. When only the injurer and the victim can take precautions, neither the recovery rule nor the exclusionary rule is generally optimal under strict liability (with or without a negligence defence) or under simple negligence.

The results concerning simple negligence also apply to contributory and comparative negligence.

4.2.1 The socially optimal level of precaution

The social cost minimization objective is given by

\[ \min_{x,y} [p(x)(h(y) - g(y)) + x + y]. \]

Assuming strict convexity, let \( x^* \) and \( y^* \) be the (unique) socially optimal levels of \( x \) and \( y \) that minimize Exp. (4). The two first order conditions are \( p_x(h(y) - g(y)) = -1 \) and \( p(x)(h_y - g_y) = -1 \).

4.2.2 Strict liability

Under strict liability, on the one hand, the injurer pays damages to the victim, hence his minimization problem is the same as in Exp. (2), whose first order condition is \( p_d = -1 \). It is clear that the injurer will choose \( x^* \) if \( d = h(y^*) - g(y^*) \), that is, if compensation is equal to the pure social loss (exclusionary rule) and if the victim takes optimal precaution \( y^* \).

On the other hand, the victim bears his loss minus the compensation paid by the injurer. His minimization problem is:

\[ \min_y [p(x)(h(y) - d) + y]. \]

Under the exclusionary rule, the victim will receive \( d = h(y^*) - g(y) \), and he will have to bear the remaining loss, which is equal to \( h(y) - d = g(y) \). Therefore, ironically, he will minimize the gainer’s gain instead of his loss. The first order condition of the victim’s minimization problem is \( p(x)g_y = 1 \), which will generally be different from the first order condition of the social cost minimization problem and will, therefore, yield an inefficient outcome. Conversely, if the victim takes a level of precaution different from the optimal level \( y^* \), the injurer’s level of precaution will also change. For the victim to take the optimal level of precaution, \( d \) should be set at \( g(y) \), but this level of damages is not compatible with the injurer’s incentives, as noted supra. It is clear that it will generally be impossible to set \( d \) so that both the victim and the injurer take the optimal level of precaution because the level of damages that would provide the injurer with optimal incentives induces the victim to take an inefficient level of precaution and vice versa.
4.2.3 Simple negligence

The injurer’s minimization problem is again the same as in the unilateral precaution case of Exp. (3). Therefore, the taken level of precaution will also be the same as before: if \( d \geq h(y^*) - g(y^*) \) the injurer will take \( x^* \), if the victim also takes optimal precautions. Both the exclusionary rule and the recovery rule are efficient provided that the required level of precaution is set at the optimal level. However, under simple negligence, the non-negligent injurer pays no compensation to the victim. Thus, given \( x^* \), the victim bears his full loss \( h(y) \) and his minimization problem is:

\[
\text{min}_y \left( p(x)h(y) + y \right).
\]

It is clear that, given \( x^* \), the victim will take \( y > y^* \) as he bears a higher cost than the social cost.

4.2.4 Strict liability with defence of contributory negligence

Under strict liability with defence of contributory negligence, the victim is entitled to receive compensation from the injurer only if non-negligent. Assuming that the due level of precaution is set at the optimal level \( y^* \), the victim’s minimization problem is:

\[
\begin{cases}
    p(x)(h(y) - d) + y & \text{if } y \geq y^* \\
    p(x)h(y) + y & \text{if } y < y^*. 
\end{cases}
\]

Note that the first Exp. in (7) yields a lower total cost for the victim than the second for any \( x \). Moreover, if the victim is negligent, the injurer pays no damages and his optimal response to \( y < y^* \) is \( x = 0 \), which increases even further the victim’s cost and reinforces our previous conclusion. Consequently, the victim will take at least \( y^* \).

