

Market Failures

- * A market failure occurs when the quantity of a product demanded by consumers does not equate to the quantity supplied by suppliers
 - o There exists another conceivable outcome where a market participant may be made better-off without making someone else worse-off
- * The market may not always allocate scarce resources efficiently in a way that achieves the highest total social welfare.
 - o Social welfare is the total well-being of the entire society. Social welfare is not measurable because it involves both objective and value judgments. It is not the same as standard of living but is more like quality of life that includes factors such as the quality of the environment (air, soil, water), level of crime, extent of drug abuse, availability of essential social services, as well as religious and spiritual aspects of life.

Why markets fail

- * Individual actions have side effects not taken into account by the market (externalities).
- * One party prevents mutually beneficial trades from occurring in the attempt to capture a greater share of resources for itself.
- * Some goods cannot be efficiently managed by markets.

Types of Failures

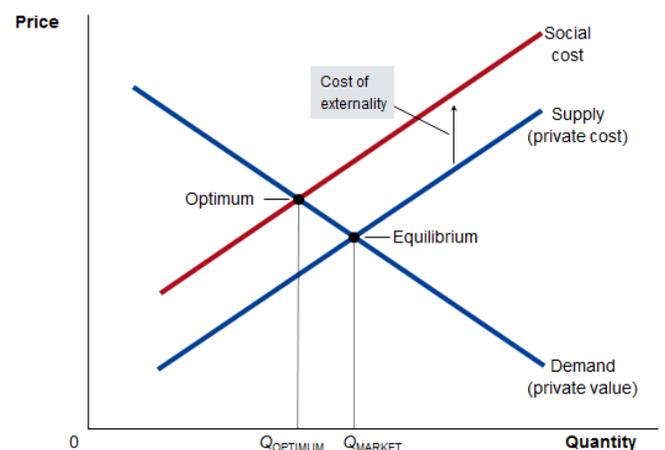
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|----------------------|-----------------------|--------------|
| * Monopoly Power | * Externalities | * Inequality |
| * Missing Markets | * Information Failure | |
| * Incomplete Markets | * Unstable Markets | |

Externalities

- * In economics, an externality is a cost or benefit from an economic transaction that parties "external" to the transaction receive or incur.
- * An *externality* refers to the uncompensated impact of one person's actions on the well-being of a bystander.
- * An externality arises when a person engages in an activity that influences the well-being of a bystander and yet neither pays nor receives any compensation for that effect.
- * Externalities can be either positive or negative, and they can be generated from both the production and the consumption side of a transaction.

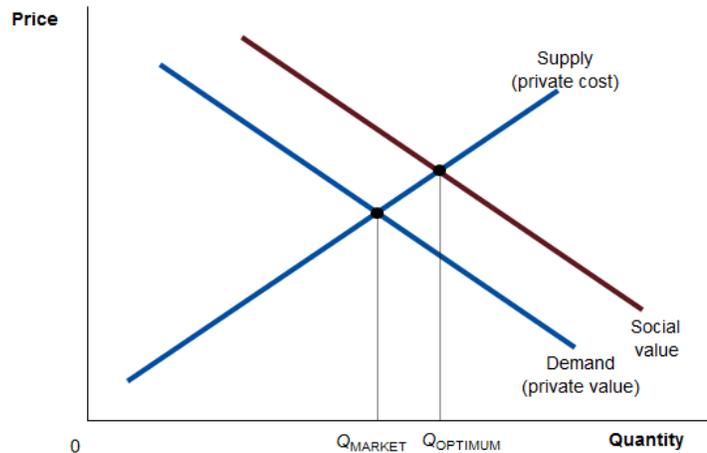
Negative Externalities

- * When the impact on the bystander is adverse, the externality is called a negative externality.
- * Negative externalities lead markets to produce a larger quantity than is socially desirable.
- * Any form of negative externality results in an over allocation of the good or service associated with the externality.
- * Society is producing too much of a bad thing.
- * Government might wish to discourage production or consumption of the good or service through the use of excise taxes, surtaxes, or tariffs (either on the good/service or input materials related to their production).



