

Chapter 18

Externalities and Public Goods

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Externalities

- Externalities arise between producers, between consumers or between producers and consumers
- Externalities are the effects of production and consumption activities not directly reflected in the market
 - They can be negative or positive

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Externalities

- ()
 - Action by one party imposes a cost on another party
 - Plant dumps waste in a river affecting those downstream
 - The firm has not incentive to account for the external costs that it imposes on those downstream

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Externalities

- ()
 - Action by one party benefits another party
 - Homeowner plants a beautiful garden where all the neighbors benefit from it
 - Homeowner did not take their benefits into account when deciding to plant

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Negative Externalities and Inefficiency

- Scenario – plant dumping waste
 - Marginal External Cost (MEC) is the increase in cost imposed on fishermen downstream for each level of production.
 - () Cost (MSC) is MC plus MEC.
 - We can show the competitive market firm decision and the market demand and supply curves

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Negative Externalities and Inefficiency

- Assume the firm has a fixed proportions production function and cannot alter its input combinations
 - The only way to reduce waste is to reduce output
- Price of steel and quantity of steel initially produced is at the intersection of supply and demand

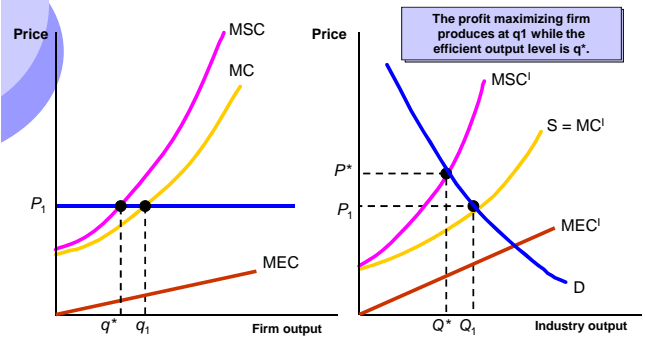
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Negative Externalities and Inefficiency

- The MC curve for the firm is the marginal costs of production
- Firm maximizes profit by producing where MC equals Price in a competitive firm
- As firm output increase, external cost on fishermen increases measured by the marginal external cost curve
- From a social point of view, the firm produces too much output

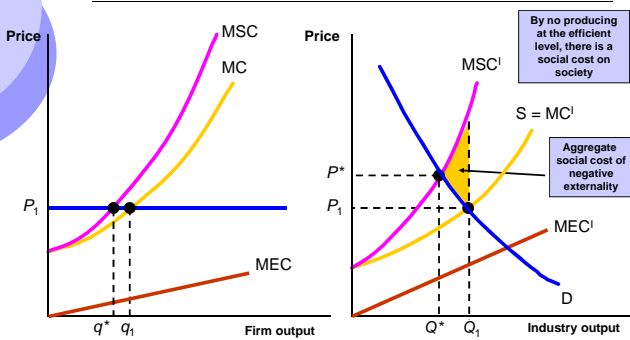
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External Costs



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External Costs



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External Cost

- () Externalities encourage inefficient firms to remain in the industry and create excessive production in the long run.

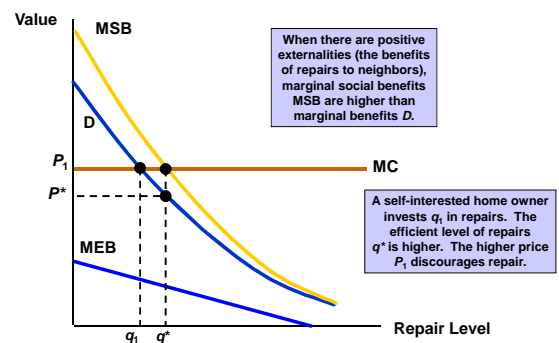
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Positive Externalities and Inefficiency

- Externalities can also result in too little production, as can be shown in an example of home repair and landscaping.
- Repairs generate external benefits to the neighbors
 - Show by the Marginal External Benefit curve (MEB)
 - Marginal Social Benefit (MSB) curve adds MEB + D

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External Benefits



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Common Property Resources

- Characteristics
 - Everyone has free access.
 - Likely to be overutilized
 - Examples
 - Air and water
 - Fish and animal populations
 - Minerals

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Common Property Resources

- Consider a lake where people fish
- Each fisherperson takes fish up to the point where the marginal benefit to them equals the marginal cost
- There is no reason that any one fisherperson take into account how their taking fish affects others experience

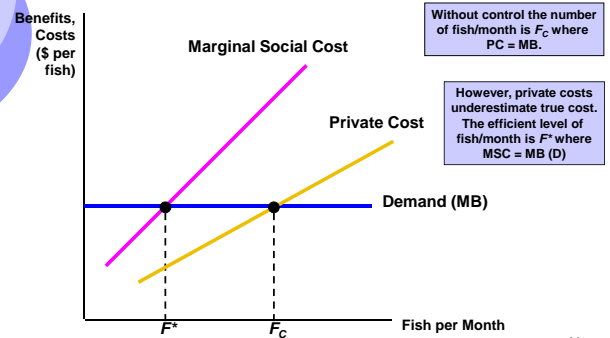
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Common Property Resources

- () cost underestimates the true cost to society
 - More fishing reduces the stock of fish
 - Less is available to others and too low of a stock will completely deplete the fish
 - Too many fish are caught

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Common Property Resources



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Common Property Resources

- Solution
 - ()
 - Owner will set fee for sue of resource equal to the marginal cost of depleting the stock
 - Fishermen will no longer find it profitable to catch more than the efficient amount of fish
 - It is often the case that private ownership is not possible, the government steps in

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Public Goods

- Characteristics
 - ()
 - For any given level of production the marginal cost of providing it to an additional consumer is zero.
 - ()
 - People cannot be excluded from consuming the good.
 - Example – use of lighthouse by a ship

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Public Goods

- () goods
 - Goods that people cannot be excluded from consuming, so that it is difficult or impossible to charge for their use
 - Example: fireworks, national defense

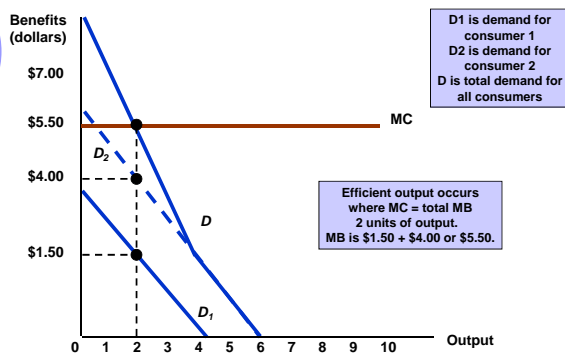
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Efficiency and Public Goods

- Efficient level of private good is where marginal benefit equals marginal cost
- For a public good, the value of each person must be considered
 - Can add demand of all those who value good
- Must equate the sum of these marginal benefits to the marginal cost of production

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Efficient Public Good Provision



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Public Goods and Market Failure

- ()
 - There is no way to provide some goods and services without benefiting everyone.
 - Households do not have the incentive to pay what the item is worth to them.
 - Free riders understate the value of a good or service so that they can enjoy its benefit without paying for it.

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Public Goods and Market Failure

- Establishing a mosquito abatement company
 - How do you measure output?
 - Who do you charge?
 - A mosquito meter?

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