CIE Economics A-level

Topic 1: Basic Economic Ideas and Resource Allocation

c) Social costs and benefits: cost-benefit analysis

Notes

Private costs

- Producers are concerned with private costs of production. For example, the rent, the cost of machinery and labour, insurance, transport and paying for raw materials are private costs.
- This determines how much the producer will supply.
- It could refer to the market price which the consumer pays for the good.
- **Marginal private cost** is the cost to a firm of producing one extra unit.

Social costs

- This is calculated by private costs plus external costs
- On a diagram, external costs are shown by the vertical distance between the two curves. In other words, external costs are the difference between private costs and social costs.
- It can be seen that marginal social costs (MSC) and marginal private costs (MPC) diverge from each other. External costs increase disproportionately with increased output.
- **Marginal social cost** is the extra cost on society derived per extra unit consumed.
- **Marginal social cost = marginal external cost + marginal private cost**

Private benefit

- Consumers are concerned with the private benefit derived from the consumption of a good. The price the consumer is prepared to pay determines this.
- Private benefits could also be a firm's revenue from selling a good.

Social benefit

- Social benefits are private benefits plus external benefits.
- On a diagram, external benefits are the difference between private and social benefits.
- Similarly to external costs, external benefits increase disproportionately as output increases.
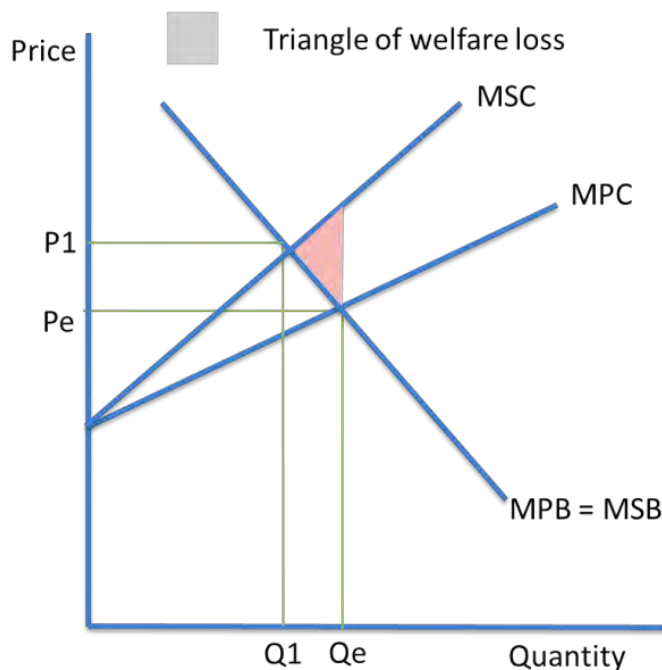- **Marginal social benefit** is the extra benefit on society derived per extra unit consumed.
- **Marginal social benefit = marginal external benefit + marginal private benefit**

📧 **Social optimum position:**

📧 This is where MSC = MSB and it is the point of maximum welfare.
📧 The social costs made from producing the last unit of output is equal to the social benefit derived from consuming the unit of output.
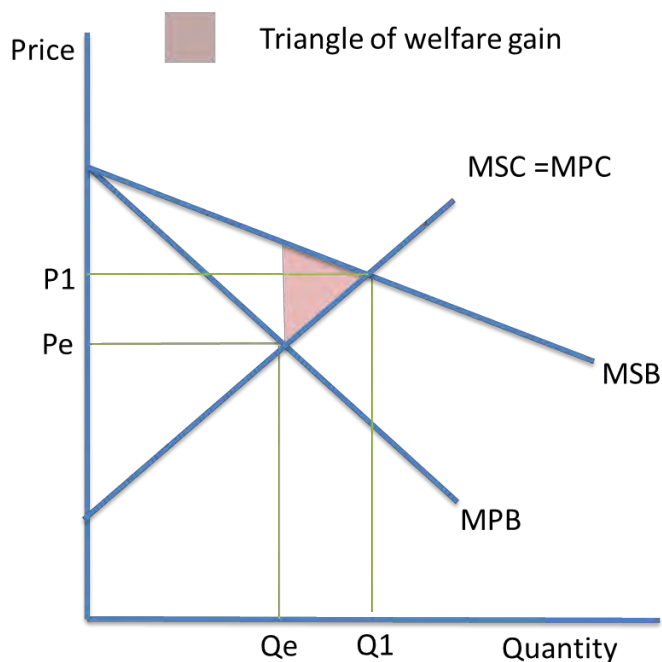

📧 **External costs of production:**

📧 External costs occur when a good is being produced or consumed, such as pollution.
📧 They are shown by the vertical distance between MSC and MPC.
📧 The market equilibrium, where supply = demand at a certain price, ignores these negative externalities. This leads to over-provision and under-pricing.
📧 With negative externalities, MSC>MPC of supply. At the free market equilibrium, therefore, there are an excess of social costs over benefits at the output between Q1 and Qe.
📧 The output where social costs > private benefits is known as the area of **deadweight welfare loss**, shown by the triangle in the diagram.
📧 The market fails to account for the negative externalities that occur from the consumption of this good, which would reduce welfare in society if it was left to the free market.

📧 **External benefits of production:**

Triangle of welfare gain

- An example of an external benefit from the production or consumption of a good or service could be the decline of diseases and the healthier lives of consumers through vaccination programmes.
- Since consumers and producers do not account for them, they are underprovided and under consumed in the free market, where MSB>MPB. This leads to market failure.
- The triangle in the diagram shows the excess of social benefits over costs. It is the area of **welfare gain.**

Cost-benefit analysis

- Cost-benefit analysis can be used for decision making by weighing up the relative costs of a choice with the potential benefits.
- A payback period is sometimes expressed. This considers how long it takes to repay costs using the gained benefits. This might be used when considering whether or not to invest in new capital machinery, for example.
- All of the costs of a decision have to first be considered. A monetary value then has to be assigned to these costs. Next, the benefits and their monetary value are considered. This is often difficult, since it is hard to predict how much revenue something will earn, or what the monetary value is of the effect on the environment.
- The costs and benefits are then compared, and the payback time is considered.