



# AQA A Level Economics



Your notes

## 8. The Market Mechanism, Market Failure & Government Intervention

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## The Market (Price) Mechanism

### Functions of the Price Mechanism

- The **price mechanism** is the **interaction** of **demand and supply** in a **market economy** that allocates **scarce resources** amongst competing needs and wants
- **Adam Smith** referred to the **functions** of the **price mechanism** as the '**invisible hand of the market**'
- The price mechanism fulfils **three functions** in the relationship between buyers and sellers which include **rationing, incentivising and signalling**
- **When any of these functions breaks down, market failure can occur**

#### Functions of the Price Mechanism

Function	Explanation
<b>Rationing</b>	<ul style="list-style-type: none"> <li>▪ When resources become <b>scarce</b>, the price will <b>rise</b>. Only those who can afford to pay for them will receive them. If there is a <b>surplus</b>, then <b>prices fall</b> and more consumers can afford them <ul style="list-style-type: none"> <li>▪ E.g The price of plane tickets might rise as seats are sold, because spaces are running out. This is a <b>disincentive</b> to some consumers to purchase the tickets, which <b>ration</b>s the tickets</li> </ul> </li> </ul>
<b>Incentive</b>	<ul style="list-style-type: none"> <li>▪ The <b>incentive function</b> encourages producers to <b>increase or decrease output</b> to increase profits <ul style="list-style-type: none"> <li>▪ When prices for a good/service rise, it <b>incentivises producers</b> to reallocate resources from a less profitable market in order to <b>maximise their profits</b></li> <li>▪ Falling prices <b>incentivise reallocation</b> of resources to <b>new markets</b></li> </ul> </li> </ul>
<b>Signalling</b>	<ul style="list-style-type: none"> <li>▪ A change in price provides a <b>signal</b> to consumers and producers about where resources are wanted (markets with increasing prices) and where they are not (markets with decreasing prices)</li> <li>▪ This allows consumers and producers to make informed decisions</li> </ul>



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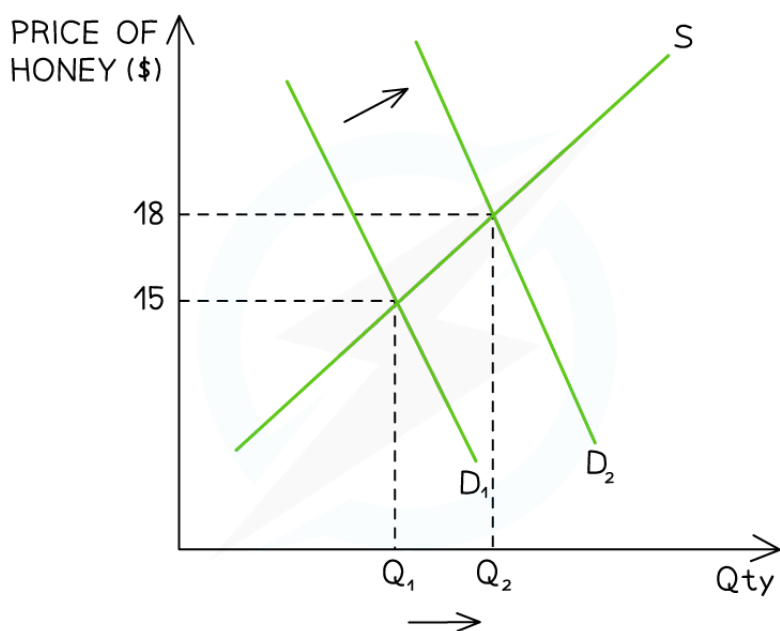
- High prices **signals** to a producer to produce more of that good/service and would signal to **other producers** to **enter the market**
- A falling price **signals** to consumers to purchase more of a product

## Price Mechanism at Work in Different Markets

- The price mechanism operates in all markets including **local**, **national** and **global**

### Price Mechanism in a Local Market

- Long Island, USA has a rich history of agriculture, and many producers set up farm shops selling directly to the public. In recent years, honey consumption has increased



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*A diagram showing the increase in demand for honey in a local market, Long Island*

### Diagram analysis

- Due to a change in one of the **conditions of demand** (most likely change in tastes), the demand for honey in the local market has **increased from  $D_1 \rightarrow D_2$**  and the **price has increased** from \$15 to \$18
- The higher price serves to **ration** a valuable product. Those consumers who can afford to purchase it at \$18, receive it

- The higher price **incentivises** producers to allocate more **factors of production** to producing honey and this is evident from the **extension in supply** from  $Q_1$  to  $Q_2$
- The shift in demand **signals** to other producers that **demand for honey is strong** and they should consider **entering** the market



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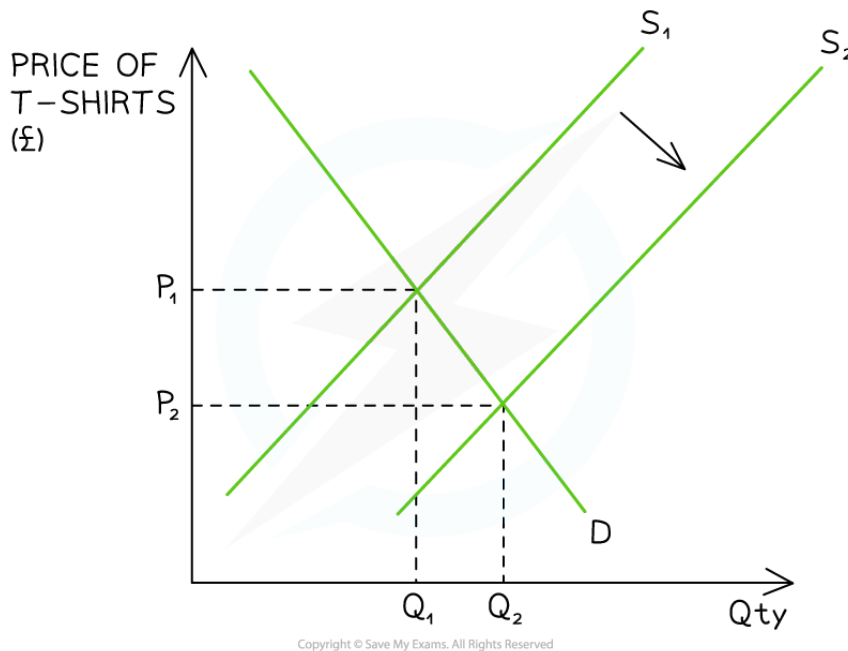


### Examiner Tips and Tricks

It can get confusing explaining some of the differences between the three functions. Thinking about it in the following way helps to simplify the process. If there is shift in demand/supply the market is sending a **signal** to consumers and producers. If there is a **movement** along one of the curves, this is as a result of the **incentive function**.

## Price Mechanism in a National Market

- The T-Shirt market in the UK is highly competitive. In 2018, the price of cotton fell



*A diagram showing an increase in the supply of T-shirts in the UK market*

### Diagram analysis

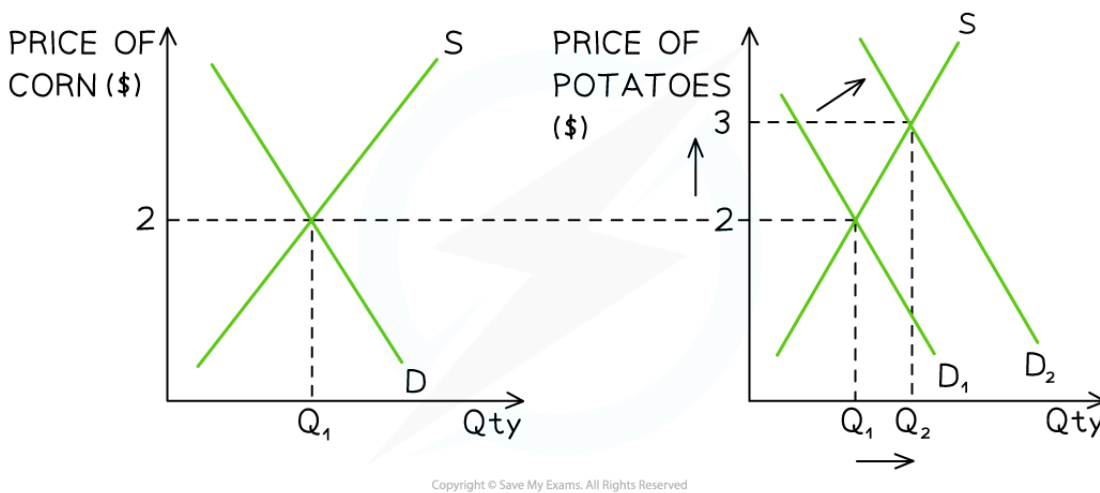


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- Due to a change in one of the **conditions of supply** (a decrease in costs of production), the **supply** of T-shirts in the UK has **increased** from  $S_1 \rightarrow S_2$  and the **price has fallen** from  $P_1$  to  $P_2$ 
  - The **lower price** increases the number of consumers who can access this product. It is **rationed more widely** as there is an **excess in supply**
  - The lower price **incentivises** consumers to purchase more T-shirts and this is evident from the **increase in demand** from  $Q_1$  to  $Q_2$
  - The shift in supply **signals** to other producers that **there is excess supply** and they should consider **leaving** the market

## Price Mechanism in a Global Market

- Cash crops** such as wheat, oats, barley, soy, corn, sunflowers etc. can be grown using the same **factors of production**
  - Many countries **export** excess crops into the **world market**
  - Producers** use world prices to guide their **production decisions**



*A diagram showing the price mechanism at work in two related global markets, corn and potatoes*

### Diagram analysis

- Farmers in France have been **producing corn** for many years, and the market price is \$2/kg. The **price** of potatoes in **global markets** has until recently been steady at \$2/kg
- Due to a change in one of the **conditions of demand** (possibly an increase in global population), the demand for potatoes has **increased** from  $D_1 \rightarrow D_2$  and the **price has increased** from \$2/kg to \$3/kg



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- The higher price serves to **ration** the potatoes. Those consumers who **can afford** to purchase it for \$3, receive it
- The higher price **incentivises** producers to **allocate more factors of production** to producing potatoes and this is evident from the **extension in supply** from  $Q_1$  to  $Q_2$
- The shift in global demand **signals** to producers in France that **demand for potatoes is strong** and they should consider **switching some of their production** from corn to potatoes



### Examiner Tips and Tricks

Whenever you are faced with questions on the **functions of the price mechanism**, remember that all three functions are built on the principle of **self-interest**. This will help you to explain each function.

For example, **lower prices incentivises consumers** to purchase **more** of the product with the same income. Conversely, the **incentive for producers** is the opposite encouraging them to **reallocate their factors of production** to producing more profitable products.

Each party acts in their self interest

## Advantages and Disadvantages of the Price Mechanism

- The price mechanism allows for **efficient allocation of resources** in a **free market**
  - There is no need for **government intervention** or planning, as price signals incentive to **allocate** more or less resources

### Evaluating the Price Mechanism

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ There is an <b>efficient</b> allocation of resources under price mechanism as markets adapt to changes quickly <ul style="list-style-type: none"> <li>▪ Resources are allocated to their most <b>valued use</b> for production and consumption</li> </ul> </li> <li>▪ Consumers have the <b>freedom</b> to choose goods and services based on tastes, preferences, and income</li> </ul>	<ul style="list-style-type: none"> <li>▪ It is an impersonal method of allocating resources, as it does not take into account consumer utility or decision making</li> <li>▪ It may create inequality as only those with higher incomes have buying power</li> <li>▪ <b>Asymmetric information</b> and <b>monopoly power</b> can lead to consumers being exploited by firms</li> </ul>



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- |   |  |
|---|--|
| <ul style="list-style-type: none"><li>▪ This gives consumers more power to influence what firms produce</li><li>▪ As a result, producers then allocate resources towards <b>needs and wants</b> of consumers</li><li>▪ Giving them an <b>incentive</b> to be <b>innovative</b> and develop new areas of business activity</li><li>▪ This allows them to <b>maximise their profits</b></li></ul> | <ul style="list-style-type: none"><li>▪ Under provision of <b>public goods</b> causes market failure</li><li>▪ The use of the price mechanism in some markets could be undesirable or distort incentives<ul style="list-style-type: none"><li>▪ E.g. Using price mechanism for markets for life saving treatments such as blood or organ donations would incentivise high prices and create inequalities in access</li></ul></li></ul> |
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## An Introduction to Market Failure

# Understanding Market Failure

- In a **free market**, the price mechanism determines the most efficient allocation of scarce resources in response to the competing wants and needs in the marketplace
  - **Scarce resources** are the **factors of production** (land, labour, capital, enterprise)
  - Free markets often work very well
- However, the free market sometimes leads to **market failure**, where there is a less than optimum allocation of resources **from the point of view of society**
- If resources were allocated in a different way, more output could be produced
- For example, when the free market causes a **lack of equity** (inequality) or **environmental degradation**
  - There is either **over-provision** or **under-provision** of the goods/services and therefore an **over-allocation** or **under-allocation** of the resources (factors of production) used to make these goods/services
  - From society's point of view, there is a lack of **allocative efficiency**
  - Economic or social welfare is **not maximised** when there is a market failure

## Complete Versus Partial Market Failure

- A **complete market failure** occurs when there is a **missing market**
  - The market **does not supply** products at all despite society having demand for it
  - This is the case for **public goods**, for example the provision of national defence
- A **partial market failure** occurs where the market exists, but does not provide resources in the optimum quantities
  - There is an **over production/consumption** or **under production/consumption** of a good or service



### Examiner Tips and Tricks





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Most market failures in A Level Economics are partial market failures which involve a deadweight loss to society, but you need to be able to clearly distinguish between complete and partial market failures and give examples of each.



### Worked Example

Which one of the following is most likely to result in **complete market failure**?

