Legal Errors and Efficiency of Liability Rules

Ram Singh

August 31, 2015

Legal Determination of Due Care and the Compensation I

Three options available to courts or juries to fix the legal (due care) standard for the injurer, i.e., x^*:

- Court can determine, the legal (due care) standard for the injurer, on a case-by-cases. However, this option
  - puts huge information burden on courts,
  - So, they end up using reasonable care standard
- Court can use the due care standard provided by the public or regulatory law as the legal (due care) standard.
  - traffic rule, environmental standards, etc.
- Court can use use the care standards practiced by the community of injurers as the legal standards of care
  - doctors, auditors, lawyers, etc.

Legal Determination of Due Care and the Compensation II

As to the issue of assessment of Harm, courts and juries:

- Tend to assess the harm on the case-by-case basis, with the help of experts

Courts or juries are vulnerable to making errors

- In determination of the due care, and therefore the negligence/non-negligence of the injurer and the victim
- In assessment of the Harm suffered by the victim
- In both of the above

Legal Determination of Due Care and the Compensation III

Legal errors in determination of the due care

- can be totally random without bias. That is on an average
  - the Due care level is fixed at x^*
- systematically biased. For example,
  - the Due care level can be fixed at level greater than x^*

Legal errors in determination of the compensation

- can be totally random without bias.
- systematically biased.

As a result, the parities at accident dispute face uncertainty regarding their liability obligations and entitlements.

Harm related Uncertainty, Unilateral Care and SL I

- Only the injurer can take care; x
- TAC is $x + \pi(x)D(x) = x + L(x)$.
- Let x^* solve the SOP.
- Let C be the compensation amount granted to the victim

Proposition

If legal error are random, that is expected compensation amount is equal to the actual harm, i.e, $E(C) = D$, then under the rule of strict liability

- *The outcome will be efficient.*
- *The injurers will take efficient care*

Under SL, when $E(C) = D$ the injurer solves

$$\min_x \{x + \pi(x)E(C) = x + \pi(x)D(X)\}$$

Harm related Uncertainty, Unilateral Care and SL II

Proposition

If legal error are upward biased - on an average the compensation is greater than the actual harm, i.e., $E(C) > D$, then under the rule of strict liability

- *The outcome will NOT be efficient.*
- *The injurers will take excessive - more than efficient - care.*

Proposition

If legal error are downward biased - on an average the compensation is less than the actual harm, i.e., $E(C) < D$, then under the rule of strict liability

- *The outcome will NOT be efficient.*
- *The injurers will take to little - less than efficient - care.*

Harm related Uncertainty: RON I

Uni-lateral care accidents:

- Assume x^* uniquely solves the SOP

$$\min_x \{x + L(x)\}$$

- Therefore whenever $x \neq x^*$

$$x^* + L(x^*) < x + L(x)$$

Proposition

Assume that due care standard is at x^*. If legal error are random, that is expected compensation amount is equal to the actual harm, i.e, $E(C) = D$, then

- *The outcome will be efficient, under the RON.*
- *The injurers will take efficient care*

Harm related Uncertainty: RON II

Proposition

Assume that due care standard is at x^*. If legal error are upward biased - on an average the compensation is greater than the actual harm, i.e., $E(C) > D$, then

- *The outcome will be efficient, under the RON.*
- *The injurers will take efficient care.*

Question

Will the above results be true if the injurer is risk-averse?

Harm related Uncertainty: RON III

Proposition

Assume that due care standard is at x^*. If legal error are downward biased - on an average the compensation is less than the actual harm, i.e., $E(C) < D$, then

- *The outcome will generally NOT be efficient under the RON.*
- *The injurers will take less than efficient care, especially if the downward bias is* **large**

For a general analysis of legal errors see Singh(2003), **a strictly optional reading**

Legal Errors: Bilateral Care I

Definition

A liability rule satisfies Negligence Injurer's Liability (NIL), if

$$\begin{aligned} x \geq x^* &\Rightarrow s(x,y) = 0 \\ x < x^* \ \& \ y \geq y^* &\Rightarrow s(x,y) = 1 \\ x < x^* \ \& \ y < y^* &\Rightarrow s(x,y) \in [0,1] \end{aligned}$$

Proposition

Take any given X, Y, $L(.)$ and (x^*, y^*), such that $M = \{(x^*, y^*)\}$. Let $E(C) = \alpha D$. If a liability rule satisfies Property NIL and $\alpha \geq 1$, then (x^*, y^*) is a Unique N.E..

Proof: Suppose, the liability rule satisfies Property NIL. Take any X, Y, $L(.)$ and (x^*, y^*). So,

- $s(x^*, y^*) = s^* = 0$

Legal Errors: Bilateral Care II

Suppose, the victim has opted for y^*. Now,

- if the injurer opts for x^*, his total cost is $x^* + s^*\alpha D(x^*, y^*)\pi(x^*, y^*) = x^*$, and
- if he opts for some $x < x^*$ his total cost is

$$\begin{aligned} x + s(x, y^*)\alpha D(x, y^*)\pi(x, y^*) &= x + \alpha s(x, y^*)L(x, y^*) \\ &= x + \alpha L(x, y^*) \end{aligned}$$

since $s(x, y^*) = 1$

Legal Errors: Bilateral Care III

Injurer will choose $x < x^*$ only if

$$\begin{aligned} x + \alpha L(x, y^*) &< x^*, i.e., \text{only if} \\ x + y^* + \alpha L(x, y^*) &< x^* + y^*, i.e., \text{only if} \\ x + y^* + \alpha L(x, y^*) &< x^* + y^* + L(x^*, y^*) \end{aligned} \tag{0.1}$$

But, (0.1) cannot be true since

$$\begin{aligned} x + y^* + \alpha L(x, y^*) &\geq x + y^* + L(x, y^*) \\ &> x^* + y^* + L(x^*, y^*). \end{aligned}$$

That is, for the injurer choice of x^* is better than choice on any $x < x^*$.

Next, consider a choice of $x > x^*$ by the injurer (assuming that the victim is still spending y^* on care).
????

Legal Errors: Bilateral Care IV

Now, suppose the Injurer has opted for x^*. So, for any given choice of y by the victim, his costs are

$$\begin{aligned} &= y + D(x^*, y)\pi(x^*, y) - s(x^*, y)\alpha D(x^*, y)\pi(x^*, y) \\ &= y + L(x^*, y) - s(x^*, y)\alpha L(x^*, y) \\ &= y + L(x^*, y) \end{aligned}$$

So, the victim will choose y to solve

$$\min_y \{y + L(x^*, y)\}$$

That is, will always choose y^*

Punitive Damages: Implications I

Damages/comensation is called punitive if

$$C >> D$$

Proposition

Assume that due care standard is at x^*. If court awards punitive damages, i.e., $C >> D$, then

- *The outcome will be efficient, under the RON.*
- *The injurers will take efficient care.*

Punitive Damages: Implications II

Proposition

If court awards punitive damages, i.e., $C >> D$, then under the rule of strict liability

- *The outcome will NOT be efficient.*
- *The injurers will take excessive - more than efficient - care.*

Question

Suppose the injurers are 'judgment proof' - have low wealth. Between RON and Strict Liability, which rule is better?