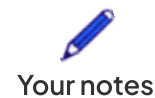


 **SL IB Economics**

## 2.3 Competitive Market Equilibrium

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- \* 2.3.1 Market Equilibrium & Disequilibrium
- \* 2.3.2 Functions of the Price Mechanism
- \* 2.3.3 Consumer & Producer Surplus



Your notes

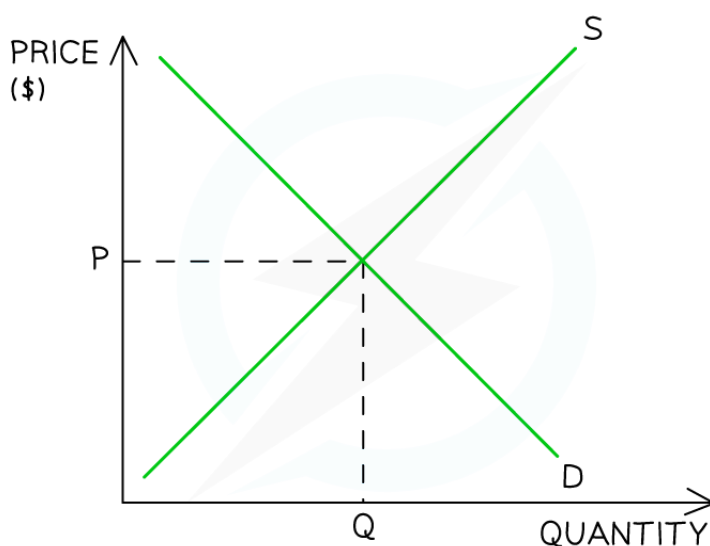
## 2.3.1 Market Equilibrium & Disequilibrium

### Market Equilibrium

- In a market system, prices for goods/services are determined by the **interaction of demand and supply**
  - A **market** is any place that brings **buyers** and **sellers** together
  - Markets can be **physical** (e.g. McDonald's) or **virtual** (e.g. eBay)
- Buyers and sellers meet to **trade** at an **agreed price**
  - Buyers agree the price **by purchasing** the good/service
  - If they do not agree on the price then they **do not purchase** the good/service and are exercising their consumer sovereignty
- Based on this interaction with buyers, **sellers** will gradually **adjust their prices** until there is an **equilibrium price** and **quantity** that works for both parties
  - At the equilibrium price, **sellers** will be satisfied with the **rate/quantity** of sales
  - At the equilibrium price, **buyers are satisfied** with the utility that the product provides

#### Equilibrium

- Equilibrium in a market occurs when **demand = supply**
- At this point, the price is called the **equilibrium or market-clearing price**
  - This is the **price** at which sellers are clearing (selling) their stock **at an acceptable rate**



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**A graph showing a market in equilibrium with a market clearing price at P & quantity at Q**

- Any price **above or below** P creates **disequilibrium** in this market
  - Disequilibrium occurs whenever there is excess demand or excess supply in a market



Your notes

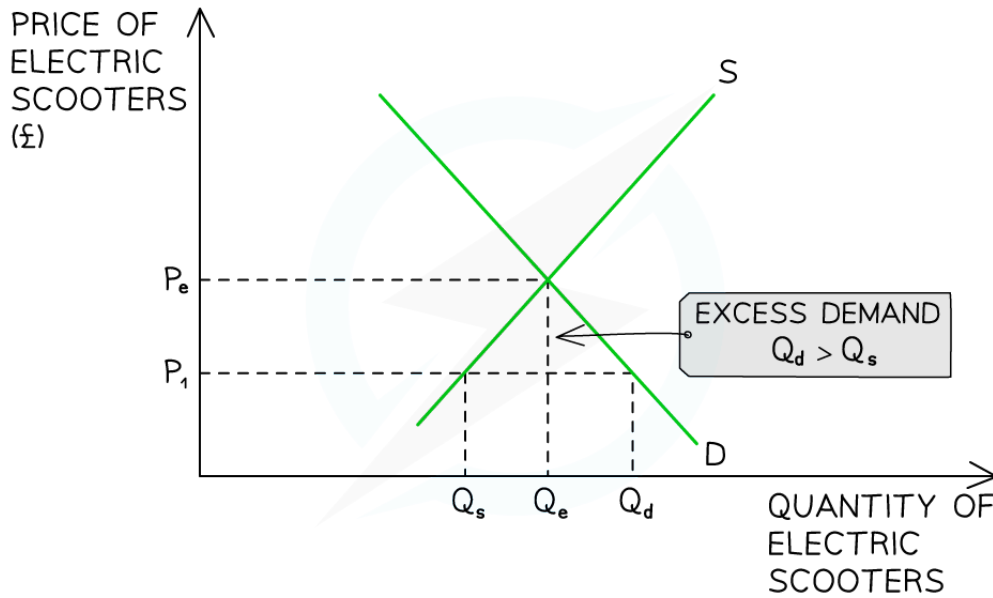


Your notes

## Market Disequilibrium

### Disequilibrium: Excess Demand

- **Excess demand** occurs when the demand is **greater** than the supply
  - It can occur when **prices are too low** or when **demand is so high** that supply cannot keep up with it



