Market Failure

Chapter 14 Externalities

Economic Freedom

- **Economic freedom** refers to the degree to which private individuals are able to carry out voluntary exchange without government involvement.
- The United States is only about the 10th freest economy in the world.
- Economic freedom is linked to standards of living.

Market Failures

- ***Market failure*** – the invisible hand pushes in such a way that individual decisions do not lead to socially desirable outcomes.

Market Failure

- A **market failure** occurs when the market outcome is not the socially efficient outcome. Some action by the government is sometimes necessary to ensure that the market does work well.
- Action is also necessary as a result of **rent seeking**: the use of resources to transfer wealth from one group to another without increasing production or total wealth.

Externalities

- **Private costs and benefits** are costs and benefits that are borne solely by the individuals involved in the transaction.
- An **externality** is a cost or benefit that accrues to someone who is not the buyer (demander) or the seller (supplier).
- If externalities exist, it means that those involved in the demand and supply in the market are not considering all the costs and benefits when making their market decisions.
- As a result, **the market fails** to yield optimal results.

Externalities

- ***Externalities*** are the effect of a decision on a third party that is not taken into account by the decision-maker.
- Externalities can be either positive or negative.

Externalities*

- ***Negative externalities*** occur when the effects of a decision not taken into account by the decision-maker are detrimental to others.

Externalities*

- ***Positive externalities*** occur when the effects of a decision not taken into account by the decision-maker is beneficial to others.

A Negative Externality Example

- When there is a negative externality, marginal social cost is greater than marginal private cost.
  - A steel plant benefits the owner of the plant and the buyers of steel.
  - The plant's neighbors are made worse off by the pollution caused by the plant.

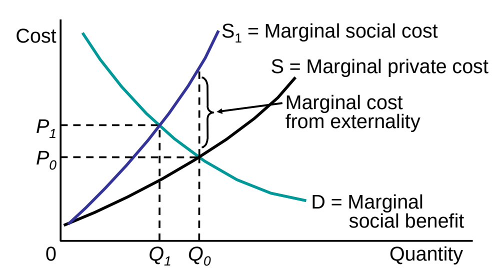
A Negative Externality Example

- ***Marginal social cost*** includes all the marginal costs borne by society.
  - It is the marginal private costs of production plus the cost of the negative externalities associated with that production.

A Negative Externality Example

- When there are negative externalities, the competitive price is too low and equilibrium quantity too high to maximize social welfare.

A Negative Externality*



More on Externalities

- A **positive externality** may result when some of the benefits of an activity are received by consumers or firms not directly involved in the activity.
- A **negative externality** may result when some of the costs of an activity are not borne by consumers or firms not directly involved in the activity.

Social Cost

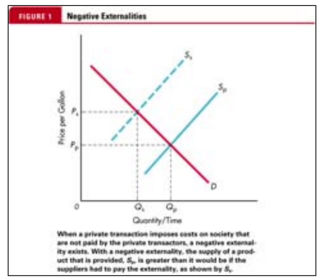
- **Social cost**: the total social cost of a transaction is the private cost plus the external cost.
- If all of the costs of a transaction are borne by the participants in the transaction, the private costs and the social costs are the same.

Externalities and Market Failure

- When there is a divergence between social costs and private costs, the result is either *too much* or *too little* production and consumption.
- In either case, resources are not being used in their highest-valued activity and market failure can occur.

Negative Externalities

With a negative externality, the supply curve does not reflect the true cost of the good. As a result, the supply that is provided is greater than it would be if suppliers had to pay all the costs (including the external cost). S_P is the supply provided, whereas S_S is the supply as it would be if the suppliers had to pay the external cost.



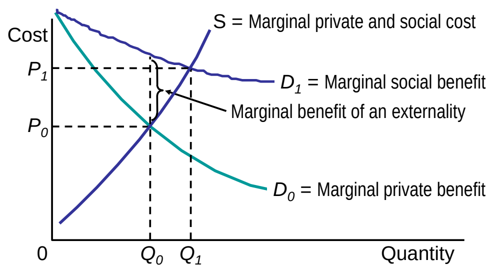
A Positive Externality Example

- Private trades can benefit third parties not involved in the trade.
  - A person who is working and taking night classes benefits himself directly, and his co-workers indirectly.

