OCR – A Level Economics

Component 1 – Microeconomics

2. The role of markets

Revision Notes

Contents

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2.1 Specialisation and trade

Specialisation is when a person, company, region, or even a whole country focuses on making just a few types of goods or services. By concentrating on what they do best, productivity goes up and so do living standards worldwide.

For example, the UK is known for producing things like medicines, aircraft, tourism services, and financial services. These specialised goods and services are then traded with other countries for things the UK doesn't produce as much.

Division of labour is a type of specialisation where each person focuses on doing just one specific job to help make a product or provide a service. Breaking a job into smaller tasks and letting each worker focus on just one. This boosts skill and speed.

- **So, division of labour is production broken down into different tasks and labour allocated to each task.**

Adam Smith, known as the "father of Economics," had some big ideas about productivity.

During a visit to a pin factory, he saw that making pins wasn't easy, one person alone could only make about 12 pins a day, since it involved many different steps like cutting, sharpening, and stamping. But if each worker focused on just one of these steps (a concept called division of labour), 10 workers together could make about 50,000 pins a day.

2.1 Specialisation and trade

The advantages and disadvantages of specialisation and the division of labour in organising production

Advantages	Disadvantages
Boosts Productivity: When workers focus on one specific task, they become faster and more skilled at it, improving efficiency. Plus, they're likely to have natural talents that make them even better at their job.	**Boredom and Burnout:** Doing the same task repeatedly can get boring, reducing worker motivation.
Better Quality Products: Specialised workers who master their tasks tend to produce higher-quality goods and services.	**Loss of Craftsmanship:** With more standardised tasks and mechanisation, products may lack the unique touch of a skilled craftsman.
Specialist Tools: It's cheaper to create specialised tools for a specific task, which can make production quicker and improve quality.	**Production Bottlenecks:** If one part of the process gets delayed, everything else must stop until that issue is fixed.
Saves Time: Workers aren't wasting time moving between tasks or getting out different tools, they stick to what they know best.	**Limited Skills:** Workers become highly specialised but lack a wide range of skills, which could lead to job difficulties if their role becomes obsolete.
Less Training Needed: Since workers only focus on one job, training is simpler and cheaper.	

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2.1 Specialisation and trade

The advantages and disadvantages of specialising in the production of goods and services to trade

Advantages	Disadvantages
Comparative Advantage Boosts Economies: The theory of comparative advantage suggests that countries should focus on making goods they're best at producing (where they have a lower opportunity cost). This helps them grow their economies and increases global output overall.	**Risk of Over-Dependence:** If a country relies heavily on one type of export, it's risky. For example, if a country mainly relies on farming and crops fail due to bad weather, the economy could collapse.
Lower Production Costs: By specialising, countries can produce goods at a lower cost, which can lead to lower prices for consumers and increase competitiveness in global markets.	**Non-Renewable Resource Risks:** Some countries specialise in non-renewable resources, like oil. If these resources run out, they lose a huge source of income, and the resource itself is gone.
Economic Growth: By specialising and trading, countries can grow their economies faster, as they're able to focus on and improve their strongest industries, boosting overall productivity.	**High Interdependence:** Countries that depend on each other for trade may face serious issues if trade is disrupted, like during a war.
	Potential Pressure on Wages: Some argue that specialisation leads to more competition to cut costs, which could put pressure on wages to fall, though this isn't always the case.

2.1 Specialisation and trade

The functions of money

With specialisation, a person or firm do not produce everything they need themselves, so they need a way to trade. The earliest form of exchange was **barter** (trading goods directly), but it had some major issues. To solve these, **money** was developed, which serves four main functions:

1. **Medium of Exchange:** Money can be used to buy and sell anything, and everyone accepts it. Barter only worked if both parties wanted what the other had (called a "double co-incidence of wants"). With money, you can trade for what you need without this hassle.
2. **Measure of Value:** Money makes it easy to compare the value of different things, like a cupboard versus a t-shirt. It also puts a value on services and labour, making it clear what things are worth.
3. **Store of Value:** Money keeps its value over time, so you can save it and use it later. However, there is inflation, so this isn't always true.
4. **Method for Deferred Payment:** Money allows people to buy now and pay later (credit or loans). This only works because money holds its value over time.

2.2 Demand

Demand

- **Demand refers to the quantity of a good or service purchased at a given price over a given time period.**

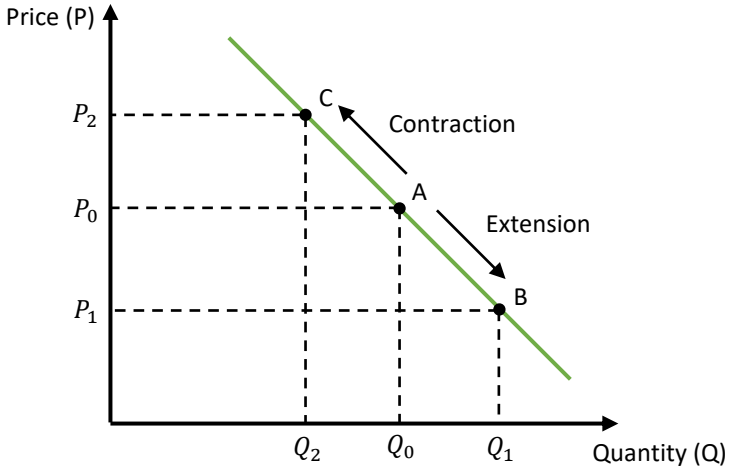
The demand curve is just a fancy way of showing the relationship between **price** and **quantity demanded (D)** on a graph.

- If economists plotted real data, it would curve slightly, but they often simplify it into a straight line for easier analysis.

Movements along a demand curve

The only time you'll see a movement along the demand curve is when the **price** of the good changes.

- **Price falls?** Demand goes up; this is called an **extension in demand**.
- **Price increases?** Demand goes down; this is called a **contraction in demand**.



2.2 Demand

Diagram Analysis: How Price Changes Affect Demand

Let's break it down:

- When the **price increases** from P_0 to P_2, we move **up** the demand curve from **Point A to C**, and the **quantity demanded** falls from Q_0 to Q_2 units. This is called a **contraction in demand**.
- When the **price decreases** from P_0 to P_1, we move **down** the demand curve from **Point A to B**, and the **quantity demanded** rises from Q_0 to Q_1 units. This is called an **extension in demand**.

The Law of Demand:

- Price and quantity demanded have an **inverse relationship**:
  - **When prices go up**, quantity demanded goes down.
  - **When prices go down**, quantity demanded goes up.
- This is why the demand curve slopes downward, it shows that as things get cheaper, people want more of them.

🛒 **Individual and Market Demand**

Individual demand is what *one single consumer* is both **willing** and **able** to buy of a good or service at a certain price.

- **Example:** Imagine you walk into Starbucks. You're willing to buy **1 caramel latte** for £4, but if the price was £8, you'd probably walk away ☕. That's *your* individual demand.

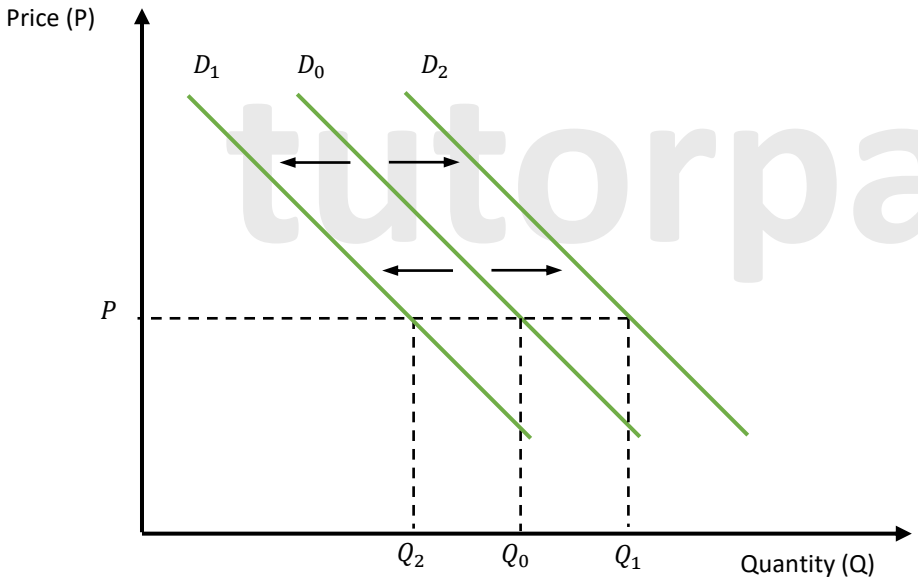
Market demand, on the other hand, looks at the **big picture** — it's the total demand from *all consumers* for a product or service at different prices.

- **Example**: If **a million people** are also craving Starbucks lattes, market demand adds *all those coffees together*. So, while you demand just **1 cup**, the market demand could be **1 million cups** if the price is right.

Shifts in the demand curve

A number of factors can change the demand for a product or service, even if the price stays the same. These factors are called the **conditions of demand**.

When one of these conditions' changes, the entire demand curve shifts-it's not just a movement along the curve like with price changes.



2.2 Demand

Shifts in the demand curve

Imagine a fashion trend goes viral, and everyone wants puffer jackets. Even though the price stays the same, demand skyrockets as everyone jumps on the trend. In this case:

- The price stays the same at P.
- Demand rises and this causes a **shift in the demand curve** from $\boldsymbol{D_0}$ **to** $\boldsymbol{D_1}$, not just a movement along it.

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2.2 Demand

The conditions of Demand

The conditions of demand are the factors that cause the **entire demand curve** to shift, either to the **right** (higher demand) or to the **left** (lower demand). Here's how to remember them easily: **TIER GAS.**

T - Taste and Trends

- When something is trendy or fashionable, demand rises ($D_0 \rightarrow D_2$). When trends fade, demand falls ($D_0 \rightarrow D_1$). Think fidget spinners, they were everywhere, and now they're not.

I – Income

- Higher incomes mean people can afford more, increasing demand for most goods ($D_0 \rightarrow D_2$).
- But there are some cases demand might drop. For example, demand for budget items might drop ($D_0 \rightarrow D_1$), as people trade up for more expensive and fancier products.

E – Expectations

What people think will happen matters.

- If prices are expected to rise, people buy now, increasing demand ($D_0 \rightarrow D_2$).
- If prices are expected to fall, people wait, lowering demand ($D_0 \rightarrow D_1$).

R – Related Goods

- Complements: Goods that go together, like ink cartridges and printers. If one gets cheaper, the other's demand increases ($D_0 \rightarrow D_2$).
- Substitutes: If the price of Coke goes up, people might switch to Pepsi, increasing Pepsi's demand.

2.2 Demand

The conditions of Demand

G - Government Policies

- New laws or rules can change demand. For example, when helmets became mandatory for motorcyclists, helmet demand shot up.

A - Advertising

- Good marketing works wonders. A great campaign can make more people buy a product, shifting demand right. Bad ads? Not so much.

S - Seasons

- Weather affects demand.
- Hot summers = more ice cream and sun hats.
- Cold winters = more hot chocolate and coats.

Population

- There is also population. More people = more demand. A growing population shifts demand to the right because more consumers = more sales.

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2.2 Demand

Diminishing Marginal Utility

Marginal utility is the extra satisfaction you get from consuming one more unit of something. But the more you consume, the less satisfying it becomes.

For example:

Imagine you're starving and take your first slice of pizza 🍕, it's amazing. You grab a second slice, and it's still great, but not as satisfying as the first. By the third or fourth slice, you're feeling full, and each bite is less enjoyable. By the fifth slice, you might even feel regret.

The **Law of Diminishing Marginal Utility** explains this:

- The first unit gives the most satisfaction.
- As you consume more, the extra satisfaction (marginal utility) from each additional unit decreases.

This is why the **demand curve slopes down**:

- At first, you're willing to pay a higher price for the first slice of pizza.
- But as your satisfaction drops, you'll only keep consuming if the price goes down too.

Firms know this. That's why they offer deals like **"50% off your second item."** They know you're less excited about buying the second unit unless it's cheaper. It's a win-win, you're tempted to buy more, and they sell more.

In short, diminishing marginal utility shows why the first is often the best, and why prices have to drop to keep us coming back for more.

2.2 Demand

🔄 Joint, Competitive, and Composite Demand

When we say **"demand"**, it doesn't always mean the same thing; economists break it down into different types. Here are the three main ones you need to know:

1 Joint Demand

Definition: This happens when two products are **complements** meaning they go hand in hand. If the price of one changes, the demand for the other is affected.

- **Example:** Think about **burgers and burger buns** 🍔. If burger prices drop and more people buy them, the demand for burger buns will also rise. No buns, no burger.
  Another one: Printers and ink cartridges. You can't really use one without the other.

2 Competitive Demand

Definition: This happens when two products are **substitutes;** they can replace each other. If the price of one goes up, demand for the other usually rises.

- **Example:** If the price of a **Coca-Cola** shoots up, people might switch to **Pepsi**.
  Or, if Netflix raises its subscription price, demand for **Disney+** or **Amazon Prime Video** could increase.

3 Composite Demand

Definition: This is when a product has **multiple uses**, so demand for it comes from different directions.

- **Example**: **Milk** 🥛 — it can be used for drinking, making cheese, yogurt, or even ice cream. If more people want ice cream in the summer, demand for milk rises.
  Another one: Steel can be used to build cars, bridges, and washing machines. More demand for cars means more demand for steel.

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2.3 Supply

- **Supply refers to how much of a product or service producers are ready and willing to offer at a certain price during a given time.**

The Supply Curve:

The supply curve shows the relationship between price and quantity supplied. It's usually sloping **upward**, meaning as prices go up, producers are happy to supply more. Why?

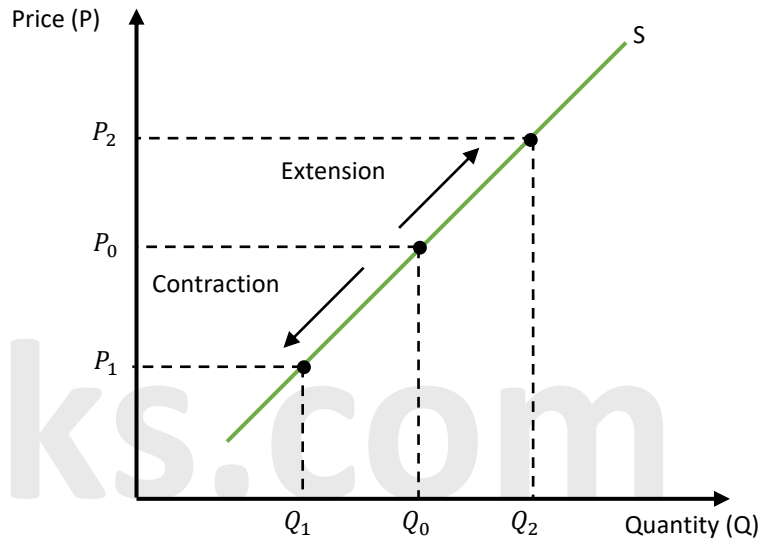
1) When **prices increase**, firms are motivated to supply more to **earn higher profits**.
2) However, as **output grows in the short run, production costs also rise**. To offset these costs, firms charge higher prices to consumers, which can also attract smaller or less-established businesses (aka marginal firms) into the market.

