

Goals of today's lecture

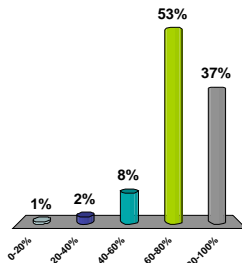
- Introduce Selfishness Week!
- Understand the “tragedy of the commons” and its application to environmental issues (and other issues).

Welcome to Selfishness Week!

- Synonyms: Self-interested, self-centered, self-absorbed, shortsighted (*myopic*), looking out for #1. *Not* hating people (being *misanthropic*) or caring only about money. (Traffic analogy.)
- For this set of lectures we will assume that people are and will always be selfish.
- Theoretical reason: A world full of angels is always going to turn out heavenly—that’s boring.
- Practical reason: People *are* mostly selfish.

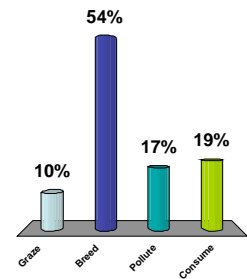
How much time do *most people* spend thinking pretty much just about themselves?

1. 0-20%
2. 20-40%
3. 40-60%
4. 60-80%
5. 80-100%



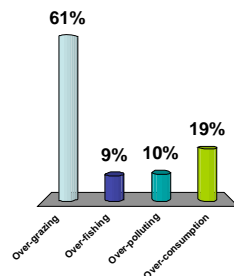
“Freedom to _____ is intolerable”

1. Graze
2. Breed
3. Pollute
4. Consume



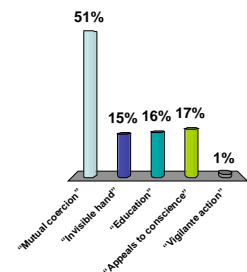
The *main metaphor* in “Tragedy of the Commons” is about...

1. Over-grazing
2. Over-fishing
3. Over-polluting
4. Over-consumption



Hardin’s solution to the “Tragedy of the Commons” is...

1. “Mutual coercion”
2. “Invisible hand”
3. “Education”
4. “Appeals to conscience”
5. “Vigilante action”



Tragedy of the Commons

- Individual incentives can sometimes lead individuals to make choices that are bad for the group as a whole.
- Example: The commute game. Imagine a simple world where everybody just goes back and forth between work and home.
- Only two options: drive or take the bus.
- Only one goal: shortest possible commute.

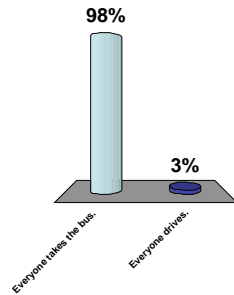
The commute game

- If *everybody* takes the bus, the commute takes 20 minutes (including 10 minutes to walk to the bus stop and wait for the bus).
- If *everybody* drives, the commute takes 120 minutes because of traffic jams.
- The bus gets stuck in traffic just like every other vehicle, so you can *always* get to work 10 minutes faster by driving.



Which is a better social outcome, i.e., outcome for the whole group?

1. Everyone takes the bus.
2. Everyone drives.



Let's look at a week's worth of different approaches

- "Invisible hand"
- "Education"
- "Appeals to conscience"
- "Vigilante action"
- "Mutual coercion"

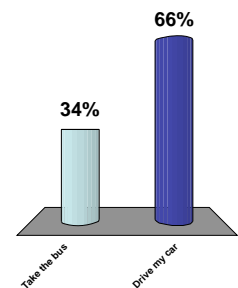
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"Invisible Hand" Monday: How are you going to commute to work this morning?

1. Take the bus
2. Drive my car



- “Invisible hand”
- “Education”
- “Appeals to conscience”
- “Vigilante action”
- “Mutual coercion”

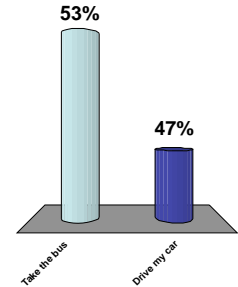
Objection to using the “invisible hand”?

Sometimes individual incentives can lead people to make personal choices that are bad for the group as a whole.



