

Study Materials on Market Failure

In the free market, the equilibrium of a market is determined by the market forces of demand and supply. However, the equilibrium price and the equilibrium quantity of a good may not be the optimal price and the optimal quantity. For example, tobacco and alcohol will be over-consumed and education and healthcare will under-consumed in the absence of government intervention. Market failure occurs when the free market fails to allocate resources efficiently or equitably. Allocative efficiency is achieved when it is impossible to change the allocation of resources in the economy in a way that will increase the welfare of society. This occurs when marginal social benefit is equal to marginal social cost where marginal social benefit is the sum of marginal private benefit and marginal external benefit and marginal social cost is the sum of marginal private cost and marginal external cost. External costs and benefits, or externalities, are costs and benefits of consumption or production experienced by society other than the producers or the consumers. Although the free market has numerous merits, it may not allocate resources efficiently or equitably.

Markets can fail for lots of reasons:

1. Market Power

When there is only one buyer or seller in the market, that firm can set the price of the product or the quantity supplied. Many countries have a limit on how much market share one firm can have or how big they can become. Market dominance by monopolies can lead to under-production and higher prices than would exist under conditions of competition, causing consumer welfare to be damaged

2. Negative Externalities

Negative Externalities occur when the production or consumption of a good or service causes the social cost to exceed the private cost. For example, the production of wood furniture does not take into account the effects of environmental pollution or deforestation. Negative externalities (e.g. the effects of environmental pollution) causing the social cost of production to exceed the private cost

3. Positive Externalities

Positive Externalities occur when the production or consumption of a good or service causes the social benefit to exceed the private benefit. For example, if the government provides vaccines to everyone for free, then there is a social benefit that the country benefits. These benefits are not considered in production costs. Positive externalities (e.g. the provision of education and health care) causing the social benefit of consumption to exceed the private benefit

4. Public Goods

These are goods that can't exclude people, i.e., if it's produced, then anyone can consume it, and one person consuming the good doesn't decrease the availability of the good for someone else. For example, street lights or lighthouse are examples of public goods. Public goods cause a market failure because people don't reveal their true preferences for what they want. People know that they will get it for free and someone else can pay. So the government usually ends up producing the good. This effect is known as the 'free-rider problem'.

5. Incomplete Information

One party has material information that the other does not, or both parties lack material information that would affect whether or not the trade occurs, or for what price it occurs. For example, used car sellers – the seller probably knows more about the car and has an incentive to cheat; such asymmetry can lead to distortions in the market. This problem is known as asymmetric information. Information failure means that merit goods are under-produced while demerit goods are over-produced or over-consumed

6. Inequity

Markets can generate an 'unacceptable' distribution of income and consequent social exclusion which the government may choose to change

Externalities

Externalities occur in an economy when the production or consumption of a specific good or service impacts a third party that is not directly related to the production or consumption of that good or service.

Externalities lead to market failure because a product or service's price equilibrium does not accurately reflect the true costs and benefits of that product or service. Equilibrium, which represents the ideal balance between buyers' benefits and producers' costs, is supposed to result in the optimal level of production. However, the equilibrium level is flawed when there are significant externalities, creating incentives that drive individual actors to make decisions which end up making the group worse off. This is known as a market failure.

Negative externality

Negative externalities occur when the consumption or production of a good causes a harmful effect to a third party. A negative externality is a cost that is suffered by a third party as a consequence of an economic transaction. In a transaction, the producer and consumer are the first and second parties, and third parties include any individual, organisation, property owner, or resource that is indirectly affected. Externalities are also referred to as spillover effects, and a negative externality is also referred to as an 'external cost'.

Examples of negative externalities

- **Loud music.** If you play loud music at night, your neighbour may not be able to sleep.

- **Pollution.** If you produce chemicals and cause pollution as a side effect, then local fishermen will not be able to catch fish. This loss of income will be the negative externality.
- **Congestion.** If you drive a car, it creates air pollution and contributes to congestion. These are both external costs imposed on other people who live in the city.
- **Building a new road.** If you build a new road, the external cost is the loss of a beautiful landscape which people can no longer enjoy.

social cost

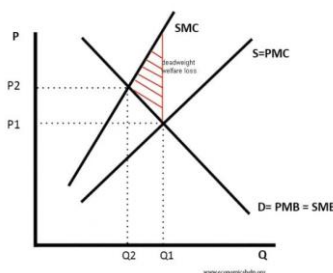
- Social cost is the total cost to society; it includes both private and external costs.
- With a negative externality the **Social Cost > Private Cost**

Negative production externality

- When producing a good causes a harmful effect to a third party. Therefore the social cost is greater than the private cost.