- A. The existence of merit goods in markets
- B. The government sets minimum prices for excludable and rival goods
- C. Positive externalities in production and consumption
- D. Non-excludability and no enforceable property rights

**Answer:**

- D. Non-excludability and no enforceable property rights

Private firms lack the **incentive** to provide goods or services. There is no way to charge consumers if everyone has access to the resource (**non-excludable and with no property rights**). This results in a **missing market**

## Causes of Market Failure

- From society's point of view, market failure occurs when there is **lack of efficiency in the allocation of resources**

### Causes of Market Failure

Cause	Explanation
<b>Public goods</b>	<ul style="list-style-type: none"> <li>▪ <b>Public goods</b> are beneficial to society but would be <b>under-provided</b> by a free market, e.g. flood defences</li> </ul>
<b>Externalities</b>	<ul style="list-style-type: none"> <li>▪ Occur when there is an external impact on a <b>third party</b> not involved in the economic transaction between the buyer and seller, e.g. passive smoking, which is considered a negative externality</li> </ul>



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	<ul style="list-style-type: none"> <li>These impacts can be <b>positive or negative</b> and are often referred to as <b>spillover effects</b> <ul style="list-style-type: none"> <li>These impacts can be on the <b>production side</b> of the market (producer supply) or on the <b>consumption side</b> of the market (consumer demand)</li> </ul> </li> </ul>
<b>Tragedy of the commons</b>	<ul style="list-style-type: none"> <li>The <b>tragedy of the commons</b> occurs when <b>common pool resources</b> are used by either the producer or consumer in a way that is not <b>sustainable</b> <ul style="list-style-type: none"> <li>When left to the free market, there is <b>no private ownership</b> over these resources as it is <b>costly and inefficient</b> to find ways to exclude other producers</li> </ul> </li> </ul>
<b>Merit &amp; demerit goods</b>	<ul style="list-style-type: none"> <li><b>Merit goods</b> are goods or services that are <b>beneficial</b> to consumer and society but the free market does not provide enough of them e.g. education or healthcare</li> <li><b>Demerit goods</b> are goods which have <b>harmful</b> impacts on consumers or society, e.g. cigarettes</li> </ul>
<b>Market imperfections</b>	<ul style="list-style-type: none"> <li>There are three types of market imperfections: imperfect information, monopoly/monopoly power and factor immobility <ul style="list-style-type: none"> <li><b>Imperfect information</b> is when buyers and sellers have different levels of information in a market and this can <b>distort market outcomes</b>, resulting in market failure</li> <li><b>Monopoly power</b> causes market failures when a monopolist charges higher prices, which may lead to <b>under consumption</b> and reduced output, resulting in a <b>partial market failure</b></li> <li><b>Factor immobility</b> is when <b>factors of production</b> are unlikely to be perfectly mobile <ul style="list-style-type: none"> <li>If they are immobile and cannot be easily reallocated to match a change in demand, markets will not clear, resulting in the <b>misallocation of resources and partial market failure</b></li> </ul> </li> </ul> </li> </ul>
<b>Unequal distribution of income and wealth</b>	<ul style="list-style-type: none"> <li>The unequal allocation of <b>wealth</b> or <b>income</b> can result in a misallocation of resources and market failure</li> <li>When wealth or income is not distributed in society, some consumers may not be able to afford to purchase goods and services</li> </ul>

- This could lead to poverty or **increased negative externalities** such as social unrest



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## Market Failure: Public, Private & Quasi Public Goods

### The Distinction Between Private & Public Goods

- A **public good** is substantially different to a **private good**
- **Private goods** are goods that firms are able to provide to generate profits. They can generate profits as these goods are rival and excludable
  - The firm is able to **exclude** certain customers from purchasing their goods through the price mechanism. If customers cannot afford to buy them, then they are excluded
  - **Rival** goods can only be consumed by a single user. Customers can compete for these goods, which are limited in supply and this rivalry helps to generate profits for firms
- **Public goods** are goods that are beneficial to society, e.g streetlights and lighthouses. They are not provided by private firms due to the principles of **non-excludable** and **non-rivalrous**
  - **Non-excludable** means that anyone can access these resources without having to pay for them. This usually occurs because no one owns the resource (no private ownership), e.g street lighting
  - **Non-rivalrous** is when one person consuming it does not prevent another person from consuming it. They are finite in supply
- If firms decided to provide these goods anyway, it would give rise to the '**free rider**' problem
  - This is a situation where customers realise that they can still **access the goods**, even **without paying** for them
  - If they are paying, they stop and continue to **enjoy the benefits**. They are '**free-riding**' on the backs of other paying customers
  - Over time, any customers who are paying for the goods will stop
  - At some point firms will cease to provide these goods and they will become **under-provided** in society, resulting in a **missing market** and a **complete market failure**
  - **Governments** usually provide public goods but the quantity provided may be **less than the socially optimal level**



#### Examiner Tips and Tricks

Ensure that you know the difference between public goods and merit goods. The key idea is that private firms will not provide public goods, so under-provision (or no provision) occurs in society.



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On the other hand, private firms will provide some merit goods as they are able to make a profit on them. However, due to the profit incentive and high prices that firms charge, not all members of society will be able to afford these goods. So merit goods are also under-provided, but there is some provision of them



### Worked Example

Which one of the following distinguishes a **private good** from a **pure public good**?

- A. A private good can only be provided by private firms
- B. Anyone can access private goods without having to pay for them
- C. Consumption of a private good creates positive externalities for other consumers
- D. One person's consumption of a private good reduces the amount available for other consumers

#### Answer

- D. One person's consumption of a private good reduces the amount available for other consumers

Private goods are **rivalrous** goods that can only be consumed by a single user. Customers can compete for these goods, which are limited in supply, and this rivalry helps to generate profits for firms. A pure public good is **non-rivalrous**, as one person consuming it does not prevent another person from consuming it

## Quasi-Public Goods

- Quasi-public goods are **non-pure public goods** that have characteristics of **public goods** and **private goods**
  - They are partially provided by the **free market** and have **elements of non-excludability** or **non-rivalry**
  - Once provided, most people can make use of roads, but roads can be **semi-non-excludable** through the use of tolls
  - At **high** levels of **demand, consumption** by one individual can **reduce** the **benefit** to others by **limiting the availability** of roads due to increased congestion. This makes roads **semi-non-rival**
  - **Public goods** are usually **funded by governments**. Quasi-public goods may be **funded** by a combination of **government revenues** and **user fees**

#### How Public Goods take on Characteristics of Private Goods



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Example	Public Good	Quasi-Public Good
<b>Internet connection</b>	<ul style="list-style-type: none"> <li>An internet connection can be <b>non-rivalrous</b>, one person using the internet does not impact the ability for another person to consume it</li> </ul>	<ul style="list-style-type: none"> <li>Can become <b>semi-non-rivalrous</b> as once the number of users reaches a certain threshold, the connection slows down and impacts the benefits received by consumers</li> </ul>
<b>Public park</b>	<ul style="list-style-type: none"> <li>A park can be <b>non-excludable</b> if it is <b>accessible to all</b></li> <li>The benefits of park cannot be confined to an individual</li> </ul>	<ul style="list-style-type: none"> <li>A private park may become <b>excludable</b> as it can charge an entrance fee during the day but in the evening is free for anyone to access</li> </ul>
<b>Motorways</b>	<ul style="list-style-type: none"> <li>Roads are <b>non-excludable</b> but can be non-rivalrous. Traffic congestion makes the use of roads rivalrous, as the presence of one vehicle on the road reduces the ability for others to travel freely</li> </ul>	<ul style="list-style-type: none"> <li>Governments could implement toll collection systems on motorways, making them <b>excludable</b>. It restricts use of motorways to those who are willing to pay the toll</li> </ul>

## Technological Change & Public Goods

- Technological advancements can influence the characteristics of public goods, making them more **excludable** and **rivalrous**
  - It can create **cost effective** ways to price goods/services and therefore public goods can become **quasi-public goods or even private goods**

## Technological change and excludability

- Technology is often **non-rival but excludable**
  - E.g Television broadcasting, once considered **non-excludable**, can now be made **excludable** through subscription services. It excludes consumers who are not willing to pay
  - This transforms it into a quasi-public or even a private good

## Technological change and the free-rider problem

- Technology can be used to minimise the **free-rider problem** associated with public goods

- E.g By implementing technologies like **number-plate recognition** and **tracking** on motorways, it reduces free-riding behaviour and tackles payment evasion. It is also more efficient than using traditional tolls, as it reduces traffic congestion as cars can move more freely and do not stop to pay tolls



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## Public Goods Leading to Tragedy of the Commons

- The tragedy of the commons describes a situation when individuals with **access to a public**, unregulated resource (a common), act in self-interest over the well-being of society
  - **Common pool resources** are **non-excludable**, similar to **public goods**
  - **Unlike public goods**, common-pool resources are **rivalrous** in **consumption**. Individuals can **exploit shared resources** until demand exceeds supply, resulting in **overconsumption**
  - If resources are used in an **unsustainable** way, this could ultimately lead to the **damage** or **depletion** of a shared resource
- E.g The overfishing of oceans. As fishing vessels have an incentive to maximise profits, they attempt to catch as many fish as possible
  - If left **unregulated**, overfishing can **deplete populations** of fish to **unsustainable levels** and result in **habitat degradation**
- A more detailed discussion of tragedy of commons can be found on this [page](#)



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## Market Failure: Negative Externalities

### An Introduction to Externalities

- **Externalities** occur when there is an external impact **on a third party** not involved in the economic transaction
  - These impacts can be **negative or positive** and are often referred to as **spillover effects**
  - These impacts can be on the **production side** of the market (producer supply) or on the **consumption side** of the market (consumer demand)
- **External costs** occur when the **social costs** of an economic transaction are greater than the **private costs**
  - A **private cost** for the producer is **what they actually pay** to produce a good/service
  - An **external cost (negative externality)** is the damage not factored in to the economic activity (for example, generating air pollution when producing electricity)
  - **Private cost + external cost = social costs**
- **External benefits** occur when the **social benefits** of an economic transaction are greater than the **private benefits**
  - A **private benefit** for the consumer is **what they actually gain** from consuming a good/service
  - An **external benefit (positive externality)** is the benefit not factored in to the economic activity (for example, someone who studies law enjoys private benefits but society benefits from having strong legal institutions)
  - **Private benefit + external benefit = social benefits**

### Negative Externalities of Production

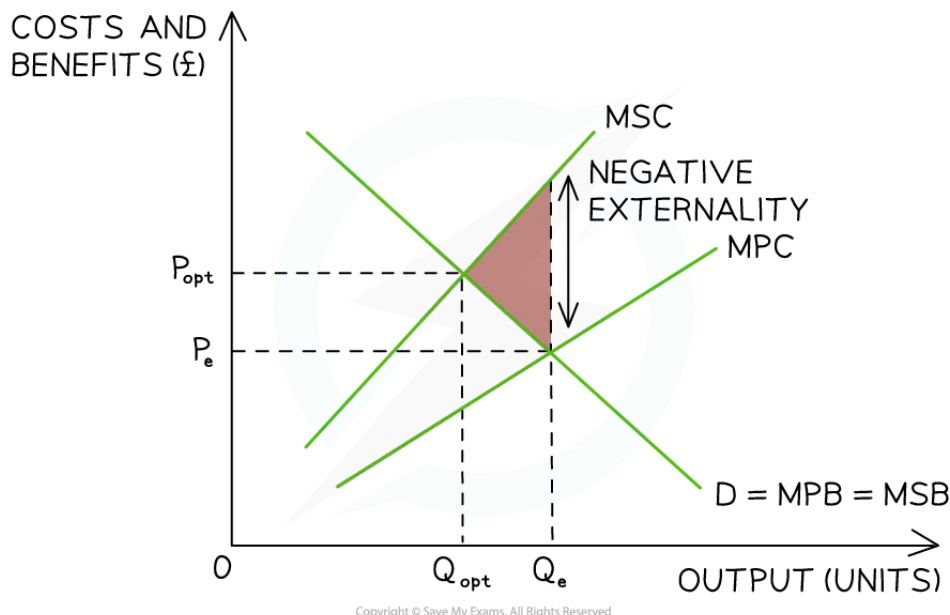
- **Negative externalities of production** are often created during the production of a good/service
  - The **externalities** are caused by **producer supply** and result in a **negative external impact** on a **third party**
- As only the **private costs are considered** by producers and not the **external costs**, firms will **over-produce** these goods and services, causing **market failure**
  - If the **external costs** were considered, the quantity of goods and services **produced would decrease**, and they would be sold at a **higher price**
  - E.g The impact of air pollution, water contamination, noise pollution and health problems in local communities from





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## Diagram: Negative Externality of Production



*External costs of production results in an over-production equal to  $Q_{opt} - Q_e$*

## Diagram analysis

- The **marginal social benefit (MSB)** is assumed to equal the **marginal private benefit (MPB)** as the focus is on the **producer (supply)** side of the market
- The larger the **external costs** in production, the larger the gap between the **marginal private cost (MPC)** and the **marginal social cost (MSC)**
- The optimal allocation of resources for **society**, would generate an equilibrium where **MSB = MSC**
  - This is at  $P_{opt}Q_{opt}$  which is **allocatively efficient**
  - There is **no market failure** at this equilibrium
- The free-market allocates resources at the **private optimum** as firms fail to take into account the full **social costs (negative externalities)** from production, resulting in a **welfare loss**
  - This is shown at  $P_eQ_e$  where the **MPC = MSB**
- **As the MPC are less than the MSC**, there is an **over-production** equal to  $Q_e - Q_{opt}$
- At any quantity produced **beyond  $Q_{opt}$** , the **MSC is greater than the MSB**, resulting in a **deadweight loss to society** (pink triangle)



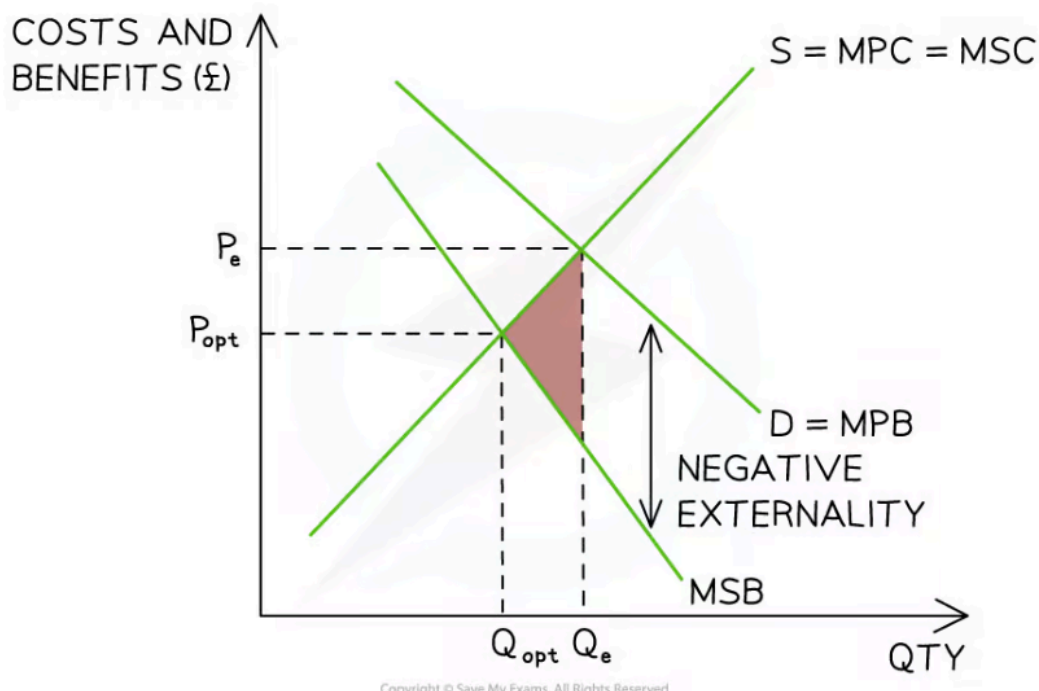
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- To be **socially efficient**, factors of production should be reallocated to producing other goods/services
- There is an opportunity for **government intervention** (indirect taxes, legislation, regulation, etc.), to force this market to be more **socially efficient** and reduce the overall **welfare loss** to society