“Education” Tuesday: You must not understand, so let me explain...

1. Take the bus
2. Drive my car



- “Invisible hand”
- “**Education**”
- “Appeals to conscience”
- “Vigilante action”
- “Mutual coercion”

Objection to using “education”?

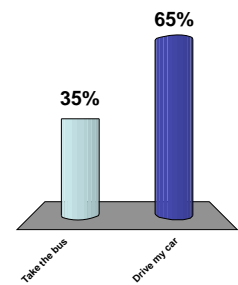
Sometimes problems can't be solved by education alone.

(Gasp!)



“Appeal to conscience” Wednesday: Don't be a selfish jerk!

1. Take the bus
2. Drive my car



- “Invisible hand”
- “Education”
- “**Appeals to conscience**”
- “Vigilante action”
- “Mutual coercion”

Objection to using “appeals to conscience”?

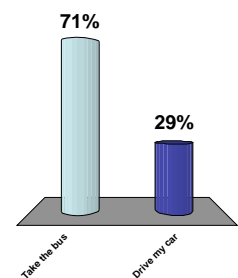
People often act like selfish jerks.

(Gasp!)



“Vigilante” Thursday: Ride the bus or Big Tony will break your kneecaps.

1. Take the bus
2. Drive my car



- “Invisible hand”
- “Education”
- “Appeals to conscience”
- **“Vigilante action”**
- “Mutual coercion”

Objection to using “vigilante action”?

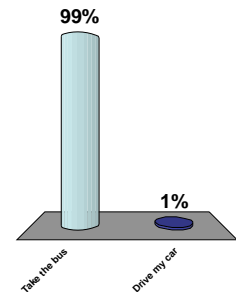
Do you really want Big Tony in charge?

And what ever happened to democracy and freedom, and stuff like that?



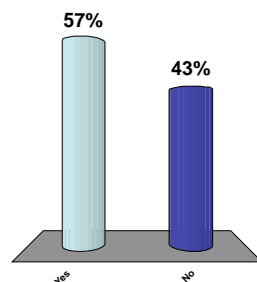
Mutual coercion Friday: Ride the bus or *Officer Tony* will fine you \$500.

1. Take the bus
2. Drive my car



Vote on Proposition 1: Anyone who drives will get a \$500 fine.

1. Yes
2. No



- “Invisible hand”
- “Education”
- “Appeals to conscience”
- “Vigilante action”
- **“Mutual coercion”**

Objection to using “mutual coercion mutually agreed upon”?

“But what about my freedom?”

Garrett Hardin’s response: *“Freedom is the recognition of necessity.”*

The Tragedy of the Commons has two parts

1. It’s better for the *group as a whole* if everyone makes Choice A compared to everyone making Choice B.
 2. Each person *individually* prefers to make Choice B regardless of others’ choices.
- Under the hood is a *negative externality*: when I choose B, it hurts you, and when you choose B, it hurts me.

Example: Traffic congestion

1. It’s better for the *group as a whole* if everyone takes the bus.
2. Each person *individually* prefers to drive.

Venezuela’s traffic

Jam today

Sep 11th 2008 | CARACAS
From *The Economist* print edition

The price of cheap petrol

EVERY weekday morning, Zarhay Infante leaves home in the Caracas dormitory town of Guarenas shortly after 5am. If the journey goes well, she reaches her office in the capital, some 30km (19 miles) away, around three-and-a-half hours later. “Three years ago, when I started doing this,” Ms Infante says, “I could get to Caracas in 45 minutes on the motorway. But it gets worse every day.”

Example: Common areas in dorms or group houses

1. It's better for the *group as a whole* if everyone cleans up after themselves.
2. Each person *individually* prefers to leave their dishes in the sink.

- Negative externality: I create external costs by leaving dirty dishes for my housemates.

Example: Splitting the bill at a restaurant

1. It's better for the *group as a whole* if everyone orders a moderately priced dish instead of the expensive steak.
2. Each person *individually* prefers to order the filet mignon.

- Negative externality: I create external costs by ordering the steak because I only pay $1/n$ of the cost of my meal.