The injurer’s minimization problem is the same as under strict liability because non-negligent victims are entitled to compensation. Hence, the exclusionary rule should apply in order to provide the injurer with appropriate incentives. Under such a rule, a non-negligent victim bears a residual loss equal to \( g(y) \).\(^{41}\) Hence, the first Exp. in (7) becomes \( p(x)g(y) + y \). There are two possible levels of \( y \) that minimize the former. (i) If the solution to \( p(x)g(y) = -I \) is \( y \leq y^* \), the outcome will be efficient, as the victim will always prefer to take \( y^* \). In fact, any lower or higher level of \( y \) would result in a higher total cost. However, (ii) if the solution is \( y > y^* \), the victim will take too much precaution,

\(^{41}\) Recall that under the exclusionary rule the injurer pays compensation \( d \) equal to \( h(y) - g(y) \).
which will also affect the injurer’s level of precaution. Summarising, recovery impairs the injurer’s incentives while the exclusionary rule might at times result in the victim being over-precautious.

4.3 Bilateral precaution accidents (injurer and gainer)

In this section, we will analyse accidents that can be prevented by the injurer’s precaution and by the gainer’s precaution, in the sense that the gainer can increase his capacity and hence his expected gain and therefore can reduce the socially relevant harm (given by the victim’s loss minus the gainer’s gain).

In addition to what was specified in section 4.1, let:

\[ z = \text{the gainer’s capacity (gain-enhancing) cost}; \]
\[ g(z) = \text{the gainer’s gain}, \quad h > g(z), g_z > 0, g_{zz} < 0. \]

We will prove the following proposition:

**Proposition 3.** When only the injurer and the gainer can take precautions, the exclusionary rule is optimal under strict liability, while both the recovery rule and the exclusionary rule are optimal under simple negligence.

As in section 4.1, other negligence rules, such as strict liability with an available defence of negligence, comparative negligence or contributory negligence, make no sense because the victim is assumed to be passive. Hence he cannot be found negligent.

4.3.1 The socially optimal level of precaution

The social cost minimization objective is given by

\[ \min_{x,z} \left[ p(x)(h - g(z)) + x + z \right]. \]

Assuming strict convexity, let \( x^* \) and \( z^* \) be the (unique) socially optimal levels of injurer’s and gainer’s precautions that minimize Exp. (8). The two first order conditions are \( p_x(h - g(z)) = I \) and \( p(x)g_z = I \).

4.3.2 Strict liability

The gainer will act as to maximize his expected gain minus his gain-enhancing cost.

---

42 If the victim takes \( y > y^* \), the injurer’s cost decreases and hence also his level of precaution will be reduced. As a result, the victim’s cost increases and consequently his level of precaution may be further boosted.
The first order condition is \( p(x)g_z = 1 \), which is equal to the second first-order condition of Exp. (8). Hence, the gainer will take the optimal level of gain-enhancing precaution \( z^* \), if the injurer takes \( x^* \). Moreover, under strict liability, the injurer compensates the victim’s loss. Hence, his minimization problem is the same as in Exp. (2). It is clear that the injurer will choose \( x^* \) only if \( d = h - g(z^*) \); that is, only if the exclusionary rule correctly applies and if the gainer takes \( z^* \). Thus, the exclusionary rule leads to both the injurer and the gainer taking the optimal levels of precaution.

4.3.3 Simple negligence

Under simple negligence, the gainer’s maximization problem is the same as under strict liability. The injurer’s minimization problem is the same as in the unilateral precaution case of Exp. (3). Therefore, the level of precaution taken will be the same as well: if \( d \geq h - g(z^*) \), the injurer will take \( x^* \). Both the recovery rule and the exclusionary rule are efficient provided that the required level of precaution is set at the optimal level.

4.4 Trilateral precaution accidents

In this section, we will analyse accidents that can be prevented by the precaution of all parties. In addition to what was specified in section 4.1, let:

- \( y \) = the victim’s capacity (mitigation) cost;
- \( h(y) \) = the victim’s loss, \( h_y < 0, h_{yy} > 0 \);
- \( z \) = the gainer’s capacity (gain-enhancing) cost;
- \( g(y,z) \) = the gainer’s gain, \( h(y) > g(y,z) \) for any \( y \) and \( z \), \( h_y < g_y < 0, g_{yy} > 0, g_z > 0, g_{zz} < 0 \).

