

ACCURACY IN THE DETERMINATION
OF LEGAL STANDARDS

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Abstract

A principal function of courts is the determination whether an action that imposed externality was inadequate. Accurate judicial determination of standards of due action can lead perfectly informed individuals to engage in optimal level of behavior. However, if individuals are uninformed about some factors that determine the optimal levels of behavior, they cannot meet these standards, even if they are accurately tailored. In this case, it is demonstrated, accuracy spoils the incentives. Better incentives are provided if courts set inaccurate standards of due action, that take into account only the information that individuals have. In addition, the paper considers the possibility that accuracy may lead individuals to acquire additional information. It derives the condition under which accuracy is socially desirable.

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I. INTRODUCTION

The Legal environment is replete with instances in which courts evaluate, *ex post*, the adequacy of parties' actions. Ordinarily, the court conducts a case-specific calculus to determine the standard of adequate behavior, or the "permissible zone". If the action taken by the party falls outside the permissible zone, i.e., if the party fails to match the standard of due behavior, the party is inflicted with a sanction. Many areas of law conform to this pattern of adjudication. They include, for example, tort law and the determination whether the injurer failed to take due care and should be considered negligent; criminal law and public regulation, where the court has to determine whether an action violated the standard of tolerable activity; contract law, where some duties are breached only if a threshold level of behavior is crossed (e.g. the duty to disclose information).

The optimal standard of due action depends on various factors. For example, the optimal standard of due care in tort-negligence cases depends, among other things, on the expected harm to the victim and on how the probability of accident and the magnitude of the harm change with the injurer's level of care. The court may spend judicial effort and the parties may spend litigation resources to make the *ex post* determination more accurate. The question is how accurate should this determination, of the standard of action, be. Are there factors that are relevant to the determination of the optimal standard that the court should ignore, even if they are readily observable *ex post*?

The received wisdom in the law and economics literature suggests that accuracy cannot be harmful. Accuracy may provide superior incentives for the parties or may not affect them at all. And even if superior incentives are generated by accuracy, the benefit may or may not justify the cost of administering accuracy. In any event, it is argued that if greater accuracy can be achieved at no cost, than administering it is at least innocuous and possibly advantageous. For example, Kaplow and Shavell (1992a) argue that if an injurer is uninformed *ex ante* about the level of victim's harm, then accuracy cannot influence his behavior. Inasmuch as accuracy is costly to administer, it is socially

wasteful. Kaplow and Shavell show that accuracy may be desirable if it leads injurers to acquire information, and that this benefit may or may not be cost justified.

This paper shows that accuracy may be harmful. It argues that the court may be serving best by ignoring some of the information it has, even if this information is available ex post at no cost. Specifically, the court should not use any information that the party, whose behavior is monitored, did not have ex ante. To understand why accuracy may be harmful, consider a situation in which a party has imperfect information about a certain parameter, and that this parameter is relevant to the determination of the optimal level of due action. If the court observes the parameter and uses it to set the standard of due action, the party cannot be led to meet this standard, being ignorant of the information that underlies it. The party anticipates that for every action he takes, there are some values of the hidden parameter for which he will fail the corresponding standard, and other values for which he will satisfy the corresponding standard. His choice of action, it will be demonstrated, is necessarily distorted. Hence, The court can do strictly better if it ignores any information that the party lacks. The court should set "inaccurate" standards of due action, which depend only on information that the party has, such as information about the prior distribution of the hidden parameters.¹

To illustrate the distortion, consider the following example, regarding the determination standards of due care in tort law. Suppose the injurer is imperfectly informed about the harm that the victim may suffer if an accident occurs. The injurer knows that the victim's harm will be either 10 or 100, each w.p. $\frac{1}{2}$. It is assumed that the optimal cost of care against the risk of a loss of 10 is 3, while the optimal cost of care against the risk of 100 is 20. The injurer who is uninformed about the actual harm must choose one level of care. The socially optimal level of care, given an average harm

¹ In a recent paper, Shavell (1992) proved that injurers may exercise excessive care if they are uninformed about the standard of care that courts will impose, ex post. This paper generalizes Shavell's result and demonstrates that the distortion may go either way.

of 55, is assumed to be 12. If the standard of due care is set at 12, regardless of the actual harm, the injurer will exercise it. But if the court adjudicates accurately and sets the standard of due care to correspond to the actual harm, at either 3 or 20, the injurer will not be led to take 12. A choice of 12 will leave him liable for a loss of 100, a result he can achieve by taking only 3. The injurer will take either always 3 or always 20, an inefficient result.