## Negative Externalities of Consumption

- **Negative externalities of consumption** are often created during the consumption of a good/service
  - The **externalities** are caused by **consumer demand** and result in a **negative external impact** on a **third party**
  - As only the **private costs are considered** by consumers and not the **external costs**, individuals will **over-consume** these goods and services, causing a **market failure**
    - If the **external costs** were considered, the quantity of goods and services **demand would decrease**, and they would be sold at a **lower price**
    - Common examples of **negative externalities from consumption** include cigarettes, alcohol, fatty foods and single-use plastic products

### Diagram: Negative Externality of Consumption



External costs of consumption result in overconsumption, as shown by the gap between  $Q_{opt}$  and  $Q_e$



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## Diagram analysis

- The **MSC** is assumed to be equal to the **MPC** as the focus is on the **consumer (demand) side** of the market
- The larger the **external costs** in consumption, the larger the gap between the **MPB** and the **MSB**
- The optimum allocation of resources for **society**, would generate an equilibrium where **MSB = MSC**
  - This is at  $P_{opt}Q_{opt}$  which is **allocatively efficient**
  - There is **no market failure** at this equilibrium
- The free-market allocates resources at the private optimum as consumers fail to take into account the **negative externalities** from consumption, resulting in a **welfare loss**
  - This is shown at  $P_eQ_e$  where **MPB = MSC**
- As the **MPB** are **greater than the MSB**, there is an **over-consumption** of goods from  $Q_{opt} - Q_e$
- At any quantity consumed **beyond  $Q_{opt}$** , the **MSC is greater than the MSB**, resulting in a **deadweight loss (DWL) to society** (pink triangle)
- To be **socially efficient**, fewer factors of production should be allocated to producing this good/service
- There is an opportunity for **government intervention** (indirect taxes, legislation, regulation, etc.), to force this market to be more **socially efficient and reduce the overall welfare loss to society**



### Worked Example

The existence of negative externalities in consumption results in a misallocation of resources. This is because at the **free market level of output**:

- A. The marginal social benefit exceeds the marginal social cost
- B. The marginal private cost equals the marginal social cost.
- C. The marginal social benefit is less than the marginal social cost
- D. The marginal social cost is less than the marginal private benefit

#### Answer

- C. The marginal social benefit is less than the marginal social cost



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The free market allocates resources at the private optimum as consumers **fail to take into account** the **negative externalities** from consumption, this is where the **MPB = MSC**

The market equilibrium leads to a **misallocation of resources**, as it fails to account for the negative externalities, resulting in overconsumption of the good or service. The **social cost** of consumption will be higher than the **social benefit** (the benefit is only to the private individual consuming the good/service), therefore **MSB < MSC**



### Examiner Tips and Tricks

You should be able to illustrate the misallocation of resources resulting from externalities in production and consumption.

When the external benefit or cost is on the producer side, there will be two supply curves.

When the benefit or cost is on the consumer side, there will be two demand curves.

The direction of the triangle that shows the DWL should always point towards the social optimum equilibrium.



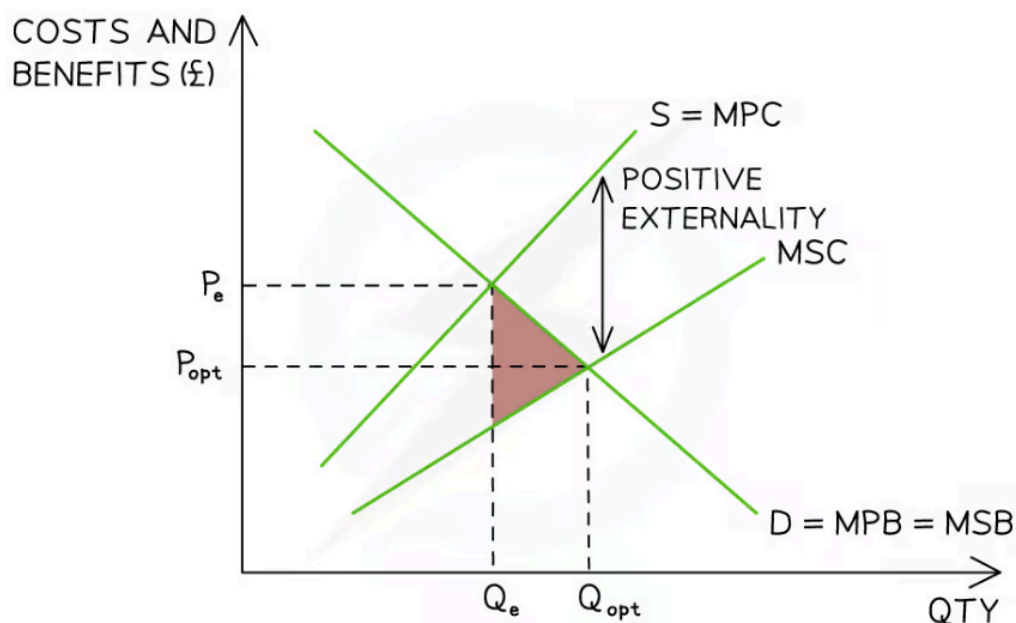
Your notes

## Market Failure: Positive Externalities

### Positive Externalities of Production

- Positive externalities of production are often created during the production of a good/service
  - The externalities are caused by producer supply and result in a positive external impact on a third-party
- The market is failing due to under-provision of these goods and services, as only the private benefits are considered by the producers and not the external benefits, causing market failure
  - If the external benefits were considered, the quantity of goods and services produced would increase, and they would be sold at a lower price
  - E.g. The production of honey increases the number of bees in an area, which increases pollination potentially helping other food producers in the area

### Diagram: Positive Externality of Production



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*External benefits of production (positive externality) resulting in an under-production equal to  $Q_{opt} - Q_e$*



Your notes

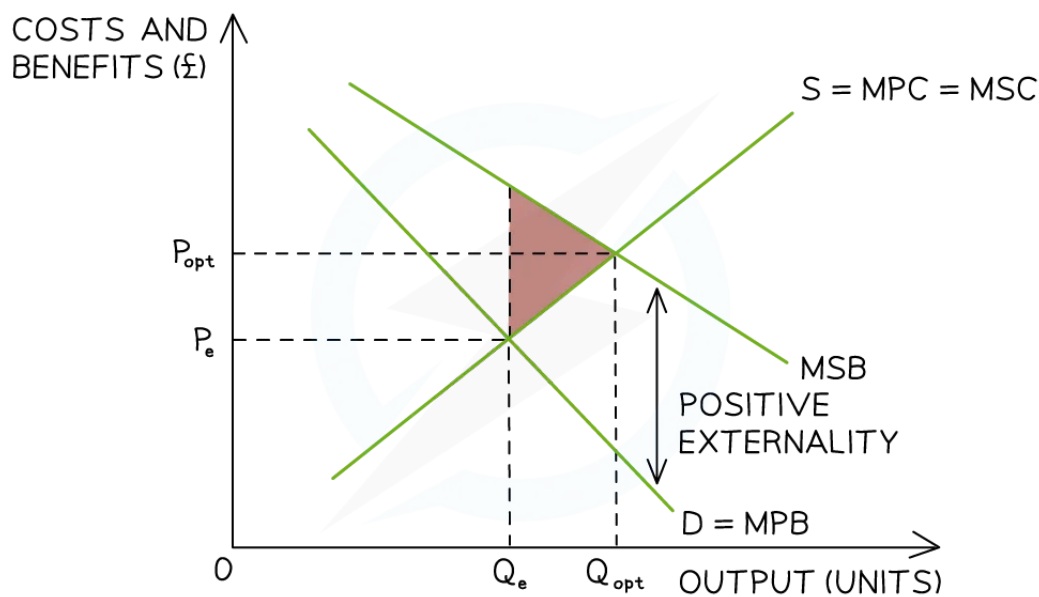
## Diagram analysis

- The **marginal social benefit (MSB)** is assumed to equal the **marginal private benefit (MPB)** as the focus is on the **producer (supply) side** of the market
- The free-market equilibrium can be seen at  $P_e Q_e$ . This is where the **MPC = MSB**
- The larger the **external benefits** in production, the larger the gap between the **marginal social cost (MSC)** and the **marginal private cost (MPC)**
- The optimum allocation of resources from **society's point of view** would generate an equilibrium where **MSB = MSC**. This can be found at  $P_{opt} Q_{opt}$ . There is no **market failure** at this equilibrium
- The free market is failing due to **under-provision** of this good/service equal to  $Q_{opt} - Q_e$
- At any quantity produced **below  $Q_{opt}$** , the **MSB is greater than the MSC**, resulting in lost benefits and a **deadweight loss to society** (pink triangle)
- To be **socially efficient**, **more** factors of production should be **allocated** to producing this good/service
- There is an opportunity for **government intervention** (indirect taxes, legislation, regulation, etc.), to force this market to be more **socially efficient**
- Any intervention that **reduces the welfare loss** will be beneficial

## Positive Externalities of Consumption

- **Positive externalities of consumption** are created during the consumption of a good/service
  - The externalities are caused by **consumer demand** and result in a **positive external impact** on a **third-party**
- As only the **private costs are considered** by consumers and not **the external costs**, individuals will **under-consume** these goods/services causing a **market failure**
  - If the **external benefits** were considered, the demand **would increase**, and the goods would be sold at a higher price
  - An example of a **positive externality of consumption** is vaccinations. These protect those that receive them, but also prevent the spread of disease to others around them. Other examples include education, healthcare and healthy eating

## Diagram: Positive Externality of Consumption



*External benefits of consumption (positive externality) result in an under-consumption equal to  $Q_{opt} - Q_e$*

## Diagram analysis

- The **MSC** is assumed to be equal to the **MPC** as the **focus is on the consumer (demand side)** of the market
- The larger the **external benefits** in consumption, the larger the gap between the **MPB** and **MSB**
- The **optimal allocation** of resources for **society** would generate an equilibrium where **MSB = MSC**
  - This can be found at  $P_{opt}Q_{opt}$  which is **allocatively efficient**
  - There is **no market failure** at this equilibrium
- The free-market equilibrium allocates resources at the **private optimum** as consumers fail to take into account the **positive externalities** from consumption, resulting in a **welfare loss**
  - This is shown at  $P_eQ_e$  where the **MPB=MSC**
- As the **MPB** are **less than the MSB**, this results in an **under-consumption** equal to  $Q_{opt} - Q_e$
- At any quantity consumed **below  $Q_{opt}$** , the **MSB is greater than the MSC**, resulting in lost benefits and a **deadweight loss to society** (pink triangle)

- To be **socially efficient**, **more** factors of production should be **allocated** to producing this good/service
- There is an opportunity for **government intervention** (subsidies, partial provision, etc.) to force this market to be more **socially efficient and reduce the overall welfare loss to society**



Your notes





Your notes

## Market Failure: Tragedy of the Commons

### Tragedy of the Commons

- **Common pool (access) resources** are natural resources over which no **private ownership** has been established. They are **non-excludable** but **rivalrous** in consumption
- **Examples of common pool resources** include
  - Oceans (especially international waters)
  - Natural forests and rainforests
  - Communal grazing land
  - Water sources such as rivers
- The **tragedy of the commons** (as explained by Garret Hardin in 1968) occurs when common pool resources are used in production in an **unsustainable** way
  - Left to the free market, there is **no private ownership** over these resources, as it is **costly and inefficient** to find ways to exclude other producers
- This creates **negative externalities of production and consumption**
  - There is **no incentive** for firms to **reduce production levels** as they seek to **maximise profits**. If an individual producer cut back production, other firms may then enter the market, causing them to lose out. Each private producer has the **self-interest to keep exploiting resources**
  - There is also **no incentive** for consumers to reduce consumption levels. If an individual consumer cuts back on consumption, other consumers will use the resource. E.g Excessive consumption of fish from a lake will deplete fish stock, exploiting resource
- The **external costs of production and consumption** often include pollution, environmental damage and resource depletion, which prevents future generations from benefiting in the same way. This results in **partial market failure**



#### Worked Example

The tragedy of the commons can be applied to the **grazing of cattle on public lands**. What is the nature of this market failure?

