

What is it

- ◆ Tort law is concerned with accidental injuries. Its purposes are twofold: to compensate victims and to deter unreasonably dangerous behavior, accidents (product liability, medical malpractice, environmental risks).
- ◆ The economic theory of tort law emphasizes precaution against these risks, deterrence.

Tort law

- ◆ Tort, *noun*. from French word meaning **injury, accident**
- ◆ **Contract law**: situations where someone harms you by **breaking a promise** they had made
- ◆ **Tort law**: situations where someone **harms** you **without having made any promises**

Private

- ♦ Tort law is a **private remedy** that must be initiated by the victim. To recover damages, the victim must prove that he or she sustained damages and that the injurer caused those damages.
- ♦ Once the victim proves **causation**, the court applies the relevant **liability rule**.
- ♦ Public alternatives to control these risks: regulation, taxation, criminal penalties

Collective action problems limits it

Tort law represents a private remedy for harms, which requires that **victims initiate the process** by filing a lawsuit.

In damage settings where the **harm is dispersed**, so no one individual finds it worthwhile to bear the cost of a suit, or if the cause of the **harm is uncertain**, **tort law is not good remedy**.

Both of these problems plague victims of environmental harm, which is why public **regulation** is often used, in conjunction with the common law, to control environmental damages.

General logic of tort law

- ♦ A *strict liability* rule holds the defendant liable for the victim's damages once the victim proves causation. A *negligence rule* requires the victim to further prove that the defendant was at fault—that is, that he or she failed to take reasonable care to avoid the accident.
- ♦ The economic theory of tort law is based on the idea that liability for accidental injuries should be assigned so as to minimize the expected costs of accidents, including the harm suffered by victims, the cost of precautions by injurers and victims, and the litigation costs of assigning liability.

Focus on achieving efficiency

- ♦ I hit you with my car, do \$1,000 worth of damage
 - ♦ You're \$1,000 worse off
 - ♦ (No damage to me or my car)
 - ♦ Should I have to pay you damages?

	<i>I owe nothing</i>	<i>I owe \$1,000</i>	<i>I owe \$50,000</i>
<i>Your payoff</i>	-1,000	0	49,000
<i>My payoff</i>	0	-1,000	-50,000
<i>Combined payoffs</i>	-1,000	-1,000	-1,000

Tort law

- ◆ Question: how to structure the law to get people to behave in a way that leads to efficient outcomes?
 - ◆ **Deliberate** harms: make punishment severe (criminal law)
 - ◆ **Accidental** harms: trickier
 - Goal isn't "no accidents"; goal is "efficient number of accidents"

Tort law

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essence of tort law is “**the attempt to make injurers internalize the externalities they cause, in situations where transaction costs are too high to do this through property or contract rights**”

Cast of characters

- ♦ **Plaintiff** – person who brings a lawsuit
- ♦ **Defendant** – person who is being sued
 - ♦ In a tort case, **defendant caused some harm to plaintiff**, plaintiff is asking for damages
 - ♦ Plaintiff is the **victim** (person who was harmed)
 - ♦ Defendant is the **injurer** (person who caused the harm)

“Classic” legal theory of torts

- ◆ Harm
- ◆ Causation
- ◆ Breach of Duty

Element 1: Harm


- ◆ For a tort to exist, the **plaintiff needs to have been harmed**
- ◆ “Without harm, there is no tort”
 - ◆ Gas company sold gas with a defective additive
 - Dangerous for cars with turbocharged carburetors
 - You have a car with normal carburetors
 - You might be angry; but you weren't harmed, so you can't sue
 - ◆ Similarly, no compensation for **exposure** to risk
 - Manufacturer exposed workers to some chemical
 - Exposure will cause 15% of them to develop cancer later in life
 - Can't sue now – have to wait, see who gets cancer, then they can sue

Perfect Compensation

<i>Tangible harms</i>	<i>Intangible harms</i>
<ul style="list-style-type: none">• Medical costs• Lost income• Damaged property	<ul style="list-style-type: none">• Emotional harm• Pain and suffering• Loss of companionship

- ◆ In theory, perfect compensation should cover all losses
 - ◆ Historically, courts have been **less willing to compensate for intangible** or hard-to-measure losses
 - ◆ Over time, U.S. courts have started compensating for more intangible harms
 - ◆ **Pro**: the closer liability is to actual harm done, the better the incentive to avoid these harms
 - ◆ **Con**: disparity in award sizes, unpredictability

“Classic” legal theory of torts

- ◆ Harm 
- ◆ Causation 
- ◆ Breach of Duty


Element 2: Causation

- ◆ For a tort to exist, the defendant needs to have **caused** the harm to the plaintiff
- ◆ **Cause-in-fact**
 - ◆ “**But for** the defendant’s actions, would the harm have occurred?”

Element 2: Causation

- ◆ For a tort to exist, the defendant needs to have **caused** the harm to the plaintiff
- ◆ **Cause-in-fact**
 - ◆ “**But for** the defendant’s actions, would the harm have occurred?”
- ◆ **Proximate cause**
 - ◆ Immediate cause – defendant’s action can’t be too distant from the harm
 - ◆ Palsgraf v Long Island Railway (NY Ct Appeals, 1928):
 - Guard pushed a passenger to help him onto train, passenger dropped fireworks he was carrying, they went off, explosion knocked down scales at the other end of the platform, which fell on Mrs. Palsgraf
 - Guard’s actions were not the proximate cause

“Classic” legal theory of torts

- ◆ Harm 
- ◆ Causation 
- ◆ Breach of Duty 

Element 3: Breach of Duty (Sometimes required, sometimes not)

<i>Strict Liability</i>	<i>Negligence</i>
<ul style="list-style-type: none">• Harm• Causation	<ul style="list-style-type: none">• Harm• Causation• Breach of duty (fault)

- ◆ When someone **breaches a duty** he owes to the defendant, and this **leads to the harm**, the injurer is **at fault**, or negligent
 - ◆ Injurers owe victims the duty of **due care**
 - ◆ Negligence rule: I'm only liable if I failed to take the required **standard of care** – not if I was careful and the accident happened anyway

Hence the language in the trolley example

“A tree fell on a moving trolley, injuring passengers. One of them sued.

He succeeded in demonstrating that in order for the trolley to be where it was when the tree fell on it the driver had to have driven faster than the speed limit at some point during the trip.

Breaking the law is *per se* negligence, so the driver was legally negligent whether or not his driving was actually unsafe.

If he had not driven over the speed limit, the trolley would not have been under the tree when it fell, so, the plaintiff argued, **the driver's negligence caused the injury.**”

So under a negligence rule...

- ◆ If I **breach my duty of due care** and injure you, I am liable
- ◆ If I exercise the **appropriate level of care** but still injure you, I'm not liable
- ◆ How is the **standard of care** determined?
 - ◆ That is, how careful do I have to be to avoid liability, and who decides?
 - ◆ Is it negligent to drive 40 MPH on a particular road at a particular time of day? What about 41 MPH? 42?

How is the standard of care determined?

- ◆ Some settings: government imposes **safety regulations** that are also used as standard for negligence
 - ◆ Speed limits for highway driving
 - ◆ Requirement that bicycles have brakes
 - ◆ Workplace regulations
- ◆ Some standards are left vague
 - ◆ “Reckless driving” may depend on road, time of day, weather...
 - ◆ Common law focuses on duty of **reasonable care**
 - ◆ Level of care **a reasonable person would have taken**
 - ◆ (Civil law relies less on “reasonableness” tests, tries to spell out what level of care is required)

Strict liability versus negligence

- ♦ **Strict liability** rule: plaintiff must prove **harm** and **causation**
- ♦ **Negligence** rule: must prove **harm**, **causation**, and **negligence**
- ♦ A little history
 - ♦ Early Europe: strict liability was usual rule
 - ♦ By early 1900s, negligence became usual rule
 - ♦ Second half of 1900s, strict liability became more common again, especially for manufacturer liability in American consumer products
 - U.S. manufacturers now held liable for harms caused by defective products, whether or not they were at fault

“Classic” legal theory of torts

- ◆ Harm ✓
- ◆ Causation ✓
- ◆ Breach of Duty ✓

Next question

- ◆ Like with contract law, our main concern is with the incentives created by liability rules
- ◆ So... what incentives are we interested in?

Precaution

Precaution

- ◆ The more carefully I drive, the less likely I am to hit you
 - ◆ But, driving more carefully is also more costly to me
 - ◆ Must be some efficient level of care
- ◆ Similarly...
 - ◆ Construction company can reduce accidents with better safety equipment, better training, short workdays, all of which cost money
 - ◆ Manufacturer can reduce accidents by designing/inspecting products more carefully – again, more expensive

We will call all these things **precaution**

- ◆ **Precaution**: anything either injurer or victim could do to reduce likelihood of an accident (or damage done)
- ◆ **How much precaution do we want?**
 - ◆ What is efficient level of precaution?
- ◆ **How do we design the law to get it?**

Simple economic model for thinking about tort law

To answer these questions, we'll introduce a very simple model of accidents

- ◆ Car hits a bicycle
 - ◆ In real life: driver probably has insurance
 - ◆ In real life: some damage to bicycle, some damage to driver's car
 - ◆ In real life: driver and bicyclist may not even know what the law is
- ◆ We'll simplify things a lot, by assuming...
 - ◆ Only one party is harmed
 - ◆ Parties know the law, don't have insurance (for now)
 - ◆ We'll focus on one party's precaution at a time