*A graph that depicts the condition of excess demand in the market for electric scooters*

### Diagram Analysis

- At a price of  $P_1$ , the **quantity demanded** of electric scooters ( $Q_d$ ) is **greater** than the **quantity supplied** ( $Q_s$ )
- There is a **shortage** (excess demand) in the market equivalent to  $Q_s Q_d$

### Market Response

- This market is in **disequilibrium**
  - Sellers are frustrated that products are selling so quickly at a **price** that is obviously **too low**
  - Some buyers are frustrated as they will **not be able to purchase** the product
- Sellers realise they can **increase prices** and generate more revenue and profits
- Sellers gradually **raise prices**
  - This causes a **contraction in QD** as some buyers **no longer desire** the good/service at a higher price
  - This causes an **extension in QS** as other sellers are more **incentivised to supply** at higher prices
- In time, the market will have **cleared the excess demand** and arrive at a position of **equilibrium**,  $P_e Q_e$ 
  - Different markets take different lengths of **time to resolve disequilibrium**

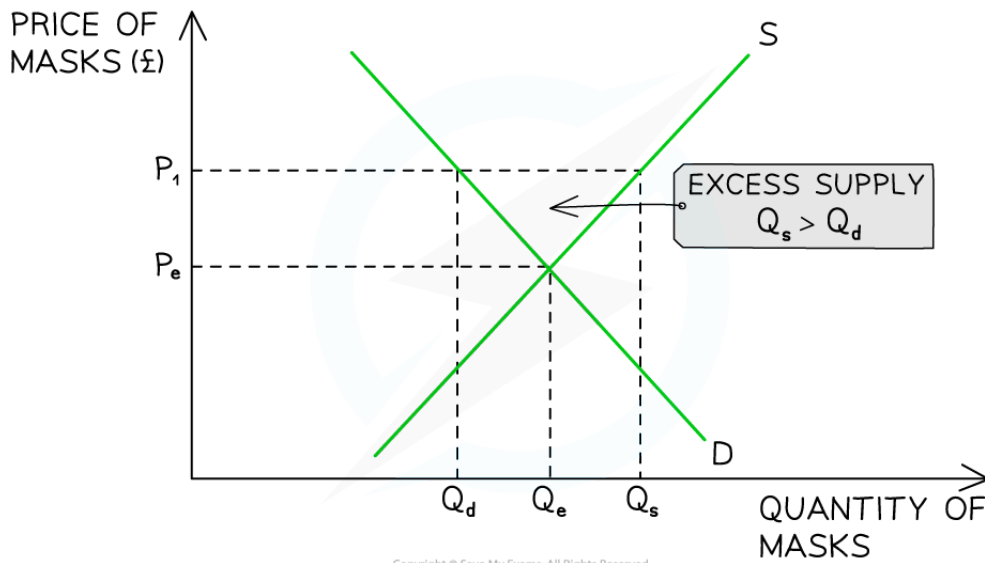
- E.g. Retail clothing can do so in a few days. Whereas the housing market may take several months, or even years



Your notes

### Disequilibrium: Excess Supply

- **Excess supply** occurs when the supply is **greater** than the demand
  - It can occur when **prices are too high** or when **demand falls unexpectedly**
- During the later stages of the pandemic, the market for face masks was in **disequilibrium**



*A graph that depicts the condition of excess supply in the market for Covid-19 face masks during the later stages of the pandemic*

### Diagram Analysis

- At a price of  $P_1$ , the **quantity supplied** of face masks ( $Q_s$ ) is **greater** than the **quantity demanded** ( $Q_d$ )
- There is a **surplus in the market** (excess supply) equivalent to  $Q_s - Q_d$

### Market Response

- This market is in **disequilibrium**
  - Sellers are frustrated that the masks are **not selling** and that the **price** is obviously **too high**
  - Some buyers are frustrated as they **want to purchase** the masks but are not willing to **pay the high price**
- Sellers will gradually lower **prices** in order to generate more **revenue**
  - This causes a **contraction in QS** as some sellers **no longer desire** to supply masks
  - This causes an **extension in QD** as buyers are **more willing** to purchase masks at **lower prices**
- In time, the market will have **cleared the excess supply** and arrive at a position of **equilibrium**,  $P_e Q_e$

 **Examiner Tip**

Memorise the rule that shortages arise when the price is **below** equilibrium whereas surpluses arise when the price is **above** the equilibrium.



