Externality Versus Public Goods

- Classic definition of externality: “any indirect effect that either a production or a consumption activity has on a utility function, a consumption set, or a production set”. [Laffont]
  - By “indirect”, it is meant that the effect is created by an economic agent other than the one who is affected; and the effect is not transmitted through prices (non-pecuniary).

- Note: This definition of externality indicates that the basic notion of externality depends on the definition of economic agents and the existence of markets that coordinate transactions among these agents.
  - Example: two firms tat pollute each other’s environment.

- We defined pure public goods as goods whose consumption is non-rival and non-excludable. But there are still congestable public goods and excludable public goods.

- Consider a highway. Highway availability can be considered public good, but congestion may be considered as externality.

- The distinction between a public good and an externality is subtle: For example, flowers in an orchard can accomodate only a limited number of bees, and pollen is certainly used up by an individual bee. However, the possiblity of excluding particular bees is unlikely.

- Even the distinction between private and public goods according to rivalryness is superficial: when goods are defined in an appropriate manner, individual consumption always leads to exhaustion by private use.

– Example: National defense. If we think of national defense as the simultaneous protection of millions of units of space, then if person i occupies space l, he consumes the good "protection of space l" and prevents persion j from benefitting from this good. It is the non-excludability that make national defense a public good.