

**Chapter 10: Externalities**  
**Principles of Economics, 8<sup>th</sup> Edition**  
**N. Gregory Mankiw**  
**Page 1**

1. Introduction
  - a. Governments can sometimes improve market outcomes.
  - b. Externality is the impact of one person's actions on the well being of a bystander. P. 190.
    - i. They can be negative or positive.
  
2. Externalities and Market Inefficiency
  - a. Welfare Economics: A Recap
    - i. Markets can maximize the gains from trade.
    - ii. **Figure 1: The Market for Aluminum. P. 191.**
  - b. Negative externalities in production shift up the costs of production.
    - i. **Figure 2: Pollution and the Social Optimum. P. 192.**
    - ii. Internalizing an externality means altering incentives so that people take account of the external effects of their actions. P. 193.  
This can be accomplished with a tax.
  - c. Positive externalities in production reduce the costs of production.
    - i. **Figure 3: Education and the Social Optimum, P. 194.**
  - d. **Case Study: Technological Spillovers, Industrial Policy, and Patent Protection, P. 194.**
    - i. Positive externalities have been used to argue for government support of technology firms.
    - ii. While not generally supporting these programs, economists do support patents.
    - iii. A better argument for government support of technology is based on basic non-patentable activities.
  
3. Public Policies Toward Externalities
  - a. Command and Control Policies: Regulation
  - b. Ask the Experts: Vaccines
    - i. A high percentage they condone mandatory measles vaccination.
  - c. Market Based Policy 1: Corrective Taxes and Subsidies
    - i. A corrective tax is designed to induce private decision makers to take account of the social costs that arise from a negative externality. P. 196.
    - ii. **Case Study: Why is Gasoline Taxed So Heavily? P. 197.**
    - iii. **In the News: What Should We Do About Climate Change? P, 199**
  - c. Market Based Policy 2: Tradable Pollution Permits
    - i. Ask the Experts: Carbon Tax
      - (1) A carbon tax is preferable to an increase in the income tax.
      - (2) A carbon tax is preferable to CAFÉ standards.
    - ii. **Figure 4: The Equivalence of Corrective Taxes and Pollution**

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**Page 2**

**Permits. P. 201.**

- b. Objections to the economic analysis of pollution are often based on a lack of understanding about tradeoffs.
4. Private Solutions to Externalities
- a. The Types Of Private Solutions
    - i. Moral codes and social sanctions,
    - ii. Vertical integration and
    - iii. Contracts.
  - b. In the News: The Coase Theorem in Action, P. 205.**
  - c. The Coase theorem is the proposition that if private parties can bargain without cost over the allocation of resources, they can solve the problem of externalities on their own. P. 203.
  - d. Why private solutions do not always work because of transaction costs.
    - i. Transactions costs are the costs that parties incur in the process of agreeing and following through on a bargain. P. 204.
5. Conclusion
6. Summary