While accuracy distorts behavior *given* the individual's ignorance, it can lead the uninformed individual to acquire information ex-ante. If the individual acquires information, he can be induced to adjust his action optimally. The paper derives the condition that indicates when it is socially desirable to induce individuals to spend the information acquisition cost. Kaplow and Shavell (1992b) studied the incentives of uninformed individuals to acquire information ex ante. They identified the condition under which the acquisition of information is socially desirable. This paper extends their analysis to capture the effect of accuracy. It argues that even if the Kaplow and Shavell condition holds, accuracy may still be unwarranted.

The paper confirms Craswell and Calfee's (1986) insight that uncertainty in the application of legal standards distorts incentives. In their analysis, uncertainty arises from judicial errors in observing parameters that are privately known. Thus, accuracy that can eliminate these errors is desirable. Here, in contrast, the uncertainty is inherent to the individual's decision problems, and while the court can overcome it, it is argued that such accuracy is not necessarily desirable. However, the two analyses share the same intuition: in the presence of asymmetric information, i.e., when individuals expect the court to make its decision based on information different from what they possess, behavior is distorted. The distortion arises when the court's information is noisier, but also -- a less intuitive proposition -- when the court's information is finer.²

² In an earlier paper, Calfee and Craswell (1984) identified the same distortion that I examine, i.e., how individuals' uncertainty about legal standards distorts their behavior. This paper adds a formal model and highlights additional factors. First, the model establishes when judicial accuracy is undesirable, and demonstrates which

The analysis lends another economic rationale to the "reasonable man" doctrine of tort law. This doctrine is usually attributed to the ex post cost of ascertaining the injurer's particular precautionary skills. If the information costs are high, it pays to ignore the individual skills and apply an aggregate standard. In this model, the reasonable man doctrine arises, not from ex post, but from ex ante information costs. It is the actors' imperfect information, not the courts', that rationalizes the doctrine.

The paper is organized as follows. Section II presents the formal model. The model focuses on accuracy in the determination of negligence in tort law, but it applies to any area in which adjudication involves an ad-hoc resolution of standards of behavior. The main proposition in this Section is that accuracy distorts behavior. Section III extends the analysis by adding the possibility of acquisition of information. It identifies the condition under which accuracy becomes socially desirable. Section IV offers concluding remarks.

II. MODEL

A. Framework of Analysis

Agents are either injurers or victims. Injurers are all identical. Victims may vary according to the expected loss that accidents impose on them. All parties are risk-neutral. Injurers initially choose levels of precaution to reduce the externality. Define:

x = cost of care to prevent accidents; $p(x)$ = probability of an accident given x ; h = harm to victim if accident occurs; $E(h|x)$ is the expected magnitude of harm, given x .

$c(x)$ is the expected externality. It equals the probability of an accident times the expected magnitude of the harm, i.e., $c(x) = p(x)E(h|x)$. It is assumed to be continuously differentiable, with

information the court ought to ignore systematically. Second, the model considers the possibility that uninformed individuals may acquire information, and examines to what extent accuracy promote acquisition of information.

$c'(x) < 0$, $c''(x) > 0$, i.e., diminishing marginal returns to prevention efforts.

If accident occurs, the injurer is liable only if he was negligent, i.e., only if he failed to take the due level of care, as defined by the court. Otherwise, the victim bears his own loss.

The court may be better informed about $c(x)$ than the injurer.³ Specifically, it is assumed that $c(x) = C(x, \theta)$, where θ is a parameter in $[0, 1]$, with a density function $f(\theta)$. The court knows θ , while the injurer only knows $f(\theta)$. Without loss of generality, it is assumed that $C_\theta(x, \theta) > 0$ and $C_{x\theta}(x, \theta) < 0$, i.e., both the expected cost and the marginal return to prevention efforts increases with θ .