1. Overgrazing results in degradation of grazing lands

2. The establishment of grazing permits by government authorities
3. The positive externalities associated with cattle farming
4. The third-party effects on wildlife due to cattle ranching

**Answer**

A. Overgrazing results in degradation of grazing lands

The tragedy of the commons refers to a situation where a **commonly owned resource** (public grazing lands), is overexploited due to individuals' self-interest. Overgrazing can occur when there are no restrictions or regulations on the number of cattle allowed to graze. This can lead to the degradation of grazing lands or soil erosion



Your notes

## Real World Example of the Tragedy of the Commons

- **The Darién Gap** is in Panama and is located on the border with Columbia
- This area is one of the most impenetrable rainforests on the planet and is **inhabited by indigenous tribes**, drug traffickers, and para-military organisations

### Diagram: Map of the Darien Gap in South America



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*The Darién Gap is a common pool resource*

## Background

- The Darién Gap is the only area where the 19,000km **Pan American highway** from Ushuaia (Argentina) to Prudhoe Bay (Alaska) is interrupted: a 62-mile gap
- **Illegal logging** has been steadily increasing
- The most valuable resource in the forest is the **Rosewood Cocobolo tree** which sells in Panama for \$4,000 per m<sup>3</sup> but in China for \$12,000 per m<sup>3</sup>: this **scarce resource** is rapidly being depleted
- Loggers use the **river system** to penetrate deep into the forest
- Once the forest canopy is thinner, they bring in bulldozers and create **illegal roads** to speed up the extraction



Your notes

- When they have left, palm oil entrepreneurs move in and plant palm oil trees
- Despite laws in place to protect the forest, there is **no enforcement and corruption is common**
- Hundreds of tons are shipped each year to China
- The indigenous tribes are **waging war with the illegal loggers** and there are frequently violent clashes and deaths

## Solutions

- Several solutions have already been attempted by the **indigenous community**, including
  - **Collective self-governance** of the area
  - Forest mapping using drones
  - Using drones to gather video footage of the identity of the illegal loggers
  - Appeal to the government by the three indigenous tribes for **legal ownership rights** to the land
  - Appealing for the creation and enforcement of **international agreements** on the sale of illegal timber

## Evaluating Solutions to Common Pool Resources (in the Darién Gap)

An Evaluation of the Solutions used to Address the Tragedy of the Commons in the Darién Gap


Solution	Advantages	Disadvantages



Your notes

<p><b>Collective self-governance</b> The tribes can come together and attempt to govern the land which they consider to be their homeland. They can work together to stop illegal activity</p>	<ul style="list-style-type: none"> <li>Working together can provide a common purpose and build a community</li> <li>The tribes understand the land best and know how and where to best restrict the activities of the illegal loggers</li> <li>This activity can provide employment within the tribes</li> <li>The resources can be protected and used in a sustainable way</li> </ul>	<ul style="list-style-type: none"> <li>The illegal loggers are violent and armed with automatic weapons so violence is almost a certainty</li> <li>The tribes have fewer resources (weapons, machinery, and money) than the illegal loggers, so struggle to limit their activity</li> <li>Attempts to slow down extraction may actually increase the pace of extraction as the illegal loggers are feeling more pressure to get the job done</li> </ul>
<p><b>Appeal to the government for legal ownership rights of tribal land</b></p> <p>So far, about 40% of the land has been granted to the tribes</p>	<ul style="list-style-type: none"> <li>The owners are legally entitled to defend their land</li> <li><b>Legal rights of property ownership</b> can be enforced by law</li> <li>Illegal logging is now <b>theft</b> and the tribes have hired lawyers to prosecute individuals and firms involved</li> <li>Some illegal loggers have been imprisoned</li> </ul>	<ul style="list-style-type: none"> <li><b>Corruption</b> remains high. The profits from illegal logging are so high that firms and individuals involved easily <b>pay bribes</b> to officials who are meant to represent the legal process</li> <li>The illegal loggers ignore the land owners and <b>violent clashes</b> continue to occur</li> </ul>
<p><b>International Agreements</b></p> <p>A global solution, enforceable by law helps to reduce illegal behaviour</p>	<ul style="list-style-type: none"> <li>Global agreements to <b>protect indigenous flora and fauna</b> exist</li> <li>In 2018, Interpol seized 200 m<sup>3</sup> of wood headed for Hong Kong, which were violating these agreements</li> </ul>	<ul style="list-style-type: none"> <li>Loggers up their game and <b>avoid detection</b></li> <li>Not all countries follow <b>the law</b> and in this case, China actively ignore it so as to get their hands on this resource</li> <li>It is only really effective when all countries sign up for it and when</li> </ul>

the **law enforcement agencies** in each country are active and free from corruption

  
Your notes


## Examiner Tips and Tricks

This is a contextualised example of the tragedy of the commons and is a useful way to prepare for the exam. The ability to apply this example and solutions effectively is a skill required when explaining and evaluating exam responses

For evaluation responses, you should be able to include well-focused analysis of policy responses to tragedy of commons with clear, logical reasoning and supported evaluation throughout the response

# Understanding Property Rights

- Property rights of common access resources are issued to **define the ownership** of a resource and set out **how they can be used**
  - If common land is **given over** to **private ownership**, the private owner has a **strong incentive to manage the resource** and take care of it for future use

## Example of Property Rights to Resolve Tragedy of the Commons

Common access resource	Property rights issued	Internalise the externality	Reduce market failure
<ul style="list-style-type: none"> <li>Producer uses trees in a forest to supply timber</li> <li>Forest is at risk of over exploitation</li> </ul>	<ul style="list-style-type: none"> <li>Firm issued property rights by the government</li> <li>Firm now owns part of a forest</li> </ul>	<ul style="list-style-type: none"> <li><b>Negative externalities</b> are <b>internalised</b>. The producer will be <b>directly impacted</b> and will pay for the <b>over-exploitation of resources</b></li> <li>Producer has <b>incentive</b> not to over-exploit the trees or deplete resource and <b>manages resource</b> for continued future use</li> </ul>	<ul style="list-style-type: none"> <li>Quantity produced should be reduced to a socially optimum level</li> <li>Allocative efficiency in the market</li> </ul>



Your notes

## Evaluating the use of Property Rights

- Allocating **property rights to manage common resources** poses challenges of **equity, divisibility** and **enforcement**

### Problems with Allocating Property Rights

Problem	Explanation
<b>Equity</b>	<ul style="list-style-type: none"><li>Deciding who receives the property rights is difficult, as it grants one group significant <b>power</b> to make decisions about use of resource<ul style="list-style-type: none"><li>E.g If a local community is allocated property rights over a forest/lake, they hold all <b>decision-making power</b>. A producer may have to <b>compensate the</b> other for access to the common resource</li></ul></li><li>It might be preferable to assign property rights to <b>local agencies</b> or governments to ensure <b>fairness</b></li></ul>
<b>Cost of enforcement</b>	<ul style="list-style-type: none"><li><b>Enforcing and regulating</b> the use of property rights of common access resources tends to be expensive to monitor</li><li>E.g Enforcing property rights over fishing grounds in large oceans / lakes poses challenges. It may be easy for fishing vessels to avoid the regulations</li></ul>
<b>Divisibility</b>	<ul style="list-style-type: none"><li>Some common access resources pose challenges due to their <b>indivisibility</b>, as they are not easily divided among users</li><li>E.g Air is intangible, which complicates the assignment and monitoring of property rights</li></ul>



Your notes

## Market Failure: Merit & Demerit Goods

### Classification of Merit and Demerit Goods

- Merit goods are products that are beneficial for society but the free market does not provide enough of them
- Demerit goods are products which have harmful impacts on consumers or society
- **Value judgements** play a role in determining whether goods are classified as merit or demerit goods
- Some goods are clearly defined as being a merit or demerit good, such as education (merit good) and illegal drugs (demerit good)
- The classification of some goods can be unclear as it is based on a **value judgement**

#### Classification of Goods Based on Value Judgements

Good	Merit good	Demerit good
<b>Cannabis</b>	<ul style="list-style-type: none"> <li>▪ Can help with physical pain</li> <li>▪ May allow some to enjoy life more</li> </ul>	<ul style="list-style-type: none"> <li>▪ Can contribute to poor health and psychological conditions</li> </ul>
<b>Contraception</b>	<ul style="list-style-type: none"> <li>▪ Supporters of family planning argue contraception can help reduce costs of an unwanted pregnancy</li> </ul>	<ul style="list-style-type: none"> <li>▪ Some religions argue that contraception is a sin and encourages sexual promiscuity, undermining family values</li> </ul>

### Merit Goods

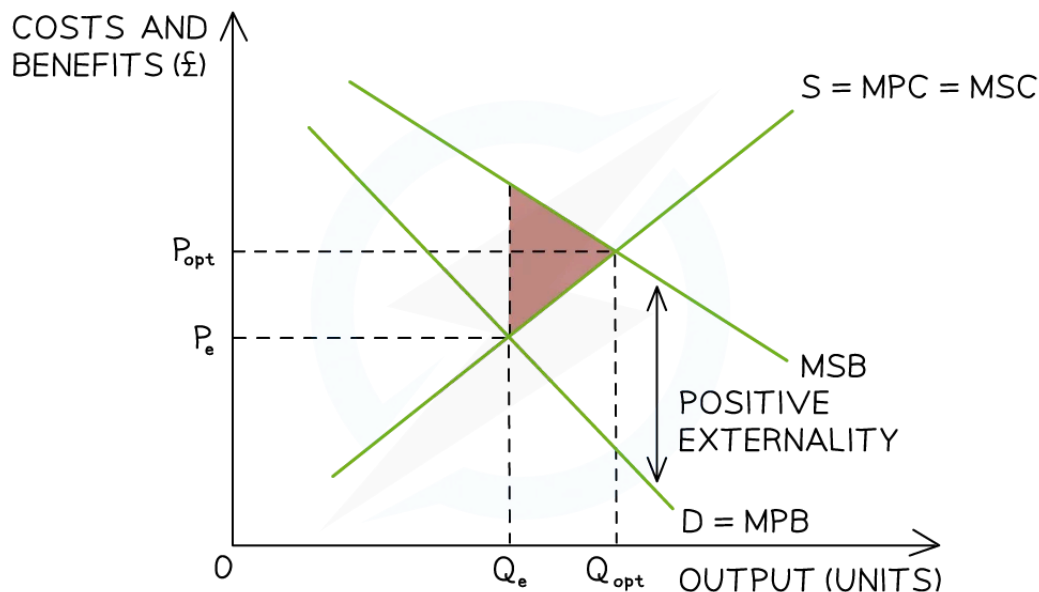
- Consumers **under-consume** merit goods as they do not fully recognise the **private** or **external benefits**
- Merit goods are often **under-provided** in a **free-market** and are a cause of **partial market failure**
  - Common examples include vaccinations, education and electric cars
  - Governments often have to **subsidise** these goods in order to lower the price and/or increase the **quantity demanded**





Your notes

## Diagram: Merit Goods in a Free Market



*Positive externalities from the consumption of merit goods*

## Diagram analysis

- The **marginal social costs (MSC)** are assumed to be equal to the **marginal private cost (MPC)** as the focus is on the **consumer (demand side)** of the market
- The **optimal allocation** of resources for **society** would generate an equilibrium where **marginal social benefit (MSB) = MSC**
  - At  $P_e Q_e$  where there is **no market failure**
- The free-market equilibrium for **merit goods** is **under consumed** as consumers fail to consider the **external benefits** from consumption
  - This is shown at  $P_e Q_e$  where the  $MPB = MSC$
- The quantity consumed at  $Q_e$  is **below** the socially optimal level resulting in an **under-consumption** and a **partial market failure**. There is a **deadweight loss to society** (pink triangle)
- To be **socially efficient**, **more** factors of production should be **allocated** to producing this good/service



## Worked Example

Which one of the following applies to **merit goods**?

1. They are always over consumed by individuals
2. They are likely to be provided by the market
3. They can only be supplied by the government
4. They are always free

### Answer

B. They are likely to be provided by the market.

Merit goods (education and hospitals) can often be provided by the market. They are beneficial to society and usually not enough are provided.



Your notes

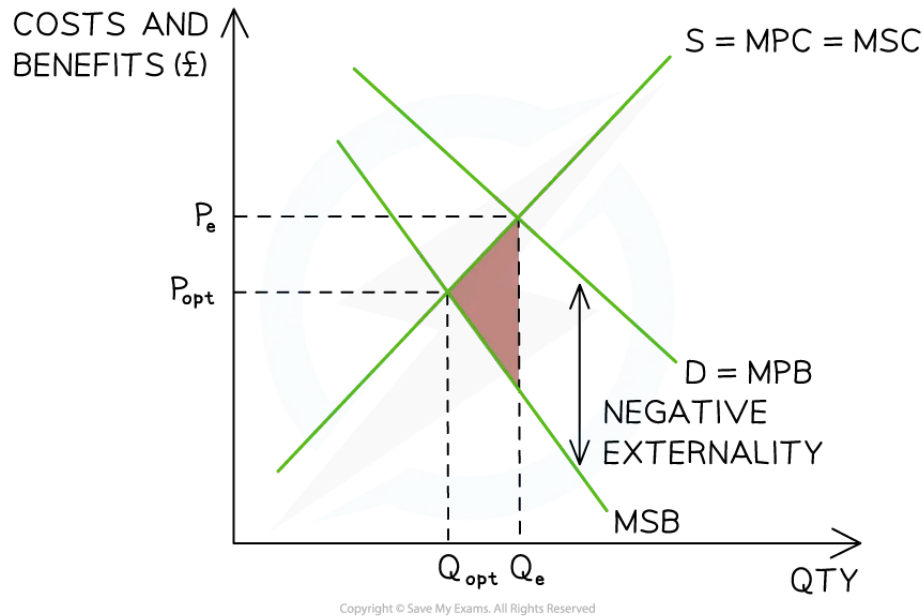
## Demerit Goods

- Consumers **over-consume** demerit goods to a greater extent than is considered **desirable by society**
- Consumers are unlikely to consider all of the consequences when making consumption decisions
  - The **social costs** of **consumption outweigh** the **private costs**
- Demerit goods are often **over-provided** in a **free-market** and are a cause of **partial market failure**
  - These goods are **usually addictive and harmful** for consumers, e.g. gambling, alcohol, drugs, sugary foods/drinks
  - Governments often have to **regulate** these goods in such a way that they raise the prices and/or limit the quantity demanded
- The **activities of producers** can generate significant external costs, e.g. pollution caused by coal-burning power stations during the production of electricity
  - However, electricity is considered to be a **merit good**
  - The smoke is a by-product and not a good/service
- For this reason, economists usually consider **demerit goods** to be goods used in **consumption**

## Diagram: Demerit Goods in a Free Market



Your notes



### Negative externalities from the consumption of demerit goods

## Diagram analysis

- The **MSC** is assumed to be equal to the **MPC** as the focus is on the **consumer (demand) side** of the market
- The **optimal allocation** of resources for **society** would generate an equilibrium where **MSB = MSC**
  - At  $P_e Q_e$  where there is **no market failure**
- The free-market equilibrium for **demerit goods** is **over consumed** as consumers fail to consider the **external costs** from consumption
  - This is shown at  $P_e Q_e$  where the **MPB = MSC**
- The quantity consumed at  $Q_e$  is **above** the socially optimal level, resulting in overconsumption and a **partial market failure**. There is a **deadweight loss to society** (pink triangle)
- To be **socially efficient**, **fewer** factors of production should be **allocated** to producing this good/service



## Examiner Tips and Tricks



Your notes

Not all products that result in positive or negative externalities in consumption are merit or demerit goods. This is a common misconception.

You should be able to illustrate the misallocation of resources resulting from the consumption of merit and demerit goods using diagrams showing marginal private and social cost and benefit curves.