Positive Externalities

- * When the impact on the bystander is beneficial, the externality is called a positive externality.
- * Positive externalities lead markets to produce a smaller quantity than is socially desirable.
 - o A technology spillover is a type of positive externality that exists when a firm's innovation or design not only benefits the firm, but enters society's pool of technological knowledge and benefits society as a whole.
- * Any form of positive externality results in an under allocation of the good or service associated with the externality.
- * Society is not producing enough of a good thing.
- * Government might wish to encourage production or consumption of the good or service through the use of subsidies, grants, and tax credits.



Private Solutions to Externalities

- * Moral codes and social sanctions
- * Charitable organizations
- * Integrating different types of businesses
- * Contracting between parties

Coase Theorem

- * According to the Coase theorem, even in the presence of externalities an economy can always reach an efficient solution provided that the transaction costs—the costs to individuals of making a deal—are sufficiently low.
- * The costs of making a deal are known as transaction costs.
- * The implication of Coase's analysis is that externalities need not lead to inefficiency because individuals have an incentive to find a way to make mutually beneficial deals that lead them to take externalities into account when making decisions.
- * When individuals do take externalities into account, economists say that they internalize the externality.
- * Why can't individuals always internalize externalities?
 - o Transaction costs prevent individuals from making efficient deals.
- * Examples of transaction costs include the following:
 - o The costs of communication among the interested parties—costs that may be very high if many people are involved.
 - o The costs of making legally binding agreements that may be high if doing so requires the employment of expensive legal services.
 - o Costly delays involved in bargaining—even if there is a potentially beneficial deal, both sides may hold out in an effort to extract more favorable terms, leading to increased effort and forgone utility.

Public Policy Toward Externalities

- * When externalities are significant and private solutions are not found, government may attempt to solve the problem through . . .
 - o command-and-control policies.
 - Usually take the form of regulations
 - Forbid certain behaviors.
 - Require certain behaviors.
 - Examples:
 - Requirements that all students be immunized.
 - Stipulations on pollution emission levels
 - o market-based policies:
 - Government uses taxes and subsidies to align private incentives with social efficiency.
 - Pigovian taxes are taxes enacted to correct the effects of a negative externality.
 - Tradable pollution permits allow the voluntary transfer of the right to pollute from one firm to another.
 - A market for these permits will eventually develop.
 - A firm that can reduce pollution at a low cost may prefer to sell its permit to a firm that can reduce pollution only at a high cost.

The Economics of Pollution

- * Pollution is a bad thing. Yet most pollution is a side effect of activities that provide us with good things.
- * Pollution is a side effect of useful activities, so the optimal quantity of pollution isn't zero.
- * Then, how much pollution should a society have? What are the costs and benefits of pollution?
- * Left to itself, a market economy will typically generate too much pollution because polluters have no incentive to take into account the costs they impose on others.

Costs and Benefits of Pollution

- * The **marginal social cost of pollution** is the additional cost imposed on society as a whole by an additional unit of pollution.
- * The **marginal social benefit of pollution** is the additional gain to society as a whole from an additional unit of pollution.
- * The **socially optimal quantity of pollution** is the quantity of pollution that society would choose if all the costs and benefits of pollution were fully accounted for.
- * Left to itself, a market economy will typically generate too much pollution because polluters have no incentive to take into account the costs they impose on others

Policies Toward Pollution

- * **Environmental standards** are rules that protect the environment by specifying actions by producers and consumers. Generally such standards are inefficient because they are inflexible.
- * An **emissions tax** is a tax that depends on the amount of pollution a firm produces.
- * **Tradable emissions permits** are licenses to emit limited quantities of pollutants that can be bought and sold by polluters.
- * Taxes designed to reduce external costs are known as **Pigouvian taxes**.