Movement along a supply curve

There is a movement along a supply curve only when the price of a good changes. If the price goes up, producers supply more, this is called an **extension** in supply. If the price drops, producers supply less, this is known as a **contraction** in supply.

2.3 Supply

Movement along a supply curve



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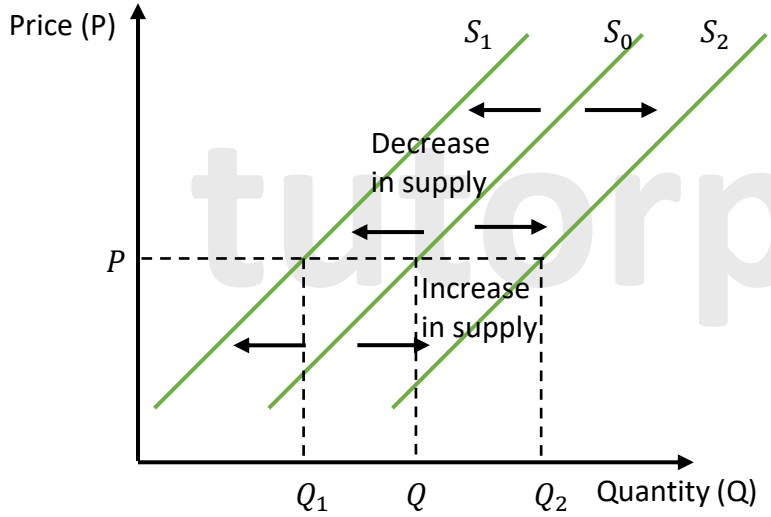
2.3 Supply

The conditions of supply

- There are certain factors that can **change supply** for a good or service, no matter what the price is. These are called the **conditions of supply**.
- When one of these factors changes, it causes the **entire supply curve to shift** – either to the **right** (increase in supply) or to the **left** (decrease in supply). This is different from just moving along the curve when the price changes.



Example:

Let's say the cost of a key resource (like steel for making cars) goes up. Since production costs are higher, the car manufacturer can't afford to make as many cars. This causes a **decrease in supply**.

- On the graph, the supply curve shifts **left** from S to S_1.
- The price (P) stays the same, but the supply drops from Q units to Q_1 units.

2.3 Supply

The conditions of supply

Here's a quick breakdown of the factors that **shift the supply curve** – not just move along it.

1. Costs of Production (COP)

- **What it means**: If the cost of raw materials or production changes, firms adjust their supply.
- **If COP Increases**: Supply **shifts left** ($S \rightarrow S_1$) – Firms produce less because costs are high.
- **If COP Decreases**: Supply **shifts right** ($S \rightarrow S_2$) – Lower costs encourage firms to produce more.

2. New Technology

- **What it means**: Better technology makes production faster and cheaper.
- **If Technology Improves**: Supply **shifts right** ($S \rightarrow S_2$) – Firms produce more efficiently.
- **If Technology Declines**: Supply **shifts left** ($S \rightarrow S_1$) – Outdated tech slows down production.

3. Change in the Number of Firms

- **What it means**: More firms in a market = more supply. Fewer firms = less supply.
- **If Firms Increase**: Supply **shifts right** ($S \rightarrow S_2$) – More firms mean more competition and output.
- **If Firms Decrease**: Supply **shifts left** ($S \rightarrow S_1$) – Fewer firms mean less supply.

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The conditions of supply

4. Indirect Taxes

- **What it means**: Taxes on goods (like VAT or specific taxes) increase costs for firms.
- **If Taxes Increase**: Supply **shifts left** ($S \rightarrow S_1$) – Higher costs = less supply.
- **If Taxes Decrease**: Supply **shifts right** ($S \rightarrow S_2$) – Lower costs = more supply.

5. Subsidies

- **What it means**: Government subsidies help reduce production costs for firms.
- **If Subsidies Increase**: Supply **shifts right** ($S \rightarrow S_2$) – Firms can afford to produce more.
- **If Subsidies Decrease**: Supply **shifts left** ($S \rightarrow S_1$) – Less financial help = less supply.

6. Weather

- **What it means**: For agricultural goods, supply often depends on weather conditions.
- **If the weather is good**: More crops are produced, and the supply curve shifts right ($S \rightarrow S_2$).
- **If the weather is bad**: Crop production falls, and the supply curve shifts left ($S \rightarrow S_1$).

2.3 Supply

The conditions of supply

Continue to the next page…

2.4 The interaction of markets

Equilibrium

In a **free market**, prices are set by the **interaction of demand and supply**. Here's how it works:

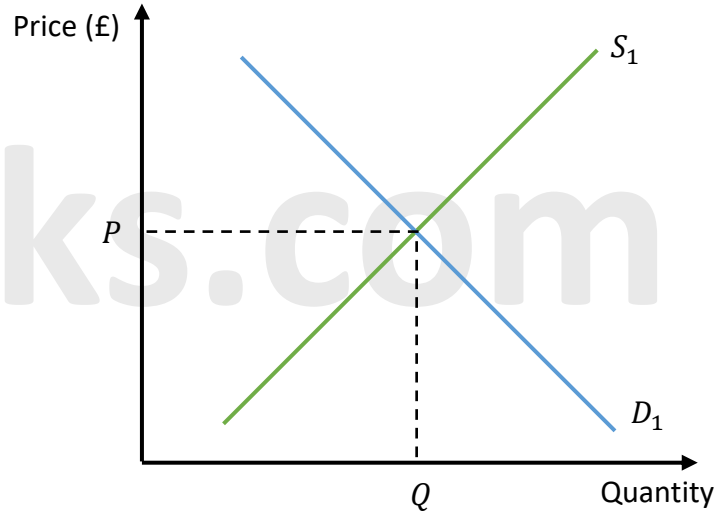
- A **market** is any place (physical like a shop, or virtual like Amazon) where **buyers** and **sellers** come together to exchange goods and services.
- Buyers and sellers agree on a **price**:
  - Buyers show their agreement by **purchasing** the product.
  - If buyers don't like the price, they simply **don't buy it** – this is called **consumer sovereignty**, where buyers have the power to decide what gets produced by spending their money.
- Over time, **sellers adjust prices** to find the perfect balance:
  - The price where **supply** meets **demand** is called the **equilibrium price**.
  - At this price, sellers sell enough to feel satisfied with the **quantity** of sales, and buyers are happy because they feel the price matches the **value** or **utility** they get from the product.

2.4 The interaction of markets

Equilibrium

Equilibrium is when everything in the market balances out perfectly: **demand = supply**. At this sweet spot, the price is called the **market clearing price** because sellers are able to sell all their stock at a rate that works for them and buyers. Therefore:

- **Equilibrium means there is a balance in the market, with no tendency for price or output to change.**



If the price goes **above P**, there's **excess supply** (too much stock and not enough buyers).If the price goes **below P**, there's **excess demand** (buyers want more than sellers can offer).

Markets naturally adjust over time to move back to equilibrium, where everything settles perfectly.

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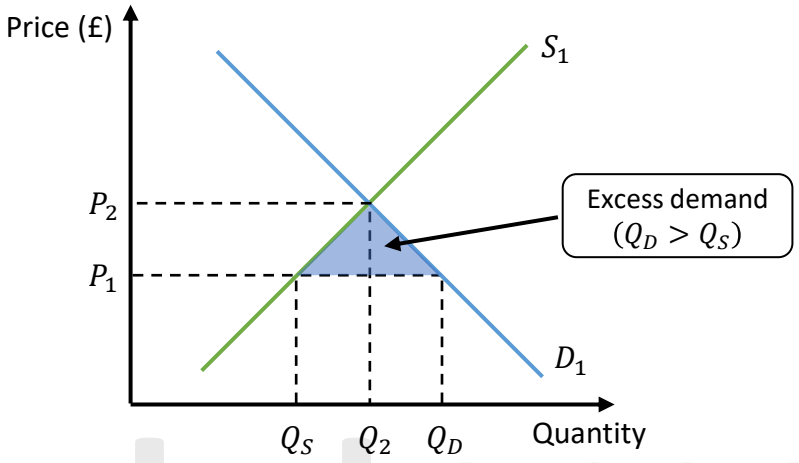
2.4 The interaction of markets

Excess Demand

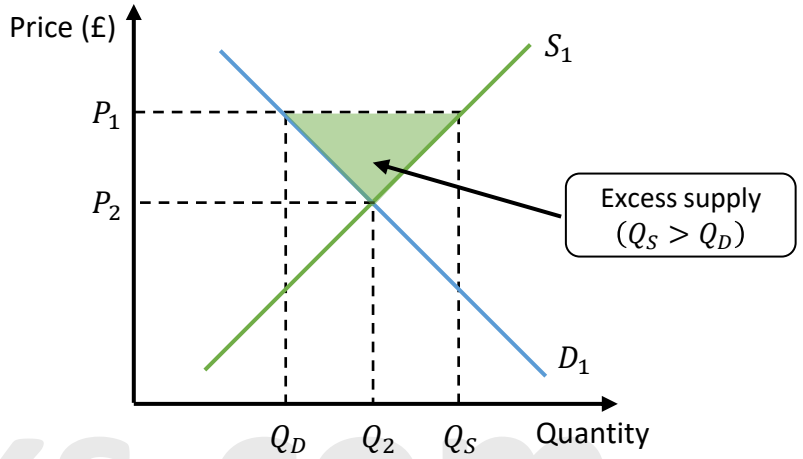


When the price is set too low, below the equilibrium point, we get something called **excess demand**. Here's what happens:

- At price $\boldsymbol{P_1}$, suppliers are only willing to provide $\boldsymbol{Q_s}$, but customers are demanding way more ($\boldsymbol{Q_D}$). This creates a **shortage**, shown by the blue triangle in the diagram.
- In response to the shortage, businesses realise they can charge more since people are eager to buy. So, they raise the price to $\boldsymbol{P_2}$.
- As prices go up, two things happen: more suppliers jump in to provide goods (an **extension in supply**) and some buyers start dropping out because it's now too pricey (a **contraction in demand**).
- Eventually, supply matches demand at $\boldsymbol{Q_2}$, and the market finds its balance again - **equilibrium restored.**

2.4 The interaction of markets

Excess Supply



When the price is set too high, above the equilibrium point, we get **excess supply**. Here's what's happening:

- At price $\boldsymbol{P_1}$, suppliers are ready to provide $\boldsymbol{Q_S}$, but consumers only want $\boldsymbol{Q_D}$. This leads to an oversupply, shown by the green triangle in the diagram.
- What happens when stores have too much unsold stock? **Sales!** To clear the excess goods, businesses lower their prices.
- As prices fall, two things occur: more customers jump in to buy (an **extension in demand**) and suppliers produce less because it's no longer as profitable (a **contraction in supply**).
- Eventually, the market finds its sweet spot again at $\boldsymbol{P_2}$ and $\boldsymbol{Q_2}$ **and equilibrium is restored.**

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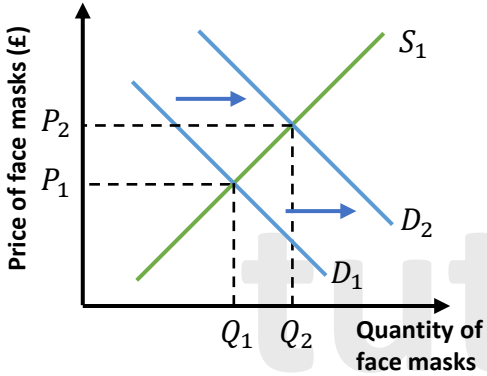
2.4 The interaction of markets

Using supply and demand diagrams to explain real-world price and quantity changes

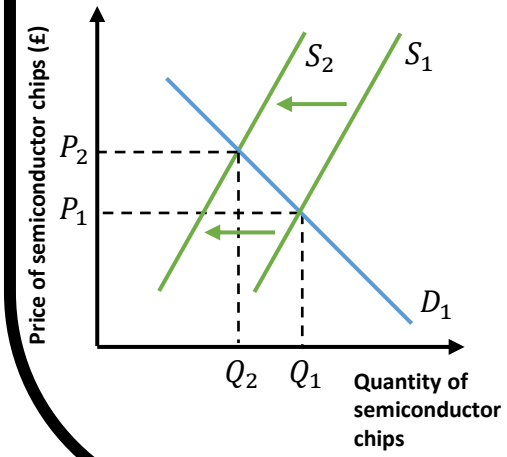
Markets are constantly shifting due to changes in demand and supply. These changes can throw the market out of balance, creating *disequilibrium* until things settle again. Let's explore these concepts with real-life examples:



Demand increases (Higher Prices)

Example: Face masks during COVID-19

Demand surged, shifting from D_1 to D_2, creating a shortage at P_1. Prices rose to P_2, which reduced demand slightly and attracted more suppliers, forming a new higher equilibrium, at a higher price and quantity. More masks became available as supply expanded.



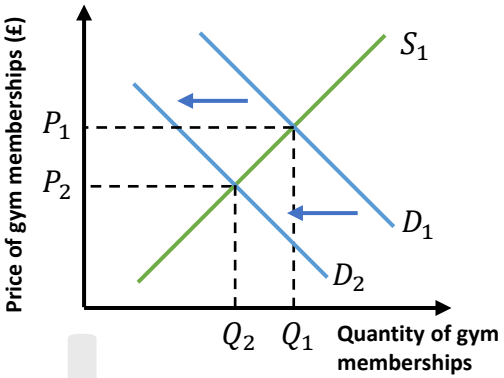
Supply decreases (Higher Prices)

Example: The semiconductor chip shortage disrupted supply for tech products and cars.

Supply shrank from S_1 to S_2, causing shortages at P_1. Prices increased to P_2, reducing demand and motivating producers, creating a new equilibrium with higher prices but fewer chips available.

2.4 The interaction of markets

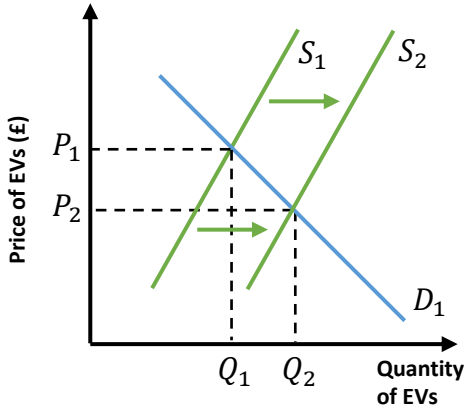
Using supply and demand diagrams to explain real-world price and quantity changes



Demand decreases (Lower Prices)

Example: Gyms see a New Year demand surge, but it drops by March as enthusiasm fades.

Demand fell, shifting from D_1 to D_2, creating an excess capacity at P_1. Prices drop to P_2 as companies offer special deals and lower membership prices. This forms a lower equilibrium price and fewer memberships overall.



