

Edexcel Economics (A) A-level

Theme 1: Introduction to Markets and Market Failure

1.3 Market Failure

Detailed Notes



1.3.1 Types of market failure

Market failure occurs when the market fails to allocate scarce resources efficiently, causing a loss in social welfare loss. There are three main types of market failure:

- **Externalities:** An externality is the cost or benefit a third party receives from an economic transaction outside of the market mechanism. In other words, it is the spillover effect of the production or consumption of a good or service. This leads to the over or under-production of goods, meaning resources aren't allocated efficiently. For example, cars and cigarettes have negative externalities whilst education and healthcare have positive externalities.
- **Under-provision of public goods:** Public goods are non-rivalry and non-excludable, meaning they are underprovided by the private sector due to the free-rider problem. The market is unable to ensure enough of these goods are provided. One of the best examples of a public good is streetlights.
- **Information gaps:** Homo economicus is assumed to have perfect information, allowing them to make rational decisions. Similarly, firms are assumed to have perfect information on their cost and revenue curves and governments are assumed to know the full cost and benefits of each decision. In reality, this is not the case. Therefore, economic agents do not always make rational decisions and so resources are not allocated to maximise welfare. For example, consumers do not know the quality of second hand products, such as cars, and pension schemes are complex so it is difficult to know which one is best.

1.3.2 Externalities

When there are asymmetric markets, the government provides information to allow people to make informed decisions. For example, they provide information on smoking and drink driving. They may force companies to provide information.

Private, external and social costs and benefits:

Private costs/benefits are the costs/benefits to the individual participating in the economic activity. The demand curve represents private benefits and the supply curve represents private costs.

Social costs/benefits are the costs/benefits of the activity to society as a whole.

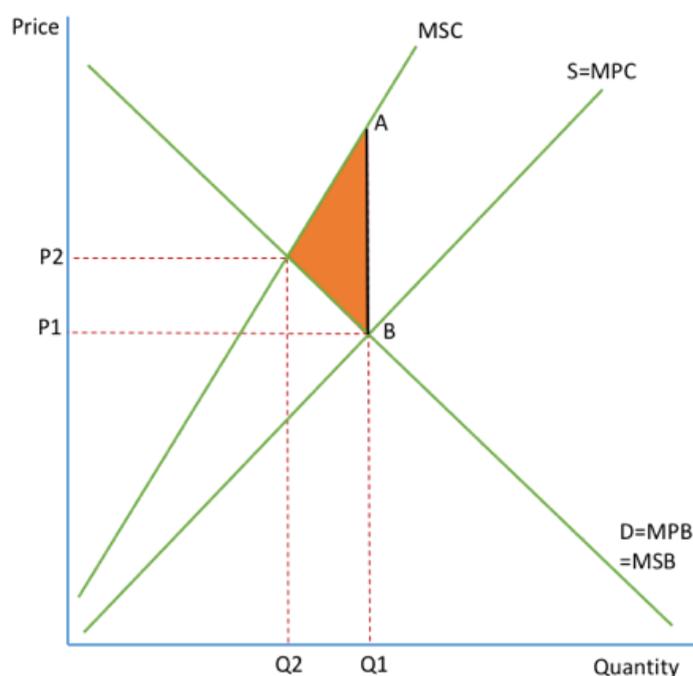
External costs/benefits are the costs/benefits to a third party not involved in the economic activity. They are the difference between private costs/benefits and social costs/benefits.

A merit good is a good with external benefits, where the benefit to society is greater than the benefit to the individual. These goods tend to be underprovided by the free market. A demerit good is a good with external costs, where the cost to society is greater than the cost to the individual. They tend to be over-provided by the free market.



Externalities diagram look at marginal costs and benefits. A marginal cost/benefit is the extra cost/benefit of producing/consuming one extra unit of the good. For example, the marginal private benefit (MPB) is the extra satisfaction gained by the individual from consuming one more of a good and the marginal social benefit (MSB) is the extra gain to society from the consumption of one more good. The marginal private cost (MPC) is the extra cost to the individual from producing one more of the good and the marginal social cost (MSC) is the extra cost to society from the production of one more good.

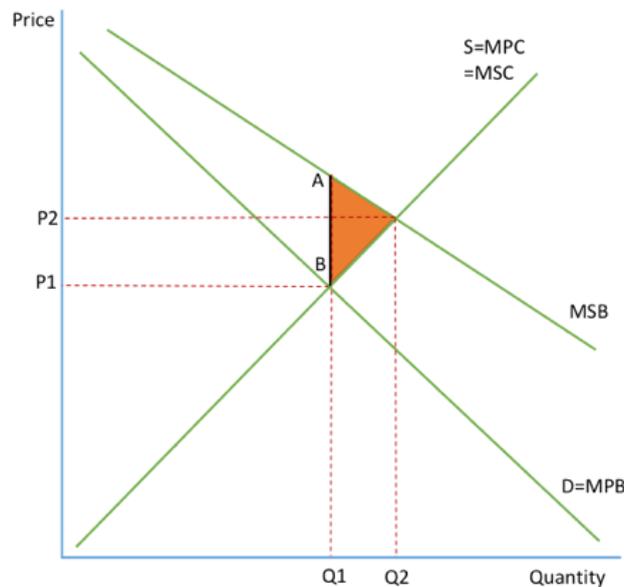
Negative production externalities:



