

Practical Session III

Externalities

1. Can government assignment and enforcement of property rights internalize an externality? Will this approach work as well as, better than, or worse than direct government intervention? Explain your answers and describe one of the difficulties associated with this solution.
2. Answer the following two questions for each of the following examples:
 - i. Smoking by individuals
 - ii. Toxic waste production by firms
 - iii. Research and development by a high-tech firm
 - iv. Individual vaccination against communicable diseases
 - a. Is there an externality? If so, describe it, including references to whether it is positive or negative, and whether it is a consumption or production externality.
 - b. If there is an externality, does it seem likely that private markets will arise that allow this externality to be internalized? Why or why not?
3. Suppose that demand for a product is $Q = 1,200 - 4P$ and supply is $Q = -200 + 2P$. Furthermore, suppose that the marginal external damage of this product is 8€ per unit. How many more units of this product will the free market produce than is socially optimal? Calculate the deadweight loss associated with the externality.
4. The marginal damage averted from pollution cleanup is $MD = 200 - 5Q$. The marginal cost associated with pollution cleanup is $MC = 10 + Q$.
 - a. What is the optimal level of pollution reduction?
 - b. Show that this level of pollution reduction could be accomplished through taxation. What tax per unit would generate the optimal amount of pollution reduction?