Supply increases (Lower Prices)

Example: As electric vehicles (EV) technology improved and more car manufacturers entered the market, the supply of EVs grew rapidly.

Supply expanded, shifting from S_1 to S_2, creating a surplus at P_1. Sellers reduced EV prices to P_2, making them more affordable to a wider audience. This forms a lower equilibrium price with higher quantities of EVs sold as more consumers switched to EVs.

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2.4 The interaction of markets

Functions of the price mechanism

- **Price is simply the value at which goods or services are exchanged.**

But here's where it gets interesting: the **price mechanism** is like the invisible referee of the market. It decides how prices change based on supply and demand, helping the market settle at a new equilibrium. It's the key player in resource allocation in a market economy. Here's how it works:

Rationing Device:

- Resources are limited, and price decides who gets what.
- When something is scarce, the price rises. This limits access to those willing to pay the most, balancing supply and demand.
- **Example:** Imagine concert tickets for a popular artist. Prices soar, and only the biggest fans (or highest bidders) snag seats.

Incentive Device:

- Higher prices motivate producers to create more because they see bigger profits ahead.
- Similarly, rising prices can cover extra costs for increased production.
- **Example:** If electric car demand shoots up, car companies ramp up production because they can charge more and earn more.

2.4 The interaction of markets

Functions of the price mechanism

Signalling Device:

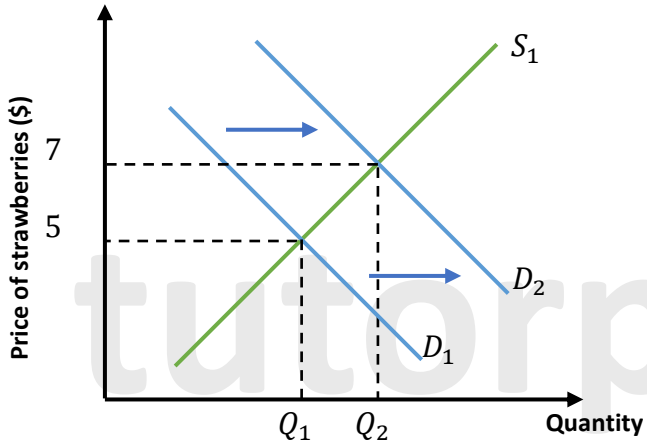
- Prices send signals to businesses about market conditions.
- **Example:** A sudden rise in coffee demand raises its price, signalling coffee producers to grow more beans. If demand drops, prices fall, telling producers to scale back.

2.4 The interaction of markets

The price mechanism in the context of different types of markets

- **Local Market** 🍓

Imagine a bustling farmer's market in California where fresh strawberries are in high demand. Let's break down what happens when people start craving more strawberries:



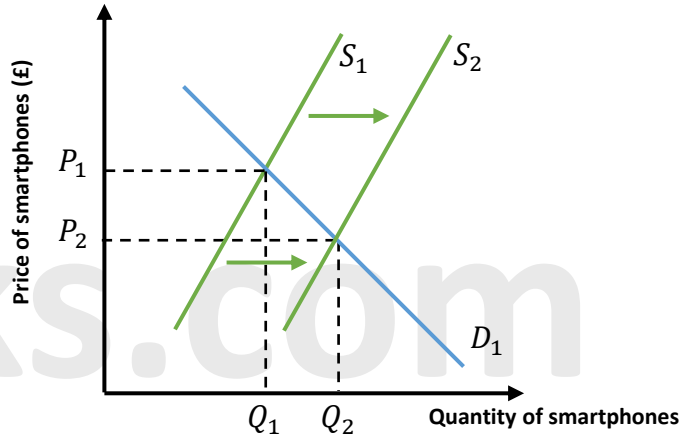
- **Demand Surge:** A health trend sparks an increase in strawberry demand, shifting the demand curve from D_1 to D_2. Prices jump from \$5 to \$7 per pound.
- **Rationing Effect:** The higher price ensures that only those willing to pay \$7 can purchase the limited strawberries, helping allocate this valuable resource.
- **Incentive to Produce:** Farmers are motivated to grow more strawberries because they can earn more per pound. This leads to an increase in supply from Q_1 to Q_2.
- **Signals to Other Farmers:** The rising price and demand signal other farmers to start growing strawberries, boosting the overall market supply.

2.4 The interaction of markets

The price mechanism in the context of different types of markets

- **National Market** 📱

The US smartphone market is fiercely competitive. In 2021, advancements in production technology reduced manufacturing costs for smartphones:



- **What happened?** Producing smartphones became cheaper, leading to an increase in supply. The supply curve shifted from S_1 to S_2.
- **Impact on prices?** With more smartphones in the market, prices dropped from P_1 to P_2.
- **How did the market respond?** Lower prices attracted more buyers, increasing the quantity demanded from Q_1 to Q_2.

Result? More affordable smartphones for consumers and a thriving market where supply and demand found a new balance.

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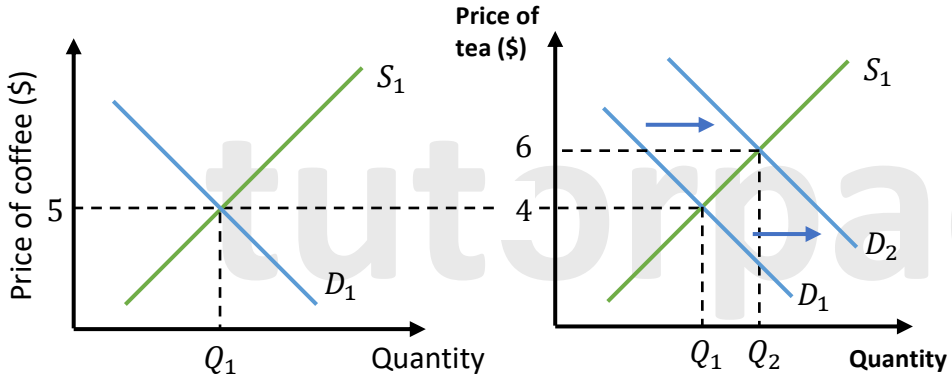
2.4 The interaction of markets

The price mechanism in the context of different types of markets

- **Global Market** ☕

Imagine the global market for coffee and tea. Coffee farmers in Brazil have been producing coffee steadily, selling it at $5 per kilogram. Meanwhile, tea, mostly grown in India, has been priced at $4 per kilogram for years. Suddenly, due to a rise in health trends favouring tea, global demand for tea skyrockets.



What happened?

- **Demand for tea increased** from D_1 to D_2, causing its price to jump from $4 to $6 per kilogram.
- The higher price **rationed** tea, meaning only those willing to pay $6 could buy it.

2.4 The interaction of markets

The price mechanism in the context of different types of markets

- **Global Market** ☕

How did producers respond?

- The higher price **incentivised tea producers** in India to plant more tea bushes and allocate more resources to tea farming. This resulted in an **extension of supply** from Q_1 to Q_2.
- The price hike **signalled to coffee farmers in Brazil** that tea was now more profitable. Many considered switching parts of their coffee plantations to tea to meet the growing demand and take advantage of higher profits.

This example shows how the price mechanism works across global markets, motivating farmers to adjust their production to changes in demand while ensuring resources are directed where they are most needed.

2.4 The interaction of markets

Tips and Tricks

Explaining the differences between the three functions of the price mechanism can feel tricky, but here's an easy way to think about it:

- **If demand or supply shifts**, the market is sending a **signal** to consumers or producers.
- **If there's movement along a curve**, that's the **incentive function** kicking in.

Whenever you're tackling questions about the price mechanism, just remember one golden rule: **it's all about self-interest.** This makes it much easier to explain each function.

For example:

- Lower prices **incentivize consumers** to buy more because they can stretch their income further.
- On the flip side, higher prices **incentivize producers** to switch their resources to more profitable products.

2.4 The interaction of markets

Tips and Tricks

Continue to the next page…

2.5 Consumer and producer surplus

The distinction between consumer and producer surplus

Consumer surplus is the little bonus consumers get when they pay less than they were willing to spend.

Example: You're ready to shell out £50 for a new video game, but the store's running a sale, and it costs only £40. Boom, You've saved £10. That's your consumer surplus.

- **Consumer surplus is the difference between the price the consumer is willing to pay and the price they actually pay.**

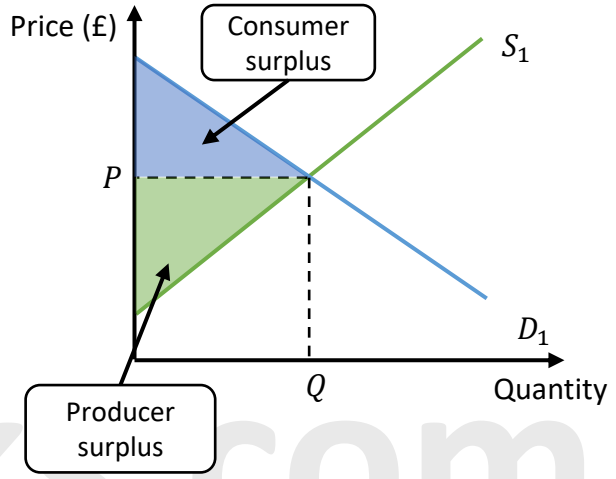
Producer surplus is the extra cash producers earn when they sell for more than their minimum price.

Example: A farmer is happy to sell apples for £2 a kilogram, but a high demand means they can sell for £3/kg. That extra £1 per kilogram is their producer surplus.

- **Producer surplus is the difference between the price the supplier is willing to produce their product at and the price they actually produce at.**

2.5 Consumer and producer surplus

The distinction between consumer and producer surplus



What does the diagram say?

- The **consumer surplus** is the shaded area above the equilibrium price (P) and under the demand curve.
- The **producer surplus** is the shaded area below the equilibrium price and above the supply curve.

Why does equilibrium matter?

- At **equilibrium**, the market runs smoothly, and both consumer and producer surpluses are **maximised**. This sweet spot creates the **social/community surplus**, which benefits everyone.
- If the market is out of balance (**disequilibrium**), these surpluses shrink, and everyone's less happy.

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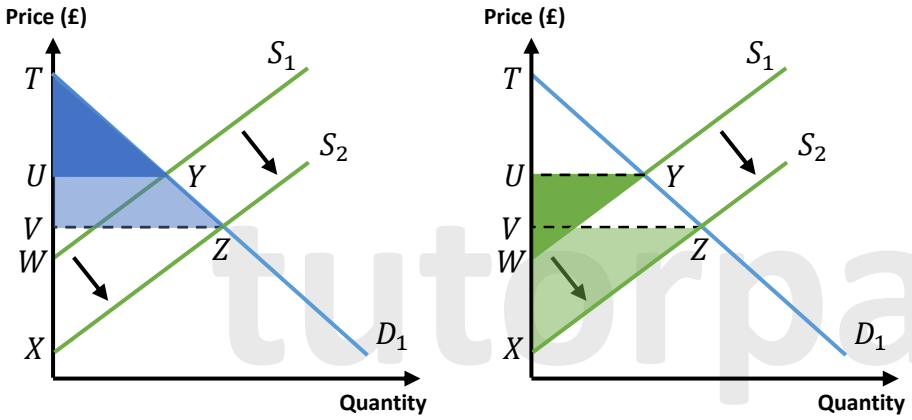
2.5 Consumer and producer surplus

How changes in supply and demand might affect consumer and producer surplus

When the supply or demand of a product changes, it has a ripple effect on both consumers and producers.

An increase in supply



What Happens Before the Supply Change?

- **Consumer surplus** is shown as **UYT**.
- **Producer surplus** is shown as **UYW**.
- Together, these form the **social surplus** (the total benefit to society), represented by **TYW**.

2.5 Consumer and producer surplus

How changes in supply and demand might affect consumer and producer surplus

What Happens After the Supply Increases?

- When supply grows from **S_1 to S_2**, it pushes the price down, benefiting consumers.
- **Consumer surplus** expands to **VZT** because they're paying less and buying more.
- **Producer surplus** shifts to **VZX** as they sell more, even though the price per unit is lower.
- **Social surplus** grows to **TZX**, meaning the entire market benefits from this increased efficiency.

The Bottom Line

- Both **consumer surplus** and **producer surplus** get bigger when supply increases, creating a win-win situation for everyone. Lower prices and higher quantities leave consumers happier and producers selling more overall.

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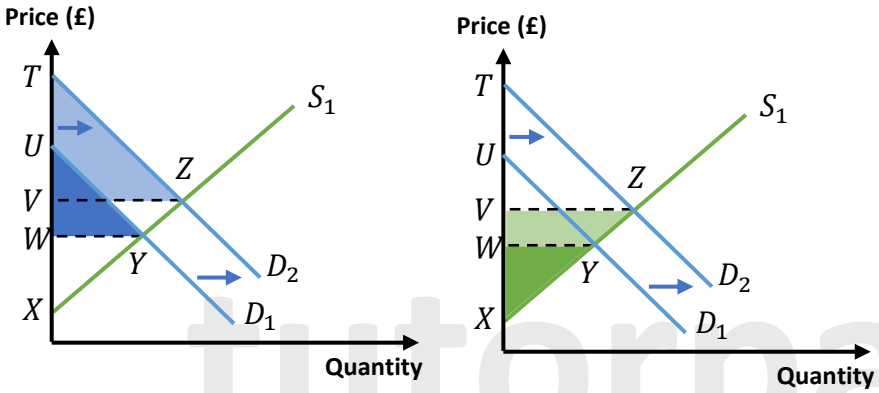
2.5 Consumer and producer surplus

How changes in supply and demand might affect consumer and producer surplus

An increase in demand



Before the Demand Increase

- **Consumer surplus** was the area **WYU**.
- **Producer surplus** was the area **WYX**.
- Combined, the total market benefit, or **social surplus**, was **UYX**.

2.5 Consumer and producer surplus

How changes in supply and demand might affect consumer and producer surplus

After Demand Rises

- Demand shifts from **D_1 to D_2**, meaning more people want the product.
- **Consumer surplus** expands to **VZT**, as consumers are still willing to pay for more despite higher prices.
- **Producer surplus** grows to **VZX**, thanks to higher prices and more sales.
- The total benefit (social surplus) now covers the entire area of **TZX**.

What It All Means

- With more demand, both producers and consumers gain more overall. Producers enjoy bigger profits, and consumers still find value in the product.

Tip: For multiple-choice questions on surplus, highlight the original area, mark the new area, and show the increase or decrease. Annotate the diagram for clarity.

Price Elasticity of Demand (PED)

The **law of demand** is simple:

- When **price goes up**, the **quantity demanded goes down**.

But here's the catch: economists want to know **how much** the demand will drop when prices change.

This is where **price elasticity of demand (PED)** comes in.

- **Price elasticity of demand (PED) is the responsiveness in the demand for a good due to a change in its price. The formula to calculate it is:**

$$PED = \frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ price} = \frac{\%\Delta D}{\%\Delta P}$$

To calculate a % change, use:

$$\%\ change = \frac{new\ value - old\ value}{old\ value} \times 100$$

2.6 Elasticity

Price Elasticity of Demand (PED)

Example 1

A bakery increases the price of cupcakes from **£2 to £3**, and as a result, daily sales drop from **200 to 120 cupcakes**. Calculate the **PED.**

Answer in the next page.