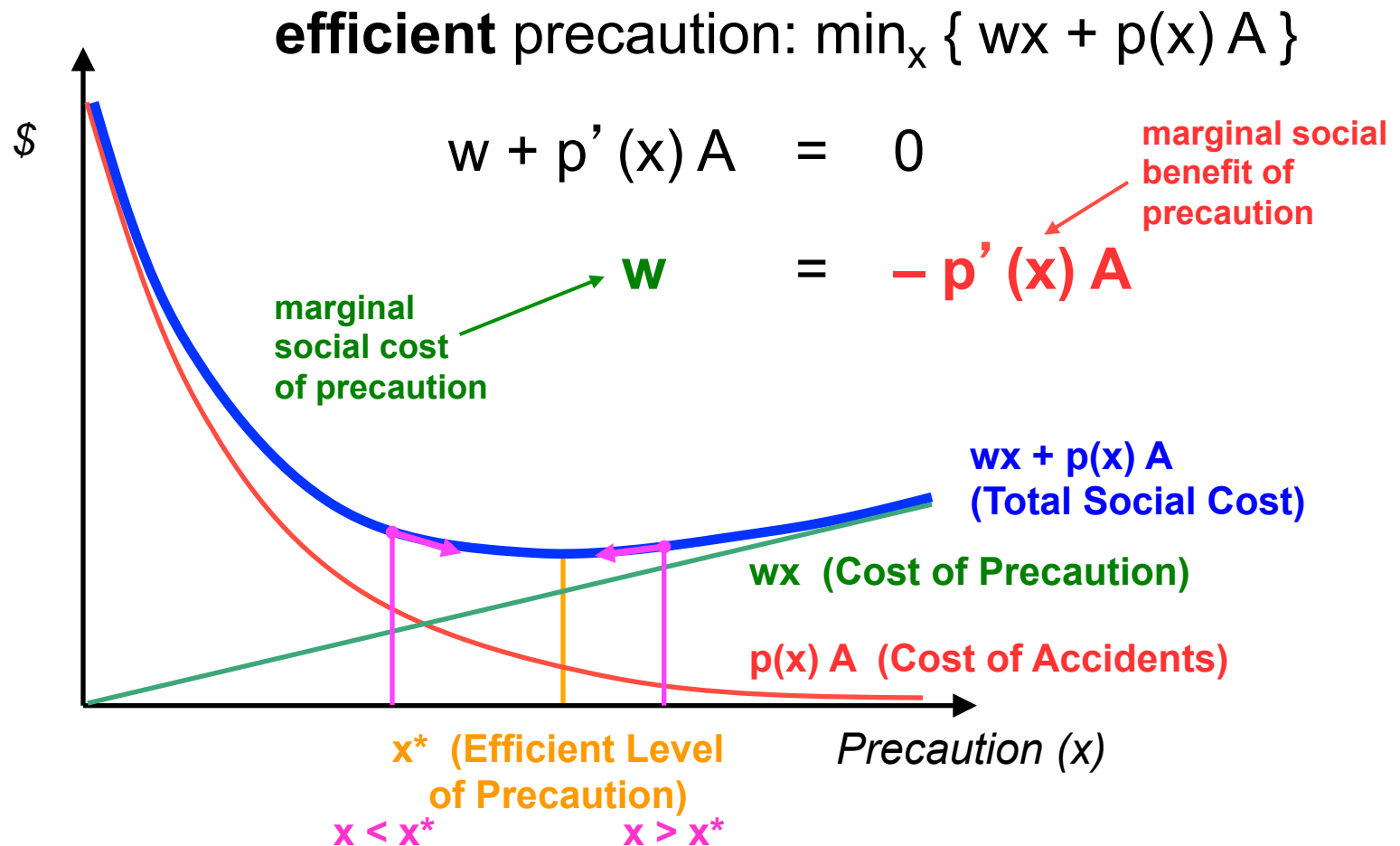
Model of unilateral harm

x	level of precaution
w	marginal cost of precaution
$p(x)$	probability of an accident
A	cost of an accident

- ◆ Unilateral harm – just **one victim**
- ◆ **Precaution** – costly actions that make accident less likely
 - ◆ Could be taken by either victim or injurer
 - ◆ We'll consider both, but one at a time
- ◆ Notation
 - ◆ **x** – the **amount of precaution** that is taken
 - ◆ **w** – the **cost** of each “unit” of precaution
 - so total cost of precaution is wx
 - ◆ **$p(x)$** – **probability of an accident**, given precaution x
 - p is decreasing in x
 - ◆ **A** – **cost of accident** (to victim)
 - so expected cost of accidents is $p(x) A$

Model of unilateral harm

x	level of precaution
w	marginal cost of precaution
$p(x)$	probability of an accident
A	cost of an accident



A technical note (clarification)

- ◆ We're thinking of bilateral precaution, just “one at a time”
- ◆ So really, x^{injurer} , x^{victim} , problem is
$$\min_{x^i, x^v} \{ p(x^i, x^v) A - w^i x^i - w^v x^v \}$$
- ◆ “Hold fixed” one party's action and consider the other:
$$\min_{x^i} \{ p(x^i, x^v) A - w^i x^i - w^v x^v \} \text{ given } x^v \text{ (and v.v.)}$$

This has same solution as

$$\min_{x^i} \{ p(x^i, x^v) A - w^i x^i \}$$
- ◆ Our result will generally be “efficient given what the other guy is doing”

Effect of liability rules on precaution

- ◆ We know what's efficient
 - ◆ Level of precaution that minimizes total social cost = $wx + p(x)A$
- ◆ We'll consider what happens if there is...
 - ◆ no liability rule in place
 - ◆ a strict liability rule
 - ◆ a negligence rule

Benchmark: what happens
without any liability rule?

Benchmark: No Liability

- ◆ In a world with no liability...
 - ◆ Injurer does not have to pay for accidents
 - ◆ So, bears cost of any precautions he takes, but does not receive any benefit
 - ◆ Injurer has no incentive to take precaution
 - ◆ Victim bears cost of any accidents, plus cost of precaution he takes
 - ◆ (Victim precaution imposes no externality on injurer)
 - ◆ Victim precaution will be efficient

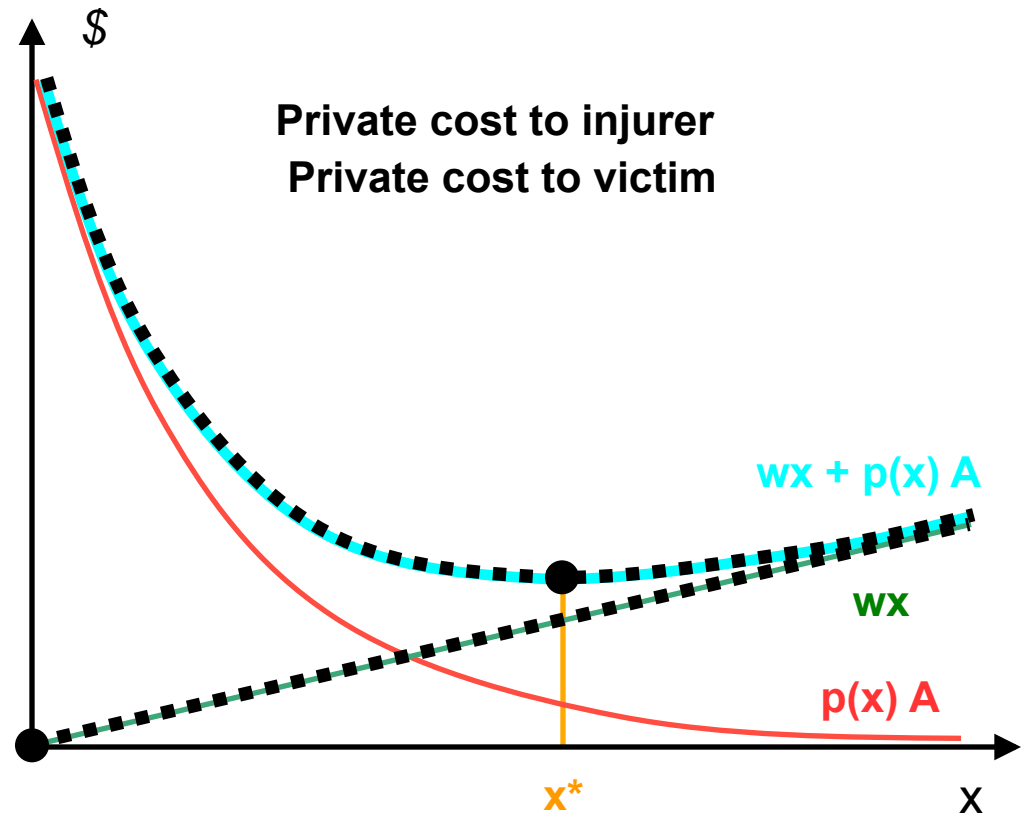
Benchmark: No Liability

- ◆ Injurer's private cost is just wx

- ◆ Minimized at $x = 0$

- ◆ Victim's private cost is $p(x)A + wx$

- ◆ Minimized at efficient precaution level $x = x^*$



- ◆ So rule of no liability leads to **efficient precaution by victims, no precaution by injurers**

Benchmark: No Liability

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>
No Liability	Zero	Efficient

Precaution isn't the only thing that determines number of accidents

- ♦ Precaution – actions which make an activity less dangerous
 - ♦ Driving carefully
 - ♦ Wearing bright-colored clothing while bicycling
- ♦ The **amount we do** each activity also affects the number of accidents
 - ♦ I decide how much to drive
 - ♦ You decide how much to bicycle
- ♦ Liability rules create incentives for **activity levels** as well as precaution

With no liability rule...

- ◆ With no liability, I'm not responsible if I hit you
 - ◆ I don't consider cost of accidents when deciding **how fast** to drive...
 - ◆ ...and I also don't consider cost of accidents when deciding **how much** to drive
 - ◆ So I drive too recklessly, **and I drive too much**
 - ◆ (or: if there is no liability, social cost of driving includes cost of accidents, but private cost to me does not;
 - ◆ driving imposes negative externality, so I do it too much)
- ◆ So with no liability, injurer's activity level is inefficiently high

What about victims?

- ◆ With no liability, victim bears full cost of accidents
 - ◆ Greater activity by victim (more bike-riding) leads to more accidents
 - ◆ Victim weighs cost of accidents when deciding how carefully to ride, and when deciding how much to ride
 - ◆ (Private cost = social cost)
 - ◆ Victim takes efficient level of precaution, and efficient level of activity
- ◆ A rule of **no liability** leads to an **inefficiently high** level of **injurer activity**, but the **efficient level** of **victim activity**

Benchmark: No Liability

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient

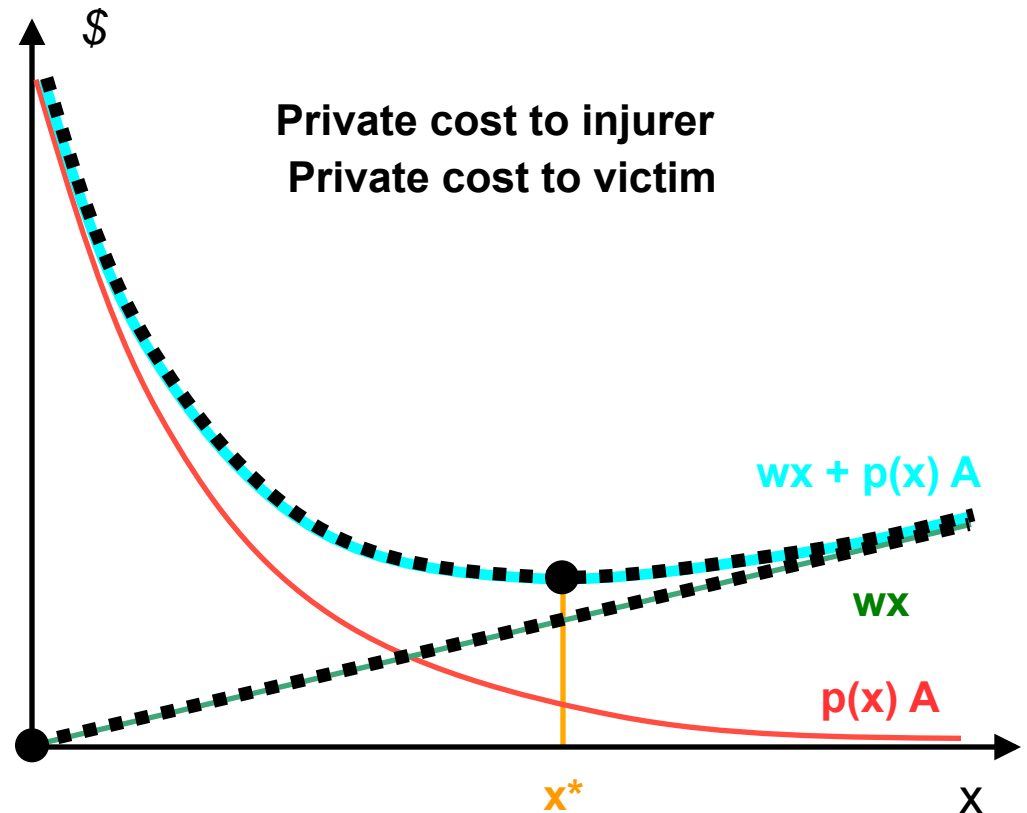
Next: what happens under a
strict liability rule?

