

Externalities

Private vs external costs

Private costs are costs paid by the people directly involved, such as wages, raw materials and energy. External costs are negative impacts on third parties, such as pollution causing health problems.

Social cost equals private cost plus external cost.

$$PC + EC = SC$$

Private vs external benefits

Private benefits are benefits to the consumer or producer involved, such as satisfaction from consuming. External benefits are positive impacts on third parties, such as healthcare making people healthier and more productive, benefiting employers and wider society.

Social benefit equals private benefit plus external benefit.

$$PB + EB = SB$$

The four externalities

Negative externality of production

Producing a good harms third parties, for example firm pollution damaging health or local environments. Because firms focus on private costs, the free market tends to produce more than the socially optimal quantity. For example Fast Fashion e.g Shein . Firms only think about their private costs e.g low wage labour and negate the external costs e.g cost to environment of the synthetic fibres releasing microplastics into local water supply etc

Negative externality of consumption

Consuming a good harms third parties, for example alcohol increasing anti-social behaviour and policing costs, or car use causing pollution and traffic delays. Consumers don't fully account for the harm, so consumption can be too high.

Positive externality of consumption

Consuming a good benefits third parties, for example healthcare reducing sick days and raising productivity. Because consumers focus on private benefits, the free market tends to under-consume relative to the socially optimal quantity.

Positive externality of production

Producing a good creates benefits for third parties, for example worker training that later benefits other firms, or managed forests absorbing CO₂. Firms may under-provide because they can't capture all the benefits.

Externality diagrams:

For Edexcel A, you only need to know the negative **externality of production** diagram and the **positive externality of the consumption** diagram.

Negative externality of production diagram

What the diagram shows

Initially we begin at the free market outcome where $MPB(=MSB)$ equals MPC . At this point we have an overproduction (between Q_{se} and Q_e) as producers are only thinking about their private costs and not external costs. Where the overproduction is solved, quantity at Q_{se} , would be the socially efficient equilibrium.

Because MSC is above MPC , the free market produces too much, so the free market quantity is higher than the socially optimal quantity. This creates a welfare loss (deadweight loss).

Triangle of Welfare loss

This is because MSC is above MPC , the free market produces too much, so the free market quantity (Q_e) is higher than the socially optimal quantity (Q_{se}). This creates a welfare loss (deadweight loss).

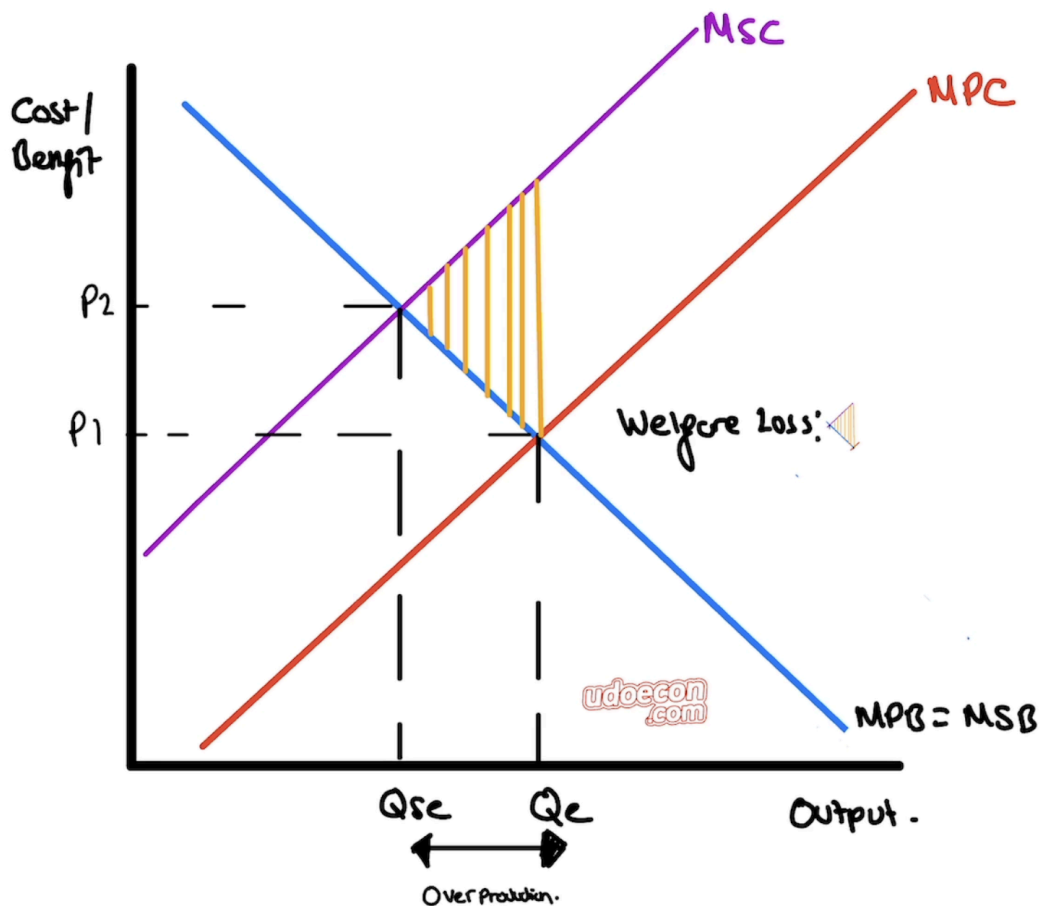


Diagram 2: Positive externality of consumption

What the diagram shows

Initially, we begin at the free market outcome where $MPB = MPC$. At this quantity (Q_e), consumers only consider their private benefits and ignore the external benefit to society from their consumption. This leads to underconsumption, as Q_e is below the socially optimal quantity Q_{se} , creating a welfare loss, since additional units where MSB exceeds MSC are not consumed.

Example

A good example of a positive consumption externality is **home insulation**. The private benefit to households is lower energy bills, but society also benefits from reduced carbon emissions and lower pressure on the energy grid. Because consumers only consider their private benefit, they choose to install less insulation than is socially optimal, leading to underconsumption and a welfare loss.