### Worked Example

Which of the following applies to **demerit goods**

1. Their marginal private benefit is greater than their marginal social benefit
2. They are always under provided by the market
3. Their marginal social benefit is greater than their marginal private benefit
4. They have the characteristics of non-excludability and non-rivalry

#### Answer

A. Their marginal private benefit is greater than their marginal social benefit

Individuals may derive some private benefit from consuming demerit goods, but the overall social benefit is **less** due to the negative consequences on society. The **MPB** (the benefit to the individual consumer) tends to exceed the **MSB** (the benefit to society as a whole)

The other options are incorrect:

- Demerit goods may tend to be over-provided and over-consumed by the free market
- Demerit goods are associated with negative externalities, implying that the social benefit is less than the private benefit
- Demerit goods can often be characterised by excludability and rivalry, meaning they can be restricted to those willing and able to pay and their consumption by one person reduces its availability to others

## Merit & Demerit Goods & Imperfect Information

- A **lack of information** can make it difficult for consumers **to make decisions** about a good or service
- Due to **imperfect information**, consumers may have **incomplete** or **inaccurate information** about the external consequences associated with **merit or demerit goods**
- **Merit goods** are often **under-provided**, due to a **lack of demand**. Consumers are often unaware of the **positive effects** of consuming such goods

- **Demerit goods** are often **over-provided**, due to **high demand** as **consumers are ill-informed** regarding the consequences of consuming such goods
  - Efforts to educate the public by the government, such as public awareness campaigns can help consumers make more informed choices



Your notes



Your notes

## Market Failure: Market Imperfections

### Imperfect Information & Market Failure

- **Information gaps** exist in nearly all free markets and distort market outcomes, resulting in partial market failure
- One of the underlying assumptions of a free market is that there is **perfect information** in the market
  - Buyers and sellers have the **same level of information** about the good/service. This is called **symmetric information**
- **Asymmetric (imperfect) information** distorts socially optimal prices and quantities in markets, resulting in **over-** or **under-provision** of goods/services
  - **Imperfect information** refers to a situation when buyers and/or sellers have **inaccurate information** or **do not have all the information** necessary to make an **informed decision**
  - This distorts **socially optimal** prices and quantities in markets, resulting in **over-** or **under-provision** of goods and services and **market failure**
  - Sellers may be aware of product defects which are not communicated to buyers
    - Goods and services with **dangerous side effects** would be sold in lower quantities if buyers were aware of these effects (consider the VW emissions scandal). **Fewer** factors of production should be allocated towards producing these
    - Similarly, goods and services with **extra benefits** would be sold in higher quantities if buyers were aware of them. **More** factors of production should be allocated towards producing these

### Monopoly Power & Market Failure

- **Market power** refers to the ability of a firm to influence and control the conditions in a specific market, allowing them to have a significant impact on **price**, **output**, and other market variables
- A **pure monopoly** exists when there is only one producer in the market. A firm with monopoly power controls over 25% of the market share (in the UK) and, as such can act as a pure monopoly
- **Monopolies** have **market power** and can set **higher prices** for consumers to earn **abnormal profits**
  - Monopoly markets are characterised by high barriers to entry making it difficult for other firms to join the market



Your notes

- There is **no incentive** for a monopoly power to be economically efficient which leads to higher prices and **reduces consumer welfare**
- Markets are not **allocatively efficient** and a **misallocation of scarce resources** results in **market failure**
- In a monopoly market, consumers pay a higher price and firms produce lower output than under firms in perfect competition
- Scarce resources are not **allocated efficiently**, resulting in a **market failure**

## Factor Immobility & Market Failure

- The **mobility** of the **factors of production** refers to how easily firms can **switch between different factors of production**
- The more mobile the factors, the more **flexibility** there will be in production
  - E.g. If a firm can produce both cars and trucks on its production line, and switching from one to the other only requires a few simple changes to some robotic arm extensions, then its **capital** is very mobile
  - This means that the firm can be very **responsive to changes in demand** for cars and trucks and is likely to make more profit
- Factor immobility occurs because of difficulties in reallocating factors of production to **alternative uses**
  - If factors are **immobile**, then markets will find it **difficult to clear** when there is a change in supply and demand
  - E.g. If demand increases but **supply is fixed** due to immobile factors of production, it will take time for a new market equilibrium to be reached
  - This can result in the **misallocation of resources**, leading to **market failure**
- Land, capital and labour can all be **immobile**
  - **Enterprise** encompasses a worker who combines the other factors of production to earn profit
  - Enterprise is generally **very mobile**, as the skills involved can be applied in every industry. Someone who has borne risks and organised factors of production in the car industry should be able to replicate this in the retail industry too
  - All natural resources that come from the earth and are used in the production of goods or services

### Factor Mobility of Land, Capital & Labour

Factor of	Explanation
-----------	-------------



Your notes

<b>Production</b>	
<b>Land</b>	<ul style="list-style-type: none"> <li>Land is generally immobile due to <b>climate conditions</b> <ul style="list-style-type: none"> <li>E.g It is not possible to grow certain crops in some climates</li> </ul> </li> </ul>
<b>Capital</b>	<ul style="list-style-type: none"> <li>Capital can be both mobile and immobile</li> <li>Technology (machinery) can become <b>obsolete</b> <ul style="list-style-type: none"> <li>As industries change, so does the type of <b>capital equipment</b> needed</li> <li>E.g. The UK is less likely to use specialist coal mining equipment now and it is difficult to put this equipment to use elsewhere</li> </ul> </li> </ul>
<b>Labour</b>	<ul style="list-style-type: none"> <li>Labour can be mobile or immobile</li> <li><b>Immobility of labour</b> may lead to a misallocation of resources and market failure because of a change in the pattern of demand results in <b>structural unemployment</b></li> <li><b>Geographical immobility</b> occurs when workers find it difficult to move from one area to another <ul style="list-style-type: none"> <li>Variations in regional house prices and the cost of living</li> <li>Family and social ties to an area</li> <li>Financial costs</li> <li>Imperfect information</li> </ul> </li> <li><b>Occupational immobility</b> occurs when workers cannot easily move between job sector. This can depend on <ul style="list-style-type: none"> <li>Level of education and skills</li> <li>Specific qualifications required</li> <li>Insufficient work experience</li> </ul> </li> </ul>



## Worked Example





Your notes

**Immobility of labour** may lead to a misallocation of resources and market failure because

1. It decreases unemployment rates
2. The education and training needed to reduce labour immobility is a public good
3. It prevents workers from moving to areas with better job opportunities, causing inefficiencies
4. The immobility of factors of production is a negative externality in production

**Answer**

C. It prevents workers from moving to areas with better job opportunities, causing inefficiencies

This is due to **geographical mobility**, labour is **immobile** and workers may not be able to move to areas where there is a higher demand for their skills or where there are more job opportunities. This can result in a situation where there are labour shortages in some regions while other regions experience high unemployment rates. Resources are not efficiently allocated across different sectors and regions of the economy



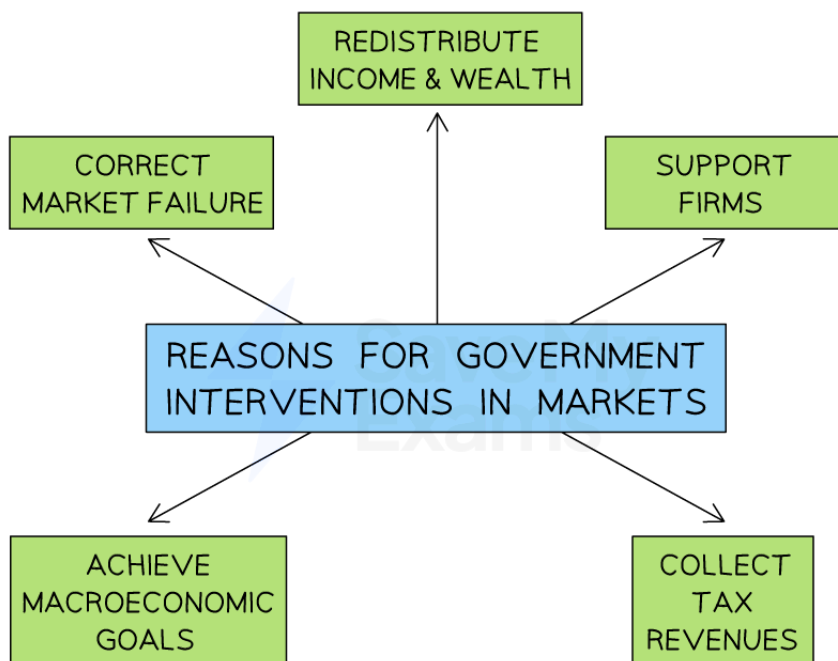
Your notes

## Government Intervention: An Introduction

### Reasons why Government Intervene

- Nearly every economy in the world is a **mixed economy** and has varying degrees of **government intervention**
- One of the **main reasons** that governments intervene in markets is to **correct** various **market failures**

### Diagram: Reasons for Government Intervention



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#### *Government intervention in mixed economic systems*

### 1. To correct market failure

- In many markets, there is a less than **optimal allocation of resources** from society's point of view, resulting in **market failure**
- Market failure can occur for a number of reasons, e.g. externalities, overconsumption of demerit goods or monopoly power
- In maximising their self-interest, firms and individuals will not self-correct this allocation of resources and there is a role for the government



Your notes

- To prevent market failure, a government can intervene to improve the economic performance of firms and markets and **influence the level of production or consumption**

## 2. Redistribute income and wealth

- Intervention seeks to achieve a more **equitable** (fairer) **distribution of income** and **wealth** to improve lives of citizens
- Taxing the rich to support poorer households can **reduce poverty** and have impacts on individuals and the **economy**

## 3. Support firms

- In a global economy, governments choose to **support key industries** so as to help them remain competitive

## 4. Collect tax revenues

- Governments need money to provide **essential services**, **public goods** and **merit goods**
- Services can be paid for with revenue raised through interventions such as taxation, privatisation, sale of licences (e.g. 5G licences), and sale of goods/services

## 5. Achieve macroeconomic objectives

- Macroeconomic objectives are centred on **improving the overall performance of the economy** and **living standards for the population** as a whole
- Government intervention in markets can influence **economic stability** and **promote economic growth**
- E.g By providing essential public health services, the government can improve the health and therefore, living standards of citizens

## Government Objectives & Resource Allocation

- Government (state) involvement aims to improve the **efficiency of markets** by altering the **allocation of resources**
- The **level** and **type of intervention** used depend on the government's **macroeconomic objectives**
  - **Free-market economists** argue that government intervention should be **limited** to all but the most basic services such as the provision of national defence
  - Other economists argue that the government should intervene in **all areas of the economy** to ensure the **most efficient** and **equitable distribution of resources**

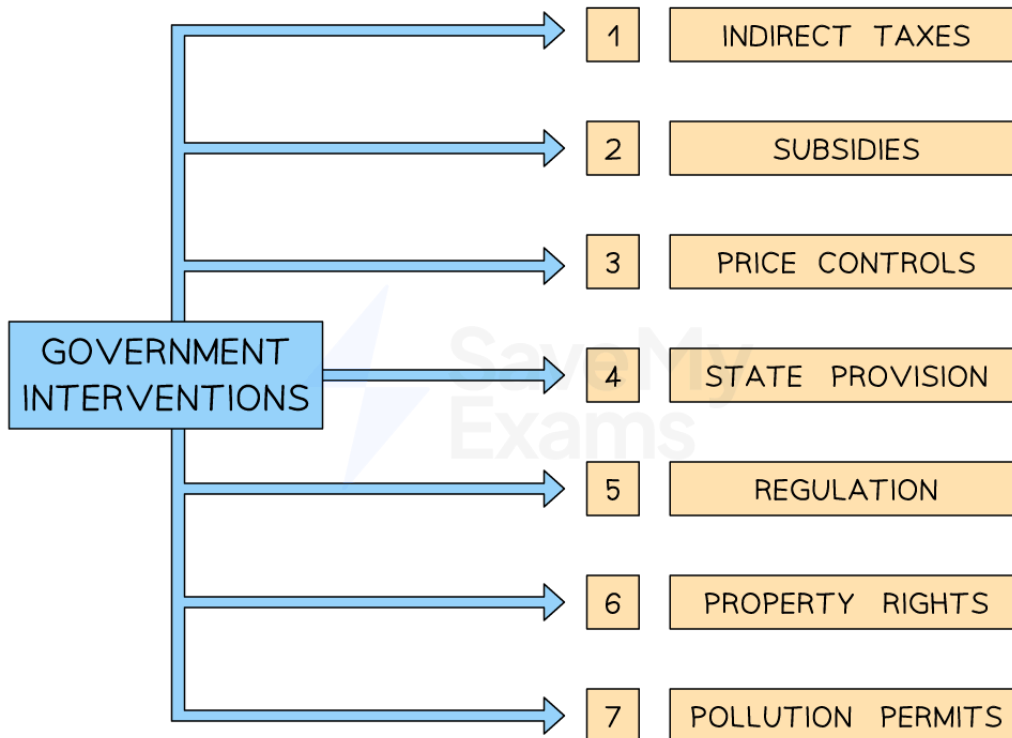
## Common Types of Intervention to Correct Market Failure



Your notes

- There are **a number of ways** in which **governments can intervene** to **correct market failure** and **influence the allocation of resources**
- The **microeconomic and macroeconomic objectives** of a government also affect **how governments intervene** in an economy
- Governments can implement **market-based** and **non-market based policies**
  - Market-based policies involve the government taking action to **affect the conditions of supply or demand** and therefore price and output, e.g. by offering subsidies
  - Non-market based policies occur when the **government directly intervenes in the market**, e.g. by legally enforcing regulations such as smoking bans or direct state provision (e.g. NHS)

### Diagram: Common Types of Intervention to Correct Market Failure



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#### *Ways in which governments correct market failure*

- The main ways in which governments intervene are classified as:
  - Public expenditure**
  - Taxation**

- Price controls
- Legislation and regulation

## Examples

- The UK government provides subsidies to consumers to purchase electric vehicles
  - The subsidy lowers the relative cost and may incentivise consumers to purchase an electric car. If there is increased demand, producers may allocate more resources to producing these goods
- The UK government has set a **price cap (maximum price)** that energy suppliers can charge consumers for a unit of energy. This is to ensure that energy prices are fair
  - The Office of Gas and Electricity markets (OFGEM) regulates this market



### Examiner Tips and Tricks

In your exam, you should be able to explain why there is a role for governments within a market economy and evaluate the various methods of government intervention in a particular market, such as the healthcare or telecoms market.



