

Market failure part II EE211

MARKET FAILURE

EE211





THE DIFFERENT KINDS OF GOODS



INTRODUCTION

- We consume many goods without paying
 - Rivers, mountains, beaches, lakes, playgrounds, parks
- Without prices, private markets cannot ensure that such goods are made available and used correctly for the maximum benefit of society as a whole

CHARACTERISTICS OF GOODS

Excludability

- Property of a good whereby a person can be prevented from using it

Rivalry in consumption

- Property of a good whereby one person's use diminishes other people's use

TYPES OF GOODS

Private goods

- Goods that are both excludable and rival in consumption

Public goods

- Goods that are not excludable nor rival in consumption

TYPES OF GOODS

Common resources

- Goods that are rival in consumption but not excludable

Club goods

- Goods that are excludable but not rival in consumption

		Rival in consumption?	
		Yes	No
Excludable?	Yes	Private Goods <ul style="list-style-type: none"> • Ice-cream cones • Clothing • Congested toll roads 	Club Goods <ul style="list-style-type: none"> • Satellite TV • Fire protection • Uncongested toll roads
	No	Common Resources <ul style="list-style-type: none"> • Fish in the ocean • The environment • Congested nontoll roads 	Public Goods <ul style="list-style-type: none"> • Tornado siren • National defense • Uncongested nontoll roads

FOUR TYPES OF GOODS

- Goods can be grouped into four categories according to two characteristics:
 - A good is excludable if people can be prevented from using it.
 - A good is rival in consumption if one person's use of the good diminishes other people's use of it.



ACTIVE LEARNING 1: CATEGORIZING ROADS

- A road is which of the four kinds of goods?
- Hint: The answer depends on whether the road is congested or not, and whether it's a toll road or not. Consider the different cases.

**ACTIVE
LEARNING 1:
ANSWERS**

Rival in consumption? Only if congested

Excludable? Only if a toll road

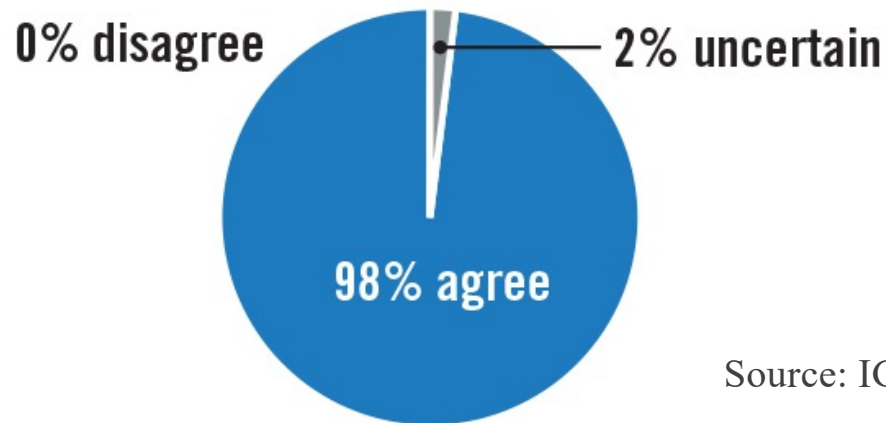
Four possibilities

- Uncongested non-toll road: **Public good**
- Uncongested toll road: **Club good**
- Congested non-toll road: **Common resource**
- Congested toll road: **Private good**

ASK THE EXPERTS: CONGESTION PRICING

“In general, using more congestion charges in crowded transportation networks—such as higher tolls during peak travel times in cities, and peak fees for airplane takeoff and landing slots—and using the proceeds to lower other taxes would make citizens on average better off.”

What do economists say?



Source: IGM Economic Experts Panel, January 11, 2012.



