14.01 Principles of Microeconomics, Fall 2007
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Lecture 35

Public Goods

Outline

1. Chap 18: *Public Goods*

1 Public Goods

Characteristics of public goods:

Nonrival. For any given level of production, the marginal cost of providing it to an additional consumer is zero: enjoy it rather than use it up.

Nonexclusive. People cannot be excluded from consuming the good. Difficult to charge for its enjoyment.

Example (Roads).

Example (Streetlight). Once streetlight is setup, everyone can see the light (nonexclusive).

It is more efficient to have government provide public goods. Government provides and imposes tax.

Free-rider problem. Consumer need to pay for public goods, and they tend to understate the value.

Example (Streetlight). Assume cost of building a street light is 1. A's and B's reservation values for the street light are both 1, but they are not known by government. Then government asks A and B to announce their value. The street light will be built if

$$V_A + V_B \geqslant 1,$$

and people who have value share the cost. Their payoffs are shown in Table 1). Therefore, A and B will both announce the value as 0. The result is inefficient: consumers wait for others to pay for the public goods.

		B	
		Announce Value as 0	Announce Value as 1
A	Announce Value as 0	0,0	1,0
	Announce Value as 1	0,1	1/2,1/2

Table 1: Payoffs of A and B.