B. Perfect Information

Under perfect information, where the injurer knows θ , optimal care can be implemented. Define the first-best level of care, $x(\theta)$, to be the solution to $\text{Min}_x [x + C(x, \theta)]$. If the court sets the due level of care at $x(\theta)$, a perfectly informed injurer will be led to exercise it.

C. Imperfect Information

What happens if the injurer cannot observe θ ex ante, and can only observe $f(\theta)$? It is clear that the injurer cannot be led to take the first-best level of care, since this would require him to know θ . The injurer can only take a uniform level of care for all levels of θ . The socially optimal solution given this constraint, the "second-best", is denoted by x^* , and it is the level of x that minimizes

$$x + \int_0^1 C(x, \theta) f(\theta) d\theta. \quad (1)$$

The following analysis demonstrates that the second-best can be achieved, but only if the court deliberately rejects accuracy.

Let us compare two regimes. Under an *accurate adjudication* regime the court uses its observation of θ in setting the standard of due care. The court sets the standard of due care at the

³ The court may have superior information about $p(x)$ or about $E(h|x)$ or both.

first-best level of care. Under an *inaccurate adjudication* regime the court ignores θ when setting the standard of due care, and sets a uniform standard of care independent of θ .

1. Accurate Adjudication

If the court sets the level of due care for the injurer at the first-best level of care, $x(\theta)$, the outcome is strictly worse than the second-best. Consider the injurer's optimization problem, given that he does not know θ but that he knows that the court will observe θ and adjudicate accurately. For every level of care x that the injurer chooses, there is a critical $\hat{\theta}(x)$ for which x is the optimal level of care. When θ is greater than $\hat{\theta}(x)$, due care exceeds x , and thus x is considered negligent. When θ is less than $\hat{\theta}(x)$, due care level is less than x . (Notice that $\hat{\theta}(x) = x'(\theta)$.) Thus, for every x , the injurer is liable if and only if θ falls within $(\hat{\theta}(x), 1]$. The injurer chooses x that minimizes

$$x + \int_{\hat{\theta}(x)}^1 C(x, \theta) f(\theta) d\theta. \quad (2)$$

Denote by x^a the solution to (2). The following proposition shows that x^a is worse than second-best level of care.

Proposition 1. *If the injurer does not know θ ex-ante, then it is not socially desirable for courts to set accurate levels of due care, that depend on θ .*

Proof. It suffices to show that $x^a \neq x^*$. This would imply that the injurer takes a level of care other than the second-best, which, by definition, is the best he can do when he is constrained to take a uniform level of care.

To determine x^* , differentiate expression (1) with respect to x :

$$1 + \int_0^1 C_x(x^*, \theta) f(\theta) d\theta = 0 \quad (3)$$

Compare this expression to the first order condition of the injurer's problem:

$$1 + \int_{\theta(x^a)}^1 C_x(x^a, \theta) f(\theta) d\theta - \theta'(x^a) C(x^a, \theta) f(\theta) = 0 \quad (4)$$

Suppose that $x^a = x^*$. This implies that

$$\theta'(x^*) C(x^*, \theta) f(\theta) = \int_0^{\theta(x^*)} C_x(x^*, \theta) f(\theta) d\theta, \quad (5)$$

or:

$$\theta'(x^*) = \frac{\int_0^{\theta(x^*)} C_x(x^*, \theta) f(\theta) d\theta}{C(x^*, \theta) f(\theta)}. \quad (6)$$

But notice that only the right hand side of (6) depends on $f(\theta)$, and may obtain different values for different distributions of θ . Thus the equality of (6) cannot hold in general, and the assumption that $x^a = x^*$ leads to a contradiction.

Q.E.D.

