Chapter 10

External Costs and Benefits

- private cost - Sum of costs borne by the decision maker
- social cost - Sum of all costs
- externality - cost or benefit imposed on others

10.1 Costs Imposed on Others

1. Measuring the externality
   - The rectangular region between the social and private marginal costs
   - In practice, difficult to estimate

2. Welfare Analysis
   - see exhibit 3.2 for an illustration

3. Pigou Taxes
   - A tax equal to the amount of an externality
   - see exhibit 13.3
• Why does this kind of tax work?
  – firms typically overproduce when producing with a negative externality
  – Tax forces firm to internalize the entire cost on the firm

4. Cap-and-trade

• A system of tradable permits to produce goods that create externalities
• Provides incentive for some firms to produce lower level of externalities if cost of transition is low
• See exhibit 13.4 for a comparison between Pigou Tax versus Cap-and-Trade
• Both can have similar effects on outside entities

10.2 The Coase Theorem

• Transaction cost - Cost of negotiating or enforcing a contract
• In the absence of transactions costs, all externalities are internalized and social gain is maximized
• see exhibit 13.5 for two examples

1. Implications from the Coase Theorem

• In the absence of transactions costs, social gain is always maximized
• In the absence of transactions costs, all externalities are internalized
• In the absence of transactions costs, the assignment of property rights does not matter
• In the absence of transactions costs, the choice of liability rule does not matter

• Example: Smoking Bans in Bars
  – non-smokers can bribe smokers to stop smoking
  – Do costs from second-hand smoke equal benefits from smoking
  – transaction costs would probably apply (could approach the wrong person and get attacked)
  – should bar owner charge higher rate to smokers?

2. Why is a Pigou Tax harmful when transaction costs exist (based on Coase Theorem)?

  • see exhibit 13.6