PUBLIC GOODS



THE FREE-RIDER PROBLEM

Free rider

- A person who receives the benefit of a good but avoids paying for it

The free-rider problem

- Public goods are not excludable
- Prevents the private market from supplying the goods
- Market failure

Government can remedy the free-rider problem if total benefits of a public good exceeds its costs

- Provide the public good
- Pay for it with tax revenue
- Make everyone better off

Problem: Measuring the benefit is usually difficult

SOME IMPORTANT PUBLIC GOODS



National defense

Very expensive public good

Everybody agrees national defense is a public good the government should provide



Basic research

Subsidized by government

The public sector fails to pay for the right amount and the right kinds

Difficulties: Hard to measure the benefits and decisions are made by members of Congress, not scientists

SOME IMPORTANT PUBLIC GOODS

Fighting poverty

- TANF (Temporary Assistance for Needy Families program)
 - Provides temporary income support for poor families with children
- SNAP (Supplemental Nutrition Assistance Program)
 - Subsidizes the purchase of food for those with low incomes
- EITC (Earned Income Tax Credit)
 - Provides tax rebates for those who work at low-wage jobs

THE DIFFICULT JOB OF COST–BENEFIT ANALYSIS

The government

- Provides public goods because the private market on its own will not produce an efficient quantity
- Must determine what kinds of public goods to provide
- Must determine what quantity of the public good to provide

COST–BENEFIT ANALYSIS

Cost–benefit analysis

- A study that compares the costs and benefits to society of providing a public good

Estimate the total costs and benefits of the project to society as a whole

- Are rough approximations at best
- There are no price signals to observe

ACTIVE LEARNING 2: LET'S BUILD A FOUNTAIN

You and your neighbors (about 200 people) would love to have a water fountain in the neighborhood park. Each of you values having the fountain at \$100. The neighborhood association finds a construction firm that will build the fountain for \$7,000. A hat is passed around for the contributions, but once the money is counted, there are only \$3,000 collected.

- A. Should the fountain be built?
- B. What happened? Will the fountain be built?
- C. Can the government help build the fountain? How?



ACTIVE LEARNING 2: ANSWERS

A. Should the fountain be built?

- Yes, because the benefit ($200 \text{ people} \times \$100 = \$20,000$) exceeds the cost (\$7,000)

B. What happened? Will the fountain be built?

- The free-rider problem: some didn't contribute because they can still enjoy the fountain if built
- Because only \$3,000 were collected, the fountain cannot be built

C. Can the government help? How?

- The government can tax every neighbor \$35 and then use the money to build the fountain



COMMON RESOURCES



THE TRAGEDY OF THE COMMONS

Tragedy of the commons

- A parable that illustrates why common resources are used more than is desirable from the standpoint of society as a whole

Medieval town where sheep graze on common land

- As the population grows, the number of sheep grows
- The amount of land is fixed, the grass begins to disappear from overgrazing
- With no grass left, raising sheep is impossible



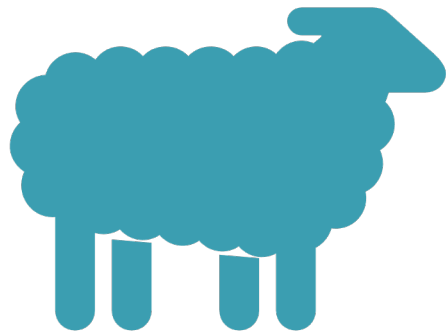
THE TRAGEDY OF THE COMMONS

Social and private incentives differ

- The private incentives (using the land for free) outweigh the social incentives (using it carefully)

The tragedy arises because of a negative externality

- Allowing one's flock to graze on the common land reduces its quality for other families
- People neglect this external cost, resulting in overuse of the land



THE TRAGEDY OF THE COMMONS

Possible solutions:

- Regulate the number of sheep per family
- Internalized the externality by taxing sheep
- Auction off a limited number of sheep-grazing permits
- Make land private property: divide the land among town families



SOME IMPORTANT COMMON RESOURCES

Clean air and water

- Negative externality: pollution
- Regulations or corrective taxes

Congested roads

- Negative externality: Congestion
- Corrective tax: Charge drivers a toll
- Tax on gasoline

SOME IMPORTANT COMMON RESOURCES

Fish, whales, and other wildlife

- Oceans: Least regulated common resource
- Needs international cooperation
- Difficult to enforce an agreement

Fishing and hunting licenses

- Limits on fishing and hunting seasons
- Limits on size of fish
- Limits on quantity of animals killed

CONCLUSION: PROPERTY RIGHTS AND GOVERNMENT ACTION



CONCLUSION

Market fails to allocate resources efficiently

- When something of value has no price attached to it
- When property rights are not well established

Government can potentially solve the problem

- Help define property rights and unleash market forces
- Regulate private behavior
- Use tax revenue to supply a good that the market fails to supply

REFERENCE

Mankiw, Principles of Microeconomics, Tenth Edition. 2024 Cengage.