Strict Liability

- ◆ Perfect compensation: damages $D = A$
- ◆ Under strict liability...
 - ◆ Injurer pays damages for any accidents he causes
 - ◆ So injurer bears cost of accidents, plus his own precaution
 - ◆ Injurer internalizes externality his actions cause → chooses efficiently
 - ◆ Victim is fully insured, no incentive for precaution

Strict Liability

- ◆ (Damages = A)
- ◆ Injurer's private cost is $p(x)A + wx$
 - ◆ Minimized at efficient precaution level $x = x^*$
- ◆ Victim's private cost is just wx
 - ◆ Minimized at $x = 0$



- ◆ So rule of strict liability leads to **efficient precaution by injurers, no precaution by victims**

Strict Liability

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero		

What about activity level?

- ◆ Under strict liability, injurer internalizes cost of accidents
 - ◆ Weighs benefit from driving against cost of accidents
 - ◆ Takes **efficient activity level**
- ◆ Under strict liability, victim does not bear cost of accidents
 - ◆ Ignores cost of accidents when deciding how much to bike
 - ◆ Sets **inefficiently high activity level**
- ◆ A rule of **strict liability** leads to the **efficiently** level of **injurer activity**, but an **inefficiently high level** of **victim activity**

Strict Liability

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High

So...

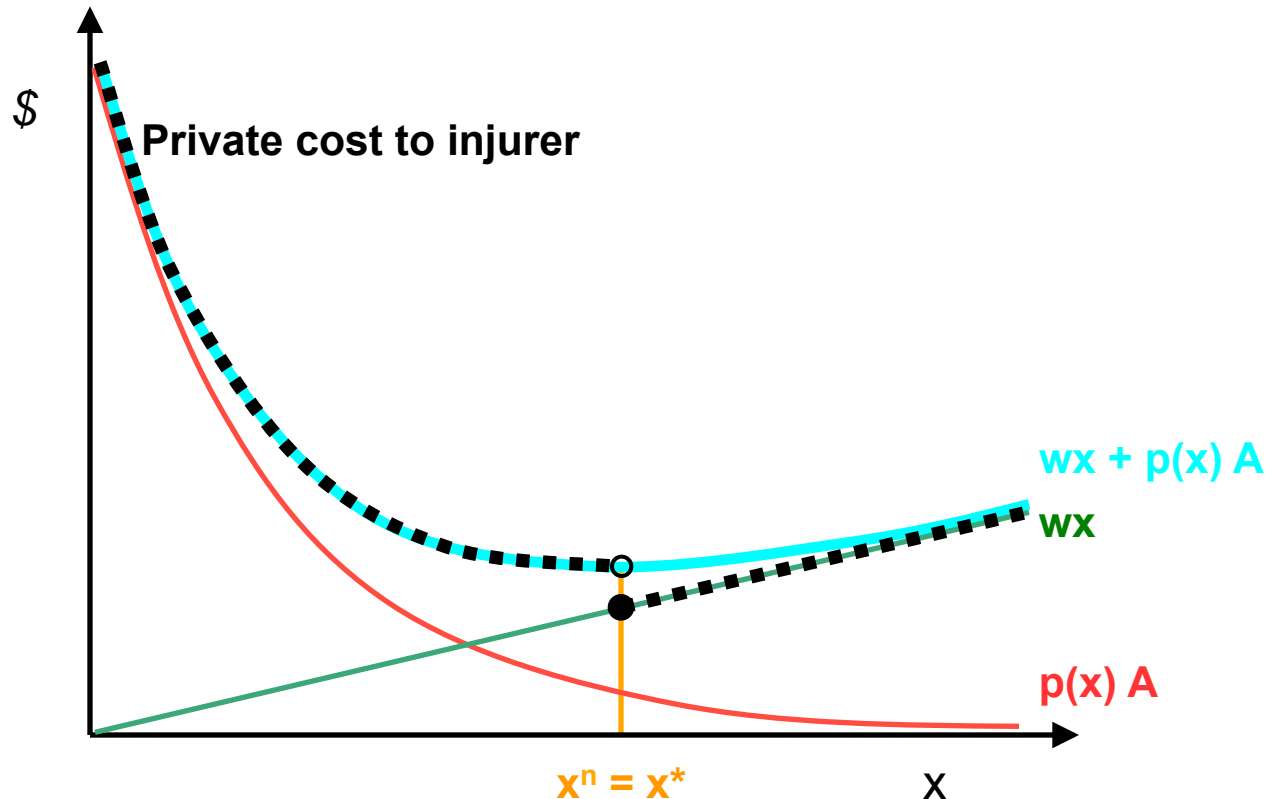
- ◆ For both precaution and activity level...
- ◆ “No liability” leads to inefficient behavior by injurer, efficient behavior by victim
- ◆ “Strict liability” leads to efficient behavior by injurer, inefficient behavior by victim
- ◆ Reminiscent of paradox of compensation
 - ◆ One rule sets multiple incentives...
 - ◆ ...can't get them all right
 - ◆ But in tort law, we have a trick...

Negligence

Negligence Rule

- ◆ Negligence rule: injurer is liable if he breached the duty of due care
- ◆ Within our model:
 - ◆ Legal standard of care x^n
 - ◆ Injurer owes damages if precaution level was below that level
 - ◆ $x < x^n \rightarrow D = A$
 - ◆ $x \geq x^n \rightarrow D = 0$
- ◆ So on our graph from before, private cost to injurer is...
 - ◆ $w x + p(x) A$ for $x < x^n$
 - ◆ $w x$ for $x \geq x^n$
- ◆ Best shot at achieving efficiency is to set $x^n = x^*$

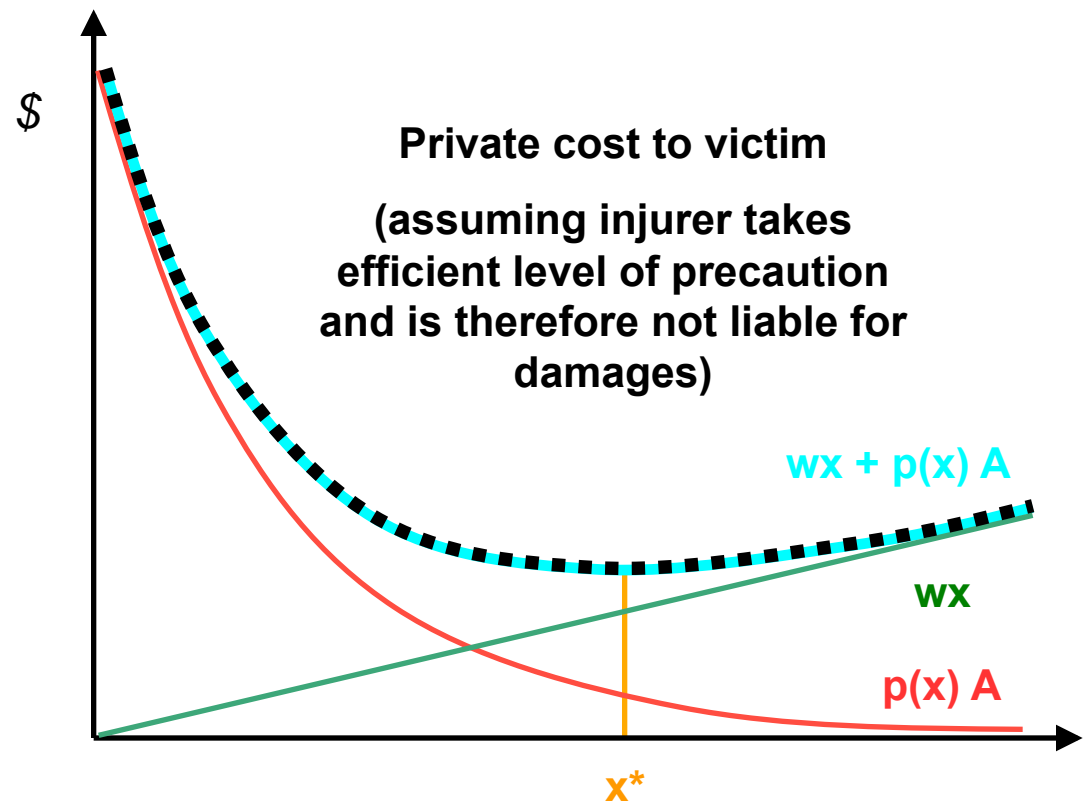
“Simple Negligence”: Injurer precaution



- ◆ Private cost is $w x + p(x) A$ if $x < x^n$, only $w x$ otherwise
- ◆ If standard of care is set efficiently ($x^n = x^*$), injurer minimizes private cost by taking efficient precaution

“Simple Negligence”: Victim precaution

- ◆ What about victim?
- ◆ We just said, injurer will take efficient precaution
- ◆ Which means injurer will not be liable
- ◆ So victim bears costs of any accidents
- ◆ (Victim bears **residual risk**)
- ◆ So victim's private cost is $wx + p(x)A$
- ◆ Victim minimizes private cost by taking efficient level of precaution too!



Simple Negligence

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence, $x^n = x^*$	Efficient	Efficient		

Other negligence rules

- ◆ Rule we just saw is called “simple negligence”
 - ◆ Only consider injurer’s actions in determining liability
- ◆ But we could also consider whether victim was negligent in deciding whether injurer is liable
 - ◆ “Negligence with a defense of contributory negligence” – injurer owes nothing if victim was **also** negligent
 - ◆ “Comparative negligence” – if both were negligent, **share** cost
 - ◆ “Strict liability with defense of contributory negligence” – injurer is liable (even if he wasn’t negligent), **unless** victim was negligent
- ◆ **Any of these rules (with efficient standard of care) will lead to efficient precaution by both parties!**

Discrete example of bilateral precaution

A	\$1,000
w	\$20 for either party
p	10% / 6% / 2%

- ◆ No “levels” of precaution – each party can either take precaution or not
- ◆ Each accident causes \$1,000 of harm
- ◆ Precaution costs \$20 for each party
- ◆ Chance of an accident is
 - ◆ 10% if nobody takes precaution
 - ◆ 6% if one party takes precaution
 - ◆ 2% if both parties take precaution
- ◆ Note that precaution is efficient for both parties
 - ◆ Costs \$20; reduces expected accidents by $4\% \times \$1,000 = \40

Negligence with a Defense of Contributory Negligence

A	\$1,000
w	\$20 for either party
p	10% / 6% / 2%

♦ Injurer is liable if he failed to take precaution...