We will prove the following proposition:

**Proposition 4.** When the injurer, the victim and the gainer can take precautions, neither the recovery rule nor the exclusionary rule is generally optimal under strict liability with or without a negligence defence and under simple negligence.

4.4.1 The socially optimal level of precaution

The social cost minimization objective is given by

\[ \max_z \left[ p(x)g(z) - z \right]. \]

43 See note 38 supra.
Assuming strict convexity, let $x^*, y^*$ and $z^*$ be the (unique) optimal levels of the parties’ precautions as they minimize the social cost function.

4.4.2 Strict liability

As we have already shown in section 4.2.2, the level of damages that provides the injurer with optimal incentives departs from the level of damages that provides the victim with optimal incentives. It is easy to verify that, in this case as well, the injurer should pay damages equal to the social cost – $d = h(y) - g(y, z)$ – while the victim, in order to bear only the social loss, should be compensated for his purely private loss – $d = g(y, z)$. Since these two measures of damages typically differ, there is no simple way to set a strict liability rule and an appropriate level for the damages award that induces both the injurer and the victim to take optimal precautions.

The gainer, in this setting, also takes precautions. His maximization problem is, however, easier to solve, as he bears the full gain and will, therefore, take the optimal level of precaution if the other parties take their optimal levels – as determined by the analysis in section 4.3.2 –, which is not the case. Thus, the gainer’s level of precaution is likely to be distorted.

4.4.3 Simple negligence and strict liability with a defence of contributory negligence

Under simple negligence as well as under strict liability with a defence of contributory negligence, the gainer’s maximization problem is the same as under strict liability. Therefore in this case, the gainer will also take the optimal level of gain-enhancing precaution if the injurer takes $x^*$ and the victim takes $y^*$. Hence, the problem is indeed to induce the injurer and the victim to take their optimal levels of precaution and it can be described in the same way – but for some minor changes in the formulae – as shown in sections 4.2.3 and 4.2.4. In general, neither the recovery rule nor the exclusionary rule necessarily yields an optimal result.

5 New hypotheses on the economics of pure economic loss

Our conclusions should furnish us with the necessary foundations for an enriched economic approach to the economic loss problem and give us the opportunity to discuss the consequences thereof for the comparative study of the differing solutions provided by various national legal systems.
5.1 Genesis and physiology of the pure economic loss problem: internalising positive externalities through tort law

The pure economic loss problem originates from the use of the tort law system for a hybrid task. Although tort law is – in the view of economists – a mechanism to internalise negative externalities, in pure economic loss cases tort liability is geared towards the internalisation of both negative and positive externalities. This generates the problem with which we are concerned. What is required is an adjustment of the magnitude of the damages that the victim is entitled to recover. The point is that this is not the same as maintaining that the problem is generated by a divergence between privately and socially relevant loss. The latter formulation, in fact, suggests that positive and negative externalities should always be summed up algebraically and only the net result should be considered, which (as we have seen) is not always the efficient policy solution. In fact, the exclusionary rule generally provides optimal incentives for the injurer but not for the victim.  

5.2 Phenomenology of the pure economic loss problem: the divergence between private and social loss

The traditionally claimed divergence between social and private loss is a matter of phenomenology. The simultaneous internalisation of negative and positive externalities originates the pure economic loss problem and causes private and social loss to diverge. Such divergence only signals the presence of a pure economic loss problem, but it does not necessarily points to the most efficient way to solve it. Indeed a difference between the loss suffered by the victim of an accident and the socially relevant loss – understood as the algebraic summation of costs and benefits produced by the accident – is a clear indication that the accident produced a benefit (to be internalised) and that a pure economic loss problem arises. However, this fact should not be considered sufficient to conclude that the pure economic loss should not be compensated. I have shown that, in many situations, compensating the victim’s private loss yields a more efficient internalisation of the two types of externalities.

