

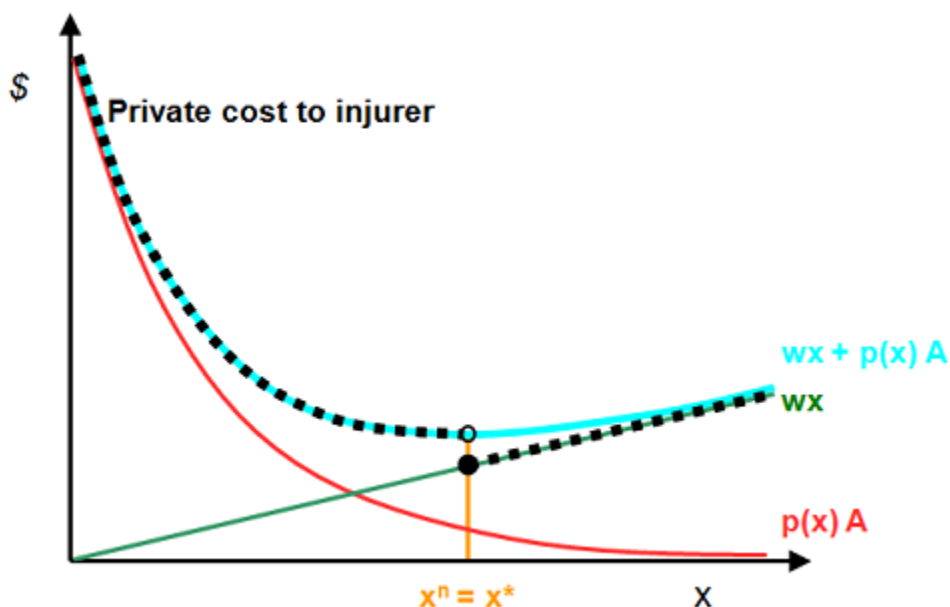
## ECON 522 - TORT LAW 2

### 1. Errors in Tort Remedies

We've introduced two types of remedies for torts: strict liability and negligence. Under either rule, the court must decide what to set damages  $D$  at, and it may make mistakes. The two types of errors in setting  $D$  are:

1. Random Errors: The court may make mistakes, but on average damages are set correctly (equal to actual harm done)
2. Systematic Errors: The court consistently sets damages too high or too low (above or below actual harm done).

For damages, random errors have no effect, since all that matters is expected damages. However, systematic errors will lead to either too much precaution (if damages too high), or too little precaution (if damages too low). What's more subtle is the effects of the errors for negligence rules. The graph below shows the social ( $wx + p(x)A$ , lightly shaded line) and private costs ( $wx + p(x)A$  for  $x < x^n$ ,  $wx$  for  $x \geq x^n$ , dotted line) of precaution under a negligence rule.



Because of the discontinuity in the private cost function, small errors in setting  $D$  have no effect on behavior: the private cost curve would no longer match the social cost curve below  $x^n$ , but the discontinuity means that private cost is still minimized at  $x^n$ . However, random errors in setting  $x^n$  will tend to make people take more precaution, while systematic errors in setting  $x^n$  will

lead to people taking the inefficient level of precaution  $x^H$ .

**Example:** Suppose you run a construction company, and workplace injuries are covered by a simple negligence rule. You know that you will be judged to be negligent if one of your workers is injured and you could have reasonably prevented it, but such a determination is necessarily imprecise.

You can buy either high or low quality safety equipment, or none at all. You know that

- there is a 25% chance that the court will never find you negligent;
- there is a 50% chance that the court will apply the standard of care as low quality safety equipment;
- there is a 25% chance that the court will apply the standard of care as high quality safety equipment.
  
- Low quality equipment costs \$200 and results in a 1.2 percent probability of injury
- High quality equipment costs \$400 and results in a 1.1 percent probability of injury
- No equipment results in a 2 percent probability of injury
- Injuries cost workers \$100,000 in damages on average

Questions:

1. What is the efficient level of precaution?
2. What is the expected cost of meeting the standard of care as applied by the court?
3. How much precaution will you take?

Answers:

1. What is the efficient level of precaution?

Look at the social cost.

- No equipment:  $.02 * 100000 = 2000$
- Low quality:  $.012 * 100000 + 200 = 1400$
- High quality:  $.011 * 100000 + 400 = 1500$

So low quality equipment is efficient, since it gives the smallest social cost.

2. What is the expected cost of meeting the standard of care as applied by the court?

$$.5 * 200 + .25 * 400 = 200$$

the same as for low quality equipment, so the court makes a *random error*, not a systematic one.

3. How much precaution will you take?

Look at the cost to you:

- No equipment:  $.75 * .02 * 100000 = 1500$
- Low quality:  $.25 * .012 * 100000 + 200 = 500$
- High quality: 400

So I will choose high quality equipment.