♦ Unless victim did too

♦ Precaution is always best-response for victim

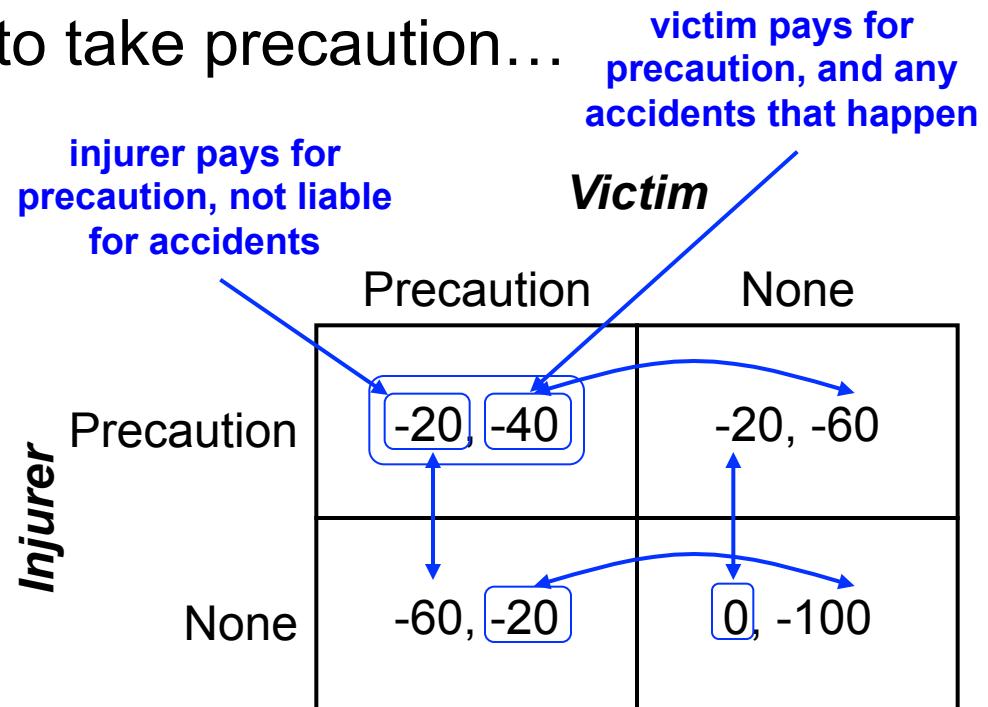
♦ If injurer is not taking precaution, victim wants to avoid liability

♦ If injurer is taking precaution, victim bears residual risk, wants to minimize accidents

♦ For injurer, precaution is the best-response to precaution

♦ **“Both take precaution” is the only Nash equilibrium**

♦ And, is the efficient outcome



Comparative Negligence

A	\$1,000
w	\$20 for either party
p	10% / 6% / 2%

- ◆ If both parties were negligent...
- ◆ ...divide cost proportionally
- ◆ Precaution is again always a best response for victim
- ◆ Now it's a best response for injurer too

		Victim	
		Precaution	None
Injurer	Precaution	-20, -40	-20, -60
	None	-60, -20	-50, -50

- ◆ **Again, “both take precaution” is the only equilibrium**
 - ◆ (And the efficient outcome)

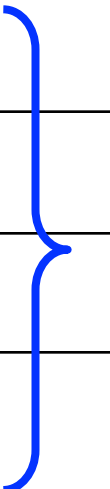
Strict Liability with a Defense of Contributory Negligence

A	\$1,000
w	\$20 for either party
p	10% / 6% / 2%

- ◆ Now, injurer is liable, regardless of whether he took precaution...
- ◆ ...**unless** victim was negligent
- ◆ **Once again, “both take precaution” is the only equilibrium**

		<i>Victim</i>	
		Precaution	None
<i>Injurer</i>	Precaution	<div> <div>-40, -20</div> </div>	-20, -60
	None	-60, -20	<div> <div>0, -100</div> </div>

Negligence

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient	Efficient		assuming all relevant standards of care are set to the efficient levels
Negligence with a Defense of Contributory Negligence	Efficient	Efficient		
Comparative Negligence	Efficient	Efficient		
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient		

What about **activity levels** under a negligence rule?

- ♦ **Simple negligence**: injurer is only liable if he was negligent
- ♦ Leads injurer to take efficient precaution, so **injurer expects to not be liable for any accidents that do occur**
- ♦ So injurer ignores cost of accidents when deciding on activity level (how much to drive)
 - ♦ Injurer drives carefully, but still **drives too much**
- ♦ Victim bears “residual risk”
 - ♦ Victim bikes carefully, and **bikes efficient amount**

Adding activity levels to our results on precaution...

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient	Efficient	Too High	Efficient
Negligence with a Defense of Contributory Negligence	Efficient	Efficient		
Comparative Negligence	Efficient	Efficient		
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient		

Negligence with Defense of Contributory Negligence, and Comparative Negligence

- ◆ Either rule: **efficient precaution** by both parties
- ◆ Either rule: if neither party was negligent, **injurer does not owe damages**
- ◆ So **victim is residual risk bearer** (pays for accidents)
- ◆ So victim weighs cost of accidents against benefits of activity, takes **efficient activity level**
- ◆ Injurer ignores cost of accidents, takes **inefficiently high activity level**

Negligence

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient	Efficient	Too High	Efficient
Negligence with a Defense of Contributory Negligence	Efficient	Efficient	Too High	Efficient
Comparative Negligence	Efficient	Efficient	Too High	Efficient
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient		

Strict Liability with Defense of Contributory Negligence

- ♦ If victim is not negligent, injurer is liable
- ♦ Leads to efficient precaution by both, so injurer is liable
 - ♦ Injurer is residual risk bearer
- ♦ Injurer weighs cost of accidents against benefits of activity, takes **efficient activity level**
- ♦ Victim ignores cost of accidents, takes **inefficient high activity level**

Negligence

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient	Efficient	Too High	Efficient
Negligence with a Defense of Contributory Negligence	Efficient	Efficient	Too High	Efficient
Comparative Negligence	Efficient	Efficient	Too High	Efficient
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient	Efficient	Too High

An easier (perhaps) way to understand all of this

take precaution only
to **AVOID** liability



precaution is **efficient**, but
activity level is **too high**

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
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Negligence with a Defense of Contributory Negligence	Efficient	Efficient	Too High	Efficient
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Strict Liability with Defense of Contributory Negligence	Efficient	Efficient	Efficient	Too High

An easier (perhaps) way to understand all of this

to reduce accidents,
since he bears their cost



precaution and activity level
are **both efficient**

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient	Efficient	Too High	Efficient
Negligence with a Defense of Contributory Negligence	Efficient	Efficient	Too High	Efficient
Comparative Negligence	Efficient	Efficient	Too High	Efficient
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient	Efficient	Too High

With each negligence rule...

- ♦ One party can **avoid liability** by taking efficient precaution
 - ♦ Leads to **efficient precaution**
 - ♦ But **inefficient activity level**
- ♦ Other party is the **residual risk bearer** – even when he takes precaution, he is **still liable**
 - ♦ Leads to **efficient precaution**
 - ♦ And also **efficient activity level**
- ♦ Who should bear residual risk?
 - ♦ One way to answer is to ask **whose activity level** has greater impact on efficiency

So which rule is best?

- ◆ “Put the incentive where it does the most good”
 - ◆ Efficient rule depends on which choices have greatest impact
 - ◆ If only injurer’s choices (precaution + activity) matter → strict liability is better rule
 - ◆ If bilateral precaution → negligence
 - ◆ Which negligence rule – depends whose activity level is more important
- ◆ Friedman (citing Posner): this is why very dangerous activities often covered by strict liability
 - ◆ Blasting with dynamite, keeping a lion as a pet
 - ◆ Even with proper precaution, still very dangerous, so injurer activity level is important

Friedman: activity is just unobservable precaution

- ♦ Activity is just another type of precaution, but type where court can't determine efficient level
 - ♦ Court can tell inefficient for me to drive at night with headlights off
 - ♦ Can't tell how many miles it's efficient for me to drive
- ♦ Determination of negligence can only be based on **observable precaution**, not **unobservable**
 - ♦ Negligence rule leads to efficient levels of **observable precaution** by both parties
 - ♦ Simple negligence leads only to efficient **observable** precaution by injurer, but efficient precaution by victim as well
 - ♦ Strict liability leads to efficient **observable and unobservable** precaution by injurer, but no precaution by victim

What if injurer
is a business?

Steven Shavell, *Strict Liability Versus Negligence*

- ◆ Focuses on **injurer precaution and activity**
- ◆ Compares strict liability to negligence rules
- ◆ Accidents between strangers (what we've been doing):
 - ◆ “Under a negligence rule, all that an injurer has to do to avoid the possibility of liability is to make sure to exercise due care if he engages in his activity.
 - ◆ Consequently he will not be motivated to consider the effect on accident losses of his choice of whether to engage in his activity or, more generally, of the level at which to engage in his activity; he will choose his level of activity in accordance only with the personal benefits so derived.
 - ◆ But surely an increase in his level of activity will typically raise expected accident losses. Thus he will be led to choose too high a level of activity.”

Steven Shavell, *Strict Liability Versus Negligence*

- ◆ Whereas under strictly liability...
 - ◆ “Because an injurer must pay for losses whenever he is involved in an accident, he will be induced to consider the effect on accident losses of both his level of care and his level of activity.
 - ◆ His decisions will therefore be efficient.
 - ◆ Because drivers will be liable for losses sustained by pedestrians, they will decide not only to exercise due care in driving but also to drive only when the utility gained from it outweighs expected liability payments to pedestrians.”
- ◆ (This is exactly what we had already concluded...)