Your notes



Your notes

## 2.3.2 Functions of the Price Mechanism

### The Price Mechanism

- The price mechanism is the interaction of demand and supply in a free market
- This interaction **determines prices** which are the means by which **scarce resources are allocated** between competing wants/needs
- **Adam Smith** referred to the **functions** of the **price mechanism** as the '**mystery of the invisible hand**'
- The price mechanism fulfils **two functions** in the relationship between buyers and sellers

#### 1. Resource allocation

- **Signalling**: prices provide information to producers and consumers about where resources are wanted (markets with increasing prices) and where they are not (markets with decreasing prices)
- **Incentive**: when prices for a good/service rise, it **incentivises producers** to reallocate resources from a less profitable market to this market in order to **maximise their profits**. Falling prices **incentivise the reallocation** of resources to new markets

#### 2. Rationing

- Prices ration scarce resources
- When resources become **scarcer** the price will **rise** further. Only those who can afford to pay for them will receive them
- If there is a **surplus** then **prices fall** and more consumers can afford them



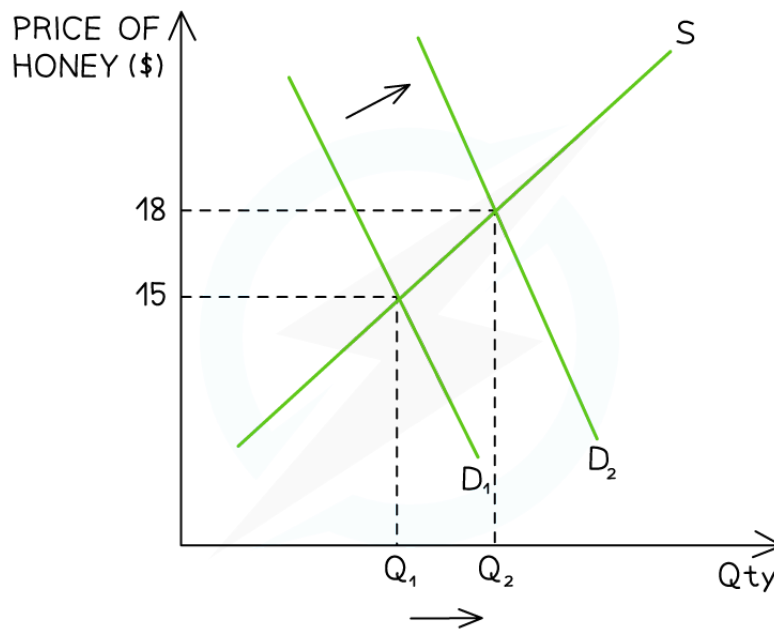
Your notes

## The Price Mechanism at Work

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

### 1. 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 **non-price determinants 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



 **Examiner Tip**

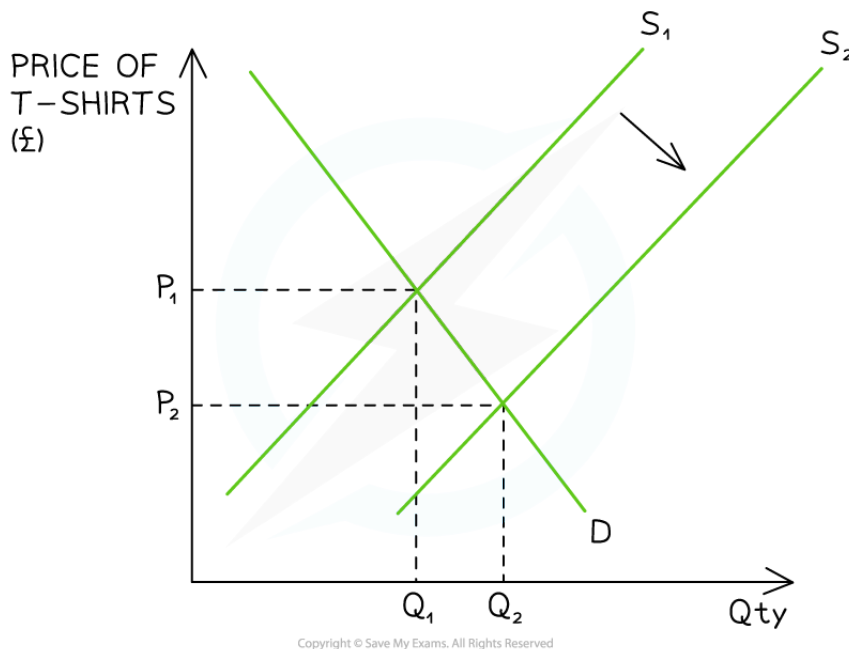
It can get confusing to explain some of the differences between the two functions. Thinking about it in the following way helps to simplify the process. If there is a shift in demand/supply the market is sending a **signal** to consumers and producers. If there is a **movement** along one of the curves,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