Remarks. (i) Why Accuracy Distorts? The reason that an accurate negligence regime distorts incentives is that it presents the uninformed injurer with the wrong choice. The externality, i.e., the expected harm, is not fully internalized to the injurer's calculus. Only those harms for which the injurer's care is considered, ex-post, unsatisfactory, are shifted to the injurer. Thus, when the injurer considers whether to take an additional unit of care, he does not take into account the social benefit of it, which is the reduction in cost for every θ . Instead the injurer takes into account a different benefit, which consists of a reduction in the range of θ for which he may be found liable, plus the reduction in

cost only for values of θ in this range. Since the private benefit diverges from the social benefit, the incentive for care is inadequate.⁴

Put differently, when the injurer has imperfect information about the legal standard, his cost is a continuous function of his level of care. This is in contrast to the complete information case, in which the cost function exhibits a sharp "jump" at the due level of care. The continuity property of the cost eliminates the force that usually induces injurers to take due care. And the fact that the private cost diverges from the social cost shifts the balance that the injurer draws between cost and benefit of care away from the socially optimal balance. Figure I depicts this argument graphically. The bold line represents the injurer's cost under the optimal inaccurate regime. x^* minimizes this cost. The dotted lines represent two possible configurations of the injurer's cost function under an accurate regime, one leading to excessive care, the other leading to too little care.

**** FIGURE I ****

(ii) *Direction of Distortion Indeterminate.* The injurer may take either too much or too little care, relative to x^* . There are two conflicting factors that influence the direction of the distortion. First, the injurer bears only part of the social loss, an effect which dilutes his incentives to take care, relative to the socially optimal. Second, while the social benefit of an additional unit of care is only the marginal reduction in $C(x, \theta)$, the private benefit includes also the reduction in the range of θ for which the injurer is liable. This effect exaggerates the incentive to take care, above the socially optimal. Generally, the direction of the net effect is ambiguous.

(iii) *Comparative Statics.* The direction of the distortion may depend on several factors. First, the

⁴ This result does not depend on the formulation of the negligence rule. In this paper, it is assumed that a negligent injurer is liable for the entire harm. If we adopt an alternative formulation, as in Kahan (1989), in which the injurer is liable only for the additional accidents caused by his failure to take due care, the distortion still arises. Kahan confirms that if the injurer is uncertain about the level of due care, he will take inefficient care.

greater the uncertainty and the greater the significance of the uncertainty, the more likely is x^a to fall short of x^* . Greater uncertainty means greater variance of θ . This implies that additional investment in care above x^* yields preclusion of liability for only a small increment of θ 's, while under-investment in care subjects the injurer to a relatively small additional liability. Further, if the uncertainty is more significant, i.e., a greater effect of θ on the productivity of care (lower $C_{x\theta}(x, \theta)$), x^a is again more likely to be too low. Note that if $C_x(x, \theta)$ is more sensitive to θ , then so is $x(\theta)$.⁵ This implies that additional investment in care buys relief only from a small increment of θ 's. By reducing his care below x^* , the injurer exposes himself to relatively small additional liability. Lastly, the greater the productivity of care (i.e., lower $c'(x)$), the more likely is x^a to fall short of x^* . High productivity of care pulls x^* upwards more strongly than it pulls x^a upwards, because it affects the social benefit from additional care more than it affects the private benefit from additional care.

2. Inaccurate Adjudication

Under inaccurate adjudication, the court ignores θ when setting the standard of due care. The following proposition reiterates the familiar result, that the second-best can be implemented.

Proposition 2 If, for every θ , courts set the standard of due care at x^* , and if whenever an accident occurs and the injurer has failed to take x^* he has to pay $E(h|x^*)$, then the second-best is attained.

Proof. If the injurer takes x^* , he escapes liability and his cost is solely x^* . He does not take more than x^* , because the extra cost yields no benefit. He does not take less than x^* , because then he has to bear liability costs, which -- by the definition of x^* -- are greater than what he saves in x . Q.E.D.

Remarks. (i) *Inaccuracy versus Accuracy.* The conclusion from Propositions 1 and 2 is that whenever

⁵ By the implicit function rule, differentiating the first order condition of the first-best problem with respect to θ yields $x'(\theta) = -C_{x\theta}/C_{xx}$.

the injurer is uninformed about θ , accuracy is undesirable. Even if accuracy is not costly to administer, it is still inferior to inaccuracy, because of the distorted incentives it generates.

