Lecture 18: Public Goods

Session ID: DDEE

Clicker Question
Public Goods

- Some goods and services cannot be efficiently provided in private markets.
  - Law Enforcement
  - Clean Streets
  - Disease control

- Why can’t private markets provide these goods and services?
  - Answer: because they are ______________.

Nonexcludability

- A good or service is **nonexcludable** if it is very difficult or costly to prevent people from enjoying its benefits.

  **Example:** Clean city streets
  - If city streets are cleaned, there is no reasonable way to deprive people of those benefits.
  - The street-cleaning service is nonexcludable.

  **Counterexample:** Movie theaters (Cinemas)
  - The owner of the cinema controls whether or not customers can enter.
  - The movie-theater service is excludable.
Fire-Department Services

Are fire-department services excludable?

Oct. 5, 2010. Firemen in Obion, TN, watched as a house burned to the ground. They refused to put out the fire, because the owners hadn’t paid the $75 fee to the fire company. [see reading and video in course website under Classes > Outside Readings]

● Cost of exclusion: value of the house.

● Conclusion: If society is unwilling to allow houses to burn down, then fire-department services are nonexcludable.

Nonexcludability and Private Markets

● If a good or service is nonexcludable, consumers can obtain it without payment.

● Nonexcludable goods or services will not be provided in unregulated private markets.

● Consumers who obtain benefits without payment are called “free riders.”

● Consumers will not pay for something that they can obtain for free.
Example: The Samaritan’s Dilemma

- Should we be charitable when charity creates bad incentives?

- A healthy young man decides not to buy medical insurance. He thinks:
  - “I haven’t been sick in years.”
  - “The odds I will need medical insurance are tiny.”

- But then he gets appendicitis, and he needs emergency surgery that he cannot afford.

- Should hospitals refuse to treat him and let him die?

Clicker Survey
The hospital faces the Samaritan’s Dilemma.

- If the man is excluded (isn’t treated), there will be a high private and social cost (the cost of his death).
- But if the man knows he will be treated anyway, why should he buy insurance or pay?

Conclusion: in most societies, urgent medical care is nonexcludable.

So it may be necessary for the government (taxpayer) to provide insurance,… [Medicare]

…or for the government to require people to buy insurance. [as in the ACA (Obamacare)]

Nonexcludability and Government

- Private firms will not produce nonexcludable goods or services,…

- …but governments can finance their production with taxes!

- Alternatively, governments can sometimes create excludability, and permit private producers to function.

How?

- With patents and copyrights, for example.
Nonrivalry in Consumption

- Most consumption is rivalrous.
  - Example: When one person eats pizza, there is less remaining for other people.

- Nonrivalry occurs when consumption does not use up the good.
  - Example: When one person enjoys a clean street, others can enjoy it just as much.
  - Enjoying cleanliness doesn’t use up the cleanliness.

Scarcity versus Nonrivalry

- **Scarcity** refers to a positive opportunity cost of creating a good or service.
  - Street-cleaning is a scarce service.
  - The service has an opportunity cost. (People who are cleaning streets cannot be baking pizza.)

- If the use or consumption of a scarce good is nonrivalrous,…

- …then the scarce good remains available for other people to use or consume.
Example: A City Park

- A city park could be surrounded by fences or walls.

- People who do not pay could be excluded.

- If a park is not overcrowded, its use is nonrivalrous.
  - The social cost of having an additional user is near zero.

A private firm could construct a park and sell tickets for its use.

- The price of the ticket would have to be sufficient to cover the cost of park construction and maintenance.

- But people who wanted to use the park and had a WTP less than the ticket price would be excluded.

- The marginal social cost of another user is near 0, and exclusion creates a loss of surplus. **Why?**

- Because there are *unexploited gains of trade!*  
  \[ DWL = WTP - MC = WTP - 0 = WTP \]

- Exclusion is inefficient when the MC of serving another person is 0 or very small.
Unregulated private markets cannot supply city parks to residents efficiently.

The same is true for all nonrivalrous goods.

That is why governments help provide many nonrivalrous goods and services, whether or not exclusion is possible.

- Weather forecasting
- Basic scientific research
- Television and radio
- Law enforcement
Public Goods

- Goods that are *nonexcludable* and *nonrivalrous* are called *public goods*.

- Public goods are supplied *most efficiently* by governments (or charitable organizations),...

- Although private firms may be capable of producing them.

- Are these public goods or services?
  - Low crime rates
  - An educated population
  - Basic scientific research
  - Software (copy protection?)
  - Information
  - Social peace
  - Disease control
  - Clean environment
Common Goods

- Nonexcludable goods that are rivalrous are called common goods.
  - The use of common goods tends to be excessive and inefficient,…
  - because individuals are not required to pay the opportunity cost of the goods.

- The “Tragedy of the Commons” refers to an episode of English history, when common grazing lands were supposedly overused.

Example: The Grand Banks Fishery*

- The Grand Banks was an excellent Atlantic-Ocean fishery about 1,600 km NE of Boston.

- But Grand Banks fishery was ruined by overfishing: a modern example of the Tragedy of the Commons.

- Each fishing company tried to take as many fish as was profitable, without considering the effect on the overall resource:

  "Let’s get our share before someone else does."
Governments could have prevented the destruction of the fishery by charging a royalty (price) for fish taken from the area.

But the fishing industry strongly opposes such fees.

Instead, governments try to impose restrictions on days that fishing can take place,…

and limit the size and number of fish that can be caught.

No fishing was permitted in the Grand Banks after 1992 until recently. Now some fishing is permitted.

Example: Boston Common

[From Wikipedia] The Common's purpose has changed over the years. It was once owned by William Blaxton, the first European settler of Boston, until it was bought from him by the Puritan founders of the Massachusetts Bay Colony.

During the 1630s, it was used by many families as a cow pasture. However, this only lasted for a few years, as affluent families bought additional cows, which led to overgrazing, a real-life example of the Tragedy of the Commons. After grazing was limited in 1646 to 70 cows at a time, the Boston Common continued to host cows until they were formally banned from it in 1830 by Mayor Harrison Gray Otis.
Clicker Question

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