

# Introduction

- We consume many goods without paying: parks, national defense, clean air & water.
- When goods have no prices, the market forces that normally allocate resources are absent.
- The private market may fail to provide the socially efficient quantity of such goods.
- One of the Ten Principles from Chapter 1: Governments can sometimes improve market outcomes.

PUBLIC GOODS AND COMMON RESOURCES

# **Important Characteristics of Goods**

- A good is excludable if a person can be prevented from using it.
  - Excludable: fish tacos, wireless internet access
  - Not excludable: FM radio signals, national defense
- A good is rival in consumption if one person's use of it diminishes others' use.
  - Rival: fish tacos
  - Not rival: An MP3 file of David Tao's latest single

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# The Different Kinds of Goods

Private goods: excludable, rival in consumption Example: food

Public goods: not excludable, not rival Example: national defense

Common resources: rival but not excludable Example: fish in the ocean

Natural monopolies: excludable but not rival Example: cable TV

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# ACTIVE LEARNING **1** Categorizing roads

- A road is <u>which</u> 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.
- Take 2 minutes to formulate your answer
- Take another 2 minutes to compare your answer with your neighbor

#### 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: natural monopoly

Congested non-toll road: common resource

Congested toll road: private good

# The Different Kinds of Goods

- This chapter focuses on public goods and common resources.
- For both, externalities arise because something of value has no price attached to it.
- So, private decisions about consumption and production can lead to an inefficient outcome.
- Public policy can potentially raise economic well-being.

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# **Public Goods**

- Public goods are difficult for private markets to provide because of the *free-rider problem*.
- Free rider: a person who receives the benefit of a good but avoids paying for it
  - If good is not excludable, people have incentive to be free riders, because firms cannot prevent non-payers from consuming the good.
- Result: The good is not produced, even if buyers collectively value the good higher than the cost of providing it.

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# **Public Goods**

- If the benefit of a public good exceeds the cost of providing it, govt should provide the good and pay for it with a tax on people who benefit.
- Problem: Measuring the benefit is usually difficult.
- **Cost-benefit analysis**: a study that compares the costs and benefits of providing a public good
- Cost-benefit analyses are imprecise, so the efficient provision of public goods is more difficult than that of private goods.

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# **Some Important Public Goods**

- National defense
- Knowledge created through basic research
- Fighting poverty

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- Each person's use reduces others' ability to use
- Role for govt: ensuring they are not overused

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#### The Tragedy of the Commons

- A parable that illustrates why common resources get used more than is socially desirable.
- Setting: a medieval town where sheep graze on common land.
- As the population grows, the # of sheep grows.
- The amount of land is fixed, the grass begins to disappear from overgrazing.
- The private incentives (using the land for free) outweigh the social incentives (using it carefully).
- Result: People can no longer raise sheep.

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#### The Tragedy of the Commons

- The tragedy is due to an 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.

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#### ACTIVE LEARNING **2 Policy options for common resources**

- What could the townspeople (or their government) have done to prevent the tragedy?
- Try to think of two or three options.
- Please discuss in pairs for 2 minutes

### ACTIVE LEARNING **2**

#### Answers

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- Impose a corrective tax on the use of the land to "internalize the externality."
- Regulate use of the land (the "command-andcontrol" approach).
- Auction off permits allowing use of the land.
- Divide the land, sell lots to individual families; each family will have incentive not to overgraze its own land.

#### Policy Options to Prevent Overconsumption of Common Resources

- Regulate use of the resource
- Impose a corrective tax to internalize the externality
   example: hunting & fishing licenses,
  - entrance fees for congested national parks
- Auction off permits allowing use of the resource
   example: spectrum auctions by the U.S. Federal Communications Commission
- If the resource is land, convert to a private good by dividing and selling parcels to individuals

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Some Important Common Resources

- Clean air and water
- Congested roads
- Fish, whales, and other wildlife
- "Lin" won the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2009 for studying how real people manage common resources both in the field (case study) and in the lab (experiments)

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# CASE STUDY: "You've Got Spam!"

- Some firms use spam emails to advertise their products.
- Spam is not excludable: Firms cannot be prevented from spamming.

from spamming. after everyone's favorite delicacy.

"Spam" email is named

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companies use spam, it becomes less effective.

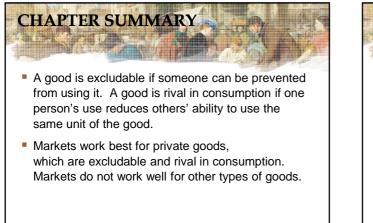
- Thus, spam is a common resource.
- Like most common resources, spam is overused which is why we get so much of it!

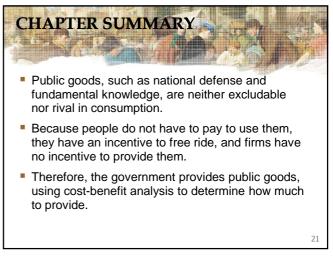
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# CONCLUSION Public goods tend to be under-provided, while common resources tend to be over-consumed. These problems arise because property rights are not well-established: Nobody owns the air, so no one can charge polluters. Result: too much pollution. Nobody can charge people who benefit from national defense. Result: too little defense.

 The govt can potentially solve these problems with appropriate policies.

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# CHAPTER SUMMARY

- Common resources are rival in consumption but not excludable. Examples include common grazing land, clean air, and congested roads.
- People can use common resources without paying, so they tend to overuse them.
   Therefore, governments try to limit the use of common resources.

# **Public Goods**

- Excludable vs. Rivalness
- Public Goods
  - non-excludable and non-rival goods
- Common Resources
  - Non-excludable and rival goods
- Homework: Mankiw, Ch.11, pp. 238-240, Problem 2, 3, 10, 11.