(ii) *Uncertainty about the Amount of Information the Injurer Had.* The result above suggests that courts ought not use more information than the injurer possessed ex ante. However, courts may not know whether the injurer was uninformed about θ . In this situation, the injurer may want to misrepresent the level of information he had ex ante. Specifically, if he is uninformed ex ante but learns ex post that θ is low, he is better-off claiming that he was informed, thereby leading the court to set the accurate but lower level of due care.⁶ Further, If the injurer is informed and knows that θ is high, he is better-off claiming that he was uninformed, and thus facing the inaccurate and lower standard of due care. Hence, the problem of asymmetric information between the court and the injurer is compounded: the court has more information about θ , but less information about how informed the injurer is. The court should set accurate standards of due care only if it assesses that a sufficiently large fraction of the injurers is informed.

(iii) *Ex Post Cost of Inaccuracy.* If the court readily observes θ , but has poor information about $f(\theta)$, inaccurate adjudication may be impossible or too costly to administer. Accuracy becomes desirable if its ex ante cost, reflecting the inferior incentives, is less than the ex post cost of adjudicating inaccurately.

III. ACQUISITION OF INFORMATION EX ANTE

It was demonstrated that if the injurer does not know θ ex-ante, accuracy in setting the due level of care is socially undesirable. Now suppose that the injurer can spend some resources and

⁶ The uninformed injurer who claims to have been informed may have a credibility problem. If he was indeed informed, he should have engaged in $x(\theta)$ level of care, anticipating that this would be the standard the court will set. The uninformed injurer cannot know $x(\theta)$ and his choice of care reveals this fact. Thus, by simply observing the actual care taken, the court can ascertain whether the injurer was informed, as he claims to be.

acquire perfect information about θ . For example, a physician can study more accurately the particular fragilities that a patient has and the magnitude of harm that he may suffer; a polluter can inquire about the specific harms that his neighbors may suffer; etc. Accurate adjudication may have the benefit of motivating the injurer to become informed, and thus adhere to the first-best levels of care. This section examines the conditions under which accuracy induces socially valuable acquisition of information.

In a recent paper, Kaplow and Shavell (1992b) examined the injurer's incentives to acquire information *ex ante*. They observed that under a negligence rule, the private value of information differs from its social value. The private value of becoming informed includes the reduction of liability payments to zero (an informed individual takes due care), but the social value of information is smaller and includes only the incremental reduction in expected harm.⁷ Because informed injurers escape liability for harms that still occur, their incentive to acquire information is excessive.

In light of this divergence between the private and social values of information, we can inquire when accuracy is socially desirable. For accuracy to be desirable, two conditions must hold. First, it must be that injurers are led to acquire information. And second, it must be that the acquisition of information is not too costly to make it socially undesirable. The analysis below formalizes these conditions.

Suppose the injurer can choose to acquire information before making his precaution decision. If he spends an initial cost of k , he can learn θ perfectly, and anticipate $x(\theta)$. Let us compare the costs accurate versus inaccurate adjudication.

Under accurate adjudication, the injurer may either spend k and take due care or continue to act uninformed. If he spend k his total costs are

⁷ Shavell (1992) also demonstrates that the private incentive to obtain information exceeds the socially optimal, and that accuracy promotes excessive acquisition of information. He does not consider the conditions under which accuracy is desirable.

$$k + \int_0^1 x(\theta) f(\theta) d\theta. \quad (7)$$

If, in contrast, he does not acquire information, his costs are

$$x^a + \int_{\theta(x^a)}^1 C(x^a, \theta) f(\theta) d\theta. \quad (8)$$

Hence, the injurer will acquire information if (7) is less than (8), or

$$k \leq x^a + \int_{\theta(x^a)}^1 C(x^a, \theta) f(\theta) d\theta - \int_0^1 x(\theta) f(\theta) d\theta \equiv k^P. \quad (9)$$

k^P is the private critical cost.