In addition, it has often been remarked that, whenever the social loss is reduced by a third party gain, such gain might be due to overcapacity: that is, the ability to produce more output immediately in the event of an accident. Overcapacity is regarded as inefficiency because it signifies that some

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44 This result was also suggested by Harris and Veljianovsky (1986), supra note 34.
resources are normally under-utilised.\textsuperscript{45} I have shown that this approach is in general incorrect, since capacity can be regarded as a form of victim’s and gainer’s precaution. Once this conceptual step has been taken, it is clear that the injurer’s precaution as much as the victim’s and the gainer’s capacity should be regarded as joint or alternative inputs to accident prevention.

5.3  \textit{First best solution for the pure economic loss problem: decoupling positive and negative liability alias exclusionary rule plus subsidy}

In the presence of a pure economic loss problem, the efficiency of the incentives created by the law does not only depend on the size of the damages award, upon which the interest of law and economics scholars has generally concentrated. Attention has been focused on the damages that the injurer should pay because of the preoccupation with the injurer’s incentives. However, we have noticed that the victim and the gainer can both affect the accident loss by adjusting their capacity. Thus, the legal rule should also take into account the loss that the victim bears and the gain that the injurer receives. It is evident that, if the injurer pays compensation equal to the social loss, the victim bears the remaining private loss. He bears the portion of the loss that, being set-off by the gainer’s gain, ought to be considered as purely private. This solution is not efficient, for the victim should also bear the social loss in order to have incentives to take the optimal level of precaution. Therefore, the exclusionary rule is only optimal in relation to the injurer’s incentives but not to the victim’s.\textsuperscript{46}

All parties should simultaneously bear the positive and the negative externalities produced by their activities. A way to do this is to decouple positive and negative liability: what a party pays does not correspond to what the other party receives. In theory, an efficient decoupled (positive and negative) liability rule might be described as follows.\textsuperscript{47}

\textsuperscript{45} See Rizzo (1982b) at 286 ff., \textit{supra} note 22.

\textsuperscript{46} Bishop and Sutton (1986), \textit{supra} note 12, discuss this problem from a different perspective. They argue that pure economic loss generates a tension between producing efficient incentives for the injurer – according to which compensation should correspond to the social loss only – and achieving corrective justice – according to which the victim’s purely private loss should be also compensated. It also maintains that this discord derives from the frequent unsuitability of the doctrine of unjust enrichment for removing the gainer’s gain. From this perspective, the first best solution would be for the injurer to pay compensation equal to the social loss and for the gainer to return the gain (which is equal to the victim’s purely private loss) to the victim, in order to accomplish both efficiency and justice. My analysis is divergent in two respects. My commencement is different, as I only focus on incentives and emphasize a conflict between those provided for the injurer and those provided for the victim. My conclusions are also different, for I claim that it is in general optimal not to disgorge the gainer’s gain, for the sake of providing him with incentives as well.

\textsuperscript{47} It is sensible to repeat that some of the conclusions, but not the general point of this study depend on the assumptions made, and may change under different assumptions. See A. Mitchell Polinsky and Yeon-Koo Che, ‘Decoupling Liability: Optimal Incentives for Care and Litigation’, 22 \textit{Rand Journal of Economics} (1991) 562-570 on decoupling strategies in ordinary tort liability.
1. The injurer produces a negative externality for the victim and a positive externality for the gainer, and he should bear both: he should pay damages equal to the victim’s loss and receive a compensation for the gainer’s benefit.

2. The victim, by reducing his loss, also reduces the gainer’s gain, and, hence, he should bear both: he should receive no compensation for his loss, but receive compensation equal to the gainer’s gain.

