

Externalities

Externalities are a common form of market failure.

Peter Smith brings together the key definitions needed to analyse this important topic in economic analysis, and provides the relevant diagrams

What is an externality?

An externality arises in a market when there are costs or benefits that are external to a market transaction, in the sense that they are incurred (or enjoyed) by a third party. This means that they are not reflected in market prices. This leads to a misallocation of resources in society.

- The preferred allocation of resources within a market occurs when marginal social cost (MSC) is equal to marginal social benefit (MSB).
- If MSB is greater than MSC, then an increase in consumption of an extra unit of the good adds more to social benefit than to social cost, so society is better off. The reverse is true where MSC is greater than MSB.

Negative production externalities

- When there is a negative production externality, marginal social cost (MSC) exceeds marginal private cost (MPC), as in Figure 1.
- Firms take decisions on the basis of MPC, so the market settles at Q_1 , rather than at Q^* .
- The shaded area represents the welfare loss for society in this position.
- An example is where there is pollution caused by the production process that imposes costs on neighbouring households that are not reflected in the costs faced by the polluting firm.

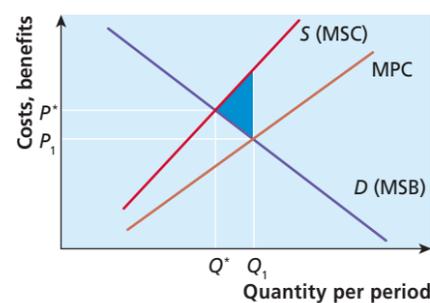


Figure 1 A negative production externality

Positive production externalities

- When there is a positive production externality, marginal social cost (MSC) is lower than marginal private cost (MPC), as in Figure 2.
- Firms take decisions on the basis of marginal private costs (MPC), so the market settles at Q_2 , rather than at Q^* .
- The shaded area represents the welfare forgone by society in this position.
- This could occur when a firm's actions reduce costs for other firms, for example if the bees from a honey producer's hives pollinate a neighbouring farmer's apple trees.

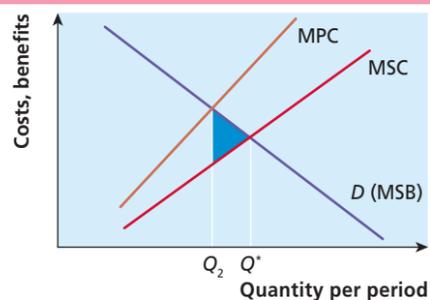


Figure 2 A positive production externality

Key definitions

external cost: a cost that is associated with an individual firm or household's production or other economic activities that is borne by a third party, and is not reflected in market prices

social cost: private cost plus external costs

marginal social cost: the cost to society of producing an extra unit of a good

external benefit: a benefit that is associated with an individual firm or household's production or other economic activities that is received by a third party, and is not reflected in market prices

social benefit: private benefit plus external benefits

marginal social benefit: the benefit received by society from consuming an extra unit of a good

Negative consumption externalities

- When there is a negative consumption externality, marginal social benefit (MSB) is lower than marginal private benefit (MPB), as in Figure 3.
- Firms take decisions on the basis of MPB, so the market settles at Q_3 , rather than at Q^* .
- The shaded area represents the welfare loss for society in this position.
- An example is where an individual drops litter in a public park, thus reducing the pleasure that others receive from it.

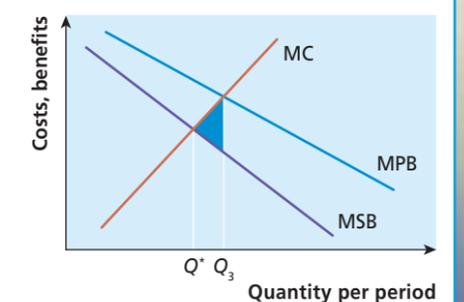


Figure 3 A negative consumption externality

Positive consumption externalities

- When there is a positive consumption externality, marginal social benefit (MSB) is higher than marginal private benefit (MPB), as in Figure 4.
- People take decisions on the basis of MPB, so the market settles at Q_4 , rather than at Q^* .
- The shaded area represents the welfare forgone by society in this position.
- An example is where an individual takes pride in their front garden, giving pleasure to neighbours and passers-by.

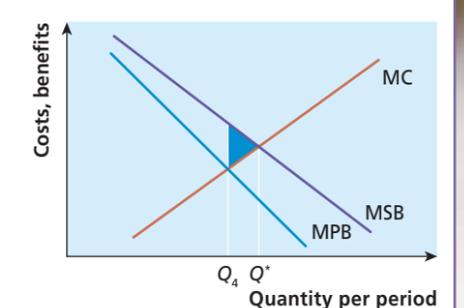


Figure 4 A positive consumption externality

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