Types of Goods

Characteristics of Goods

- * Goods can be classified according to two attributes:
 - o whether they are *excludable*
 - o whether they are rival in consumption
- * A good is **excludable** if the supplier of that good can prevent people who do not pay from consuming it.
- * A good is **rival in consumption** if the same unit of the good cannot be consumed by more than one person at the same time.
- * A good that is both excludable and rival in consumption is a private good.
- * When a good is nonexcludable, the supplier cannot prevent consumption by people who do not pay for it.
- * A good is nonrival in consumption if more than one person can consume the same unit of the good at the same time.
- * There are four types of goods:
 - o Private goods, which are excludable and rival in consumption, like wheat
 - o Public goods, which are nonexcludable and nonrival in consumption, like a public sewer system
 - o Common resources, which are nonexcludable but rival in consumption, like clean water in a river
 - o Natural monopolies, artificially scarce goods, which are excludable but nonrival in consumption, like pay-per-view movies on cable TV
- * Goods that are both excludable and rival in consumption are *private goods*.

		Rival?	
		Yes	No
Excludable?	Yes	Private Goods <ul style="list-style-type: none"> • Ice-cream cones • Clothing • Congested toll roads 	Natural Monopolies <ul style="list-style-type: none"> • Fire protection • Cable TV • Uncongested toll roads
	No	Common Resources <ul style="list-style-type: none"> • Fish in the ocean • The environment • Congested nontoll roads 	Public Goods <ul style="list-style-type: none"> • Tornado siren • National defense • Uncongested nontoll roads

Why the Market Produces Private Goods

- * Private goods can be efficiently produced and consumed in a competitive market.
- * Goods that are nonexcludable suffer from the free-rider problem: individuals have no incentive to pay for their own consumption and instead will take a “free ride” on anyone who does pay.
- * When goods are **nonrival in consumption**, the efficient price for consumption is zero.
- * If a positive price is charged to compensate producers for the cost of production, the result is inefficiently low consumption.

The Free-Rider Problem

- * A free-rider is a person who receives the benefit of a good but avoids paying for it.
- * Since people cannot be excluded from enjoying the benefits of a public good, individuals may withhold paying for the good hoping that others will pay for it.
- * The free-rider problem prevents private markets from supplying public goods.
- * Solving the Free-Rider Problem
 - o The government can decide to provide the public good if the total benefits exceed the costs.
 - o The government can make everyone better off by providing the public good and paying for it with tax revenue.

Common Resource

- * A common resource is nonexcludable and rival in consumption: you can't stop me from consuming the good, and more consumption by me means less of the good available for you.
- * Some examples of common resources are clean air and water as well as the diversity of animal and plant species on the planet (biodiversity).
- * In each of these cases, the fact that the good, though rival in consumption, is nonexcludable poses a serious problem.
- * Common resources left to the free market suffer from overuse.
- * Overuse occurs when a user depletes the amount of the common resource available to others but does not take this cost into account when deciding how much to use the common resource.
- * In the case of a common resource, the marginal social cost of my use of that resource is higher than my individual marginal cost or the cost to me of using an additional unit of the good.
- * To ensure efficient use of a common resource, society must find a way of getting individual users of the resource to take into account the costs they impose on other users.
- * Like negative externalities, a common resource can be efficiently managed by:
 - o a tax or a regulation imposed on the use of the common resource.
 - o making it excludable and assigning property rights to it.
 - o creating a system of tradable licenses for the right to use the common resource.

Tragedy of the Commons

- * The Tragedy of the Commons is a parable that illustrates why common resources get used more than is desirable from the standpoint of society as a whole.
- * Common resources tend to be used excessively when individuals are not charged for their usage.
- * This is similar to a negative externality.

Artificially Scarce Goods

- * An artificially scarce good is excludable but nonrival in consumption.
- * Because the good is nonrival in consumption, the efficient price to consumers is zero.
- * However, because it is excludable, sellers charge a positive price, which leads to inefficiently low consumption.
- * A good is made artificially scarce because producers charge a positive price.
- * The marginal cost of allowing one more person to consume the good is zero.
- * The problems of artificially scarce goods are similar to those posed by a natural monopoly.