Your notes

**2. 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**

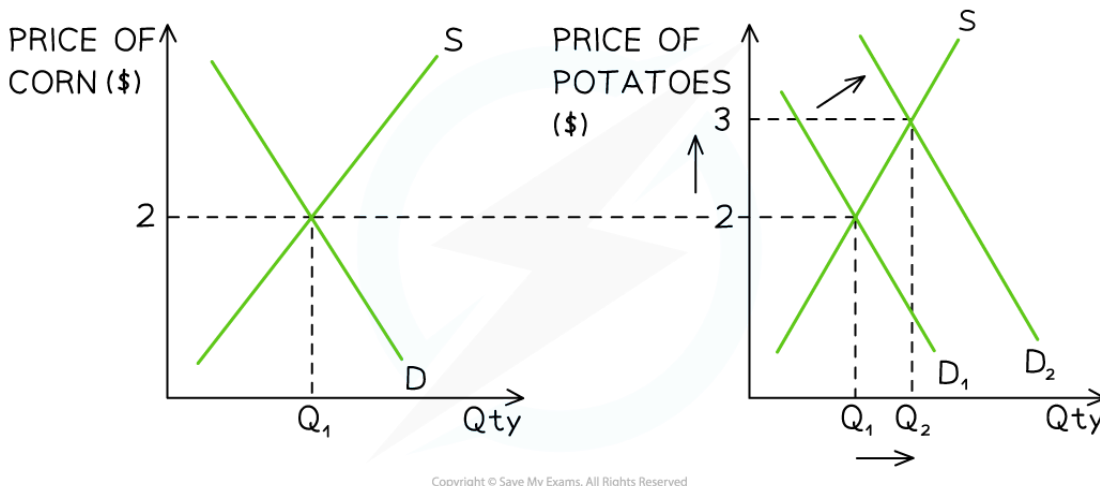
- Due to a change in one of the **non-price determinants of supply** (a decrease in costs of production), the **supply** of T-shirts in the UK has **increased** from  $S_1 \rightarrow S_2$  and the **price has fallen** from  $P_1$  to  $P_2$ 
  - The **lower price** increases the number of consumers 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



Your notes

### 3. 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** (these are products in competitive supply)
  - Many countries **export** excess crops into the **world market**
  - **Producers** use world prices to guide their **production decisions**



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*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 been steady at \$2/kg
- Due to a change in one of the **non-price determinants of demand** (possibly an increase in the 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
  - The higher price serves to **ration** the potatoes. Those consumers who **can afford** to purchase potatoes for \$3, receive them
  - 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
  - If they do this, the supply of corn will shift to the left

 **Examiner Tip**

Whenever you are faced with questions on the **functions of the price mechanism**, remember that the 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 own self interest