Steven Shavell, *Strict Liability Versus Negligence*

	<i>Injurer Precaution</i>	<i>Injurer Activity</i>
ACCIDENTS BETWEEN STRANGERS		
Simple Negligence	Efficient	Too High
Strict Liability	Efficient	Efficient

Next case: accidents between “sellers and strangers”

- ◆ Injurer is in a competitive business, but **not with victim**
 - ◆ victim is not injurer’s customer, but a stranger
- ◆ Example: taxi drivers
 - ◆ provide service to their passengers
 - ◆ risk hitting other pedestrians
 - victims are *not* their own customers
- ◆ Shavell assumes **perfect competition**
 - ◆ Price = marginal cost of “production”
 - ◆ Sales = number of passengers who demand rides at that price



Accidents between businesses and strangers

◆ Strict liability

- ◆ Taxi drivers pay for accidents, set $x = x^*$ to minimize private cost
- ◆ Perfect competition → cost of remaining accidents is built into price
- ◆ Taxi passengers face price that includes cost of accidents
- ◆ Passengers internalize risk of accidents, demand efficient number of rides

◆ Negligence rule

- ◆ Taxi drivers still take efficient precaution, to avoid liability
- ◆ But since drivers don't bear residual risk, cost of accidents not built into price
- ◆ Passengers face prices that are too low (lower than social cost of a taxi ride)
- ◆ Demand for taxi rides inefficiently high

Steven Shavell, *Strict Liability Versus Negligence*

	<i>Injurer Precaution</i>	<i>Injurer Activity</i>
ACCIDENTS BETWEEN STRANGERS		
Simple Negligence	Efficient	Too High
Strict Liability	Efficient	Efficient
ACCIDENTS BETWEEN BUSINESSES AND STRANGERS		
Simple Negligence	Efficient	Too High
Strict Liability	Efficient	Efficient

Final case: accidents between businesses and their own customers

- ◆ Example: restaurants taking precaution to reduce risk of food poisoning
- ◆ How accurately do customers perceive risks?
 - ◆ 1. Customers can accurately judge **risk of each restaurant**
 - ◆ 2. Customers can accurately judge **average level of risk**, but not differences across restaurants
 - ◆ 3. Customers **ignorant of risks**



Accidents between businesses and their own customers: **strict liability**

- ◆ Seller bears cost of accidents → efficient precaution
- ◆ Seller bears residual risk → expected cost of accidents is built into prices
- ◆ Even if customers don't perceive risk, price leads them to make efficient choices
 - ◆ Price of shellfish = cost of shellfish + expected cost of food poisoning
 - ◆ Even if I don't know that, I buy shellfish when $\text{benefit} > \text{price}$, so I'm forced to choose efficiently

Accidents between businesses and their own customers

	<i>Risk Perception?</i>	<i>Seller Precaution</i>	<i>Buyer Activity</i>
Strict Liability	Yes	Efficient	Efficient
	No	Efficient	Efficient

Accidents between businesses and their own customers: **negligence**

- ◆ Restaurants take efficient precaution, to avoid liability
- ◆ But since they avoid liability, cost of accidents not built into prices
- ◆ If customers perceive risk correctly, no problem
 - ◆ Weigh benefit of meal versus price + expected pain due to food poisoning
 - ◆ Demand efficient number of meals
- ◆ But if customers don't perceive risk, they'll demand inefficiently many dangerous meals

Accidents between businesses and their own customers

	<i>Risk Perception?</i>	<i>Seller Precaution</i>	<i>Buyer Activity</i>
Strict Liability	Yes	Efficient	Efficient
	No	Efficient	Efficient
Negligence	Yes	Efficient	Efficient
	No	Efficient	Too High

Accidents between businesses and their own customers: **no liability**

- ◆ If customers correctly judge risks...
 - ◆ Restaurants take efficient precaution to attract customers
 - ◆ And customers demand efficient number of meals
- ◆ If customers can only judge average level of risk...
 - ◆ Restaurants take no precautions
 - ◆ But customers know this, demand efficient (low) number of meals
- ◆ If customers are oblivious to risk...
 - ◆ Restaurants take no precautions
 - ◆ Cost of food poisoning not built into prices
 - ◆ Customers demand inefficiently high number of meals

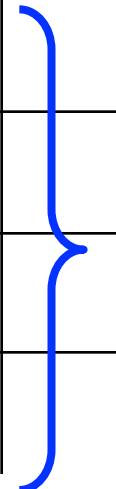
Accidents between businesses and their own customers

	<i>Risk Perception?</i>	<i>Seller Precaution</i>	<i>Buyer Activity</i>
Strict Liability	Yes	Efficient	Efficient
	No	Efficient	Efficient
Negligence	Yes	Efficient	Efficient
	No	Efficient	Too High
No Liability	Yes	Efficient	Efficient
	Average	None	Efficient
	No	None	Too High

Summing up on tort law

- ◆ How to create incentives to avoid accidental harms?
- ◆ Strict liability and negligence rules
- ◆ Simple economic model
 - ◆ unilateral harm
 - ◆ reduce behavior to a one-dimensional choice for each player, how careful to be (“precaution”)
 - ◆ think about effect of liability rule on precaution and on activity levels of both players

We established a whole bunch of results

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient	Efficient		
Negligence with a Defense of Contributory Negligence	Efficient	Efficient		
Comparative Negligence	Efficient	Efficient		
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient		

assuming all relevant standards of care are set to the efficient levels

We established a whole bunch of results

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We established a whole bunch of results

- ◆ These results may look a little overwhelming...
- ◆ ...but they're really applications of just four basic ideas

1. If you don't bear any of the cost of accidents, you have no incentive to prevent them

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero		Too High	
Strict Liability		Zero		Too High
Simple Negligence				
Negligence with a Defense of Contributory Negligence				
Comparative Negligence				
Strict Liability with Defense of Contributory Negligence				

2. If you **do** bear the cost of accidents, you'll do whatever you can to prevent them

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence				
Negligence with a Defense of Contributory Negligence				
Comparative Negligence				
Strict Liability with Defense of Contributory Negligence				

3. If you can avoid liability by exercising due care, you'll do it, but then you won't reduce activity

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
Simple Negligence	Efficient		Too High	
Negligence with a Defense of Contributory Negligence	Efficient		Too High	
Comparative Negligence	Efficient		Too High	
Strict Liability with Defense of Contributory Negligence		Efficient		Too High

4. If the other guy can duck liability with due care, you're the residual risk bearer, and therefore...

	<i>Injurer Precaution</i>	<i>Victim Precaution</i>	<i>Injurer Activity</i>	<i>Victim Activity</i>
No Liability	Zero	Efficient	Too High	Efficient
Strict Liability	Efficient	Zero	Efficient	Too High
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Comparative Negligence	Efficient	Efficient	Too High	Efficient
Strict Liability with Defense of Contributory Negligence	Efficient	Efficient	Efficient	Too High

We also discussed case where injurer is a business

- ◆ Following Shavell article, focused on injurer precaution and “market” activity level
- ◆ Both strict liability and negligence lead to efficient precaution
 - ◆ SL: owner wants to reduce accidents, since he has to pay for them
 - ◆ Negligence: owner can avoid liability by exercising due care
- ◆ But they can lead to different activity levels
 - ◆ SL: residual risk gets incorporated into price
 - ◆ Leads to efficient activity level, whether victim is customer or stranger and whether or not he understands risk
 - ◆ Negligence: residual risk is not built into price
 - ◆ Leads to inefficiently high activity level if victim is not the business’s customer or doesn’t perceive risk correctly

Case where injurer is a business: example

♦ Example: taxi drivers

- ♦ Marginal cost (before liability) is \$10
- ♦ No precaution: 1 in 1,000 chance of \$5,000 accident
- ♦ With precaution: 1 in 5,000 chance, but costs \$2 more

♦ Strict liability

- ♦ Cost to cabbie: \$15 ($10 + 5$) without precaution, versus \$13 ($10 + 1 + 2$) with precaution
- ♦ Cab driver takes precaution because it saves him \$2
- ♦ Cab fare set at \$13 (perfect competition)
- ♦ Demand is “all customers who value cab ride more than \$13”
- ♦ Since social cost of cab ride is \$13, this is efficient activity

Case where injurer is a business: example

♦ Example: taxi drivers

- ♦ Marginal cost (before liability) is \$10
- ♦ No precaution: 1 in 1,000 chance of \$5,000 accident
- ♦ With precaution: 1 in 5,000 chance, but costs \$2 more

♦ Negligence rule

- ♦ Cost to cabbie: still \$15 ($10 + 5$) without precaution...
- ♦ But now \$12 ($10 + 2$) with precaution, because cab driver isn't liable if he takes precaution
- ♦ Cab driver takes precaution, because it saves him \$3
- ♦ Cab fare now set at \$12 (perfect competition), excludes risk
- ♦ Demand is "all customers who value cab ride more than \$12"
- ♦ Social cost of cab ride is still \$13, so activity inefficiently high

What we found

*risk
perception?*

*injurer
precaution*

*activity
level*

Accidents between businesses and *STRANGERS*

Strict Liability		efficient	efficient
Simple Negligence		efficient	too high

Accidents between businesses and *THEIR OWN CUSTOMERS*

Strict Liability	yes	efficient	efficient
	no	efficient	efficient
Simple Negligence	yes	efficient	efficient
	no	efficient	too high

Next up...

- ◆ How do we determine legal standard for negligence?
- ◆ What happens if we get it wrong?
- ◆ What happens when the world is more complicated than we've been imagining so far?

Due Care and the Hand Rule

Setting the legal standard of care

- ◆ We've been assuming $x^n = x^*$
 - ◆ court could set legal standard for avoiding negligence equal to efficient level of precaution
- ◆ In some cases, this is what court actually tries to do
 - ◆ “Hand Rule”
 - ◆ **U.S. v Carroll Towing** (1947, U.S. Court of Appeals)

Setting the legal standard of care

- ◆ **U.S. v Carroll Towing** (1947, U.S. Court of Appeals)

- ◆ Several barges secured together to piers
- ◆ Defendant's tugboat was hired to tow one out to harbor
- ◆ Crew readjusted lines to free barge
- ◆ Adjustment done incorrectly, one barge broke loose, collided with ship, sank
- ◆ Barge owner sued tugboat owner, saying his employees were negligent
- ◆ Tug owner claimed barge owner was also negligent for not having an agent on board the barge to help



- ◆ **Question: was it negligent to not have a “bargee” on board?**

“The Hand Rule”

- ◆ Judge Learned Hand, in Carroll Towing decision:

“It appears... that there is no general rule...

Since there are occasions when every vessel will break away from her moorings, and since, if she does, she becomes a menace to those around her; the owner's duty... to provide against resulting injuries is a function of three variables:

(1) the probability that she will break away; (2) the gravity of the resulting injury, if she does; (3) the burden of adequate precautions.

Perhaps it serves to bring this notion into relief to state it in algebraic terms:

if the probability be called P ; the injury, L ; and the burden, B ;

liability depends upon whether **B is less than L multiplied by P .**”

“The Hand Rule”

- ◆ Failure to take a precaution constitutes negligence if

$$\begin{array}{ccccc} & \text{B} & < & \text{L} \times \text{P} & \\ \nearrow & & & \uparrow & \nwarrow \\ \text{cost of precaution} & & & \text{cost of accident} & \text{probability of accident} \end{array}$$

- ◆ So a particular precaution is required to avoid liability if it is **cost-justified** – its cost is less than its benefit
- ◆ Or, a precaution is required to avoid liability if taking it would have been efficient
 - ◆ Hand Rule: “If a precaution is efficient, then you’re negligent if you didn’t take it.”

