

Dis 7: Tort Law[†]

1 Basics

- Languages of tort law:
 - **Tort**: Meaning injury or harm in French.
 - **Tort law**: Area of law that deals with injury / harm / accidents; specifically, tort law deals with situations where someone harms you without having made any promises beforehand.
 - **Plaintiff**: The party bringing a lawsuit (also known as a **victim**).
 - **Defendant**: The party being sued in a lawsuit (also known as an **injurer**).
- Components of tort law:
 - **Harm**: The plaintiff (victim) must suffer from being harmed (incurred a downward shift in victim's utility level set).
 - * Harm can be **tangible** (property damage) or **intangible** (emotional damage). Though courts often are hesitant to award damages for intangible harms.
 - * **Perfect compensation**: Restore victim to the level of utility before harm.
 - **Causation**: The defendant needs to have caused harm to the plaintiff.
 - * **Cause-in-fact**: But-for test
("But for the defendant's actions, would the harm have occurred?")
 - * **Proximate cause**: Actions by the defendant cannot be too distant in the past.
 - **Breach of duty (fault)**: It must be shown that the defendant breached a duty he owed to the plaintiff, and that this breach led to the harm.
 - * Requisite standards of care may be explicitly specified by the law, or they may be vague (ex. reasonable care).
 - * One way to determine level of due care: **whatever care level that is efficient**
⇒ **The Hand rule** (by Judge Learned Hand in 1947): a party should be considered negligent whenever

$$\underbrace{B}_{\text{burden (costs of precaution)}} < \underbrace{P}_{\text{probability of accident}} \times \underbrace{L}_{\text{liability (costs of accident)}}$$

Thinking in terms of margins:

$$\underbrace{w}_{\text{marginal (additional) cost of precaution}} < \underbrace{-p'(x)}_{\text{reduction in the prob of harm}} \times \underbrace{A}_{\text{harm done in the accident}=L}$$

which is equivalent to the problem of finding the efficient level of precaution $x = x^*$.

[†]Adapted from Jonathan Becker's Fall 2018 handout

2 Accidents Between Strangers

- Various liability rules:
 - **No liability:** Neither the victim nor the injurer pays for an accident.
 - **Strict liability:** The injurer pays damages for any accidents they cause.
 - **Simple negligence:** Injurer is only liable if they breached the duty of due care.
 - **Negligence with a defense of contributory negligence:** Injurer owes nothing if the victim was also negligent.
 - **Comparative negligence:** If both parties were negligent, the cost is shared between defendant and plaintiff.
 - **Strict liability with defense of contributory negligence:** The injurer is liable (even if they weren't negligent), unless the victim was negligent.
- Comparing efficient precaution and efficient level of activity for liability rules:

	Injurer's Precaution	Victim's Precaution	Injurer's Activity	Victim's Activity
No liability	None	Efficient	Too high	Efficient
Strict liability	Efficient	None	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

The above results follow from the following four principles:

1. If you don't bear any of the cost of accidents, you have no incentive to prevent them.
2. If you do bear the cost of accidents, you'll do whatever you can to prevent them.
3. If you can avoid liability by exercising due care, you'll do it, but then you won't reduce activity.
4. If the other party can avoid liability through due care, you're the residual risk bearer, and you therefore exercise efficient precaution and engage in the efficient level of activity.

3 Problems

1. Suppose that I own a house, and it is my duty to shovel the sidewalk when it snows. Shoveling reduces the risk of a bike accident on the sidewalk from $1/10$ to $1/100$, but it costs me \$5. A biker can choose to wear a helmet or not wear a helmet. Wearing a helmet costs a biker \$3, but reduces the cost of a bike accident from \$1000 to \$500.

(a) What is the efficient level of precaution for me and the biker to take?

(b) What levels of precaution will the biker and I choose to take under:

i. A rule of no liability?

ii. Strict liability?

iii. Simple negligence?

iv. Negligence with a defense of contributory negligence?

v. Comparative negligence?

vi. Strict liability with defense of contributory negligence?

2. (From Summer 2019 Final Exam)

In June, Madison BCycle starting renting electric-assist bicycles instead of regular pedal-powered bicycles. Consider a new e-bike rental service planning to enter the market. They are choosing between three models of electric bikes, with different top speeds: model A is the slowest, model B is faster, and model C is even faster. Faster, more powerful e-bikes are more expensive and more dangerous, but also more valuable to customers: if a customer gets value of X per month from a bike rental service offering model A, they get $X + \$7$ in value from model B, and $X + \$20$ from model C, before accounting for the higher risk of an accident. (Different customers have “different X ” – different values of any bike service – but agree on the relative values of the different bike models.)

The value, costs, and risks associated with each model (for “customer X ”) are summarized here:

Bike model	Top speed	Value to consumer, per month (X varies across customers)	Average cost to company (per customer per month)	Risk of an accident (per customer per month)
A	17 mph	X	\$3	1 in 150
B	25 mph	$X + 7$	\$5	1 in 50
C	34 mph	$X + 20$	\$7	1 in 10

Suppose that the average e-bike accident does \$300 worth of harm to the rider (and no harm to anyone else), and that the e-bike rental market will be perfectly competitive. For now, suppose the company will be liable (under a strict liability rule) for any accidents their riders get into.

(a) What is the efficient bike model for the rental company to offer? Why?

(b) Which model bike would the company choose to offer? Why?

(c) What would be the monthly price of an e-bike rental service under perfect competition? Would the demand for e-bike rentals be the efficient level, higher, or lower? Why?

(d) Would your answers to (b) and (c) change if each e-bike accident did \$300 worth of harm to random pedestrians (non-customers) instead of to the riders (customers) themselves? Explain.

Now suppose instead that bike rental companies will not be liable for accidents that riders get into, but that customers correctly understand the risks of riding the different e-bikes.

(e) What is the efficient bike model for the rental company to offer? Why?

(f) Which model bike would the company choose to offer? Why?

(g) What would be the price of the bike rental service? Would demand be the efficient level, higher, or lower? Why?

(h) Would your answers to (f) and (g) change if each e-bike accident did \$300 worth of harm to random pedestrians (non-customers) instead of to the riders (customers) themselves, and neither the bike rental company nor the customer was liable for the harm? Explain.