3. The gainer can only increase the size of his gain, and therefore should be allowed to keep it entirely.

No traditional tort liability rule is compatible with the framework just outlined. Damages payable by the injurer (equal to the full loss) should typically differ from the damages the victim should receive (equal to zero), while in tort law the two generally correspond. Moreover, negative liability should also be introduced in order for the injurer and the victim to receive compensation for the gain produced. Such compensation should not be paid by the gainer, who should instead be allowed to earn the full gain. In this sense both positive and negative liability should be decoupled. Let us see now how traditional tort law might be able to tackle this problem.

The injurer should pay damages equal to the victim’s loss minus the gainer’s gain. The exclusionary rule for pure economic loss would hence be optimal. If damages are paid to the state in the form of a fine, the victim bears his total loss; he should therefore receive a subsidy equal to the gainer’s gain. Alternatively, damages might be paid to the victim only to the extent to which they correspond to the gainer’s gain: if higher, the rest should be paid to the state; if lower, an additional subsidy should be paid to the victim. The gainer should neither pay nor receive anything. This way each party bears all of the external positive and/or negative effects of his actions and optimal decisions are guaranteed.

This solution can be easily verified in the analytical framework described in section 4.4, where all parties can take some forms of precaution. Against the background of sections 4.1 to 4.3, the solution will be easier. If only the injurer can take precautions (unilateral precaution accidents) or the injurer and the gainer can do so (bilateral precaution accidents), then the exclusionary rule paired with strict liability is efficient. However, when precaution can be taken by the injurer and the victim (bilateral precaution accidents), the tension between providing incentives to the injurer –

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48 We have assumed that the gainer’s gain is lower than the victim’s loss throughout my analysis; hence, the injurer should pay some positive damages. See also footnote 38.
compensation equal to the social loss – and providing incentives to the victim – compensation equal to the gainer’s gain – arises again and decoupling becomes necessary. Finally, it should be noticed that the decoupling solution proposed rests on a strict liability framework, where no negligence criterion applies.

5.4 Second best solutions and anatomy of lawmaking

In real-world legal systems, decoupling solutions are rarely implemented. More likely are liability rules that comprise a negligence inquiry. Negligence is a device that empowers tort law. Normal, non-decoupled liability rules, in fact, only provide incentives to one party: strict liability to the injurer and no liability to the victim. The introduction of a negligence inquiry produces instead incentives for both parties: as one party is induced to take precautions in order to be found non-negligent and escape liability, the other – the residual bearer – is induced to take precautions in order to minimize the total cost he bears. The default liability rule in most legal systems is a negligence rule, generally comparative negligence. The issue of negligence and its interaction with the magnitude of damages should hence be carefully taken into account as, when the negligence inquiry is implemented, the optimal magnitude of the damages award varies. However, the issue of negligence in relation to pure economic loss has been as yet almost completely neglected.

The results of the analytical sections of this study also show that in most cases neither the recovery rule nor the exclusionary rule yield the first best outcome, as summarized in table 1.

TABLE 1 [INCLUDE IT HERE]

The attention of the early economic commentators to the economic loss problem was centred on the magnitude of compensation only. My contention is that the magnitude of compensation required to induce an efficient (often second-best) outcome varies with three elements: the respective importance of parties’ precautions for the determination of the accident loss, the presence of negligence, and the implementation of additional incentive devices, such as subsidies. An analysis of the problem without inclusion of each of these important factors is bound to be incomplete.

Moreover, since the determination of the magnitude of damages depends on other legal formants, uniformity ought not to be necessarily expected. Different national rules concerning the

determination of the damage award in similar cases might be justified by differences in liability regimes or by the presence of ad hoc subsidization or taxation of the parties. Traditional economic analysis tends to suggest that, given some economic characteristics of the specific case under study, a certain rule for the damage award should apply (either the recovery or the exclusionary rule). Moreover, if the choice of the rule only depends on economic factors exogenous to the legal system, the solution tends to legitimise itself as universally valid. As a result, variations among legal systems are generally classified as inefficient or are simply unexplained.\textsuperscript{50} My analysis encourages endogenizing the choice of the compensation rule in a broader picture that comprehends other legal elements, so as to explain differences in damages awards among the various legal systems.