“The Hand Rule”

- ◆ Hand rule: precaution is required to avoid negligence if
Cost of precaution $<$ reduction in accidents \times size of accident
- ◆ Having/not having a bargee is discontinuous (yes/no)
- ◆ But if precaution were a continuous variable, we could think of these as **marginal costs/benefits**...
 - ◆ Cost is w (marginal cost of precaution)
 - ◆ Reduction in accidents is $-p'(x)$
 - ◆ Size of accidents is A
 - ◆ Hand Rule says, if $w < -p'(x) A$, you were negligent, because more precaution would have been efficient

Two difficulties in establishing legal standards for negligence

- ◆ American courts have misapplied Hand Rule
 - ◆ To calculate efficient level of precaution, reduction in harm should be based on **total social cost** of an accident
 - ◆ Should include harm to victim (“**risk to others**”) and to injurer himself (“**risk to self**”)
 - ◆ Courts have tended to only count “risk to others” when calculating benefit of precaution
- ◆ Hindsight bias
 - ◆ After something happens, we assume it was likely to occur
 - ◆ Hard to get unbiased estimate of probability after something happens – likely to overestimate

Effect of Errors

Strict liability versus negligence

- ◆ Negligence rules lead to efficient precaution by both sides
- ◆ But strict liability leads to efficient activity level by injurers
- ◆ Over course of 1900s, strict liability rules became more common – especially for U.S. manufacturers
- ◆ **Why?**

Strict liability versus negligence: information

- ◆ Relatively easy to prove harm and causation
- ◆ Harder to prove negligence
- ◆ If negligence is hard enough to prove, injurers might avoid liability altogether...
- ◆ ...in which case they have no incentive to take precaution
- ◆ “Negligence requires **me** to figure out the efficient level of care for Coca-Cola; strict liability only requires **Coca-Cola** to figure out the efficient level of care”

Errors and uncertainty in evaluating damages

◆ Random mistakes

- ◆ Damages could be set too high or too low, but on average are correct
- ◆ Textbook calls these **uncertainty**

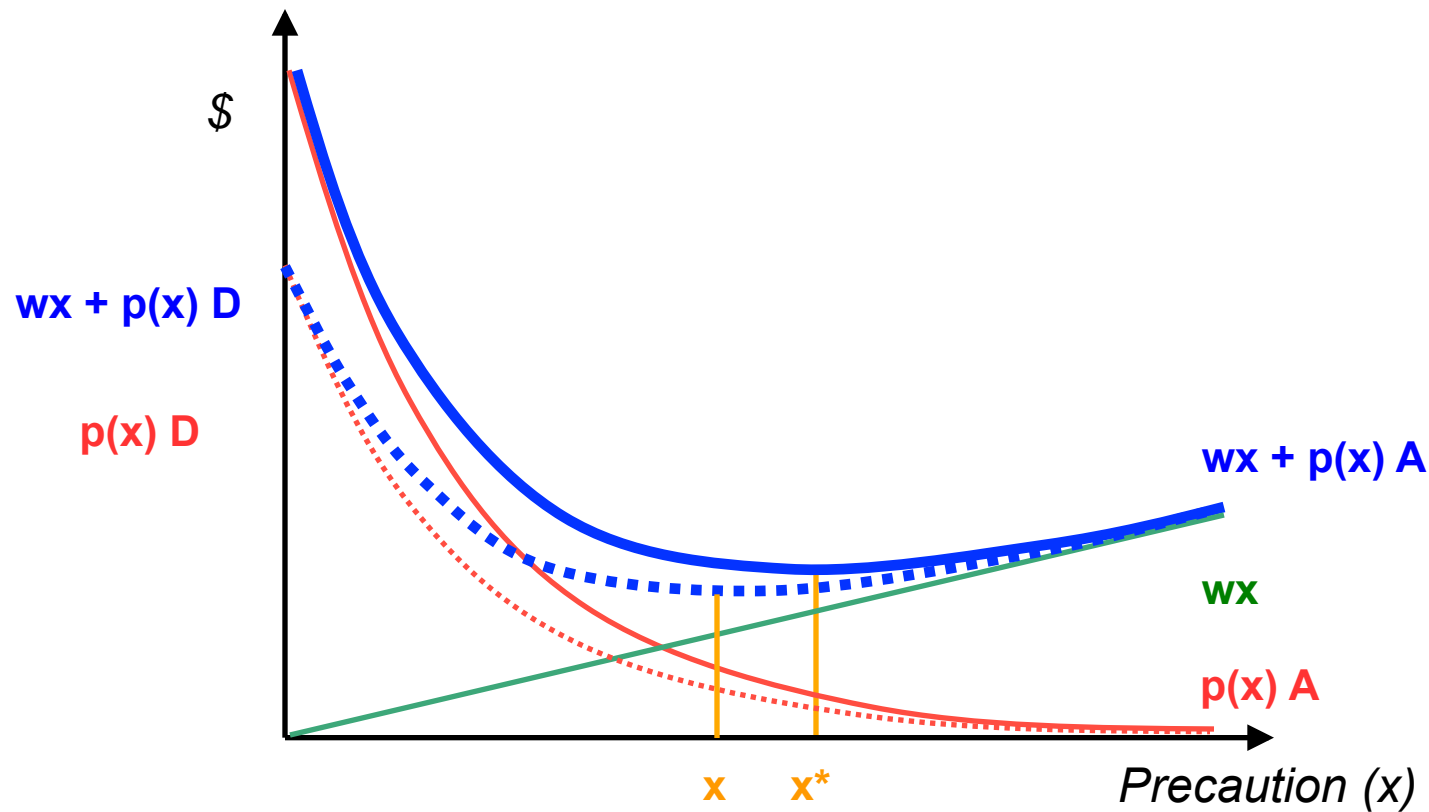
◆ Systematic mistakes

- ◆ Damages are set incorrectly on average – consistently too high, or consistently too low
- ◆ Textbook calls these **errors**

Effect of errors and uncertainty under **strict liability**

- ◆ Strict liability rule: injurer minimizes $w x + p(x) D$
 - ◆ Perfect compensation: $D = A$
 - ◆ Leads injurer to minimize social cost $w x + p(x) A$
- ◆ Under strict liability, **random errors in damages have no effect on incentives**
 - ◆ Injurer only cares about **expected** level of damages
 - ◆ As long as damages are right on average, injurers still internalize cost of accidents, set **efficient levels of precaution and activity**

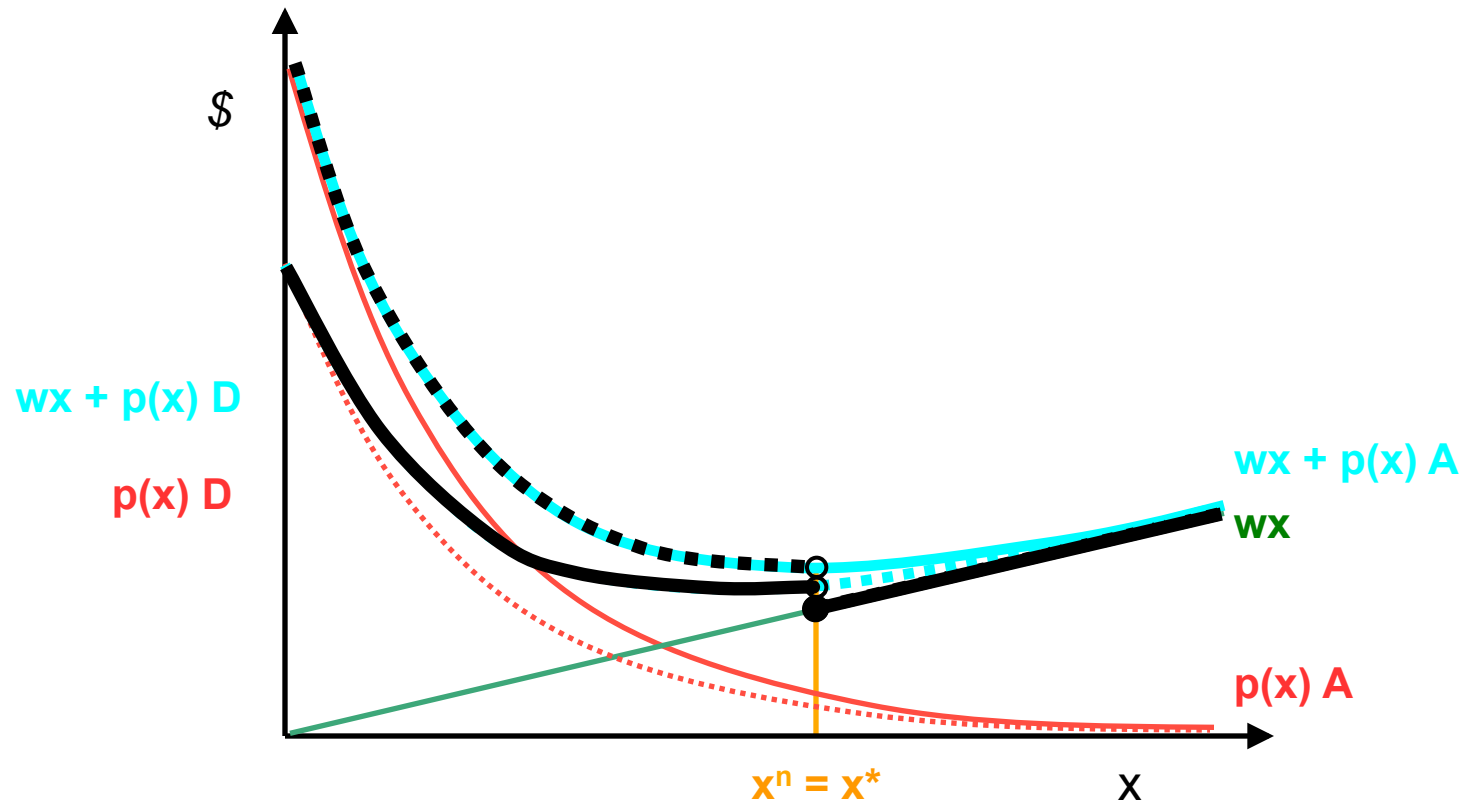
Effect of errors and uncertainty under **strict liability**



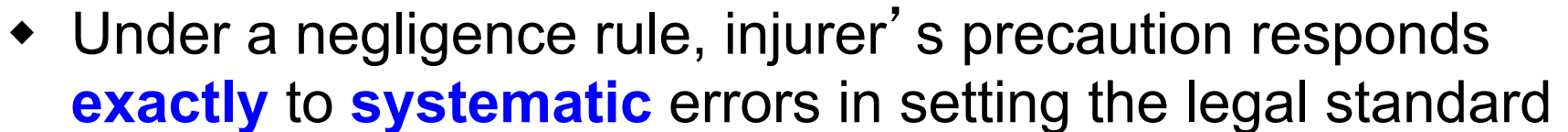
Effect of errors and uncertainty under **strict liability**