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Price Elasticity of Demand (PED)

Example 1

A bakery increases the price of cupcakes from **£2 to £3**, and as a result, daily sales drop from **200 to 120 cupcakes**. Calculate the **PED.**

Answer:

Step 1: Calculate the % change in Quantity Demanded (D)

$$\%\Delta D = \frac{120 - 200}{200} \times 100$$

$$\%\Delta D = \frac{-80}{200} \times 100 = -40\%$$

The quantity demanded dropped by 40%.

Step 2: Calculate the % change in Price (P)

$$\%\Delta P = \frac{3 - 2}{2} \times 100$$

$$\%\Delta P = \frac{1}{2} \times 100 = 50\%$$

The price increased by 50%.

Step 3: Insert the values into the PED formula

$$PED = \frac{\%\Delta D}{\%\Delta P}$$

$$\boldsymbol{PED = \frac{-40}{50} = -0.8}$$

2.6 Elasticity

Price Elasticity of Demand (PED)

- In most cases, the answer is negative, showing that price and demand move in opposite directions with a negative gradient.
- However, ignore the minus sign to interpret PED values and explain elasticity.

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2.6 Elasticity

Interpreting numerical value of PED

PED Value	Name	Explanation
PED = 0	**Perfectly Inelastic**	No matter how much the price changes, the quantity demanded stays the same. E.g., life-saving insulin. If the price doubles, people still need it – it's essential.
PED is less than 1	**Price Inelastic**	The percentage (%) change in demand is smaller than the % change in price. A 20% rise in the price of toothpaste might only cause a 5% drop in demand – people still but it because it's a necessity.
PED = 1	**Unitary Elasticity**	The % change in demand matches the % change in price. If movie ticket prices drop by 10%, demand rises by exactly 10%.
PED is greater than 1	**Price Elasticity**	Demand is super sensitive. A small price change causes a big shift in demand. E.g., if designer handbags go on sale for 10% off, demand might shoot up to 30%. People love a great deal.
PED is infinite	**Perfectly Elastic**	If the price rises even a tiny bit, demand drops to zero. A market with identical products, like bottled water at a festival. If one seller raises their price by a penny, everyone buys from the cheaper stall.

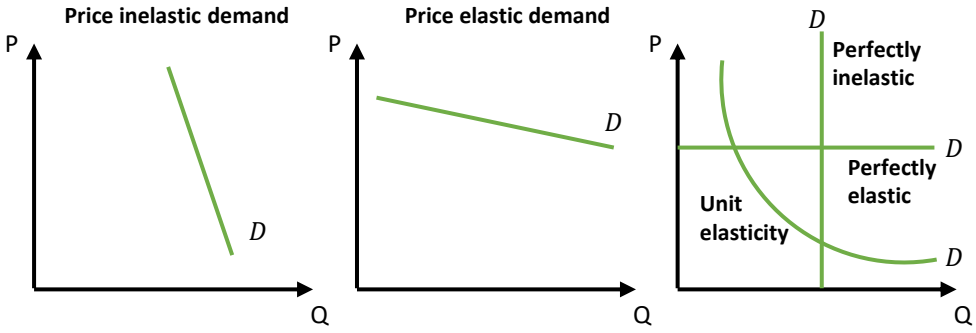
2.6 Elasticity

Interpreting numerical value of PED

Summary:

- **PED = 0**: Price doesn't affect demand (life essentials).
- **PED < 1**: Price changes a little; demand changes less (necessities).
- **PED = 1**: Demand changes equally with price (balanced).
- **PED > 1**: Price changes a little; demand changes a lot (luxuries).
- **PED = ∞**: Price changes = demand vanishes (high competition).

The demand curves below show the difference elasticities:



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2.6 Elasticity

The relationship between PED and total revenue

Total revenue is the money a business makes from selling its goods or services. It's calculated as:

$$\textbf{\textit{Total Revenue} = \textit{Price per Unit} \times \textit{Quantity Sold}}$$

For example, if a bakery sells 100 cupcakes at £2 each, total revenue is £200.

How Elasticity Affects Total Revenue

The relationship between price, demand, and revenue depends on **PED:**

If demand is elastic (PED > 1):

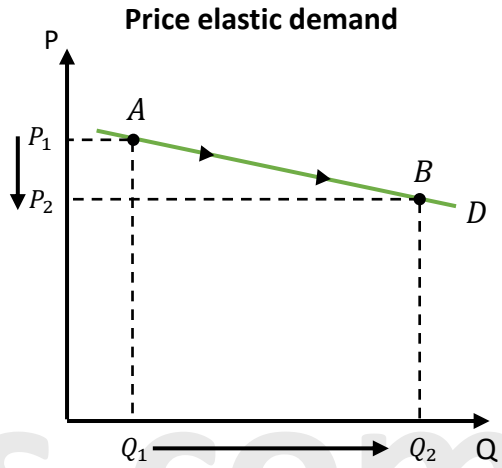
- Consumers are **sensitive to price changes**.
- Example: If a clothing store reduces prices by 10%, sales might jump by 30%. Revenue goes up because the percentage increase in quantity sold outweighs the price drop.
- But, raising prices will cause a large drop in sales, reducing revenue.

If demand is inelastic (PED < 1):

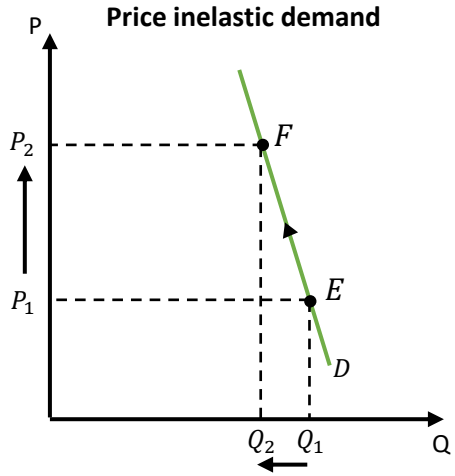
- Consumers are **less sensitive to price changes**.
- Example: A petrol station raises prices by 10%, and sales only drop by 5%. Revenue increases because the smaller drop in quantity sold is outweighed by the higher price.
- However, lowering prices won't boost sales enough to increase revenue.

2.6 Elasticity

The relationship between PED and total revenue



A fall in price increases total revenue under elastic demand



A rise in price increases total revenue under inelastic demand

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2.6 Elasticity

The relationship between PED and total revenue

Elasticity isn't the same all along a straight-line demand curve. Here's how it works:

- At the **top left**, demand is **elastic** (buyers are super sensitive to price changes).
- At the **bottom right**, demand is **inelastic** (buyers are less sensitive to price changes).
- Right in the **middle**, demand has **unit elasticity -** this is the sweet spot where the percentage change in price equals the percentage change in quantity demanded.

Maximising Total Revenue

- Revenue is maximised when the price reaches **unit elasticity (PED = 1) -** this is the **midpoint of the demand curve**.
- Example: A coffee shop adjusts its latte price until the increase in sales perfectly balances the price drop, hitting the sweet spot where total revenue peaks.

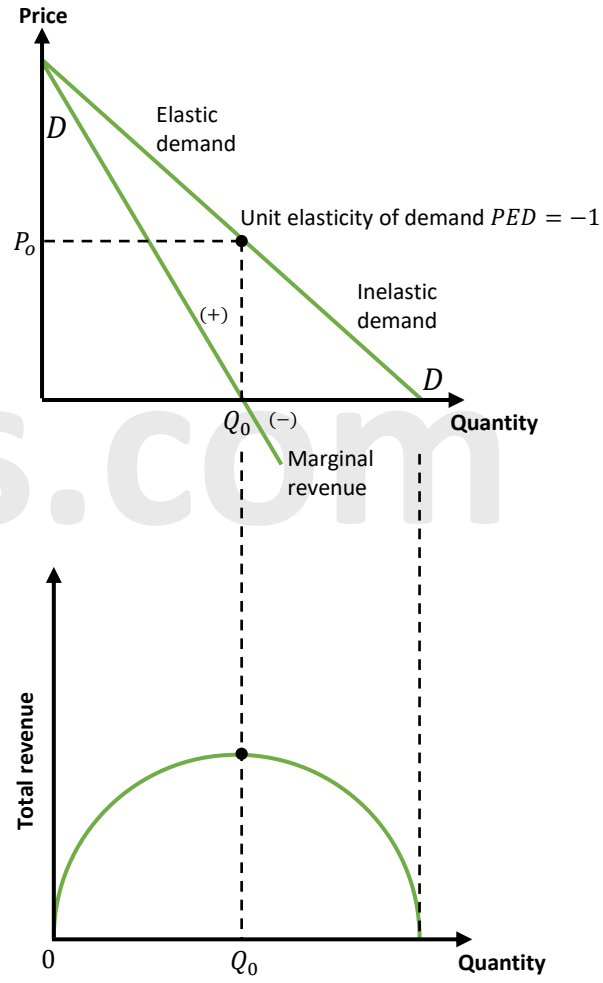
Relationship Between PED and Marginal Revenue (MR):

Marginal revenue (MR) is the **extra money** a business makes when it sells **one more unit** of a product. It tells the firm how much their revenue increases with each additional sale.

- **Positive MR:** Demand is price elastic (cutting prices increases revenue).
- **Zero MR:** Demand is unit elastic (revenue is maximized).
- **Negative MR:** Demand is inelastic (raising prices increases revenue).

2.6 Elasticity

The relationship between PED and total revenue



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The relationship between PED and total revenue

Example 2

A coffee shop increases the price of a latte from **£3 to £5**. As a result, daily sales drop from **50 to 20 lattes**. Explain if it made the right decision.

Answer:
Step 1: Calculate revenue before the price change:

$$Sales\ revenue = Price\ of\ product \times Quantity\ sold$$
$$= £3 \times 50 = £150$$

Step 2: Calculate revenue after the price change:

$$sales\ revenue = £5 \times 20 = £100$$

Step 3: Analyse the results:

Price increase caused revenue to dropp from **£150 to £100**, a loss of **£50**. This means customers reacted strongly to the price increase, showing that the demand for lattes is **price elastic**.

2.6 Elasticity

Factors influencing PED

Price elasticity of demand (PED) depends on several factors.

1. Substitutes

What it means: If there are plenty of alternatives, demand is **elastic** because people can switch to other options.

Example: If apples get expensive, people might buy bananas or oranges instead. But if it's insulin (no substitutes), demand is inelastic.

2. Luxury vs. Necessity

Luxury goods: Tend to have **elastic demand**. If the price of designer bags goes up, fewer people buy them because they aren't essential.

Necessities: Have **inelastic demand**. Even if bread prices rise, most people will still buy it because they need it to survive.

3. Cost relative to income

What it means: If a product costs a large chunk of your income, demand is **elastic** because you'll think twice before buying it.

Example: A car or a holiday - if prices rise, demand drops because they're big-ticket items.

Small-cost goods, like toothpaste or gum, are **inelastic** because the price change barely impacts your budget.

4. Addictive Goods

What it means: Products people are addicted to tend to have **inelastic demand** because they'll buy them no matter what.

Example: Coffee lovers won't stop buying coffee even if the price doubles. The same goes for cigarettes or alcohol.

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Factors influencing PED

5. Time Period

What it means: In the **short run**, demand is less elastic because people can't immediately change their habits. In the **long run**, demand becomes more elastic as people find alternatives.

Example: If electricity prices rise, households might continue using it in the short term. Over time, they might switch to solar panels or gas to save money.

6. Brand Image

What it means: Products with a strong brand image tend to have **price inelastic demand**. Loyal customers are willing to pay a higher price because they value the brand's reputation, quality, or status.

Example: People keep buying **Nike trainers** or **Costa coffee** even if prices go up. They love the brand too much to switch to alternatives.

2.6 Elasticity

Income elasticity of demand (YED)

Income elasticity of demand (YED) helps us figure out how much demand for a product changes when people's incomes change. Economists love this because it shows how **sensitive demand** is to income shifts for different products.

The formula is simple:

$$YED = \frac{percentage\ change\ in\ quantity\ demand}{percentage\ change\ in\ real\ income} = \frac{\%\Delta\ in\ D}{\%\Delta\ in\ Y}$$

Therefore:

- **YED measures how much demand for a good or service changes when people's real income changes.**
- **Real income is the actual purchasing power of your money; the amount of goods and services you can buy with your nominal income.**

Example 3

A consumer's **income increases** from **£150 to £180 a week**. They used to enjoy **6 cups of fancy lattes** a week, but now they're treating themselves to **9 cups a week**. Let's calculate the **YED** for their latte habit.

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Income elasticity of demand (YED)

Example 3

A consumer's **income increases** from **£150 to £180 a week**. They used to enjoy **6 cups of fancy lattes** a week, but now they're treating themselves to **9 cups a week**. Let's calculate the **YED** for their latte habit.

Answer:

Step 1: Calculate the % change in Quantity Demanded (D)

$$\%\Delta D = \frac{New\ quantity - Old\ quantity}{Old\ quantity} \times 100$$

$$\%\Delta D = \frac{9-6}{6} \times 100 = +50\%$$

Step 2: Calculate the % change in Income (Y)

$$\%\Delta Y = \frac{180-150}{150} \times 100 = +20\%$$

Step 3: Insert the values into the YED formula

$$YED = \frac{\%\Delta D}{\%\Delta Y}$$

$$\boldsymbol{YED = \frac{50}{20} = +2.5}$$

2.6 Elasticity

Interpreting YED values

YED between 0 and 1 (Normal Necessity)

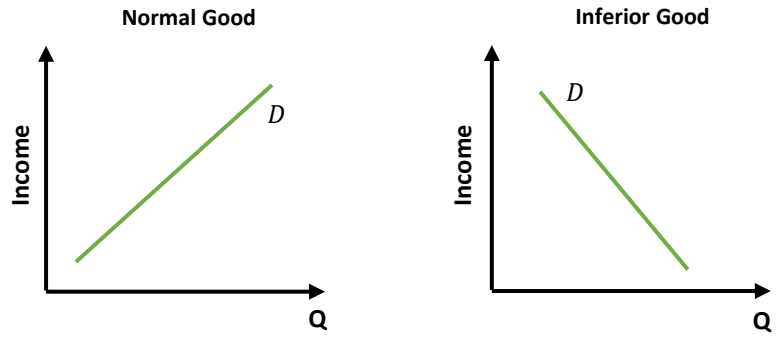
- Demand increases **less than income**.
- These are essential goods like bread or toothpaste. Even if your income doubles, you're not going to start buying *that* much more bread.

YED > 1 (Normal Luxury)

- Demand increases **more than income**.
- These are your fancy things like holidays or designer bags. When people earn more, they splurge on luxuries.

YED < 0 (Inferior Good)

- Demand **decreases** when income rises.
- Think of cheap instant noodles or second-hand clothes. As people earn more, they upgrade and buy better alternatives.