Your notes



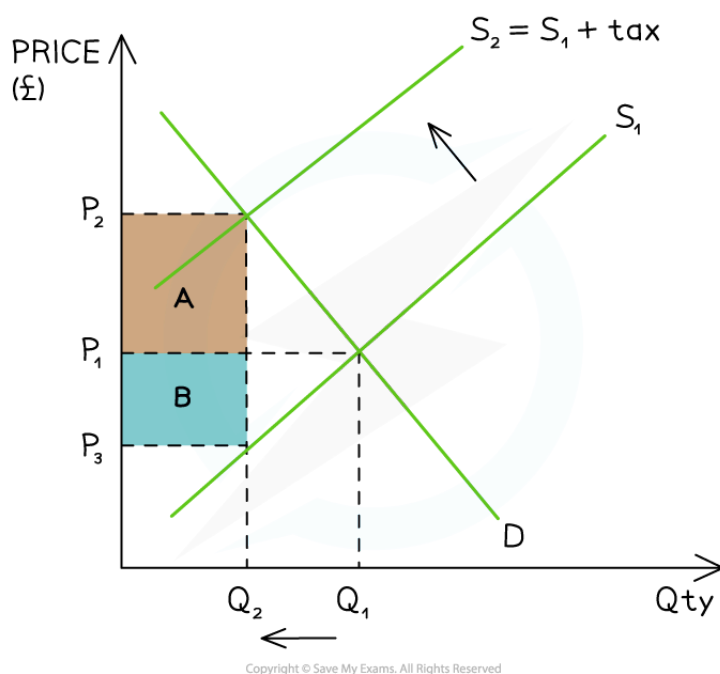
Your notes

## Government Intervention: Indirect Taxation & Subsidies

### Using Indirect Taxes to Correct Market Failure

- An **indirect tax** is an **expenditure tax** that is paid when goods and services are purchased
- Indirect taxes are levied by the government to **solve market failure** and/or to raise **government revenue**
  - **Government revenue** is used to fund **government provision of goods/services** e.g education
- Indirect taxes are levied by the government on **producers**, increasing the **cost of production** for firms
  - Costs can be transferred on to consumers via **higher prices**
  - **Higher prices** reduce quantity demanded (QD) and discourage the consumption of specific goods or services, for example **demerit goods** or products that generate **negative externalities**

### Diagram: Impact of an Indirect Tax



*An indirect tax is split between the consumer (A) and the producer (B)*

### Diagram analysis



Your notes

- The **initial equilibrium** is at  $P_1Q_1$
- The government places a **specific tax** on a **demerit good**
  - The supply curve shifts upward from  $S_1 \rightarrow S_2$  by the amount of the tax
- The **new equilibrium** is at  $P_2Q_2$
- The **price the consumer pays has increased** from  $P_1$  to  $P_2$
- The **price the producer receives has decreased** from  $P_1$  to  $P_3$
- The **government receives tax revenue** =  $(P_2 - P_3) \times Q_2$
- **Producers and consumers** each pay a share or (**incidence**) of the tax
  - The **consumer incidence** of the tax is equal to **area A**:  $(P_2 - P_1) \times Q_2$
  - The **producer incidence** of the tax is equal to **area B**:  $(P_1 - P_3) \times Q_2$
- The final price is **higher** and QD is **lower**, resulting in a **deadweight loss** to society

#### Evaluating the use of Indirect Taxes

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ <b>Raises the price</b> and reduces the quantity demanded of <b>demerit goods</b></li> <li>▪ Reduces <b>external costs</b> of consumption and production</li> <li>▪ <b>Raises revenue</b> for government programs</li> </ul>	<ul style="list-style-type: none"> <li>▪ The <b>effectiveness of the tax</b> in reducing the use of demerit goods depends on the price elasticity of demand (PED)               <ul style="list-style-type: none"> <li>▪ Indirect taxes are often placed on <b>price inelastic goods</b> so QD may not fall very much</li> </ul> </li> <li>▪ It may lead to the <b>creation of illegal markets</b> as consumers seek to avoid paying the taxes</li> <li>▪ Producers may be forced to <b>lay off some workers</b> as QD and output falls due to the higher prices</li> </ul>



#### Examiner Tips and Tricks

The size of the tax incidence on the consumer and producer depends on the elasticities of the demand and supply curves. If evaluating the impact of an indirect tax, consider the PED and PES.



Your notes

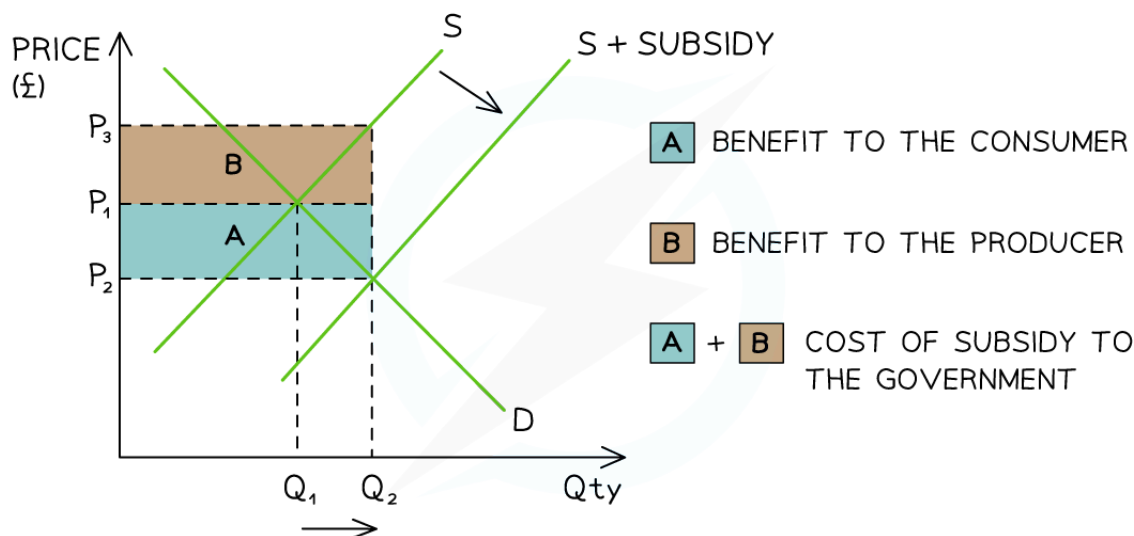
If demand is price-inelastic or supply is price-elastic, the tax burden will be greater for the consumer.

If demand is price-elastic or supply is price-inelastic, the tax burden will be greater for the producer.

## Using Subsidies to Correct Market Failure

- A **producer subsidy** is a **per unit** amount of money given to a firm by the government
- Subsidies are used by governments to **solve market failure** by attempting to **increase** the **output and consumption** of specific goods or services, for example, **merit goods**
  - A subsidy **reduces** the **costs of production** and encourages an increase in the **output** of a good or service
  - Producers **keep some** of the subsidy and **pass the rest on** to consumers in the form of lower prices
  - **Lower prices** of a product encourage **increased consumption**
  - The distribution of the subsidy between producers and consumers is determined by the **price elasticity of demand (PED)** of the product

### Diagram: Impact of a Subsidy



*The cost of a subsidy to the government (A+B) and the share received by the consumer (A) and producer (B)*





Your notes

## Diagram analysis

- The original **equilibrium** is at  $P_1Q_1$
- The **subsidy** shifts the supply curve from  $S \rightarrow S + \text{subsidy}$ 
  - This **increases the QD** in the market from  $Q_1 \rightarrow Q_2$
- The **new market equilibrium** is  $P_2Q_2$ 
  - This is a **lower price** and **higher QD** in the market
- Producers receive  $P_2$  from the consumer **PLUS** the subsidy per unit from the government
  - Producer revenue is therefore  $P_3 \times Q_2$
  - **Producer share** of the subsidy is marked B in the diagram
- The subsidy **decreases the price** that consumers pay from  $P_1 \rightarrow P_2$ 
  - **Consumer share** of the subsidy is marked A in the diagram
- The **total cost** to the government of the subsidy is  $(P_3 - P_2) \times Q_2$

### Evaluating the use of Subsidies

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ A subsidy <b>increases demand</b> for merit goods</li> <li>▪ It <b>lowers prices</b> make goods more affordable to those on lower incomes reducing effects of poverty</li> <li>▪ Can be <b>targeted</b> to helping specific domestic industries</li> <li>▪ Helps to <b>change destructive consumer</b> behaviour over a longer period of time e.g. subsidising electric cars makes them affordable and helps motorists to see them as an option for the masses, not just the wealthy</li> <li>▪ Can be used to help domestic firms <b>compete internationally</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ It distorts the <b>allocation of resources</b> in markets               <ul style="list-style-type: none"> <li>▪ E.g. it often results in excess supply when used in agricultural markets</li> </ul> </li> <li>▪ There is an <b>opportunity cost</b> associated with the government expenditure</li> <li>▪ Subsidies are a <b>disincentive</b> for firms to become more efficient or competitive</li> <li>▪ Subsidies are <b>prone to political pressure</b> and <b>lobbying</b> by powerful business interests</li> </ul>

- E.g most oil companies receive subsidies from their respective governments (despite making substantial profits each year)



Your notes



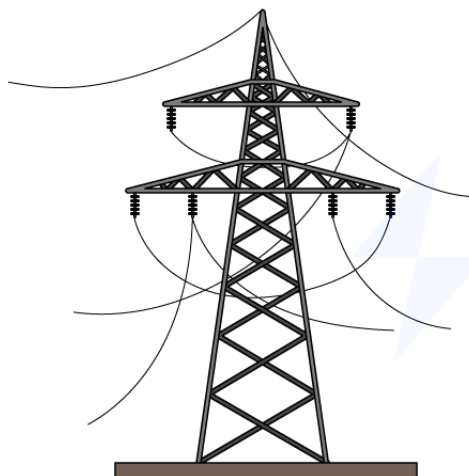
Your notes

## Government Intervention: Price Controls

### Using Price Controls to Correct Market Failure

- **Price controls** are a type of **government intervention** in markets to **change** the existing **market price**
- To **correct market failure**, price controls are used to **influence** the **levels of production** or **consumption** in markets that are failing to allocate resources efficiently
- Two types of control are commonly used: maximum price (price ceiling) and minimum price (price floor)

#### EXAMPLES OF PRICE CONTROLS



UK SET AN ENERGY PRICE CAP  
(CEILING) IN APR–JUNE 2024



SCOTLAND HAVE A MINIMUM PRICE  
(FLOOR) PER UNIT OF ALCOHOL

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### Price Ceilings (Maximum Prices)

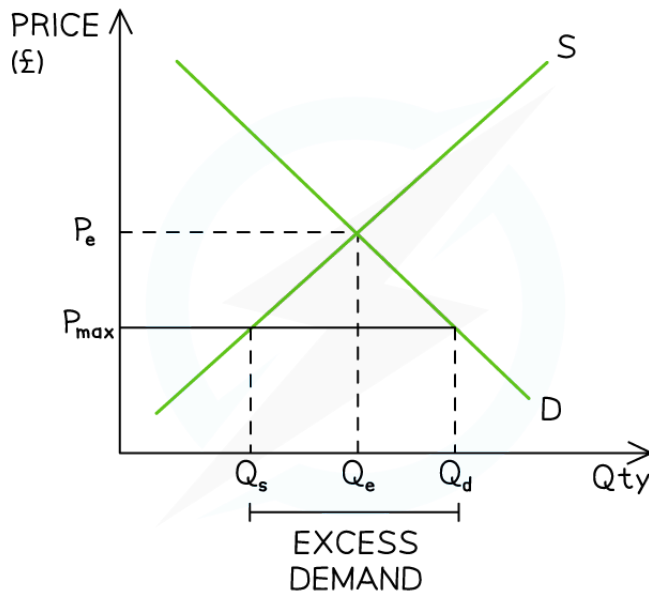
- A **price ceiling** is a maximum price set by the government. Sellers cannot legally sell the good or service at a higher price
- The price ceiling is set **below** the existing **equilibrium market price**
- Governments will often use **price ceilings** in order to help **consumers** if the market price is too high, especially for essential goods and services

- Sometimes they are used for **long periods** of time e.g. rent controls to keep rents lower in housing rental markets
- Other times, they are **short-term solutions** aimed at limiting unusual price increases e.g. petrol



Your notes

## Diagram: Impact of Price Ceiling



*The price ceiling ( $P_{max}$ ) sits below the free market price ( $P_e$ ) and creates a condition of excess demand (shortage)*

## Diagram analysis

- The initial **market equilibrium** is at  $P_e Q_e$
- A **price ceiling** is imposed at  $P_{max}$  **below the equilibrium level**
  - The lower price **reduces the incentive to supply** and there is a contraction in quantity supplied (QS) from  $Q_e \rightarrow Q_s$
  - The lower price **increases the incentive to consume** and there is an extension in quantity demanded (QD) from  $Q_e \rightarrow Q_d$
  - This creates a condition of **excess demand (shortage)** equal to  $Q_s Q_d$
- The aim of this policy is to promote **equity** in the market for essential goods and services and it attempts to solve market failure caused by income inequality

### Evaluating the use of Price Ceilings (Maximum Prices)



Your notes

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Some consumers <b>benefit</b> as they purchase at lower prices. For these consumers, their <b>consumer surplus</b> increases</li> <li>Price ceilings can <b>stabilise markets in the short-term</b> during periods of intense disruption, e.g. Covid supplies at the start of the pandemic</li> </ul>	<ul style="list-style-type: none"> <li>Some consumers are <b>unable to purchase</b> due to the shortage</li> <li>Producers lose out as the price is below what they would usually receive: their <b>producer surplus</b> falls</li> <li>The unmet demand usually encourages the creation of <b>illegal markets</b> and exploitation of consumers</li> <li>Maximum prices distort market forces and therefore can result in an <b>inefficient allocation of scarce resources</b> <ul style="list-style-type: none"> <li>e.g. price ceilings of housing rentals in the property market create a shortage</li> </ul> </li> <li>When used in necessity markets, Governments may be forced to intervene further by <b>supplying the good/service themselves</b> in order to meet the excess demand</li> </ul>