Shift the focus now to social calculus. If $k > k^P$, the injurer does not acquire information, and accuracy is socially undesirable, as established by Proposition 1. If, however, $k \leq k^P$, the injurer spends k and takes due care. In this case, the total costs of accuracy are

$$k + \int_0^1 [x(\theta) + C(x(\theta), \theta)] f(\theta) d\theta. \quad (10)$$

In contrast, inaccurate adjudication never leads the injurer to acquire information, and thus the total costs of inaccuracy are

$$x^* + \int_0^1 C(x^*, \theta) f(\theta) d\theta. \quad (11)$$

Accuracy costs less than inaccuracy if and only if (10) is less than (11), or

$$k \leq x^* + \int_0^1 C(x^*, \theta) f(\theta) d\theta - \int_0^1 [x(\theta) + C(x(\theta), \theta)] f(\theta) d\theta \equiv k^S. \quad (12)$$

Proposition 3. When the injurer can learn ex-ante about harm by spending k , accuracy is socially desirable if and only if $k \leq k^S$.

Proof. It is sufficient to establish that $k^P \geq k^S$. This would imply that whenever accuracy costs less than inaccuracy ($k \leq k^S$), the injurer has the private incentive to acquire information ($k \leq k^P$). To see that $k^P \geq k^S$, rewrite $k^P - k^S$ as:

$$x^a + \int_{\theta(x^a)}^1 C(x^a, \theta) f(\theta) d\theta - [x^* + \int_0^1 C(x^*, \theta) f(\theta) d\theta - \int_0^1 C(x(\theta), \theta) f(\theta) d\theta] \quad (13)$$

which equals:

$$\begin{aligned} & [x^a + \int_0^1 C(x^a, \theta) f(\theta) d\theta] - [x^* + \int_0^1 C(x^*, \theta) f(\theta) d\theta] + \\ & + [\int_0^1 C(x(\theta), \theta) f(\theta) d\theta - \int_0^{\theta(x^a)} C(x^a, \theta) f(\theta) d\theta] \end{aligned} \quad (14)$$

Expression (14) consists of three terms in brackets. The first term is greater than the second term, because x^* is the second-best. The third bracket term is greater than 0 because it is the difference between the total first-best cost to the cost of accidents for which θ is sufficiently small.⁸ Hence, expression (14) is positive. Q.E.D

Remarks. (i) *The Value of Accuracy.* The fact that accuracy can lead injurers to acquire information does not guarantee its desirability. It is desirable if and only if the benefit it generates relative to

⁸ To verify that the third bracket expression in (14) is positive, rewrite it as

$$\int_0^{\theta(x^a)} [C(x(\theta), \theta) - C(x^a, \theta)] f(\theta) d\theta + \int_{\theta(x^a)}^1 C(x(\theta), \theta) f(\theta) d\theta.$$

The first integral is positive because $\forall 0 \leq \theta \leq \theta(x^a)$, x^a is greater than $x(\theta)$, and thus $C(x^a, \theta)$ is less than $C(x(\theta), \theta)$. The second integral is also positive, thus the entire expression is positive.

inaccurate adjudication, which is the shift from second-best to first-best, exceeds the cost k .

Kaplow and Shavell (1992b) argued that the social value of information is the difference between the first-best cost to the social cost when the injurer is uninformed and takes x^a . Proposition 3 suggests that the social value of information is actually less than that. It consists only of the difference between the first-best and the second-best. In other words, if the injurer is uninformed, the best regime is not an accurate regime, in which the injurer takes x^a , but an inaccurate regime, in which the second-best can be implemented. Since we can improve from x^a to the second-best x^* without any cost, by simply rejecting accuracy, the value of information is limited to the shift from the second-best to the first-best.