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Factors influencing YED

YED is shaped by all sorts of things happening in the economy:

- **Economic Growth:** Rising incomes mean more demand for **normal goods** and fewer inferior ones.
- **Recession:** When incomes drop, people buy more **inferior goods** and fewer luxuries.
- **Other Factors:** Things like minimum wage hikes, taxes, or global trade can influence incomes and YED.

YED Quick Tips:

- **Positive YED** = Normal good (necessity or luxury).
- **Negative YED** = Inferior good.
- The bigger the number, the stronger the link between income changes and demand.
    - Example: If $YED = +2.5$, demand is very responsive to income changes (hello, luxury goods!).

Why Does It Matter?

- YED helps businesses and policymakers figure out what products people will buy more (or less) of as incomes rise or fall. Whether it's designer bags or instant noodles, income plays a big role in shaping demand! 💼🚽✨

2.6 Elasticity

Cross elasticity of demand (XED)

- XED measures how **demand for one good (A)** changes when the **price of another good (B)** changes.
- It's all about the relationship between **complementary goods** (e.g., coffee and milk) and **substitute goods** (e.g., Coke and Pepsi).

Different goods have different levels of responsiveness to price changes:

- **Complementary goods**: A price increase in one good (e.g., coffee) might cause demand for its complement (e.g., milk) to drop.
- **Substitutes**: A price increase in one good (e.g., Coke) might push people to buy its competitor (e.g., Pepsi).

The formula:

$$XED = \frac{percentage\ change\ in\ demand\ for\ good\ B}{percentage\ change\ in\ price\ of\ good\ A} = \frac{\%\Delta\ in\ D_B}{\%\Delta\ in\ P_A}$$

Therefore:

- **XED measures how the demand for good B reacts to a change in the price of good A.**

Let's say:

- If the price of hot dogs goes up, fewer people buy buns.
- XED will show how much the demand for buns has dropped due to the price hike in hot dogs.

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Cross elasticity of demand (XED)

Example 4

A local cinema decides to lower the price of its movie tickets from £12 to £8. As a result, the weekly sales of popcorn in the cinema jump from 50 to 90 bags. Calculate the XED and explain the relationship between the two products.

Answer:

Step 1: Calculate the % change in Quantity Demanded of popcorn (Good B)

$$\%\Delta D = \frac{New\ quantity - Old\ quantity}{Old\ quantity} \times 100$$

$$\%\Delta D_B = \frac{90 - 50}{50} \times 100 = +80\%$$

Step 2: Calculate the % change in price of movie tickets (Good A)

$$\%\Delta P_A = \frac{8 - 12}{12} \times 100 = -33.33\%$$

Step 3: Insert the values into the XED formula

$$XED = \frac{\%\Delta\ in\ D_B}{\%\Delta\ in\ P_A} = \frac{+80\%}{-33.33\%} = -2.4$$

Step 4: Explain the relationship

The **negative XED value** shows that movie tickets and popcorn are **complementary goods** (you usually enjoy them together). The high magnitude of -2.4 (ignoring the minus sign) indicates that they are **strong complements**, lowering ticket prices significantly increases popcorn sales. 🎬🍿

2.6 Elasticity

Interpreting XED values

XED helps us figure out the relationship between two products. Here's how to interpret the values:

XED < 0: Complementary Goods

- A negative XED value shows that two goods are **complements.** If the price of one goes up, the demand for the other falls.
- Coffee and sugar. If coffee prices soar, people might buy less sugar because they're drinking less coffee.

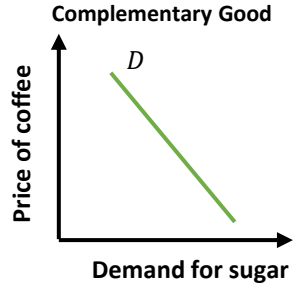
XED > 0: Substitutes

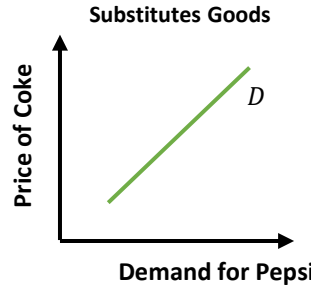
- A positive XED value means the goods are **substitutes.** If the price of one rises, demand for the other increases.
- Coke and Pepsi. If Coke prices jump, people will grab Pepsi instead.

XED = 0: Unrelated Goods

- A value of zero means the goods have **no connection.** A change in the price of one won't affect demand for the other.
- Bananas and car tires. If tire prices drop, it won't make anyone rush to buy bananas.

Pro Tip: The closer XED is to zero, the weaker the relationship.





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2.6 Elasticity

Significance of elasticities of demand to firms and government

Understanding elasticity is essential for businesses and governments to make smarter decisions.

- For businesses, **Price Elasticity of Demand (PED)** helps maximise revenue. If demand is **inelastic** (not sensitive to price changes), firms can raise prices without losing many customers. On the other hand, if demand is **elastic** (very price-sensitive), lowering prices can boost sales and revenue. Similarly, **Cross Price Elasticity of Demand (XED)** lets firms adjust pricing strategies for substitutes (e.g., Coke vs. Pepsi) or complements (e.g., coffee and sugar) and anticipate the impact of competitors' price changes.
- Governments use PED to design effective taxes and subsidies. Taxing inelastic goods, like petrol, ensures steady tax revenue because people keep buying despite price increases. Subsidising elastic goods, such as public transport, creates a significant rise in demand, making subsidies impactful and worthwhile.
- Firms also rely on **Income Elasticity of Demand (YED)** to plan during economic shifts. In recessions, they focus on **inferior goods** (e.g., budget items) as demand for these increases when incomes fall. During economic growth, they pivot to **luxury goods**, which see higher demand as incomes rise.

In short, elasticity helps firms boost profits, governments optimise tax policies, and both adapt to changes in consumer behaviour.

2.6 Elasticity

Significance of elasticities of demand to firms and government

Continue to the next page…

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Price elasticity of supply (PES)

The **law of supply** says that when prices go up, producers will supply more, and when prices fall, they supply less (*ceteris paribus* – "all else being equal"). But here's the kicker: economists don't just stop at that. They want to know **how much supply changes** when the price changes.

This is where **price elasticity of supply (PES)** comes in.

- **Price elasticity of supply (PES) is the responsiveness in the supply for a good due to a change in its price. The formula to calculate it is:**

$$PED = \frac{\%\ change\ in\ supply}{\%\ change\ in\ price} = \frac{\%\Delta S}{\%\Delta P}$$

To calculate a % change, use:

$$\%\ change = \frac{new\ value - old\ value}{old\ value} \times 100$$

2.6 Elasticity

Price elasticity of supply (PES)

Continue to the next page…

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Price elasticity of supply (PES)

Example 1

The price of *fresh strawberries* increases from £2.00 to £3.50 due to rising demand during summer. *Eco Farms*, a local strawberry producer, tries to increase their supply to meet the demand but only manages to grow a few more batches. Sales rise from 500 baskets to 525 baskets a week. Let's calculate the PES and explain what it tells us.

Answer:

Step 1: Calculate the % change in Quantity Supplied (S)

$$\%\Delta S = \frac{New\ supply - Old\ supply}{Old\ supply} \times 100$$

$$\%\Delta S = \frac{525 - 500}{500} \times 100 = +5\%$$

Step 2: Calculate the % change in Price (P)

$$\%\Delta P = \frac{3.50 - 2.00}{2.00} \times 100 = +75\%$$

Step 3: Insert the values into the PES formula

$$PES = \frac{\%\Delta S}{\%\Delta P}$$

$$\boldsymbol{PES = \frac{5\%}{75\%} = 0.07}$$

Step 4: Explanation

The PES value of **0.07** tells us that strawberries are **highly price inelastic in supply**. Even though the price jumped significantly, the quantity supplied barely increased. Why? Fresh strawberries take time to grow, and farmers can't instantly produce more, even if prices rise.

2.6 Elasticity

Interpreting PES values

$PES = 0$: Perfectly Price Inelastic

- **What it means:** Supply doesn't budge no matter how much the price changes.
- **Example:** A theatre with fixed seating – even if ticket prices skyrocket, there are still only a limited number of seats.

$PES < 1$: Price Inelastic

- **What it means:** Supply changes, but only a little compared to the price change.
- **Example:** Agricultural goods like wheat – farmers can't instantly grow more crops if prices rise.

$PES = 1$: Unit Price Elastic

- **What it means:** The percentage change in supply is exactly the same as the percentage change in price.
- **Example:** A factory producing custom-made furniture – if prices rise by 10%, supply also increases by exactly 10% as producers can match demand proportionally.

$PES > 1$: Price Elastic

- **What it means:** Supply responds **a lot** to even a small price change.
- **Example:** T-shirts – factories can quickly ramp up production if prices rise.

$PES = \infty$: Perfectly Price Elastic

- **What it means:** At a specific price, supply is unlimited, but if the price changes even slightly, supply drops to zero.
- **Example:** A theoretical scenario in international trade – if a country can sell as much as it wants at a fixed price but stops supplying if the price dips.

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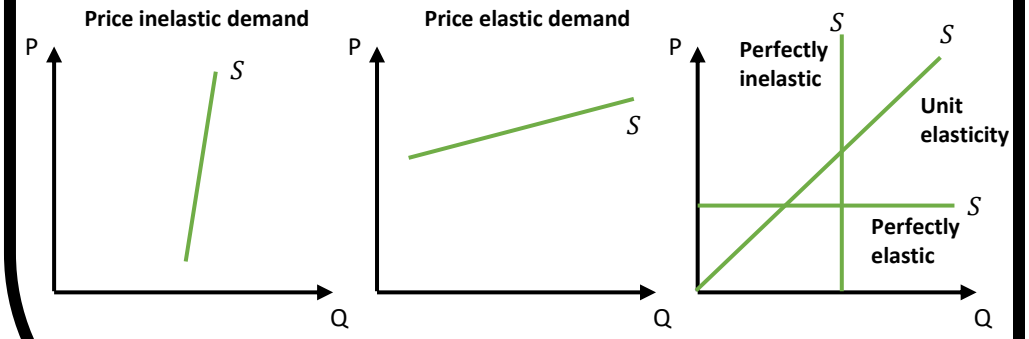
Interpreting PES values

Summary:

- **PES = 0: Perfectly Price Inelastic -** Supply doesn't change at all (e.g., theatre seats).
- **PES < 1: Price Inelastic** - Supply changes a little (e.g., crops like wheat).
- **PES = 1: Unit Price Elastic** - Supply changes **exactly** in proportion to price changes (e.g., custom furniture).
- **PES > 1: Price Elastic** - Supply changes a lot compared to price changes (e.g., t-shirts).
- **PES = ∞: Perfectly Price Elastic** - Supply is unlimited at a fixed price but drops to zero if the price changes (e.g., a trade scenario).

The demand curves below show the difference elasticities:



2.6 Elasticity

Factors that influence PES

1) Availability of Raw Materials:

If raw materials are scarce, supply will be **price inelastic** (low PES). If they're easy to find, supply becomes **price elastic** (higher PES).

- **Example:** If there's a sudden demand for chocolate, producers with easy access to cocoa beans can ramp up supply quickly. If cocoa beans are hard to get, supply stays low.

2) Storage:

If products can be stored easily, producers can increase supply quickly when prices rise. This makes PES **higher** (elastic).

- **Example:** Bottled water can be stored and released during a heatwave; fresh milk can't.
- If storage is difficult, PES will be **low** (inelastic).

3) Level of Spare Capacity:

If factories have spare capacity (extra production ability), producers can ramp up supply quickly, making PES **elastic**.

- **Example:** A bakery with spare ovens can bake more bread.
- If there's no spare capacity, supply will be **inelastic**.

4) Mobility of Resources:

If producers can quickly switch resources (like workers or machines) between products, supply will be more **price elastic**.

- **Example:** A clothing factory producing t-shirts can quickly switch to making hoodies if prices for hoodies rise.

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Factors that influence PES

5. Ease of Entry to an Industry:

If it's easy for new firms to enter the industry (low barriers like costs, regulations, or licenses), supply will be more **price elastic**.

- **Example:** Starting a homemade candle business requires little money and few resources, so new sellers can easily enter if candle prices rise.
- If entry is difficult (e.g., airplane manufacturing), supply will be **inelastic**.

6. Time Period:

- **Short Run:** Producers may struggle to respond quickly as it takes time to increase supply.
    - **Example:** Farmers can't grow extra strawberries overnight to meet sudden demand.
- **Long Run:** Over time, producers can adjust all their resources and increase supply.
    - **Example:** If electric cars become popular, car manufacturers can invest in new production plants to make more over time.

2.6 Elasticity

Distinction between short-run and long-run in economics

In production, businesses rely on **factors of production**:

- **Land**: Natural resources like coal or water.
- **Capital**: Man-made tools like machines or trucks.
- **Labour**: Workers who make the magic happen.
- **Entrepreneurship**: The brains organising everything (hello, business owners).

Short-Run

The short-run is when at least **one factor of production is fixed** (you can't change it).

- **Example**: A bakery might hire more bakers to make more cakes, but they can't add another oven right away. The oven (capital) is fixed in the short-run. Supply tends to be relatively inelastic.

Long-Run

The long-run is when **all factors of production are variable**. Companies have the time to change everything – no limits.

- **Example**: A bakery can build a bigger kitchen, buy new ovens, and hire more bakers to double production when demand for cakes soars. Supply tends to be relatively elastic.

For **agricultural products**, supply doesn't change quickly, so supply is inelastic in the short term. Farmers can't magically grow more wheat overnight because the harvest depends on the **seasons,** you have to wait until summer or autumn for crops to grow. It's even trickier for things like milk or beef since raising animals takes years of nurturing and care.

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2.7 The concept of the margin

Margins

In economics, **thinking at the margin** means asking: *"What happens if I do just one more?". O*ne more hour of work, one more slice of pizza, or one more episode on Netflix 🍕📺.

🔑 **Key Ideas**

✅ **Marginal cost** = the *extra cost* of producing one more unit.

- Example: If working an extra hour produces 10 more items, but each item takes 5 minutes, then the marginal cost is *5 minutes per unit*.

✅ **Marginal utility** = the *extra satisfaction* you get from consuming one more unit of a good.

- Formula: **MU = Total utility of one extra unit (X + 1) – Total utility from consuming X units**

Or simply: **New total happiness – Old total happiness**

Example: The joy you get from eating your 3rd slice of pizza compared to your 2nd slice.

🚀 **Why Thinking at the Margin Matters**

- It helps consumers (and producers) make **forward-looking decisions**. Instead of dwelling on what's already been done, they focus on what's best *next*.
- It boosts **productivity;** we prioritise the choices that give us the biggest benefits for the least cost.

2.7 The concept of the margin

Margins

🍫 **Example: Eating Chocolate Bars**

Imagine you're eating chocolate bars, and your happiness (utility) increases with each bar but not by the same amount.