Example: Dirty coal

1. It's better for the *group as a whole* if everyone avoids coal-based energy (the dirtiest, most carbon-intensive fuel) in favor of natural gas, wind, solar, etc.
2. Each person *individually* prefers to buy coal-based energy because it's the lowest cost *to the individual*.

- Negative externality: My pollution creates external costs (smog, climate change).

Example: Voting

1. It's better for the *group as a whole* if everyone pays some attention to politics and votes responsibly.
2. Each person *individually* prefers to watch *Ugly Betty*.

- Negative externality?



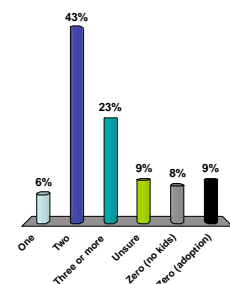
Is human population growth a tragedy of the common???

1. It's better for the *group as a whole* if everyone has just two children so that populations don't continually rise: 6 billion, 12 billion, 24 billion, 48 billion...
2. Each person *individually* prefers to have 3 or more children.

- Is statement #2 true?

How many children do you want?

1. One
2. Two
3. Three or more
4. Unsure
5. Zero (no kids)
6. Zero (adoption)



Is human population growth a tragedy of the commons???

1. It's better for the *group as a whole* if everyone has just two children so that populations don't continually rise: 6 billion, 12 billion, 24 billion, 48 billion...
 2. Each person *individually* prefers to have 3 or more children.
- Is statement #2 true?
 - Is statement #1 true?

Not every situation is a Tragedy of the Commons!

- In many situations, individual incentives lead people to make personal choices that are *good* for the group as a whole.
- Sometimes we just get lucky.
- And sometimes this happens because of the "hidden order" that comes out of free-market economics, Adam Smith's "invisible hand" metaphor. (Next lecture)

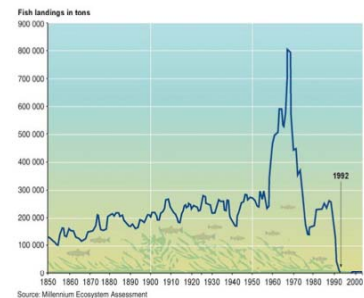
The tragedy of the fishery

1. It's better for the *group as a whole* if everyone limits how much they fish so that there will be enough fish next year.
 2. Each person *individually* prefers to maximize their *individual* profits by fishing like crazy.
- Negative externality: When I catch fish, I create external costs by reducing *your* ability to catch fish next year.

Overfishing: Cod



www.fishermensvoice.com/archives/...html



Europe Takes Africa's Fish, and Boatloads of Migrants Follow



Overfishing in the Mediterranean is threatening artisanal fishermen and endangering more than 100 marine species.



ON EMPTYING SEAS, A VANISHING WAY OF LIFE

Overfishing on the Mediterranean is threatening artisanal fishermen and endangering more than 100 marine species.

By Nicole Sarno | Correspondent of The Christian Science Monitor
from the January 16, 2009 edition



Solution: Limit fishing

- Restrict types of boats, types of gear, etc.
- Set an annual TAC (Total Allowable Catch) limit.



www.greenpeace.org/fr/mediterranean/...

- Advantage #1: These can help limit overfishing
- Disadvantage #1: Economically inefficient.
- Disadvantage #2: There's still a **race for fish** that can be dangerous and inefficient.

The race for fish

- Fish today—while you still can—before the TAC (Total Allowable Catch) limit is reached for the year!
- Example: the 2005-2006 Alaska king crab season lasted just 4 days (250 boats caught 14m pounds)
- Dangerous for workers, consumers get frozen fish



upload.wikimedia.org/_/220px-Redkingcrab.jpg



www-rohan.sdsu.edu/_/Otn_books.htm

Solution: “Privatize the commons”

- Combine a TAC (total allowable catch) limit with private property rights over that catch.
- Individual Tradeable Quotas (ITQs) make it possible to “own” part of this year’s catch.
- Advantage #1: The TAC limit overfishing.
- Advantage #2: No race for fish (b/c of ITQs).
- Note: This is just like carbon cap-and-trade!!!
- Complication: Who gets the permits?!?