Examples of negative production externalities

- Burning coal for energy creates pollution.
- Producing conventional vegetables with pesticides causes carcinogens to get into the environment.
- Producing beef in South America involves cutting down Amazon rainforest, which has an impact on global climate and local environment



- Because of the external costs the social marginal cost is greater than the private marginal cost.
- In a free market, producers ignore the external costs to others. Therefore output will be at Q1 (where Demand = Supply).
- This is socially inefficient because at Q1 – $SMC > SMB$
- Social efficiency occurs at Q2 where Social marginal cost = Social marginal benefit

The red triangle is the area of deadweight welfare loss. It indicates the area of overconsumption (where SMC is greater than PMC)

Negative externality of consumption

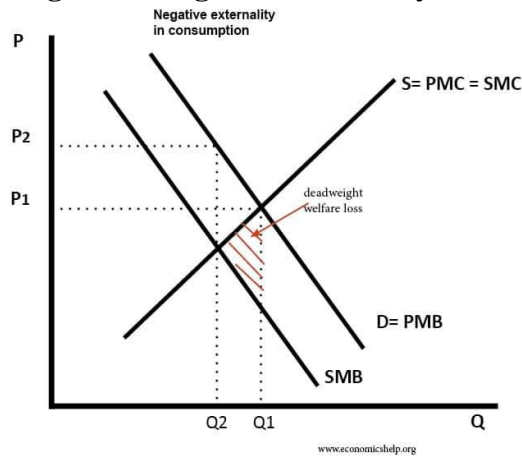
This occurs when consuming a good causes a harmful effect to a third party. In this case, the social benefit is less than the private benefit.

Examples of negative externalities of consumption

- Consuming alcohol leads to an increase in drunkenness, increased risk of car accidents and social disorder.
- Consuming loud music late at night keeps your neighbours awake.

- Consuming cigarettes causes passive smoking to others in the vicinity.

Diagram of negative externality in consumption



- In a free market, we get Q1 output. But at this output, the social marginal cost is greater than the social marginal benefit.
- The red triangle is the area of dead-weight welfare loss.
- Social efficiency occurs at a lower output (Q2) – where social marginal benefit = social marginal cost.

Positive Externalities

Definition of Positive Externality: This occurs when the consumption or production of a good causes a benefit to a third party. For example:

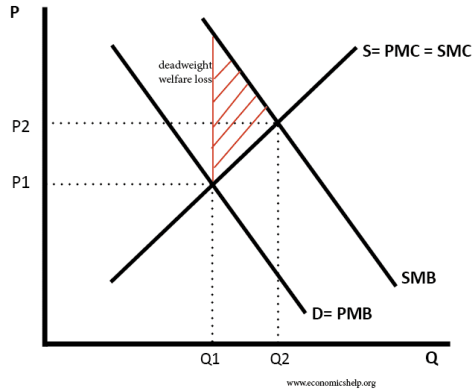
- When you consume education you get a private benefit. But there are also benefits to the rest of society. E.g you are able to educate other people and therefore they benefit as a result of your education. (positive consumption externality)
- A farmer who grows apple trees provides a benefit to a beekeeper. The beekeeper gets a good source of nectar to help make more honey. (positive production externality)
- If you walk to work, it will reduce congestion and pollution; this will benefit everyone else in the city.

Social Benefit

- With positive externalities, the benefit to society is greater than your personal benefit.
- Therefore with a positive externality the **Social Benefit > Private Benefit**
- Remember Social Benefit = private benefit + external benefit.

Diagram of Positive Externality (consumption)

- In this case, the social marginal benefit of consumption is greater than the private marginal benefit. For example, if you take a train, it reduces congestion for other travellers.
- In a free market, consumption will be at Q1 because demand = supply (private benefit = private cost)
- However, this is socially inefficient because at Q1, social marginal cost < social marginal benefit. Therefore there is under-consumption of the positive externality.
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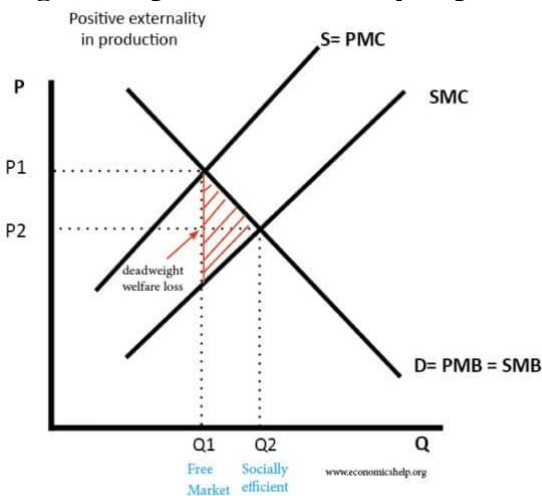


- Social efficiency would occur at Q2 where social cost = social benefit
For example, in a free market without government intervention, there would be an under-consumption of education and public transport.

Positive externality (production)

- This occurs when a third party benefits from the production of a good. For example, building a train station may provide shelter for the homeless when it is raining.
- If a company develops new technology, such as a database programme, this new technology can be implemented by other firms who will gain a similar boost to productivity.
- Tim Berners Lee who developed the World Wide Web, made it freely available, creating a very large positive externality.

Diagram of positive externality in production



- Because there are positive externalities in production, the social marginal cost of production is less than the private marginal cost of production.
- In a free market, a firm will ignore benefits to third parties and will produce at Q1 (free market outcome)
- However, the socially efficient level will be at Q2 (where social marginal cost = social marginal benefit)