Your notes

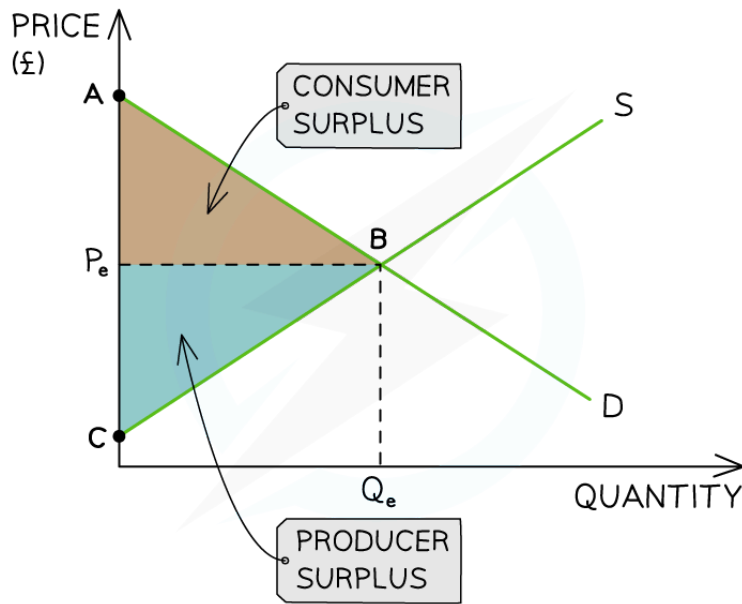


Your notes

## 2.3.3 Consumer & Producer Surplus

### Consumer & Producer Surplus

- **Consumer surplus** is the difference between the amount the **consumer is willing to pay** for a product and the price they have **actually paid**
  - E.g. If a consumer is willing to pay £18 to watch a movie and the price is £15, their **consumer surplus** is £3
- **Producer surplus** is the difference between the amount that the **producer is willing to sell** a product for and the price they **actually do**
  - E.g. if a producer is willing to sell a laptop for £450 and the price is £595, their **producer surplus** is £145



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*A market diagram illustrating consumer and producer surplus*

### Diagram Analysis

- The area between the **equilibrium price** and the **demand curve** represents the **consumer surplus** in the market ( $ABP_e$ )
  - **The consumer surplus** lies underneath the demand curve
- The area between the **equilibrium price** and the **supply curve** represents the **producer surplus** in the market ( $CBP_e$ )
  - Producer surplus lies **above the supply curve**

- When the market is at **equilibrium** the producer and consumer surplus are **maximised**
- Consumer surplus + producer surplus = **social/community surplus**
  - Any disequilibrium reduces the social surplus



Your notes



Your notes

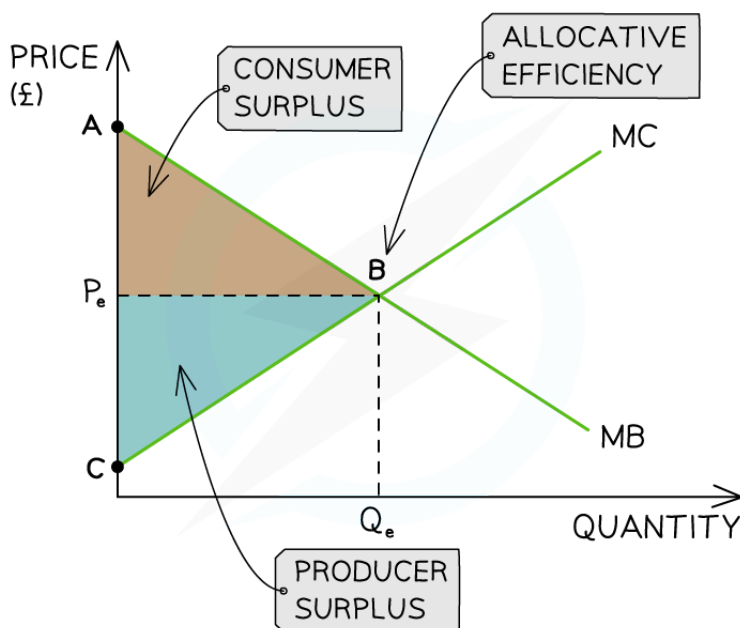
## Allocative Efficiency

- **Efficiency** is a key concept in economics
- Economists generally identify **two types of efficiency** - productive efficiency and allocative efficiency

### An Explanation of Productive and Allocative Efficiency

<b>Allocative Efficiency</b>	<ul style="list-style-type: none"> <li>▪ Occurs at the level of output where the marginal utility (marginal benefit) = marginal cost (<b>MB = MC</b>)</li> <li>▪ At this point, <b>resources are allocated</b> in such a way that consumers and producers get the <b>maximum possible benefit</b></li> <li>▪ <b>No one can be made better off</b> without making someone else worse off</li> <li>▪ There is <b>no excess</b> demand or supply</li> </ul>
<b>Productive Efficiency</b>	<ul style="list-style-type: none"> <li>▪ Occurs at the level of output where <b>average costs are minimised</b></li> <li>▪ There is <b>no wastage</b> of scarce resources and a high level of factor productivity</li> </ul>

- Using the ideas of marginal utility (marginal benefit) and marginal cost, we can label the community surplus diagram slightly differently so as to reflect the benefits received by producers and consumers



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*A diagram that reflects the maximisation of community surplus (allocative efficiency) when the marginal benefit equals the marginal cost*



Your notes

### Diagram Analysis

- The demand curve represents the **marginal benefit (MB)** to the consumer
- The supply curve represents the **marginal cost (MC)** to the producer
- The market is in equilibrium at  $P_e Q_e$
- Any change to the **allocation of resources** in this market will make either the consumer or producer worse off (excess demand or excess supply would occur)
- This market is **allocatively efficient when  $MB=MC$**
- **Community surplus** is maximised at the point of allocative efficiency