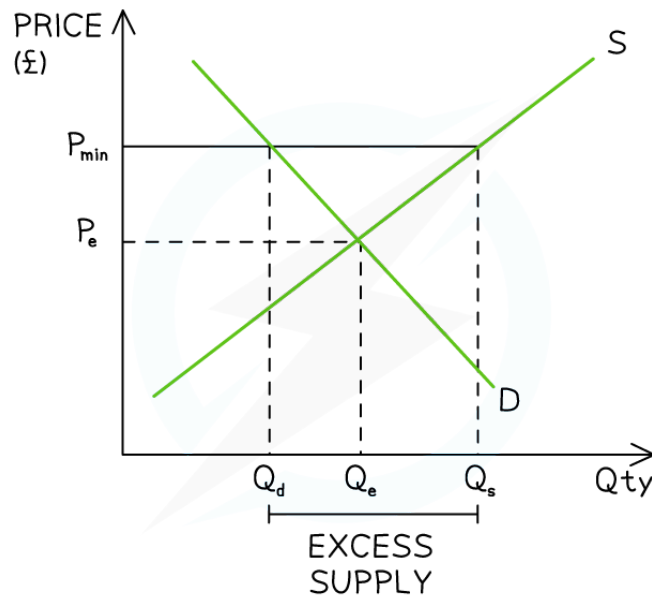
## Price Floors (Minimum Prices)

- A **price floor (minimum price)** is set by the government **above** the existing **free market equilibrium price** and sellers cannot legally sell the good/service **at a lower price**
- Governments will often use **price floors** to **help producers** or to **decrease consumption of a demerit good**
  - In Wales and Scotland, governments have introduced a minimum price of alcohol at 50 pence per unit
- Minimum prices are also used in the **labour market to protect workers** from wage exploitation. These are called **minimum wages**

## Diagram: Impact of a Price Floor



Your notes



**Price floor ( $P_{min}$ ) is set above the free market price ( $P_e$ ) creating a condition of excess supply (surplus)**

## Diagram analysis

- The initial **market equilibrium** is at  $P_e Q_e$
- A **price floor** is imposed at  $P_{min}$  above the equilibrium level
  - The higher price **increases the incentive to supply** and there is an extension in supply from  $Q_e \rightarrow Q_s$
  - The higher price decreases **the incentive to consume** and there is a contraction in demand from  $Q_e \rightarrow Q_d$
  - This creates an **excess supply equal to  $Q_d Q_s$**
- In the case of **demerit goods**, this **discourages consumption**, reducing output to a level closer to the **socially optimal level** of output

### Evaluating the use of Price Floors (Minimum Prices)

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ In <b>agricultural markets</b>, producers benefit as they receive a higher price (Governments will often</li> </ul>	<ul style="list-style-type: none"> <li>▪ It costs the government to purchase the excess supply and an <b>opportunity</b></li> </ul>



Your notes

purchase the **excess supply** and store it or export it)

- Producers are protected from **price volatility**
- When used in **demerit markets, output falls** (Governments will not purchase the **excess supply** of a demerit good)
  - **Producers** usually **lower their output** in the market to match the QD at the minimum price and this helps to reduce the **external costs**

**cost** is involved

- Some producers such as farmers may become **over-dependent** on the Government's help
- Producers lower output which may result in an **increase in unemployment** in the industry
- If **demand** is **price inelastic**, the increase in price **does not impact QD** or solve the market failure



## Examiner Tips and Tricks

Students' often draw maximum and minimum price diagrams the wrong way around. Make sure you can draw both diagrams and show that they can lead to excess supply or excess demand.

You should be able to explain the merits of using price controls and give examples of specific markets where price controls are used by the government.

Always point out that It is difficult for governments to set prices at the 'correct' level. Generally, price controls distort the price signals in markets and can worsen the problem rather than solve it, leading to government failure. A more effective solution to maximum prices for rent controls could be increasing the supply of housing.



Your notes

## Government Intervention: Competition Policy

### Competition Policy

- **Competition policy** is government policy that aims to make **markets more competitive** and to ensure that the **public interest is protected**
- The main forms of consumer exploitation by firms include **higher prices, lack of choice** and/or **poor quality products**
  - Competition policy aims to control anti-competitive **mergers** and **monopolies**, prevent **restrictive trading practices** and **promote competition** in markets
  - The **Competition and Markets Authority (CMA)** is the UK Government responsible for overseeing **competition policy** in the UK

### Intervention to Control Mergers

- **The Competition & Markets Authority (CMA)** is the UK Government regulator tasked with ensuring that the creation of monopoly power is avoided and that consumers are not exploited in markets
  - The main forms of consumer exploitation include **higher prices, less choice**, and/or **poor quality products**
- There are other regulatory bodies the UK which operate under the CMA such as the Civil Aviation Authority (CAA) or the Office of Gas and Electricity markets (OFGEM)
- Within the EU, the **European Commission** seeks to **restrict anti competitive behaviour** within EU countries and with its trading partners
  - UK companies trading in the EU need to consider **both** UK and EU competition law
- One way to control monopoly power is to prevent it from forming in the first place
  - A key function of the CMA is to **monitor merger activity** with the aim of preventing any single firm gaining more than 25% market share
  - If there are concerns about the merger, then the CMA has the authority to stop it from happening, or they can allow it to go ahead but insist the new firm sells certain assets which would **limit its market share**
    - E.g. In July 2022 the CMA launched an **investigation** into the merger of two companies which produce foam used in bedding and cleaning products as they believed it would lead to higher prices & less choice

### Intervention to Control Monopolies



- Monopolists can **restrict output** and **raise prices** to gain **supernormal profit**. This reduces **consumer surplus** and so is not in the best interest of consumers
- In addition to controlling merger activity, the CMA continuously **intervenes in markets** in order to **promote competition** and **protect the interests of consumers**



Your notes

### Competition Policies in Monopoly Markets

Policy	Explanation
<b>Compulsory break-up</b>	<ul style="list-style-type: none"> <li>▪ Some would argue that monopolies should be <b>forcibly broken-up</b></li> <li>▪ This has happened on rare occasions in the UK, to ensure that <b>no single company controls</b> the supply of electricity, or controls all the country's major airports <ul style="list-style-type: none"> <li>▪ E.g In 2009, the airport operator BAA was told to sell three of its airports</li> </ul> </li> </ul>
<b>Price regulation</b>	<ul style="list-style-type: none"> <li>▪ Monopolies aim to produce at the <b>profit maximisation level of output</b> and have <b>higher prices and limited output</b> in the market</li> <li>▪ Regulators set <b>maximum prices</b> to lower prices and increase output</li> <li>▪ Effective price regulation sets the maximum price at the level where there is <b>allocative efficiency</b> <ul style="list-style-type: none"> <li>▪ E.g Fare rises for train operating companies in the UK are capped by the retail price index (RPI)</li> </ul> </li> </ul>
<b>Profit regulation</b>	<ul style="list-style-type: none"> <li>▪ The CMA may choose to limit the <b>supernormal profit</b> a monopoly can earn</li> <li>▪ They do this by calculating the firm's <b>total costs</b> and then adding a percentage of profit to it</li> <li>▪ It is a very <b>contentious policy</b>, as <ul style="list-style-type: none"> <li>▪ Costs are difficult to calculate and firms often try to inflate their perceived costs so as to <b>make more profit</b> than allowed</li> <li>▪ There is no incentive to lower costs, so if <b>costs are higher</b> than they would be in perfect competition, consumers still end up paying higher prices</li> <li>▪ Even with this policy in place, natural monopolies often post <b>record profits</b> year on year</li> </ul> </li> </ul>



Your notes

<b>Taxation</b>	<ul style="list-style-type: none"> <li>To <b>limit excessive monopoly profits</b>, <b>windfall taxes</b> may be implemented</li> <li>This leads to an increase in the costs of production, resulting in higher prices and lower output <ul style="list-style-type: none"> <li>In the UK, energy firms such as BP and Shell paid tax on profits made from extracting gas and oil</li> </ul> </li> </ul>
<b>Public (state) ownership</b>	<ul style="list-style-type: none"> <li>Publicly owned monopolies are more likely to <b>operate in the best interests of society</b></li> <li>Monopolies often abuse market power to make profits, an objective that is removed under state ownership</li> </ul>

## Intervention to Promote Competition & Contestability

- The following policies can help promote more effective competition:

### 1. Promotion of small business

- Providing **tax incentives** or **subsidies** to small firms can help increase the number of new entrants into industries and therefore promote competition. In 2022, the UK government introduced the Supporting Small Business (SBB) scheme which caps bill increases at £600 for some small businesses

### 2. Deregulation

- Government regulations can increase industry costs or act as a **barrier to entry**. Deregulating a market can **promote competition**, which will also increase the market's **contestability**

### 3. Competitive tendering for government contracts

- Instead of the government manufacturing goods and services itself, this is often outsourced to firms. This is done by outsourcing the supply of these products, this generates **more private sector activity** and increases competition

### 4. Privatisation

- Firms are hesitant to enter an industry when the **dominant firm** is owned by the government. Privatisation **encourages new entrants** to enter the market as they feel they can **compete more effectively** with private firms. E.g. In 2022 the UK Government confirmed that **Channel 4** would be privatised

## Evaluation of Competition Policies

- For competition policies to be effective, there needs to be continuous monitoring and reviewing of policies
  - It can be **expensive** and **time consuming** to ensure firms or industries are complying with competition policies



Your notes

### The Advantages & Disadvantages of Competition Policies

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Increased competition may lead to a <b>fall in market price</b></li> <li>▪ Firms will strive to provide <b>better quality</b> and a range of products and customer service or risk losing market share</li> <li>▪ Firms invest in <b>R&amp;D</b> and increase <b>innovation</b> to improve production processes to lower costs over time               <ul style="list-style-type: none"> <li>▪ Both <b>productive efficiency</b> and <b>allocative efficiency</b> will occur as a result</li> <li>▪ This will benefit society as a whole as these new products and processes lead to improvements e.g. technical change that can be used across markets</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Reduces <b>creative destruction</b>, where firms with monopoly power are dynamically efficient as they can provide huge investment in R&amp;D leading to innovative products and production processes. This would have benefited society as a whole</li> <li>▪ Stop some firms, particularly <b>natural monopolies</b>, from realising huge economies of scale which could have been passed on to the consumer</li> <li>▪ May lead to <b>government failure</b> as the authorities create distortions in the market leading to <b>inefficiencies</b></li> </ul>



Your notes

## Government Intervention: Public Ownership Versus Privatisation

### Public Ownership of Firms & Industries

- **Public ownership** is government ownership of firms, industries or other assets
  - Also known as **state ownership**
- **Nationalisation** is the transfer of assets **from the private sector into public ownership**
  - This is often used in the case for **public goods** and **merit goods**

#### Evaluating Public Ownership

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Provision of goods that <b>may not be provided</b> or would be underprovided in a <b>free market</b></li> <li>▪ Nationalised industries can <b>prioritise social welfare</b> over profit</li> <li>▪ Governments can take account of <b>externalities</b>. Some nationalised industries <b>yield strong positive externalities</b> <ul style="list-style-type: none"> <li>▪ E.g. By using public transport, congestion and pollution are reduced</li> </ul> </li> <li>▪ State-run monopolies are more likely to produce at <b>allocatively efficient output</b></li> <li>▪ Some industries were historically considered <b>too important</b> to be run by private organisations E.g. Water supply</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Government may <b>lack the expertise</b> to run the business</li> <li>▪ Higher expenditure for the government which means <b>higher taxes</b></li> <li>▪ Publicly owned firms/industries tend to be <b>inefficient</b> and lack <b>dynamic efficiency</b> because they <b>lack competition</b>. This can lead to <b>market failure</b></li> <li>▪ Firms are hesitant to enter an industry when the <b>dominant firm</b> is owned by the government and has access to all of the government's resources</li> <li>▪ Can create a <b>natural monopoly</b> <ul style="list-style-type: none"> <li>▪ For example, it is inefficient to have multiple sets of water pipes. Therefore, only one firm provides water</li> </ul> </li> </ul>

### Privatisation of State-Owned Enterprises

- Privatisation is the **transfer of assets** from the **public sector (state)** to the **private sector**
  - The asset is then under the control of a firm and **left to the free market** and private individual's

- E.g. British Airways was privatised in the UK and now operates in the competitive market

### Evaluating Privatisation



Your notes

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ <b>Raises revenue</b> for the government <ul style="list-style-type: none"> <li>▪ The sale of state-owned assets can raise short-term revenue for the government</li> </ul> </li> <li>▪ Reduces public spending</li> <li>▪ Privatisation <b>encourages new entrants</b> to the industry as they feel they can <b>compete more effectively</b> with private firms which perhaps have less resources available</li> <li>▪ Promotes <b>efficiency</b> <ul style="list-style-type: none"> <li>▪ Increased competition in the free market may create incentives for <b>profit maximising</b> firms to become <b>more efficient</b> and <b>lower costs</b></li> <li>▪ May lead to <b>productive efficiency</b> and <b>dynamic efficiency</b></li> <li>▪ Competition might also result in <b>lower prices</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▪ Government assets are often sold well <b>below their actual market value</b></li> <li>▪ Privatised, profit maximising monopolies can <b>restrict output</b> to <b>generate supernormal profits</b></li> <li>▪ The price of the good/service usually increases as <b>firms seek to maximise their profit</b></li> <li>▪ Private firms often provide a <b>substandard goods or services</b> as they cut quality to increase profits</li> <li>▪ Many privatised companies still maintain <b>considerable market power</b> and need to be <b>regulated</b></li> </ul>



### Examiner Tips and Tricks

You should be able to provide examples of each of these policies in the UK and evaluate their merits. During the 1980s and 1990s several state-owned businesses were privatised in the UK, including British Gas, British Rail, and more recently Royal Mail.

Those favouring the free market would encourage greater privatisation and less regulation, others would recommend tighter regulation and increased state ownership.