(ii) *A Note on the Law*. The Restatement (2nd) of Torts, §§289,290 stipulates that an injurer is required to recognize "reasonable" risks arising from his behavior, and particular characteristics of the risk so far as they are matter of ordinary knowledge. If the injurer is ignorant about risks but is conscious of his own ignorance, he has a duty to learn the precise extent of the risk.⁹

This practice implies that the court adjudicates accurately whenever it determines that the injurer had a duty to learn the precise risk, θ . The practice is optimal as long as the duty to learn arises if and only if k is less than k^S .¹⁰ If the court holds that recognition of a risk is reasonable, but in fact the cost of reaching this recognition exceeds k^S , then the outcome is sub-optimal. Either the injurer will be led to acquire information at an unwarranted cost (if $k^S < k \leq k^P$), or the injurer will choose to remain ignorant, but his incentives for care will be distorted (if $k > k^P$).

⁹ As some authors interpret, "[A] person may know enough to be conscious of his own ignorance, and of possible danger into which it may lead him; and if this is the case,... the person may be found negligent in proceeding in the face of known ignorance". Keeton et al. [1984], pp. 184-5. See also *Gobrecht v. Beckwith*, 1926, 82 N.H. 415, 420, 135 A. 20, 22.

¹⁰ In practice, courts impose on injurers the duty to conduct "proper investigation", i.e., injurers are deemed to have known facts which, by a proper inquiry, they might have ascertained. See, e.g., *Equilease Corp. v. Smith Intern., Inc.*, 588 F. 2d 919 (1979). The term "proper inquiry" admits different interpretations. Proposition 3 suggests an economic interpretation: an inquiry is proper if and only if it costs less than k^S .

IV. CONCLUDING REMARKS

(a) *Generality of Results.* The result that accuracy distorts incentives applies more generally than to the determination of negligence. As presented in the introduction, the conclusion holds for any judicially set standard of behavior, that is based on case-specific factors. In many legal areas, rights and duties are tuned to the particular factual parameters that are associated with the case. If the court is better informed about these parameters than the actor, and if the actor anticipates that the court will use superior information, then accuracy distorts the actor's incentives. Accuracy is only desirable if it leads individuals to acquire information *ex ante*, at a cost that is not excessive.

(b) *Accuracy and Victim's Care.* If the victims, as well as the injurer, engages in care activity, and if the victim is perfectly informed about θ , it is still optimal for the court to set an inaccurate standard of due care for the injurer. For each party, the court should set a standard of due care that exploits only the information that the party has, *ex ante*. The court can simultaneously set an accurate standard for the victim and an inaccurate standard for the injurer.

There is, however, a particular situation in which accuracy may lead to an outcome that is better than the second-best, even when the injurer is imperfectly informed. If the parties engage in precautions sequentially, and specifically if the injurer chooses his level of care after observing the care that the victim took, then he can be required to adjust his care to the victim's. By holding the injurer to a standard of due care that depends on the actual care that the victim takes (and that the injurer observes), and simultaneously holding the victim to contributory negligence standards, both the victim and the injurer may be led to take the first-best levels of care.¹¹

(c) *Accuracy and Litigation Costs.* The argument against accuracy does not depend on the cost of administering accuracy. Even if this cost is zero, the argument holds. If we assume that

¹¹ For an extensive analysis of this issue, see Ben-Shahar and von Randow (1993).