A Positive Externality Example

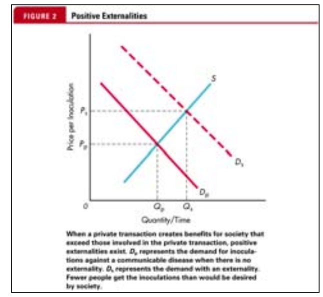
- ***Marginal social benefit*** equals the marginal private benefit of consuming a good plus the positive externalities resulting from consuming that good.

A Positive Externality



Positive Externalities

With a positive externality, the demand curve does not reflect all the benefits of the good. As a result, the demand that is given in D_P is less than it would be if demanders received all the benefits (including the external one). D_S is the demand as it would be if the demanders received the external benefit.

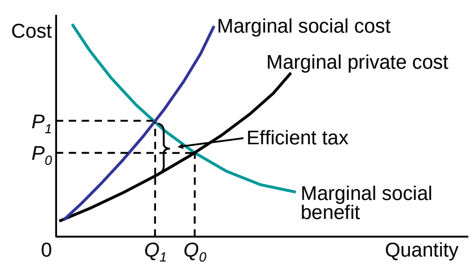


When a private transaction creates benefits for society that exceed those involved in the private transaction, positive externalities exist. D_p represents the demand for inoculations against a communicable disease when there is no externality. D_s represents the demand with an externality. Fewer people get the inoculations than would be desired by society.

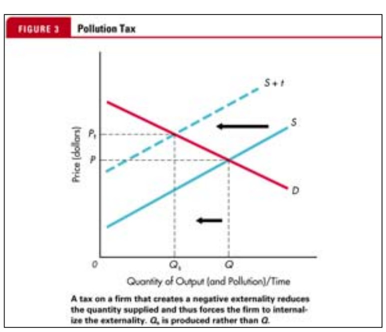
Pollution Tax

- One class of solutions to the externality problems involve **internalizing the costs and benefits**, so that the market can work better.
- **Pollution Tax**: if a firm is creating a negative externality in the form of pollution, create a tax on the polluting firm equal to the cost of cleaning up the pollution.

Regulation Through Taxation*



Pollution Tax



A tax on a firm that creates a negative externality reduces the quantity supplied and thus forces the firm to internalize the externality. Q_t is produced rather than Q.

Command

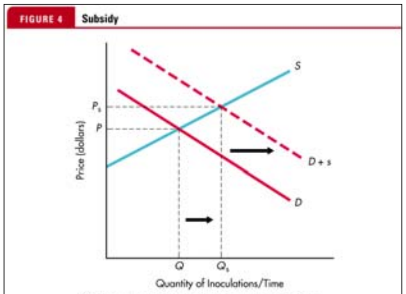
- Another approach is **command**—rather than imposing a tax or offering a subsidy, the government simply requires or commands the activity.
  - For a **negative externality** like pollution, the government simply requires the company to stop polluting.
  - For a **positive externality**, like inoculation, the government requires certain classes of citizens to be inoculated.

Marketable Pollution Permits

- Another approach to pollution is the introduction of **marketable pollution permits**.
  - The government sells the permits, which in total allow the amount of pollution that the government believes to be acceptable.
  - Demanders, typically firms, purchase the permits, allowing them to pollute up to the amount specified by the permits they own.
  - If a firm is able to employ a cleaner technology, then it can enjoy additional revenues by selling its pollution rights to someone else.

Subsidy for Inoculations

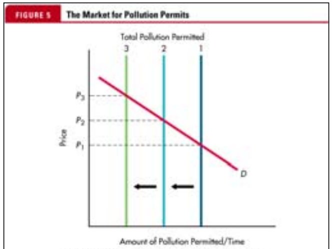
FIGURE 4 Subsidy



A subsidy to people getting inoculated increases the demand for inoculations, leading to more inoculations being obtained, Q_s.

Market for Pollution Permits

FIGURE 5 The Market for Pollution Permits



The government establishes the amount of pollution to be permitted. It then issues permits, each allowing a certain amount of pollution. To be able to pollute, a firm, individual, or group must have a permit. The price of permits is determined by demand and supply. As the government reduces the amount of pollution allowed, the price of the permits increases.