Your notes

## Government Intervention: Regulation & Deregulation

### Regulation of Markets

- Regulation is the process of **monitoring and enforcing the laws**
- Governments **create rules** to limit harm from **negative externalities** of consumption/production and to **create competitive markets**
  - Regulatory agencies** monitor that the rules are not broken
  - There are more than **90 regulators** in the UK
  - Individuals or firms may be **finned/imprisoned** for breaking the rules
- Industries such as water, telecoms, energy and the financial sector are regulated
- Examples of some industry regulators include Ofgem (Energy), Ofwat (Water) and the Financial Conduct Authority (Financial markets)

#### The Advantages & Disadvantages of Regulation

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>May <b>lower prices</b> which increases consumer surplus</li> <li>Individuals or firms may be <b>finned/imprisoned</b> for breaking the rules providing a <b>disincentive</b> to break the rules <ul style="list-style-type: none"> <li>E.g. Selling cigarettes to minors is a punishable offence</li> </ul> </li> <li>Fines can generate <b>extra government revenue</b></li> <li>Can reduce <b>the external costs</b> of demerit goods</li> <li>Can lead to <b>positive externalities</b> <ul style="list-style-type: none"> <li>The minimum school leaving age means young people have to be in education or training until they turn 18</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Regulation can lead to unintended consequences and <b>government failure</b></li> <li>High <b>costs of enforcement/</b> administration of laws <ul style="list-style-type: none"> <li>Policing a compulsory recycling scheme would be difficult and expensive</li> </ul> </li> <li><b>Reduced profits</b> of firms <ul style="list-style-type: none"> <li>May compromise innovation and cause dynamic inefficiency</li> </ul> </li> <li>Can act as a <b>barrier to entry</b> discouraging smaller businesses <ul style="list-style-type: none"> <li>Reduced competition</li> </ul> </li> <li>May create <b>underground (illegal) markets</b> which could generate even <b>higher external</b></li> </ul>

- This results in a more skilled workforce

#### costs on society

- May lead to **regulatory capture**



Your notes

## Deregulation of Markets

- **Deregulation** is the process of removing government controls from markets to **increase competition** and **efficiency of markets**
  - Royal Mail had a **legal monopoly** on delivering parcels in the postal market. Following deregulation in 2006, other firms entered the postal market, increasing consumer choice and improving service
  - The **energy industry** was deregulated and privatised in the 1980's. As a result of increased competition, consumers had more choice, lower prices, increased innovation (smart meters) and overall better services

### The Advantages & Disadvantages of Deregulation

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ In some markets, deregulation promotes <b>contestability</b> in markets allowing lower prices for consumers <ul style="list-style-type: none"> <li>▪ Eg. In the airlines market, there are more low-cost airlines and in the telecom market, prices of telephone calls are falling</li> </ul> </li> <li>▪ Increased competition can lead to <b>greater efficiencies</b> and lower costs of production</li> <li>▪ Reduces excessive <b>bureaucratic costs</b> of regulation</li> </ul>	<ul style="list-style-type: none"> <li>▪ May create a private firm with monopoly power as smaller companies are <b>unable to compete</b></li> <li>▪ Consumers may pay <b>higher prices</b> if the market is not regulated</li> <li>▪ Private firms have an incentive to cut costs and provide a <b>lower quality of service</b> <ul style="list-style-type: none"> <li>▪ In the local bus market, deregulation often led to duplication of services and the problem of congestion</li> <li>▪ Local buses are an industry where more than one firms creates different kinds of problems</li> </ul> </li> <li>▪ Deregulation of important industries, such as the airline industry, can lead to <b>safety concerns</b></li> </ul>



## Examiner Tips and Tricks

You should be able to assess the merits of these policies in the United Kingdom. Often, the effects of regulation or deregulation depend on the industry that is being considered.



Your notes





Your notes

## Government Intervention: Other Methods

### State Provision to Correct Market Failure

- **Merit goods** and **public goods** are under-provided in a free market, causing a market failure
- Public goods are **beneficial for society** and are **not provided by private firms** due to the **free rider problem**
  - They are usually provided **free at the point of consumption**, but are paid for through **general taxation**
  - Examples include roads, parks, lighthouses, national defence
- Merit goods are **beneficial to society** but consumers cannot always access them as they are priced out of the market (e.g. private education or healthcare)
- To **solve the market failure**, governments can provide these goods and services

#### The Advantages & Disadvantages of State Provision

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>▪ Essential goods and services are usually provided <b>free at the point of consumption</b></li> <li>▪ These goods and services are accessible to everyone, regardless of income</li> <li>▪ These usually provide both <b>private</b> and <b>external benefits</b> to society</li> </ul>	<ul style="list-style-type: none"> <li>▪ Paid for through <b>general taxation</b></li> <li>▪ There is an opportunity cost associated with their provision</li> <li>▪ Products which are free may result in <b>excess demand</b> and long waiting times, e.g. procedures at Public hospitals or lengthy waits to see a GP</li> </ul>

### Regulation to Correct Market Failure

- Regulation is the process of monitoring and enforcing laws to limit the harm caused by the **external costs** of consumption or production
- Regulations can **limit or prohibit** certain behaviours to **prevent market failure**



Your notes

- Reasons for regulation include **preventing exploitation of consumers**, taking **externalities** into account, and reducing consumption of **demerit goods**
  - For example, certain classes of drugs (demerit goods) are prohibited in the UK
  - Collusion and cartels are banned by competition policy and regulated by the Competition and Markets Authority to prevent abuse of monopoly power
- Regulatory agencies** are created to enforce the law and ensure that the rules are not broken

## Property Rights and Pollution Permits to Correct Market Failure

### Property Rights

- Common pool (access) resources** are natural resources over which no **private ownership** has been established
  - Left to the free market**, common pool resources can be over exploited and used in an **unsustainable way**
  - This results in the **tragedy of the commons** and **environmental market failure**
- Property rights **define the ownership** of **common pool resources** and set out **how they can be used**
  - By transferring common land over to **private ownership**, the private owner has a **strong incentive to manage the resource** and take care of it for future use
  - This internalises the externality and can resolve tragedy of the commons related market failure

#### The Advantages & Disadvantages of Property Rights

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>Ensures that resources are <b>allocated efficiently</b></li> <li><b>Reduces</b> the harm caused by <b>negative externalities</b></li> <li><b>External costs</b> of overusing common access resources are taken into account</li> </ul>	<ul style="list-style-type: none"> <li>Difficulty in <b>allocating</b> and dividing up some <b>resources</b></li> <li>Air is a difficult resource to distribute</li> <li>Difficult to allocate rights in a <b>fair (equitable)</b> way</li> <li><b>Regulating</b> and <b>enforcing</b> the property rights is <b>expensive</b></li> </ul>

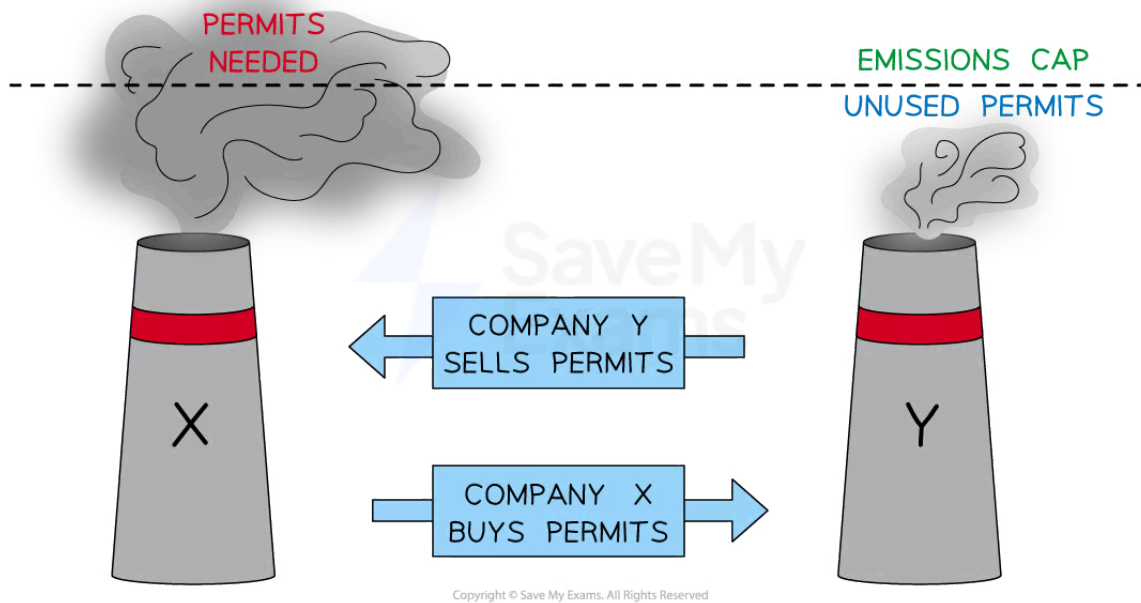


Your notes

## Pollution Permits

- Governments calculate an optimum (or preferable) level of pollution
- Governments create a **pollution permit market** and issue permits to polluting firms
  - The price of the permit is determined by **demand and supply**
  - Each permit allows a firm to pollute up to a certain amount. Any surplus can be sold and traded for additional revenue
  - Firms that pollute more have to **buy additional permits** from less-polluting firms

### Diagram: The Pollution Permit Market



*Firms can sell their unused pollution permits to generate extra company revenue*

- The **cost of the permit** represents an additional **cost of production**, which should **reduce supply** and **output** closer to the **socially optimal level**
- If the system works effectively, it can correct market failure by reducing the associated **negative externalities**
- If the price of additional permits is more than the **cost of investing** in new pollution technology, firms will be incentivised to switch to **cleaner technology**

## The Advantages &amp; Disadvantages of Pollution Permits



Your notes

Advantages	Disadvantages
<ul style="list-style-type: none"><li>▪ May encourage firms to <b>switch to green production methods</b> in the long run, especially if that is cheaper than purchasing permits every year</li><li>▪ Raises <b>government revenue</b> from the sale of permits</li></ul>	<ul style="list-style-type: none"><li>▪ Firms may <b>relocate production</b> to places where they can <b>pollute without limits</b></li><li>▪ <b>Expensive</b> and <b>difficult</b> for firms to monitor emissions</li><li>▪ Firms may <b>pass on higher production costs to the consumer</b></li></ul>



## Examiner Tips and Tricks

If you are evaluating government intervention, explain how the specific intervention being used may solve market failure. Remember to use data from the context, if applicable, or your own examples to enrich your answer.



Your notes

## Government Failure

## Government Failure

- **Government failure** occurs when the government intervenes in a market to **correct market failure**, but the intervention results in a **misallocation of resources** from society's point of view
  - Government intervention has **reduced** overall **economic welfare**
- By intervening in a market, a government often creates **market distortions** which contribute to or cause **market failure**

## Causes of Government Failure

- The consequences of government failure can **range in severity**
- A **policy decision** could be **ineffective** if it fails to create enough of an **incentive** to change behaviour
- Government policy decisions could also **worsen the original market failure** or **create a new market failure**

Causes and Examples of Government Failure

Cause	Explanation	Example
<b>Inadequate information</b>	<ul style="list-style-type: none"> <li>▪ Governments and regulators <b>do not have perfect information</b> or they often do not understand the market they are trying to regulate</li> <li>▪ Government decision making is subject to the same <b>information gaps</b> and <b>cognitive biases</b> (e.g. anchoring) that consumers face</li> </ul>	<ul style="list-style-type: none"> <li>▪ Many financial markets are fast moving and incredibly complex               <ul style="list-style-type: none"> <li>▪ Government regulators find it difficult to keep pace with the change of products</li> </ul> </li> </ul>
<b>Conflicting objectives</b>	<ul style="list-style-type: none"> <li>▪ The implementation of one policy can come at the <b>expense of achieving another</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ The government may want to achieve both economic growth and environmental protection               <ul style="list-style-type: none"> <li>▪ These goals <b>may be in conflict</b></li> </ul> </li> </ul>



Your notes

	<ul style="list-style-type: none"> <li>The government has to make a <b>trade-off</b> that it believes will maximise social welfare <ul style="list-style-type: none"> <li>Governments often face a trade-off between achieving <b>long term and short term</b> policy objectives</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>E.g In the UK there is much debate about the issuing of new offshore gas drilling licences. They will generate economic growth but lead to environmental degradation</li> </ul>
<b>Administrative costs</b>	<ul style="list-style-type: none"> <li>Regulation or administration costs can be <b>expensive</b></li> <li>The costs of intervention can sometimes be greater than the savings in social welfare, leading to a <b>worsening of allocation of resources</b></li> </ul>	<ul style="list-style-type: none"> <li>The cost of recruiting and paying staff to ensure firms are adhering to regulation may <b>exceed the size of the external cost</b> from the market failure</li> </ul>
<b>Market distortions</b>	<ul style="list-style-type: none"> <li><b>Price intervention</b> may help to solve one problem but creates others by <b>distorting price signals</b></li> <li>The <b>signalling function</b> of the price mechanism is <b>artificially altered</b></li> <li>This can lead to an inefficient allocation of resources, surpluses and shortages</li> </ul>	<ul style="list-style-type: none"> <li>A <b>minimum price</b> sends a signal to producers to <b>supply more</b> <ul style="list-style-type: none"> <li>In <b>agricultural markets</b> this has often resulted in an <b>excess of perishable</b> products which end up going to waste</li> </ul> </li> <li>A <b>maximum price</b> sends a signal to producers to <b>supply less</b> <ul style="list-style-type: none"> <li>In pharmaceutical markets, this has led to excess demand of products</li> </ul> </li> </ul>
<b>Unintended consequences</b>	<ul style="list-style-type: none"> <li>Consequences that are unforeseen may occur</li> <li>Producers and consumers aim to <b>maximise their self interest</b> <ul style="list-style-type: none"> <li>This often leads them to look for legal or <b>illegal loop holes</b> to bypass <b>government intervention</b></li> <li>This result creates <b>unintended consequences</b> such as the creation</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Reduced consumption of alcohol due to minimum pricing, may lead to an <b>increase in consumption of more harmful intoxicants</b> as they become relatively cheaper</li> </ul>



Your notes

	of <b>illegal markets</b> and/or illegal production/consumption	
<b>Regulatory capture</b>	<ul style="list-style-type: none"> <li>▪ <b>Regulatory capture</b> occurs when firms influence the regulators to change their decisions/policies to align more with the <b>interests of the firm</b> <ul style="list-style-type: none"> <li>▪ Firms spend millions <b>lobbying</b> regulators or politicians who can issue instructions to the regulatory</li> </ul> </li> <li>▪ Some lobbying activity is <b>corrupt, and</b> there is a fine line between influencing activity and bribing</li> </ul>	<ul style="list-style-type: none"> <li>▪ In 2021 the former UK Prime Minister, David Cameron, was caught in an embarrassing case of lobbying for a failed financial venture by a firm called Greensill Capital</li> </ul>



## Examiner Tips and Tricks

Government intervention can **worsen economic welfare**, leading to a deeper or even new market failure.

Remember that in practice, one single intervention is often unlikely to solve deep-rooted problems that cause market failure. It is likely that a combination of policies will be more effective, i.e. those that target the demand and supply-side of the market.