Number of Bars (X)	Total Utility (TU)	Marginal Utility (MU)
1	20	20 – 0 = **20**
2	35	35 – 20 = **15**
3	45	45 – 35 = **10**
4	50	50 – 45 = **5**
5	50	50 – 50 = **0**

📊 **Explanation:**

- 1st bar = **MU = 20** (amazing, you're thrilled 🍫).
- 2nd bar = **MU = 15** (still good, but less exciting).
- 3rd bar = **MU = 10** (satisfaction is dropping).
- 4th bar = **MU = 5** (barely worth it).
- 5th bar = **MU = 0** (you're full, no extra joy).

This shows **diminishing marginal utility;** each extra bar adds less and less satisfaction.

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2.8 Market failure and externalities

Understanding market failure

In a **free market**, prices decide how scarce resources (like land, labour, capital, and businesses) are shared out to meet everyone's wants and needs. This process is usually super efficient and works well most of the time. Think of it like a traffic light system for the economy, directing resources to where they're needed. 🚦

But sometimes things go wrong. This is called **market failure**. It's when resources aren't shared out in the best way for society. Imagine a pizza being cut unfairly, some people get too much (over-allocation), and others get too little (under-allocation). 🍕

Examples of market failure:

- When the market leads to **inequality** (some get a lot, others get none).
- When it causes **environmental damage** (like pollution).

Market failure happens when the price mechanism leads to resources being used inefficiently, causing demand and supply to result in a net loss of welfare for society.

Market failure can create:

1. **Too much** of some goods or services (like too many factories causing pollution).
2. **Too little** of others (like not enough healthcare or clean energy).

This means the economy isn't efficient or fair, and resources aren't being used in the best way for society. It's like having all the toppings on one slice of pizza while the others are plain.

2.8 Market failure and externalities

Types of market failure

There are different types of market failure which can include externalities, insufficient provision of public goods, and gaps in market information.

Externalities

- **Externalities are those costs or benefits which are external to an exchange. They are third party effects ignored by the price mechanism.**

Externalities are when someone outside of a deal or transaction gets affected, either positively or negatively. Basically, you're getting something you didn't sign up for. There are **positive** and **negative** externalities, and they can happen in two ways: **consumption** or **production**.

Positive Externalities (The Good Stuff):

- **Positive Consumption Externality**:
  When someone's consumption benefits others. For example:
  - Vaccinations not only protect the person getting them but also help reduce the spread of disease, benefiting everyone.
- **Positive Production Externality**:
  When producing something helps others. For example:
  - Beekeepers producing honey also help nearby farmers by pollinating their crops, boosting harvests.

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2.8 Market failure and externalities

Types of market failure

Negative Externalities (The Bad Stuff):

- **Negative Consumption Externality**:
  When someone's consumption harms others. For example:
  - Loud music at a party might be fun for the host but disturbs the neighbours trying to sleep.
- **Negative Production Externality**:
  When producing something harms others. For example:
  - Factories producing textiles often dump untreated wastewater into rivers, polluting drinking water for nearby communities.

Why Do Externalities Cause Problems?

- The **free market** doesn't consider these side effects. If it did, prices and quantities would change:
- With **positive externalities**, we'd likely see **more** of these goods (like more people getting vaccinated).
- With **negative externalities**, we'd likely see **less** (like fewer polluting factories).

2.8 Market failure and externalities

Types of market failure

Public Goods

Public goods are things that benefit everyone but don't make much money for businesses, so they wouldn't be provided enough in a free market. Why? Because there's little incentive for sellers to profit from them.

Examples of public goods:

- Street lighting, flood defences, and clean air.
  These goods are typically provided by the government to ensure everyone can access them. Imagine trying to make streetlights a paid service. 🧰💡

Information Gaps

In an ideal world, buyers and sellers would have equal knowledge about what's being sold. But in reality, **information gaps** happen all the time, leading to bad choices and market failure. This is called **asymmetric information**, where one side knows way more than the other.

What does this look like?

- A used car dealer might know a car has a hidden fault, but the buyer doesn't, so they overpay. 🚗
- On the flip side, a solar panel company might offer huge long-term savings, but buyers who don't understand the benefits might avoid buying them. 🌞

A Real-Life Example:
The health insurance market often suffers from information gaps. Insurers may not know how healthy a person is, leading them to charge higher premiums to cover their risks. Meanwhile, unhealthy people might hide key details to get cheaper insurance.

2.8 Market failure and externalities

Private, external and social costs and benefits

- **Externalities are those costs or benefits which are external to an exchange. They are third party effects ignored by the price mechanism.**

Externalities are like the ripple effects of an economic activity; they impact people who aren't directly involved in the transaction. These effects can be **positive (good)** or **negative (bad)** and are often called **spillover effects**. They can happen on the:

- **Consumption side** (what consumers do).
- **Production side** (what businesses make).

External Costs (The Bad Stuff)

External costs happen when the **social costs** (what society pays) are greater than the **private costs** (what the producer pays).

- **Private cost**: The cost a business actually pays to make something, e.g., wages for workers, rent for office space, machinery costs, raw material costs, etc…
- **External cost (negative externality)**: The hidden harm to others that isn't included in the price, like noise pollution from construction.
- **Social cost**: Private cost + external cost.

Example:
A delivery company might save money using cheap, old vans. But those vans create air pollution, which leads to health problems in the city. The company pays for fuel, but society pays for the dirty air.

2.8 Market failure and externalities

Private, external and social costs and benefits

External Benefits (The Good Stuff)

External benefits happen when the **social benefits** (what everyone gains) are greater than the **private benefits** (what the individual gets).

- **Private benefit**: What the consumer personally gets from using a product or service.
- **External benefit (positive externality)**: The bonus benefit to others, like how public Wi-Fi helps tourists and businesses around it.
- **Social benefit**: Private benefit + external benefit.

Example:
A farmer plants a new apple orchard. They sell the apples (private benefit), but the trees also help clean the air and create habitats for birds (external benefit).

2.8 Market failure and externalities

External costs of production

Sometimes, producing goods or services creates **negative side effects** for people who aren't involved in the transaction. These are called **negative externalities** of production, and they often cause market failure.

In a free market, businesses only think about their **private costs** - what it costs them to make something. But they don't consider the **external costs**, like the pollution or noise their production causes. This leads to **over-production**, meaning too many goods are made, and society suffers.

If businesses considered the **true costs** (private + external), they'd produce fewer goods, charge higher prices, and reduce the negative impacts.

Key Concepts

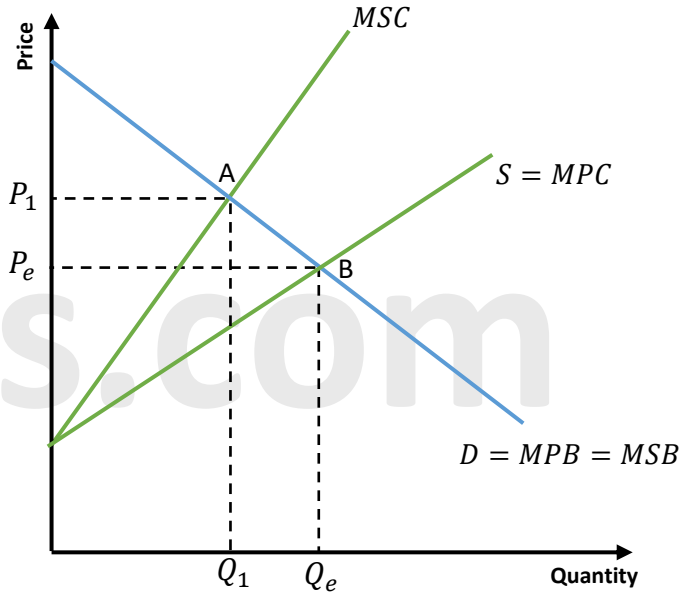
- **Marginal Private Cost (MPC)**: What the producer pays to make one extra unit.
- **Marginal Social Cost (MSC)**: The total cost to society (MPC + external cost).
- **Over-Production**: Happens when businesses only focus on MPC, leading to too many goods being made and a **welfare loss** for society.

Example:
A factory making cheap shoes might dump waste into a nearby river, polluting the water. The factory doesn't pay for the cleanup, the town does. If the factory included the cost of cleaning the river, they'd produce fewer shoes and charge more.

2.8 Market failure and externalities

External costs of production

- **Marginal Private Benefit (MPB)**: The extra satisfaction an individual gets from consuming one more unit of a good.
- **Marginal Social Benefit (MSB)**: The extra benefit to society from that additional consumption.



The **free-market equilibrium** is at P_eQ_e, where businesses ignore external costs.

To fix this, we need to reach P_1Q_1, where **MSC = MSB** (Marginal Social Cost = Marginal Social Benefit). The social cost of making the last unit equals the social benefit of consuming it. At this point, the market reaches the social optimum, and welfare is maximised.

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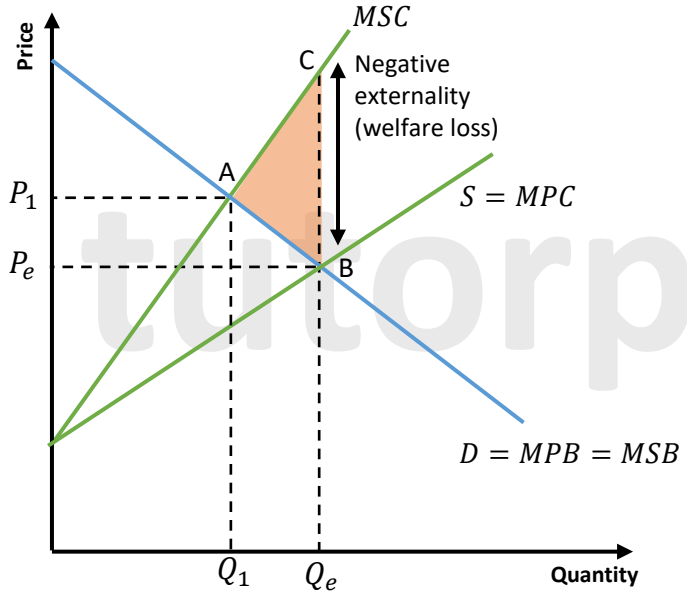
2.8 Market failure and externalities

Negative externalities

Negative externalities of production (diagram analysis)

Negative externalities happen when producing something causes extra costs for society that aren't paid by the producer. In simple terms, the **social costs** (what society pays) are higher than the **private costs** (what the business pays).



When markets are left alone, they ignore these extra costs. Businesses produce where $\boldsymbol{MPB = MPC}$ (where private benefits equal private costs), which is at $\boldsymbol{Q_eP_e}$ in the diagram. But here's the issue: society ends up paying more than it benefits, creating a **welfare loss** (the shaded area in the diagram). The bigger the external costs, the larger the gap between MPC and MSC.

2.8 Market failure and externalities

Negative externalities

Ideally, the economy should produce at the **social optimum** (Q_1P_1), where $\boldsymbol{MSB = MSC}$ (social benefits equal social costs). But that's not what happens in a free market.

Why Do External Costs Grow?

The more something is produced, the bigger the external costs. For example:

- If one person cuts down a tree, the environmental impact is small.
- If a logging company cuts down an entire forest, the loss of biodiversity and carbon absorption becomes a major issue.

Examples of negative production externalities:

- Chemical factories polluting nearby water sources.
- Large-scale farming using pesticides that harm bees and other wildlife.

How can we fix this?

Governments can step in with:

- **Taxes** (to make producers pay for external costs).
- **Regulations** (to limit harmful production).
- **Legislation** (to force businesses to reduce their impact).

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2.8 Market failure and externalities

Negative externalities

Negative externalities of consumption (diagram analysis)

Sometimes, when we enjoy a good or service, others end up paying the price, literally or figuratively. That's called a **negative externality of consumption**.

What's a Negative Externality?

A **negative externality** happens when someone else is harmed by your actions even though they're not involved. For consumption, this usually means:

- The **consumer** only thinks about their own benefits and **private costs**.
- They ignore the **external costs** (like pollution or noise) that hurt others (**third parties**).

Why is this a problem?

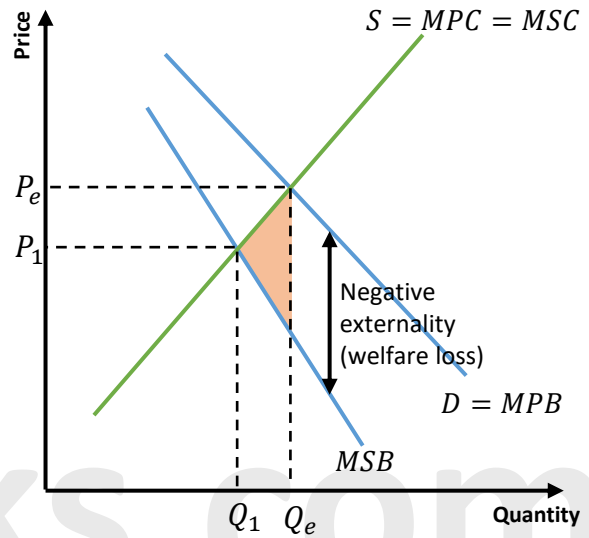
Because people **over-consume**. They don't see the full cost to society, just the cost to themselves. That means we end up using too much of something that actually causes harm overall.

Examples

- **Fast fashion** – Cheap clothes may look great but buying too many fuels pollution and exploitative labour. The environmental damage and social costs? Externalities.
- **Single-use party decorations** – Fun for one evening, but they add to landfill waste and plastic pollution.
- **Energy drinks** – Overconsumption might lead to increased public healthcare costs due to heart issues, anxiety, or addiction, which others have to pay for through taxes.

2.8 Market failure and externalities

Negative externalities



The Diagram: What's Going On?

- **MPB** = Marginal Private Benefit (what the consumer gains)
- **MSB** = Marginal Social Benefit (what society gains overall)
- **MPC** = Marginal Private Cost (cost to the buyer)
- **MSC** = Marginal Social Cost (real cost including harm to others)

On the graph:

- The **free market** gives us quantity **Qe** and price **Pe** (where MPB = MPC).
- But the **socially optimal** quantity is **Q1** and price **P1** (where MSB = MSC).

The gap between **Qe and Q1** is overconsumption, and the shaded triangle is **welfare loss**.

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Negative externalities

Negative externalities of consumption (diagram analysis)

Why It Matters

- When **MPB > MSB**, we're consuming too much.
- Every unit beyond Q1 adds more harm than good.
- This leads to **deadweight loss,** a fancy term for wasted potential where nobody wins.

The Fix?

To make things fairer and more efficient, the government can:

- **Tax** harmful goods (e.g. sugary drinks tax)
- **Regulate** their use (e.g. bans or limits on fireworks in cities)
- **Educate** the public (e.g. campaigns on e-waste disposal)

By stepping in, we aim to reduce overconsumption and bring the market back to what's called **social efficiency** where society gets the most benefit without paying hidden costs.

2.8 Market failure and externalities

Negative externalities

Continue to the next page…

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2.8 Market failure and externalities

Positive externalities

Positive externalities of production (diagram analysis)

What's going on here?
Sometimes when producers make a product, they unintentionally create benefits for others who aren't involved in the transaction. These extra benefits are called **positive externalities of production**.