6 Conclusions

This study has examined the economic side to the pure economic loss problem and tried to draw some guidelines for an economic interpretation of actual legal doctrines. It differs from the traditional economic approach in several respects.

First, pure economic loss is interpreted as the problem of internalising positive externalities through a mechanism, tort law, primarily designed for the internalisation of negative externalities. All the parties to an accident are taken into account and it is argued that, not only can the injurer take precautions in order to reduce the expected accident loss, but also the victim and the gainer can take some measures in order to mitigate the loss and increase the gain respectively. The parties’ capacity is regarded, in this respect, as a form of precaution and it is hence not necessarily inefficient to increase it over the level that would be optimal in the absence of accidents.

Secondly, different liability rules are examined against this background and it is noticed that there is a potential tension between providing incentives to the injurer and providing incentives to the victim. It is demonstrated that the first best solution would be to decouple both positive and negative liability in order to make all the parties internalise costs and benefits of their actions. This solution is not straightforwardly implemented in reality, and legal systems more often rely on different configurations of the negligence rule. It is interesting that, under different liability rules, the optimal magnitude of damages varies – a result that partially contradicts previous law and economics analyses, which only consider strict liability rules.

\textsuperscript{50} Bussani, Plamer and Parisi (2001), supra note 8, derive indifferent results at times, showing that both the recovery rule and the exclusionary rule might be efficient under certain circumstances.
From this premise, it is possible to conclude that an economic analysis of the different legal doctrines concerning the pure economic loss problem should not be limited to the study of the magnitude of the damage award – the problem whether compensation should include the victim’s private loss or should be limited to the socially relevant loss – but should also comprise a study of other important elements of the legal system, namely the discipline of negligence and the presence of other incentive devices, such as subsidies. Moreover, since the rules governing the compensation of pure economic loss endogenously depend on other elements of the legal system, some variations among different national regimes ought to be expected and do not necessarily indicate inefficiency.

7 References.


Kahan, Marcel (1989), ‘Causation and Incentives to Take Care under the Negligence Rule’, 18 *Journal of Legal Studies*, 427-447.


Figures

Table 1: Incentives to take precautions under different liability rules with recovery rule or exclusionary rule. The table summarises the results attained in section 4.

<table>
<thead>
<tr>
<th>PARTY THAT CAN TAKE PRECAUTION</th>
<th>LIABILITY RULE</th>
<th>RECOVERY RULE (damages=victim’s loss)</th>
<th>EXCLUSIONARY RULE (damages=victim’s loss minus gainer’s gain)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injurer</td>
<td>Strict liability</td>
<td>X</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Simple negligence</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Injurer and victim</td>
<td>Strict liability</td>
<td>√ (injurer)</td>
<td>√ (injurer)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>X (victim)</td>
<td>X (victim)</td>
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<tr>
<td></td>
<td>Simple negligence</td>
<td>√ (injurer)</td>
<td>√ (injurer)</td>
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<td></td>
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<td>X (victim)</td>
<td>X (victim)</td>
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<tr>
<td></td>
<td>Strict liability with defence of contributory negligence</td>
<td>X (injurer)</td>
<td>√ (injurer)</td>
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<tr>
<td></td>
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<td>X (victim)</td>
<td>X (victim)</td>
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<tr>
<td>Injurer and gainer</td>
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<td>√ (gainer)</td>
<td>√ (gainer)</td>
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<tr>
<td>Injurer, victim and gainers</td>
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<td>√ (injurer)</td>
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<td>√ (gainer)</td>
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<td>√ (gainer)</td>
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