- ◆ Under strict liability:
 - ◆ random errors in setting damages have no effect
 - ◆ systematic errors in setting damages will skew the injurer's incentives
 - if damages are set too low, precaution will be inefficiently low
 - if damages are set too high, precaution will be inefficiently high
 - ◆ failure to consistently hold injurers liable has the same effect as systematically setting damages too low
 - if not all injurers are held liable, precaution will be inefficiently low

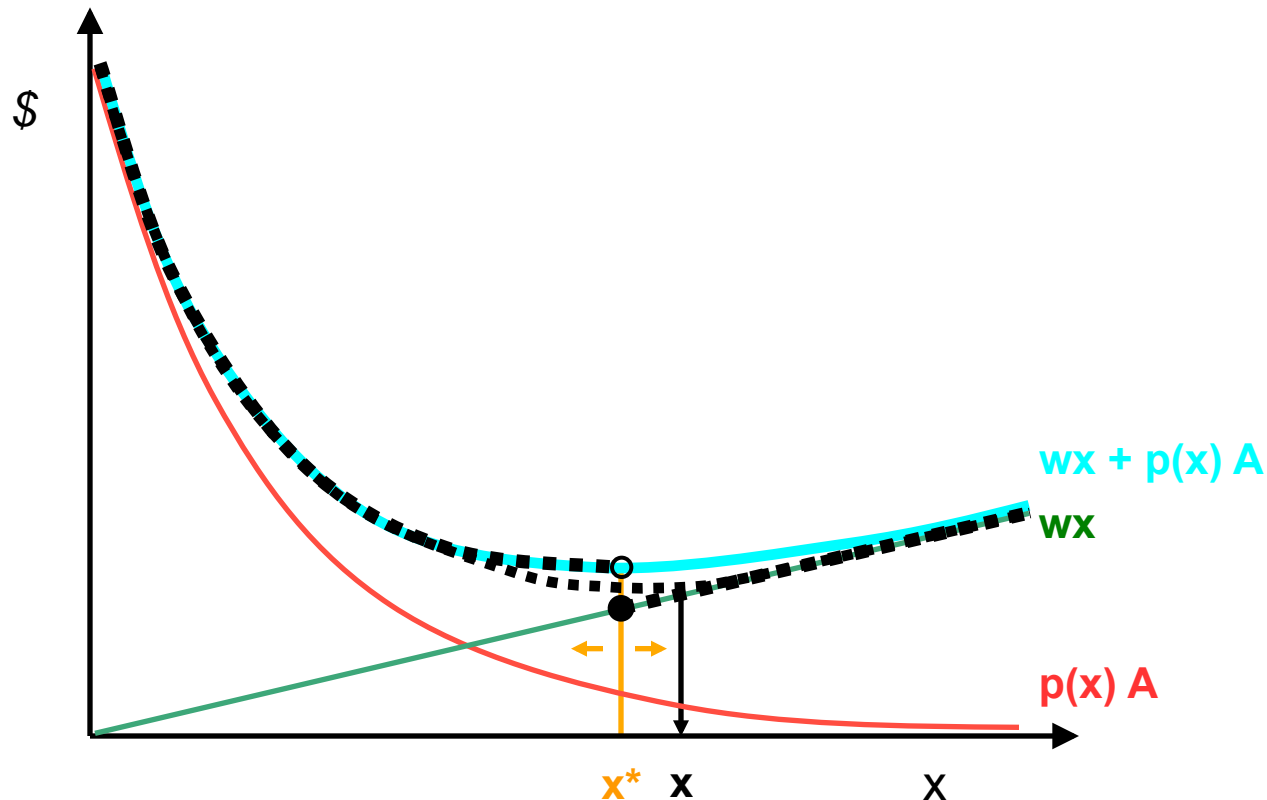
What about under a **negligence** rule?



- Under a negligence rule, **small errors in damages have no effect on injurer precaution**



What about random errors in setting x^n ?



- Under a negligence rule, **random** errors in the legal standard of care lead to **increased injurer precaution**

To sum up the effects of errors and uncertainty...

- ◆ Under strict liability:
 - **random** errors in setting damages have **no effect**
 - **systematic** errors in setting damages will skew the injurer's incentives in the same direction
 - failure to consistently hold injurers liable lead to less precaution
- ◆ Under negligence:
 - **small** errors, random or systematic, in setting damages have no effect
 - systematic errors in the legal **standard of care** have a one-to-one effect on precaution
 - random errors in the legal standard of care lead to more precaution
- ◆ So...
 - when court can assess **damages** more accurately than **standard of care**, strict liability is better
 - when court can better assess standards, negligence is better
 - when standard of care is vague, court should err on side of leniency

What about relative administrative costs of the two systems?

- ◆ Negligence rules lead to longer, more expensive trials
 - ◆ Simpler to just prove harm and causation
- ◆ But negligence rules lead to fewer trials
 - ◆ Not every victim has a case, since not every injurer was negligent
- ◆ Unclear which system will be cheaper overall

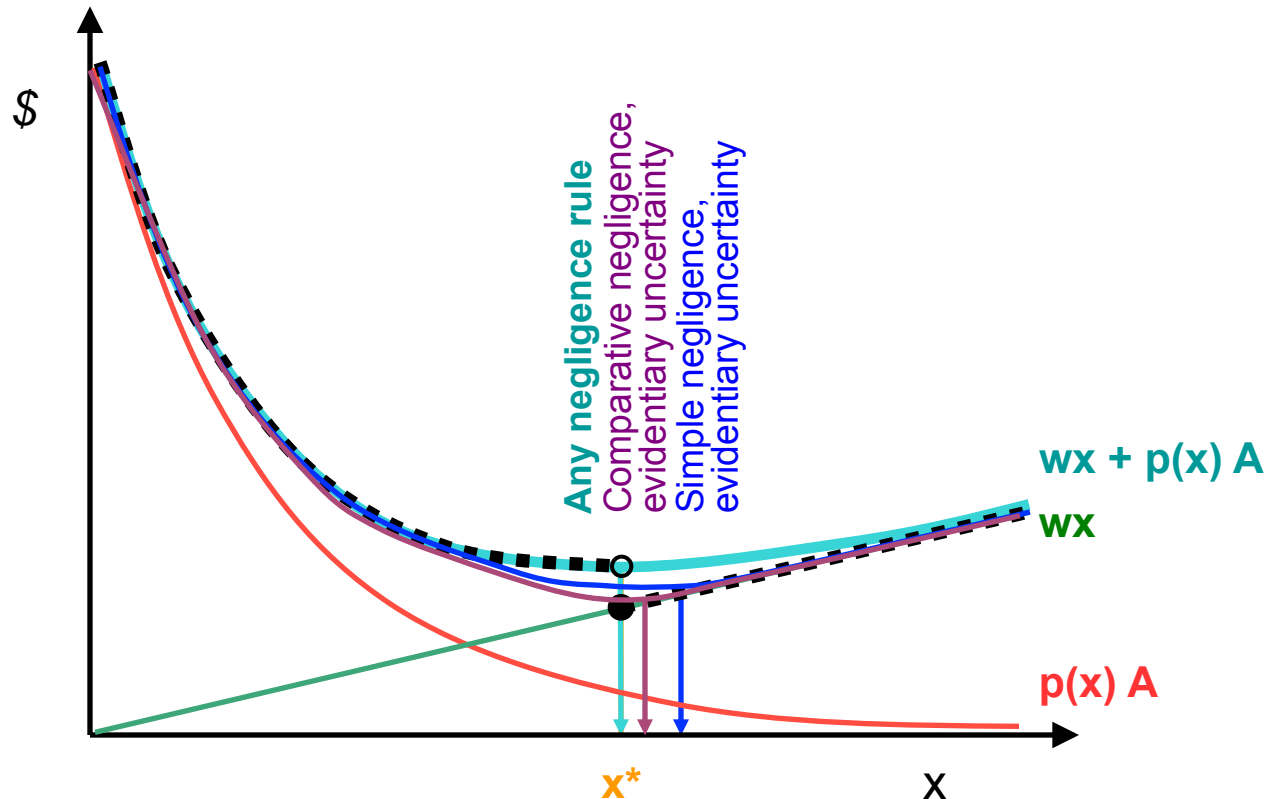
One other point having to do with errors

- ◆ **Negligence with a defense of contributory negligence** was dominant liability rule in common law countries
 - ◆ Negligent injurer is liable, unless victim was also negligent
 - ◆ Example: a car going 60 mph hits a car going 35 in a 30-mph zone
 - ◆ Since victim was also negligent, injurer is not liable
- ◆ Last 40 years, most U.S. states have adopted a **comparative negligence** rule
 - ◆ Usually through legislation, sometimes through judicial decision
 - ◆ Appealing from fairness point of view
 - ◆ But any negligence rule leads to efficient precaution
 - ◆ So how do we explain the move?

Comparative Negligence and Evidentiary Uncertainty

- ◆ **Evidentiary uncertainty**
 - ◆ Given a legal standard for negligence, x^n ...
 - ◆ ...and an actual level of precaution taken, x ...
 - ◆ still uncertainty in whether the court will find negligence
- ◆ Evidentiary uncertainty, like random errors in setting x^n , leads to over-precaution...
- ◆ ...but comparative negligence partly mitigates this

Comparative negligence and evidentiary uncertainty



- ◆ Comparative negligence mitigates effect of evidentiary uncertainty

Does it all
matter?

Gary Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*

- ◆ Reviews a wide range of empirical studies
- ◆ Finds: tort law does affect peoples' behavior, in the direction the theory predicts...
- ◆ ...but not as strongly as the model suggests

Gary Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*

- ♦ Reviews a wide range of empirical studies
- ♦ Finds: tort law does affect peoples' behavior, in the direction the theory predicts...
- ♦ ...but not as strongly as the model suggests
- ♦ Most academic work either...
 - ♦ took the model literally, or
 - ♦ pointed out reasons why model was wrong and liability rules might not affect behavior at all
- ♦ Schwartz: the truth is somewhere in between

Gary Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*

“Yet between the economists’ strong claim that tort law systematically deters and the critics’ response that tort law rarely if ever deters lies an intermediate position:

tort law, while not as effective as economic models suggest, may still be somewhat successful in achieving its stated deterrence goals.

...The information [in various studies] suggests that the strong form of the deterrence argument is in error. Yet it provides support for that argument in its moderate form: sector-by-sector, tort law provides something significant by way of deterrence.”

Gary Schwartz, *Reality in the Economic Analysis of Tort Law: Does Tort Law Really Deter?*

“Much of the modern economic analysis, then, is a worthwhile endeavor because it provides a stimulating intellectual exercise rather than because it reveals the impact of liability rules on the conduct of real-world actors.