How It Works

In the real world, producers usually only focus on the **private benefits** like profits. They don't consider the **external benefits** their product gives to society.

So, what happens? The market **under-produces** these useful goods, which leads to a **market failure**.

If we included those external benefits in the decision-making process, we'd make **more** of these helpful goods and they'd probably be **cheaper** too.

Example: Urban tree planting

- When a landscaping company plants trees around a city, they do it because someone paid them.
- But those trees **cool the air**, **reduce pollution**, and make neighbourhoods **prettier and more liveable** for everyone not just the people who paid.
- These are all **positive externalities.**

Without government support or funding, not enough trees would be planted even though society benefits a lot. That's a market failure.

2.8 Market failure and externalities

Positive externalities

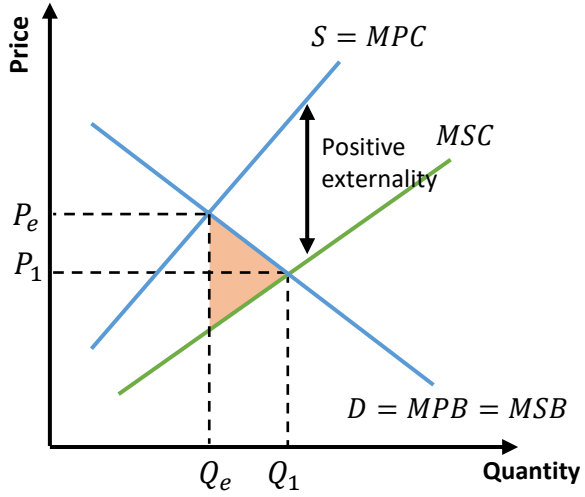

Diagram Explained

In the diagram, you'll see two quantities:

- **Q_e**: What the market actually produces (based on private benefit).
- **Q1**: What society would want produced if we included those external benefits.

The gap between them shows the **under-production**. The shaded triangle? That's the **deadweight loss,** basically the wasted opportunity to make life better.

What Can Be Done?

To fix this, the government might:

- Give **subsidies** to tree-planting businesses
- Offer **tax breaks** to solar panel manufacturers
- Provide **free training** to increase skills in high-demand industries

This pushes the quantity produced closer to **Q1**, reduces deadweight loss, and helps the market become **socially efficient**.

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2.8 Market failure and externalities

Positive externalities

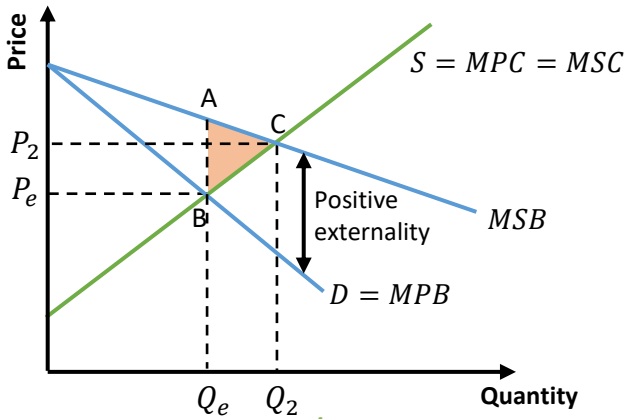
Positive externalities of consumption (diagram analysis)

Positive externalities happen when consuming something benefits not just the person who uses it but also society as a whole. Think of these as **merit goods,** things the market under-produces because people and businesses only focus on their own private benefits and ignore the wider societal benefits.

In a free market, people consume where $\boldsymbol{MPB = MSC}$ (private benefit equals cost), shown as Q_eP_e in the diagram. But here's the catch: this leads to **under-consumption** because the **external benefits** aren't being factored in.

If we accounted for these external benefits, more of these goods would be consumed, and they'd be sold at a slightly higher price, as seen at Q_2P_2.

The ideal outcome, from society's perspective, is at Q_2P_2, where $\boldsymbol{MSB = MSC}$ (social benefit equals cost). Here, everyone wins, and there's no market failure. But to get there, more resources need to be allocated to these goods to maximise **welfare gain** to society.



2.8 Market failure and externalities

Positive externalities

Why Do Social Benefits Grow?

The more people do certain activities, the bigger the social benefits. For example:

- **Using public transport**: Individuals save money and time, while society benefits from reduced traffic congestion and cleaner air.
- **Recycling**: Helps individuals feel good about reducing waste while society benefits from less landfill and lower pollution levels.

The Challenge

- Figuring out the size of these external benefits is tough because they often involve **subjective value judgments** (like deciding how much cleaner streets or reduced traffic are worth). Plus, **information gaps** make it harder, people don't always realize how their actions impact society.

How can we fix this?

Governments can step in to help by:

- **Subsidising** goods with positive externalities.
- **Partially providing** these goods themselves.
- Encouraging consumption through **public awareness campaigns**.

2.8 Market failure and externalities

The impact of economic agents of externalities and government intervention in various markets

Externalities happen when a market action affects people or the environment in ways that aren't reflected in the price. Fixing these requires **government intervention** and real-world examples to understand their impact.

Negative Externalities

Real-Life Example: **Logging and Deforestation**

External Costs (the bad stuff):

- **Loss of forests**: Destroying trees reduces biodiversity and contributes to climate change.
- **Soil degradation**: Clearing trees causes erosion and decreases soil fertility.
- **Displacement of wildlife**: Animals lose their natural habitats.
- **Carbon emissions**: Cutting trees increases CO_2 levels in the atmosphere.

Who's Affected?

- **Loggers and timber companies**: Direct producers who profit from logging.
- **Wood product manufacturers**: Depend on deforestation for raw materials.
- **Local communities**: Often lose their natural resources and face environmental issues.
- **The environment**: Suffers damage, leading to long-term ecological problems.
- **Governments**: Have to deal with environmental restoration costs.
- **Environmental activists**: Groups like WWF that fight to protect forests.

2.8 Market failure and externalities

The impact of economic agents of externalities and government intervention in various markets

Government Fixes (how they step in):

- **Taxes**: Charging timber companies for the environmental damage they cause.
- **Regulations**: Limiting how much logging can happen in a specific area.
- **Fines**: Penalising companies that don't follow environmental standards.
- **Reforestation incentives**: Providing subsidies to plant new trees and restore forests.

Why It's a Balancing Act

While these interventions help reduce environmental harm, they also come with trade-offs:

- **Higher costs** for timber companies could lead to fewer jobs.
- **Slower economic growth** might occur in areas that depend on logging.

By carefully balancing these interventions, governments can reduce harm while keeping industries sustainable.

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2.8 Market failure and externalities

The impact of economic agents of externalities and government intervention in various markets

Positive Externalities

Real-Life Example: **Public Libraries**

External Benefits (the good stuff):

- **Improves literacy and education**: Free books and resources help people learn and grow.
- **Boosts job opportunities**: Access to job search tools and training improves employment chances.
- **Encourages community bonding**: Libraries host events that bring people together.
- **Saves people money**: Free access to books, internet, and other resources reduces individual costs.
- **Promotes creativity**: Spaces for art, writing, and study inspire new ideas.

Who Benefits?

- **Library users**: Individuals borrowing books or using facilities.
- **Local schools and students**: Gain access to additional study materials.
- **Parents and families**: Benefit from free children's programs.
- **Employers**: Have access to more skilled and educated workers.
- **The government**: Saves money long-term as better education and job opportunities reduce unemployment and social costs.

2.8 Market failure and externalities

The impact of economic agents of externalities and government intervention in various markets

Government Intervention

- **Increase funding**: Build more libraries or expand existing ones.
- **Subsidise programs**: Offer free classes or workshops in libraries.
- **Raise awareness**: Promote library benefits through public campaigns.
- **Collaborate with schools**: Provide shared resources for students.

The Balancing Act

While funding libraries boosts literacy and improves society, it may come at the cost of diverting money from other areas like healthcare or public transport. Governments need to balance these trade-offs to maximise the benefits for everyone.

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2.9 Information failure

Information gaps

Markets don't always work perfectly because people don't have **all the info they need;** this is what we call an **information gap**.

In a perfect world, buyers and sellers would have the **same information** about products and services. We call this **symmetric information,** everyone's on the same page.

But in reality? It's usually **asymmetric (or imperfect) information**, meaning:

- One party (usually the seller) knows more than the other.
- Or the info available is **incomplete, wrong, or misleading**.
- As a result, people make **bad decisions** leading to **market failure**.

For example:

- In the **used car market**, sellers know the car's true condition, but buyers? They're guessing. This creates a trust issue, nobody wants to end up with a bad deal.

Why It Messes Things Up

When one side has more info, markets can go haywire. This leads to:

1. **Over-provision** (too much of something bad):
    - **Example:** Fast fashion brands might hide poor working conditions. If buyers knew, they'd buy less, and fewer resources would go into making those clothes.
2. **Under-provision** (too little of something good):
    - **Example:** Solar panels could help reduce energy bills, but not everyone knows about government rebates. If they did, more people would invest in solar, and society would benefit.

2.9 Information failure

Information gaps

Fixing information gaps can help markets work better. This means:

- Educating consumers about harmful products (like warning labels on cigarettes).
- Spreading the word about benefits (like government incentives for electric cars).

When people have the right info, markets get closer to **fair and efficient**.

Moral hazard

Definition: *Moral hazard* is when someone takes bigger risks because they know someone else will bail them out if things go wrong.

Since 2008's financial crisis 💣, moral hazard has been on the rise in the banking world. Why? Because governments keep stepping in to save struggling banks 🏢 when they're about to fail (for example, RBS in the UK).

Here's what happens:

- 🏢 **"Too big to fail"** – Big banks know they're so important that the government can't let them collapse. So, if they take wild risks and lose, taxpayers end up picking up the tab 💸.
- 🦹 **Questionable comeback** – After being bailed out, some banks go back to making super-risky investments, kind of like a student who crams at the last minute, barely passes, and then repeats the same bad study habits.
- 📊 **Investor hype gone wrong** – These false success stories got people excited, drove up stock prices temporarily, and made some investors rich… until the truth came out. Then prices crashed, and a lot of everyday people lost serious money 💔.

💡 **Everyday example:**
Picture your friend borrowing your brand-new skateboard 🛹. They decide to try a crazy stunt because they know if it breaks, *you* will replace it. That's moral hazard, risking big when you're not the one paying for the damage.

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2.9 Information failure

Classification of merit and demerit goods

What are Merit Goods?

Merit goods are things that are *good for you* and for society, but people often don't use them enough on their own.
Think: veggies, education, or exercise.

Why?
People might not fully understand or appreciate the benefits, or they might ignore them altogether.

What are Demerit Goods?

Demerit goods are things that can be *bad for you* or others, yet people still use them too much.
Think: smoking, junk food, or gambling.

Why?
They might seem fun in the moment, but they come with harmful side effects and society often pays the price.

But Sometimes… It's Not So Clear!

Here's the twist: Not all goods are obviously "good" or "bad."
That's where **value judgements** come in; what one person or culture sees as helpful, another might see as harmful.

Example:

Good	Merit Good View	Demerit Good View
Coffee	Boosts alertness, improves focus, and has antioxidant properties	Excessive intake can cause anxiety, insomnia, or heart problems
Social media	Helps people stay connected, share ideas, and spread awareness	Can reduce attention spans, increase anxiety, and fuel misinformation

2.9 Information failure

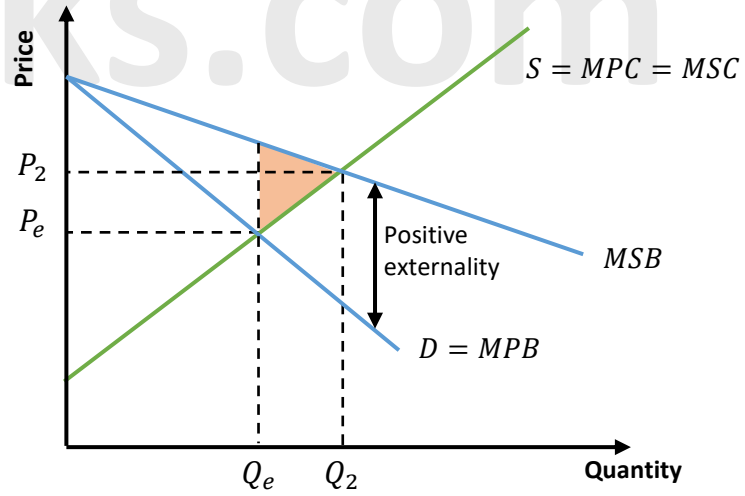
Merit goods

Merit goods are things that are **really good for us**, but we often don't realise it, or we just don't want to pay for them. So we **don't consume enough** of them when they're left to the free market.

These goods offer **private benefits** (like helping you directly) and **external benefits** (which help society too). But since most people only think about what's in it for them, we **under-consume** these goods. This leads to something called a **partial market failure**.

Examples include public libraries, cycle lanes and first aid training.

Governments often step in to **subsidise** these goods (basically help pay for them) to make them more affordable and encourage people to use them.



2.9 Information failure

Merit goods

The Diagram:

This shows a free market where **merit goods are under-consumed**.

- **MSC = MPC**: Marginal Social Cost equals Marginal Private Cost. This means from the cost side, things are normal, so producers and society are aligned.
- **MSB > MPB**: Marginal Social Benefit is higher than what consumers think they're getting (MPB = Marginal Private Benefit). This gap shows the **external benefit** that's being ignored.

In a perfect world (for economists), we'd consume at **Q2**—the point where MSB = MSC. But in reality, we stop at **Qe**, which is lower. That difference means:

✅ Not enough people are using the good
❌ We lose out on the extra benefits
⚠️ There's **deadweight loss** (a fancy way of saying "wasted potential")

How Do We Fix It?

To be **socially efficient**, we need to push people closer to Q2. That might mean:

- Offering discounts or subsidies
- Running awareness campaigns
- Making it easier to access these goods

In short, merit goods are like veggies, they might not seem appealing at first, but they're good for you and everyone else too. Sometimes you just need a little nudge (or government help) to get people to consume enough of them.

2.9 Information failure

Demerit goods

Demerit goods are things people tend to use too much of, even though they're not great for us or society. Why? Because when buying them, people often only think about their own enjoyment, not the bigger picture.

🧠 So, What's the Problem?

- **Overconsumption:** People use demerit goods more than is ideal. Society says, "maybe not too much," but people go, "I'll take more!"
- This is because we often **ignore the full cost** of using them especially the **social costs** (the harm it causes others).
- The result? **Too much use**, which leads to **partial market failure** where the market fails to produce the best outcome for everyone.

Demerit goods examples:

Good	Why it's overused	Hidden Harm
Vapes	Tasty flavours + trendiness	Lung health risks & plastic waste
Fast fashion	Cheap, stylish clothes	Environmental damage + sweatshop labour
Energy drinks	Quick boost for tired folks	Sleep disruption & heart issues

🔍 Why Are These Overprovided?

- These goods are usually **addictive**, **heavily advertised**, or just feel good short-term.
- People don't think about the **external costs** like pollution, health care costs, or noise.
- And since they're sold freely in the **free market**, there's **too much of them available**.