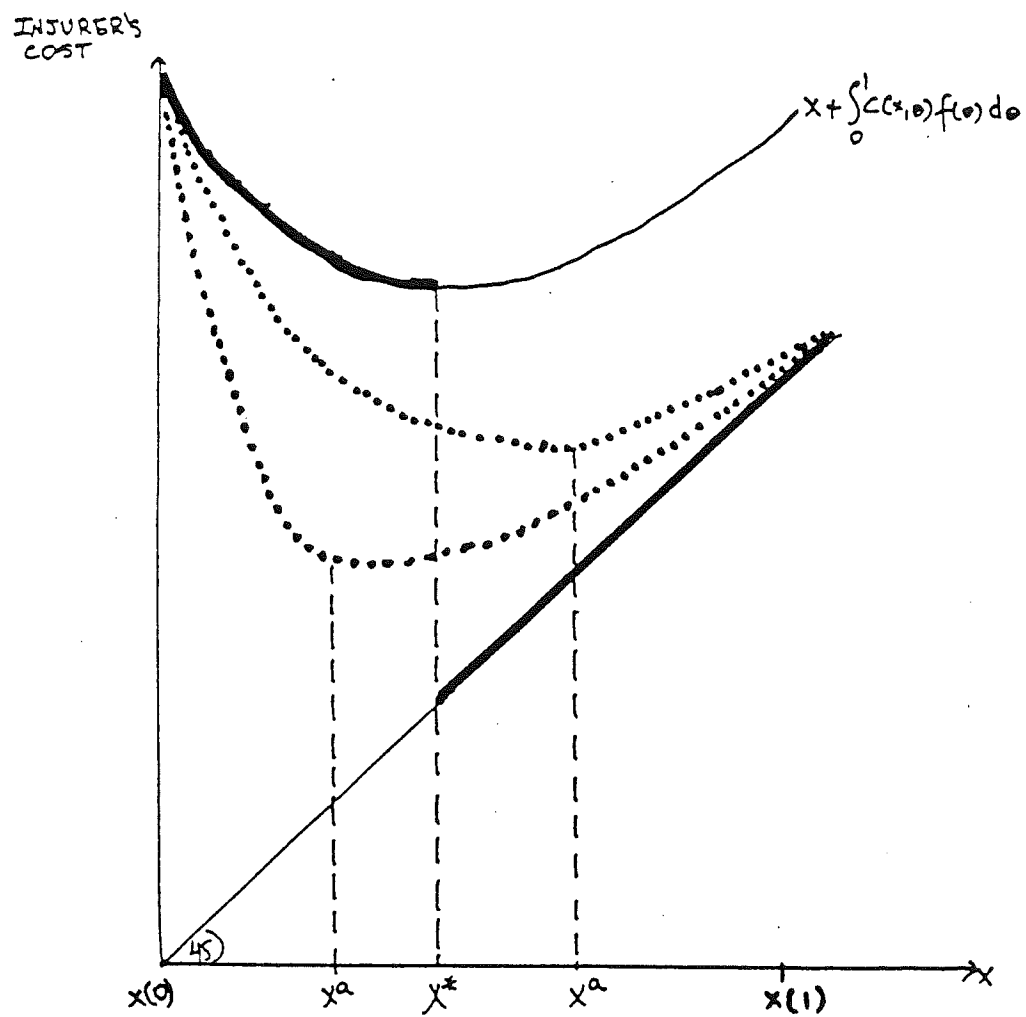
accuracy is more costly to execute, then the argument against accuracy is reinforced. Specifically, if it is assumed that accuracy imposes greater litigation costs on the parties, then the deadweight loss from accuracy is aggravated by two factors. First, the injurer's incentives are further distorted, because now -- whenever he is negligent -- he has to bear, in addition to liability costs, the litigation cost. Second, while there may be less litigation, the total cost of litigation rises.

Spier (1993) has shown that a "flat", inaccurate compensation scheme increases the rate of settlement. In her model, this benefit, which translates to a reduction in litigation costs, is countered by the diminished incentives for care that flat damages generate. Here, the only incentive that may be diminished by inaccurate adjudication is to acquire information. In the presence of litigation costs, the threshold level k^S , for which acquisition of information is socially desirable, may become lower than otherwise.

(d) *Legal Implications*. It was argued that it may be desirable for courts to set average standards, rather than accurate ones. This argument lends a new economic rationale to the "reasonable man" legal doctrine. Ordinarily, economists justify this doctrine as a measure that saves ex post costs of assessing individual parameters.¹² Here, in contrast, the uniform standard arises from the ex ante costs of becoming informed. If individuals have imperfect information, inaccurate standards saves at least the costs of acquiring information ex ante, and perhaps the cost of distorted incentives.

¹² See Posner (1986), pp. 151-2, arguing that the "reasonable man" doctrine "can be justified only by reference to the costs of individualized measurement". See also Shavell (1987), pp. 73-77; Landes and Posner (1987), pp. 123-131,

FIGURE I



- Liability under inaccurate regime
- Liability under accurate regime

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