Consider, then, those public-policy analysts who, for whatever reason, do not secure enjoyment from a sophisticated economic proof – who care about the economic analysis **only** because it might show how tort liability rules can actually improve levels of safety in society.

These analysts would be largely warranted in ignoring those portions of the law-and-economics literature that aim at fine-tuning.”

Review and Comments on Tort Law

2,1

- ◆ Tort law is concerned with accidental injuries. Its purposes are twofold: to compensate victims and to deter unreasonably dangerous behavior. The economic theory of tort law emphasizes deterrence.
- ◆ Tort law is a private remedy that must be initiated by the victim. To recover damages, the victim must prove that he or she sustained damages and that the injurer caused those damages. Once the victim proves causation, the court applies the relevant liability rule.

2,2

- ♦ A *strict liability* rule holds the defendant liable for the victim's damages once the victim proves causation. A *negligence rule* requires the victim to further prove that the defendant was at fault—that is, that he or she failed to take reasonable care to avoid the accident.
- ♦ The economic theory of tort law is based on the idea that liability for accidental injuries should be assigned so as to minimize the expected costs of accidents, including the harm suffered by victims, the cost of precautions by injurers and victims, and the litigation costs of assigning liability.

2,3

- ♦ The model of precaution determines the level of precaution by injurers and victims that minimizes the sum of the costs of precaution and expected damages. While explicitly a model of accidents, it will be seen that the model of precaution provides a unifying theoretical framework for the economic approach to law.
- ♦ In the model where only injurers can take care (the unilateral care model), both strict liability and negligence induce the injurer to take efficient care. In the case of negligence, this requires that the due standard of care be set equal to the injurer's optimal (cost-minimizing) care level.

2,4

- ◆ In the model where both injurers and victims take care (the bilateral care model), only negligence achieves efficient care by both parties. It does this by setting a due standard for the injurer to avoid liability, and imposing the actual damages on the victim.
- ◆ The Hand Rule provides a legal standard for determining when an injurer (or victim) is negligent. The marginal version of the Hand Rule specifies a standard for care that coincides with the efficient level of care.

2,5

- ♦ Several versions of the negligence rule achieve the efficient outcome in bilateral care accidents, provided that the due care standard (or standards) is properly set.
- ♦ Sequential care accidents (accidents in which the injurer and victim move in sequence) create more difficult incentive problems, especially with regard to the incentives of the party moving second in the presence of observed negligence by the party that moved first. The doctrine of last clear chance responds to this problem by imposing a duty to take care on the second mover (whether the injurer or the victim), regardless of the first mover's behavior.

2,6

- ♦ Comparative negligence apportions liability according to relative fault. Thus, many see it as fairer than all-or-nothing liability rules. Comparative negligence achieves efficient bilateral incentives as long as it allows injurers to avoid liability by meeting the due standard of care.
- ♦ Tort law contains two notions of causation: *cause-in-fact*, which says that an injurer caused an accident if the accident would not have occurred “but for” the injurer’s actions; and *proximate cause*, which says that the connection between the injurer’s action and the resulting accident must have been foreseeable to a reasonable person.

2,7

- ♦ In addition to choosing precaution, injurers and victims also choose how intensively or frequently to engage in a risky activity. This is referred to as their *activity level*. None of the standard negligence rules simultaneously provides incentives for efficient care and activity by both injurers and victims.
- ♦ *Punitive damages* are damages assessed on top of compensatory damages as a way of punishing an injurer for actions seen as intentional or reckless. The economic theory of punitive damages says that they are intended to compensate for imperfect detection of an injurer's negligence.

2,8

- ◆ Incentives for efficient care under the various liability rules are diluted by several factors, including insufficient wealth to pay damages (the judgment-proof problem), liability insurance, costly litigation, and legal error.
- ◆ A *statute of limitation* for tort claims balances the reduced incentives for injurer care against the cost of litigating liability claims.

2,9

- ♦ Economists have developed several methods for calculating the dollar losses suffered by victims of an accident. None is perfect, however, owing to the difficulty of assigning a dollar value to personal injuries or non-market goods.

Disc. 2,1

The analysis of tort law in this chapter focused on its deterrence function; that is, on the incentives tort liability creates for injurers (and victims) to take all reasonable precautions to avoid accidents. A second function of tort law, to compensate victims for their losses, acts as a form of social insurance against risk. In some cases, these two functions of tort law are compatible. For instance, in the unilateral accident model, strict liability both induces efficient care by injurers and fully compensates victims. However, when victims can also take care, strict liability blunts the incentives for victims to take care. When this is true, the deterrence and compensation functions of tort law are in conflict. Market insurance creates the same sort of moral hazard problem for those covered by insurance. Thus, insurance companies often include deductibles--that is, clauses requiring insureds to pay the first, say \$500, of any loss--in an effort to mitigate the moral hazard hazard problem.

Disc. Ch.2,2

Many have argued that the expansion of tort liability in areas like products liability reflects the superior ability of manufacturers to insure against product accidents compared to consumers.

Others have argued, however, that market insurance is superior to tort liability in performing this function, and tort law should therefore focus on deterrence.

Disc. Ch.2,3

In order for a victim of an accident to assert a tort claim, she must prove that she sustained damages, that the injurer was both cause-in-fact and proximate cause of the harm, and in the case of a negligence rule, that the injurer failed to take due care.

The victim does *not* have to prove that the injurer intentionally caused the accident.

Disc. Ch.2,4

The economic model of tort law suggested several bases for choosing between strict liability and negligence:

(a) Negligence is preferred when the court errs in measuring the victim's damages. As long as the court sets the correct due standard, the injurer will have an incentive to take care provided that damages are not set too low.

Disc. Ch.2,5

(b) Conversely, when the court makes errors in setting the due standard, strict liability is preferred. Under this rule, the court does not have to determine efficient care; it only has to calculate the victim's damages.

(c) Negligence is preferred when victim care is important because, while victims have an incentive to choose efficient care under negligence (given that the injurer has met the due standard), they have no incentive to do so under strict liability.

Disc. Ch.2,6

(d) A party will only choose the efficient activity level if he or she faces full liability in equilibrium. Thus, when the injurer's activity level is important, strict liability is preferred over negligence.

Disc. Ch.2,7

4. (a) Courts determine cause-in-fact using the “but-for” test. Thus, party A is cause-in-fact of an accident if the accident would not have occurred but-for A’s action.

(b) The train’s negligence would not be cause-in-fact of the victim’s injuries in this case because it fails the but-for test. Specifically, the court ruled that the train would have hit the car even if it had been traveling at the slower speed. Thus, its excessive speed did not cause the collision. (See *Perkins v. Texas and New Orleans Ry. Co.*, 243 La. 829, 147 So.2d 646 (1962).)

Disc. Ch.2,8

5. As argued in the text, a statute of limitations for tort suits balances offsetting effects. On one hand, a shorter statute inhibits deterrence by shielding injurers from some of the damages that they cause, but on the other, it saves on litigation costs and the costs of legal error. It follows that, as the relative importance of deterrence increases, the statute should be lengthened. Thus, in the limit, the optimal statute is infinite for acts that should be completely deterred (like murder).

Ch.3,1

- ◆ Products liability is the area of tort law concerned with accidents caused by dangerous or defective consumer products.
- ◆ Products liability in the U.S. was originally part of contract law. Under the old doctrine of *privity*, victims of product-related accident could only file suit against the immediate seller of the product. This effectively insulated most manufacturers from liability.

Ch.3,2

- ♦ Throughout the twentieth century, products liability gradually became a part of tort law, and manufacturers eventually became strictly liable for damages caused by defective products.
- ♦ An economic model of products liability shows that, in theory, price, quantity, and care levels will all be efficient in a competitive market equilibrium, regardless of the liability rule. This is a consequence of the Coase Theorem.

Ch.3,3

- ◆ More realistically, however, consumer misperceptions of risk and the inability of manufacturers to monitor consumer care impede the attainment of an efficient equilibrium. Economic theory suggests that strict liability with a defense of contributory negligence achieves the most efficient outcome.
- ◆ Employers are strictly liable, by statute, for injuries suffered by their employees under workers' compensation laws. Employers are also liable for injuries caused by their employees under the doctrine of *respondeat superior*. This shifting of liability need not lead to insufficient care by workers if employers can monitor their employees' actions.

Ch.3,4

- ♦ Environmental accidents present some unique problems for tort law, including multiple victims, dispersed costs, and causal uncertainty. For this reason, liability for these accidents is generally governed by a rule of strict liability under CERCLA (the Comprehensive Environmental Response, Compensation, and Liability Act).
- ♦ Medical malpractice claims are governed by negligence law, with a due standard based on “customary practice.” Further, under the *doctrine of informed consent*, physicians must inform patients of the risks involved in a particular treatment.

Ch.3,5

- ♦ An important question in the area of medical malpractice is whether the threat of liability causes physicians to practice *defensive medicine*, defined to be care beyond the efficient level.

Disc. Ch.3,1

The existence of a contractual (or market) relationship between two parties who may become injurer and victim is important because it allows them to bargain with each other before an accident occurs. Ideally, this means that they will make efficient care choices and liability assignments regardless of the background rule of law. (This is an illustration of the Coase Theorem.)

Such bargaining is obviously not feasible in accident settings involving strangers, in which case the liability rule matters for efficiency. The liability rule will also matter in market settings when there are impediments to bargaining or other forms of market failure (such as consumer misperceptions).

Disc. Ch.3,2

As just noted, the existence of a contractual relationship between an injurer and victim does not guarantee that they will make efficient decisions regarding precaution prior to an accident.

Contracts will fail to achieve efficient safety levels, for example, if the parties are asymmetrically informed about the risk of an accident, if they have unequal bargaining abilities, or if there are costs of bargaining.

When these forms of market failure are present, the liability rule plays an important role in achieving an efficient outcome.

Disc. Ch.3,3

The privity doctrine in products liability law only permitted victims of product-related accidents to sue the immediate seller of the product, who often was not the manufacturer. In the case of simple products whose attributes are easily observable, consumers are probably at least as good at preventing accidents as manufacturers. Further, a well-functioning market can effectively shift liability to the manufacturer even when it is not directly liable. In such a world, the privity doctrine may have been an efficient rule for assigning risk and for limiting litigation costs.

However, as products become more complex and information about risk less available to consumers, markets are not good at shifting risk, and privity serves primarily to insulate manufacturers from liability. Thus, abandonment of the doctrine in the twentieth century was probably a move in the direction of efficiency.

Disc. Ch.3,5

Tort law represents a private remedy for harms, which requires that victims initiate the process by filing a lawsuit.

In damage settings where the harm is dispersed, so no one individual finds it worthwhile to bear the cost of a suit, or if the cause of the harm is uncertain, tort law is not good remedy.

Both of these problems plague victims of environmental harm, which is why public regulation is often used, in conjunction with the common law, to control environmental damages.