Negative externalities of production occur when social costs are greater than private costs. The market left to operate freely will ignore the external costs involved in producing a good. It will produce where $MPB=MPC$, the market equilibrium, at Q_1P_1 . At Q_1 , the costs to the society are higher than the benefits to society resulting in the loss of welfare equal to the shaded area. The external cost at Q_1 is equal to the line AB . The economy should produce where $MSB=MSC$, the social optimum position, at Q_2P_2 . The difference between marginal social cost and the marginal private cost increases as output grows, because external costs grow the more that people do something. If one person drove their car, then the external costs of pollution would be very small. The more people that drive cars, the larger the external cost of pollution. The noise pollution from airplanes and industrial waste are two examples of negative production externalities.



Positive consumption externalities:



Positive externalities of consumption occur when social benefits are greater than social costs. In the diagram, the market left to its own devices will produce where $MPB = MPC$, it will not consider the benefits to society so will produce Q_1P_1 . If the market considers all the benefits, it would produce where $MSB = MSC$ at Q_2P_2 . The failure of the market to consider the external benefits has led to the misallocation of resources and so there is an underproduction of $Q_1 - Q_2$. This leads to a welfare loss of the shaded area. The line AB represents the external benefit. Again, the difference between marginal private benefit and marginal social benefit grows since external benefits grow the more people that undertake the activity, for example the external benefits of vaccinations are larger the more people that have the vaccination. Healthcare and education are two examples of positive consumption externalities.

It is **difficult to work out the size of the externality** as it tends to be placed on value judgements, since it is difficult to monetise external costs. Many externalities are involved with **information gaps**, as people are unaware of the full implications of their decisions.

Government intervention:

There are a number of ways that the government can intervene to ensure the market considers the external costs and benefits:

- **Indirect taxes and subsidies:** Taxes can be put on goods with negative externalities and subsidies on goods with positive externalities. These help to internalise the externalities, moving production closer to the social optimum position.
- **Tradable pollution permits:** These allow firms to produce up to a certain amount of pollution, and can be traded amongst firms so give them choice whilst reducing the total level of pollution.



- **Provision of the good:** When social benefits are very high, the government may decide to provide the good through taxation. They do this with healthcare and education.
- **Provision of information:** Since some externalities are associated with information gaps, the government can provide information to help people make informed decisions and acknowledge external costs.
- **Regulation:** This could limit consumption of goods with negative externalities, for example banning advertising of smoking etc.

Government intervention is looked at in more detail in unit 1.4 .

1.3.3 Public goods

Public goods are missing from the free market, but they offer many benefits to society. They have two key characteristics:

- They are **non-rivalry**, which means that one person's use of the good doesn't stop someone else from using it
- They are also **non-excludable**, meaning that you cannot stop someone from accessing the good and someone cannot choose not to access the good.

A good example of a public good is streetlights as you cannot prevent someone using the street light nor does their use prevent someone else seeing the light. There are very few examples of pure public goods, which are non-rivalry and non-excludable.

Quasi-public goods or non-pure public goods are goods which aren't perfectly non-rivalry and non-excludable but aren't perfectly rival or excludable. One example would be roads, which are semi-excludable, as there could be tolls, and semi-rivalry as people don't 'use up' the roads but congestion causes problems during rush hour. Private goods are rivalry and excludable: most goods are private goods.

Free rider problem:

- This says that you **cannot charge an individual a price for the provision of a non-excludable good** because someone else will gain the benefit from it without paying anything. A **free rider** is someone who receives the benefits without paying for it.
- Private sector producers will not provide public goods to people because they **cannot be sure of making a profit**, due to the non-excludability of public goods. Therefore, if the provision of public goods was left to the market mechanism, the market would fail and so they are **provided by the government** and financed through taxation.



1.3.4 Information gaps

- **Symmetric information** occurs where buyers and sellers have potential access to the same information; this is perfect information. However, many decisions are based on imperfect information and so economic agents are unable to make an informed decision; they suffer from an **information gap**.
- **Asymmetric information** is when one party has superior knowledge compared to another. Usually, the seller has more information than the buyer and this means they can take advantage of the other party's lack of knowledge, by charging them a higher price.
- Most **advertising** leads to information gaps as it is designed to change attitudes of the consumers to encourage them to buy the good. It could cause them to think the benefits are greater than they actually are. Increases in **technology** mean information gaps are on the decline as people can get more information.
- Information gaps lead to market failure as there is a **misallocation of resources** because people do not buy things that maximise their welfare. It means that consumer demand for a good or producer supply of a good may be too high or too low, and thus price and quantity are not at the social optimum position. Economic agents are unable to make rational decisions due to the information gap.
- Some examples of information gaps are: drugs, where users do not see the long term problems; pensions, where young people do not see the long term benefits of paying into their pension schemes; financial services, where the suppliers have more information than the consumers so abuse their customers for their own benefit (moral hazard).

The **principal-agent problem** is when the goals of the principle (the person who gains/loses from the decision) are different from the agents (those making decisions on behalf of the principle). One example of this is education where the child is the principle and the agents are parents/governments: the child has imperfect information as they do not see the benefits of education and so therefore will devote too few resources to education, if allowed.