2.9 Information failure

Demerit goods

🧯 Government to the Rescue

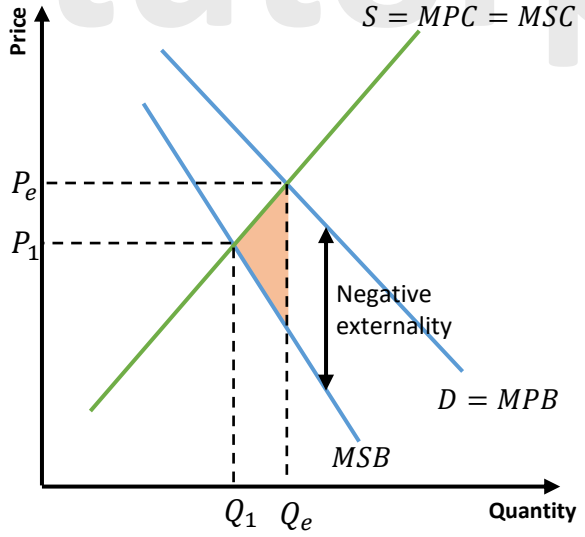
Governments often try to fix the problem by:

- **Taxing** these goods (like sugar or vape taxes),
- **Limiting availability** (e.g. banning energy drinks for minors),
- Or **educating the public** about the harm.

🏭 What About Producers?

Sometimes, it's not the product itself, but the **way it's made** that causes harm. For example:

- A fireworks factory brings joy with the end product 🎆
- But it also causes **noise pollution**, **waste**, and **air pollution** for the surrounding area.



2.9 Information failure

Demerit goods

📈 Diagram Breakdown

The graph shows:

- People buy **more (Qe)** than what's socially ideal **(Q1)**.
- The **true cost** to society is higher than what consumers think.
- The **orange triangle**? That's called a **welfare loss,** it's a fancy way of saying "society loses out."

✅ What's the Fix?

To make things **socially efficient**:

- We need to **cut down production** of harmful goods.
- Focus resources elsewhere.
- Let governments **step in** when needed.

2.9 Information failure

Imperfect information and merit and demerit goods

When people don't have the **right information**, they can make poor choices about what to buy or use. This is what economists call **imperfect information** when the info is incomplete, misleading, or just plain wrong.

💡 **What Happens with Imperfect Information?**

- **People don't know enough** to make smart choices.
- As a result, they may **avoid beneficial things** (like healthy food or education) or **overuse harmful things** (like sugary drinks).

✅ **Merit Goods (The Good Stuff People Ignore)**

Merit goods are things that are really good for you and society but people often **don't use them enough** because they don't realise their full value.

📌 **Example:**

- **Eye tests** – They're quick, cheap, and could catch serious issues early... but many skip them. Why? They don't know how important they are.
- **Mental health counselling** – Some avoid it due to stigma or because they think it won't help. In reality, it could greatly improve their life.

🚫 **Demerit Goods (The Not-So-Good Stuff People Overdo)**

Demerit goods are things that are more harmful than they seem. People **overuse them** because they **don't fully understand the risks**.

📌 **Example:**

- **Energy drinks** – They give you a boost now, but too many can mess with your heart or sleep.

2.9 Information failure

Imperfect information and merit and demerit goods

🏛 **What Can Be Done?**

When people don't have the right info, **governments can step in** to help:

- Run **public awareness campaigns**.
- Educate people through schools or media.
- Add warnings to products (like labels on high-caffeine drinks).

🎯 **Bottom Line:**

Better information = better choices.
If we **know more**, we're more likely to use **merit goods** and avoid **demerit goods**, making us healthier, happier, and reducing harm to others too.

2.10 Public goods

Private Goods:

These are things businesses sell to make money. Why? Because they display characteristics of **rivalry** and **excludability**.

- **Excludable**: If you can't pay, you don't get it. Think about Netflix, it's locked unless you pay for a subscription.
- **Rivalrous**: If someone buys the last concert ticket, it's gone. You're out of luck.

Businesses love these goods because they can charge money, and people compete to buy them.

Public Goods:

Public goods are different because they're:

- **Non-excludable**: You can't stop people from using them. For example, streetlights. You can't stop someone from benefiting just because they didn't "pay their share."
- **Non-rivalrous**: One person using it doesn't take away from someone else. For instance, national defence protects everyone equally, no matter how many people there are.

Because businesses can't make a profit from public goods, governments usually step in to provide them.

2.10 Public goods

The "Free Rider" Issue 

Public goods often run into a big problem called the **free rider issue**, which is why they're under-provided. Here's the deal:

Once a public good is available to one person, it's available to *everyone*. You can't exclude people who didn't chip in from enjoying it. And that's where the market stumbles, businesses can't make money from people who refuse to pay.

For example:

- **Street cleaning:** Once the streets are clean, everyone benefits, even those who didn't contribute a penny.
- **Flood defences:** If your neighbourhood builds a flood wall, you're protected whether or not you helped fund it.

Now, imagine a rational consumer thinking, "Why should **I** pay if someone else will?" This leads to a classic stand-off: everyone waits for someone else to foot the bill. But if everyone waits, guess what? The public good never gets provided.

The key issue here is **non-excludability,** you can't keep people from using the good once it's available. And without a way to charge free riders, the **price mechanism** doesn't work.

So, governments often step in to make sure these essential goods (like flood defences or clean streets) are provided, even if no one's rushing to pay.

Tip: Don't call the National Health Service (NHS) or state education public goods, they involve rivalry in consumption. Instead, they're better described as merit goods that provide external benefits.

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2.10 Public goods

Quasi-public goods

Think of quasi-public goods as the hybrid cars of economics, they've got features of both **public goods** and **private goods**. They're not *completely* free for all, but they're not *entirely* restricted either.

- **Public goods** are things that are:
    - **Non-excludable**: you can't stop people from using them (like clean air).
    - **Non-rivalrous**: one person using it doesn't stop others from using it too (like a lighthouse).
- **Private goods** are the opposite, you can exclude people (like a cinema ticket), and if you consume it, others can't (like a sandwich).

So, what's a quasi-public good?

It's something that *kind of* fits the public category, but not always. In many cases:

- **They're free or cheap to use** — but not always.
- **You can use them without affecting others** — unless they get too busy.

Classic Example: A Road

- Roads are usually open to everyone (**non-excludable**).
- But when they get too crowded, more cars = more traffic (**rivalrous**).
- And if there's a toll booth? That's **excludability** kicking in.

These goods are often:

- **Funded by the government** (via taxes)

  Maintained with user fees (like tolls, entrance fees, etc.)

2.10 Public goods

Quasi-public goods

Examples	As a Public Good	As a Quasi-Public Good
Public Wi-Fi	Open city Wi-Fi is free for everyone (**non-excludable**) and doesn't slow down right away (**non-rivalrous**)	Gets slow when too many people join (that's **semi-non-rivalrous)**. Or add a login/paywall (**excludable).**
Public beaches	Free, open to all (**non-excludable**) and no one's enjoyment limits another's (**non-rivalrous**)	Crowded beaches reduce space (**rivalrous**) or charge a fee for entry or services (**excludable**)
Bike lanes	Everyone can use them freely (**non-excludable**)	If city charges for rental bikes or limits access in rush hours, they become **quasi-public**
Public libraries	Free entry and reading space (**non-excludable**, **non-rivalrous**)	If overcrowded or requires a membership card, it becomes more **exclusive** (hello, quasi)

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2.10 Public goods

Technological change

Technology can totally change how we use public goods. It can turn something that used to be free for everyone into something that can be controlled, priced, or even limited.

1. 📡 Making things excludable and rivalrous

Tech makes it easier to **control access** to goods and services. That means we can now:

- **Charge people** to use them
- **Limit use** when demand is high

This can turn public goods into **quasi-public** or even **private goods**.

Example:
Streaming services like Netflix. TV used to be **non-excludable,** if you had a TV, you could watch it. Now, with subscriptions and passwords, only paying customers can access the content. That's **excludability** in action.

2. 📄 Tech and Excludability

Some goods are still **non-rival**, but they can be made **excludable** with tech.

Example:
Online newspapers.
They used to be free, but now many use **paywalls**. If you don't pay, you can't read. That turns them from public-ish to private goods.

3. 🚫 Tackling the Free-Rider Problem with Tech

The **free-rider problem** happens when people use something without paying for it, classic example: enjoying fireworks without contributing a penny.

Tech Solution Example:
🚲 **Bike-sharing programs**.
In many cities, shared bikes used to be unlocked and free, until people started damaging or hogging them. Now, **app-based systems** track bike usage, require payment, and even penalise users for misuse. That tech stops freeloaders and keeps the system fair.

2.10 Public goods

The tragedy of the commons

Ever heard the phrase "too much of a good thing"? That's what the **tragedy of the commons** is all about.

It happens when a resource is free for anyone to use and people, acting in their own self-interest, overuse it until it's damaged or gone.

💡 What are common-pool resources?

- These are **non-excludable**, meaning no one can be easily stopped from using them.
- BUT they are **rivalrous**, which means the more you use, the less is left for others.

Unlike true **public goods** (like streetlights or national defence), common-pool resources get used up.

🔁 So... what's the problem?

When everyone's allowed to take as much as they want from a shared resource:

- People tend to **overuse** it.
- Supply can't keep up with demand.
- Eventually the resource is depleted or even destroyed.

🚰 Example: Groundwater (like underground wells)
Farmers often rely on shared underground water sources to irrigate crops. But if **too many** farms draw too much water (without coordination or limits) the water runs dry.

- If no one manages the water use (aka **unregulated**), we get:
  - 🌵 **Dried-up wells**
  - 📉 **Crop failures**
  - 🏜️ **Desertification**.

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2.11 Government intervention

Most economies around the world are a **mix** of free markets and government intervention. But why do governments get involved in the first place? Here's the scoop:

Fixing Market Mess-Ups (a.k.a. Market Failure)

- Markets don't always work perfectly. Sometimes, resources aren't used in the best way for society. Firms and people are busy chasing their own goals, so the government steps in to balance things out like controlling how much stuff is made or used.

Collecting Cash for Important Stuff

- Governments need money to fund schools, hospitals, and public services. They earn this cash through taxes or privatising industries. This keeps the system running smoothly.

Making Life Fairer (Promoting Equity)

- Life isn't fair, but governments try to make it a bit better by narrowing the gap between the rich and poor. They use tools like taxes to redistribute wealth, helping those in need while ensuring society stays stable.

Supporting Businesses

- In a global economy, some industries need a little push to stay competitive. Governments back these key players so they don't fall behind, helping the whole economy in the process.

Helping Struggling Households

- Poverty doesn't just hurt individuals; it drags down the economy too. Governments aim to reduce poverty by redistributing income and offering safety nets, like benefits, to keep things moving forward.

2.11 Government intervention

Common Tools Governments Use

To step in, governments often rely on methods like:

- **Taxes** to influence prices
- **Subsidies** to encourage production or consumption
- **Maximum prices** to make goods affordable
- **Minimum prices** to ensure fair wages or incomes
- And more…

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2.11 Government intervention

Indirect Taxation

A tax is a mandatory charge by the government to raise revenue to fund public services and programs. There are two main types: direct and indirect taxes.

Direct taxes are taken directly from individuals or organizations, usually on income. Examples include personal income tax and corporation tax (on company profits).

Indirect taxes are applied to goods and services when purchased, essentially taxing spending. These come in two forms:

- **Specific tax**: A fixed amount per unit, like £0.50 sugar tax on a bottle of fizzy drink or £1 on every litre of petrol.
- **Ad valorem tax**: A percentage of a good's price, like a 20% VAT on clothes.

When an indirect tax is introduced, it increases the price of goods or services. This tax creates a gap between what producers earn and what consumers pay. This shifts the supply curve upward and left (decreasing supply).

2.11 Government intervention

Indirect Taxation

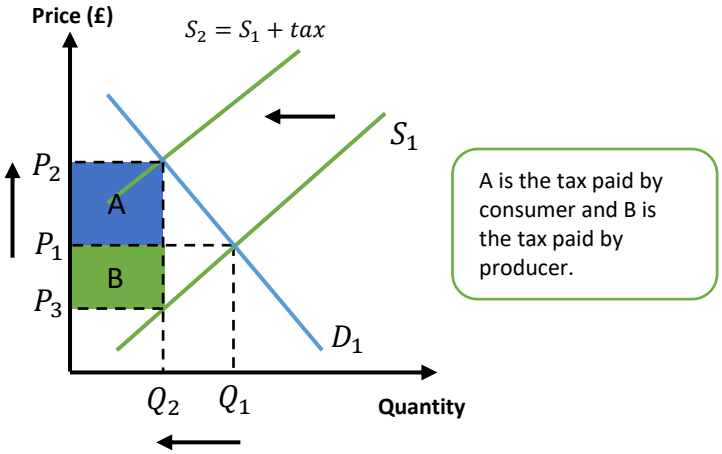

Diagram Breakdown:

1. **Before the Tax:**
   The market starts at equilibrium (P_1, Q_1). No stress, just balance.
2. **After the Tax Hits:**
   - The supply curve shifts up from S_1 to $S_1 + tax$.
   - Prices rise (P_1 to P_2), and fewer goods are bought (Q_1 to Q_2).
3. **Who Pays What?**
   1. **Consumers** pay the chunk marked "A" (higher prices).
   2. **Producers** lose part of their revenue, marked "B".

The government, meanwhile, happily pockets the sum of A and B as tax revenue.

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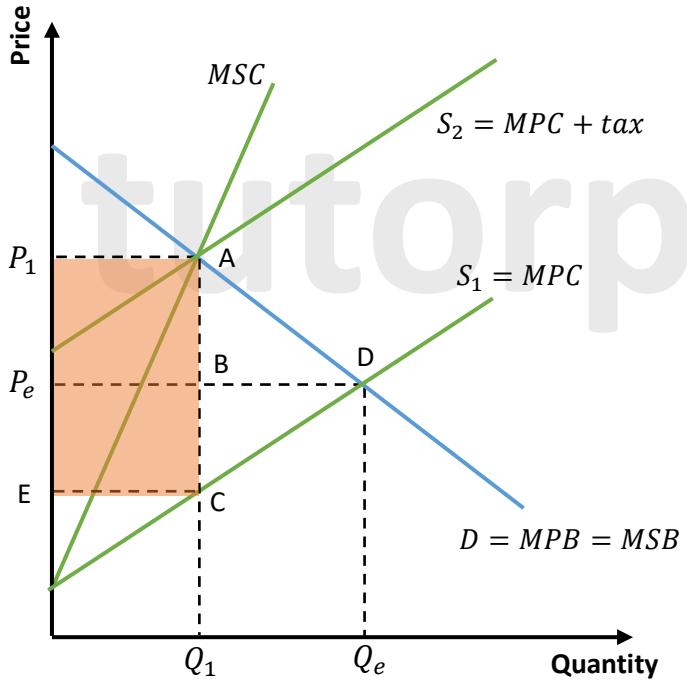
2.11 Government intervention

Indirect Taxation

How Taxes Fix Negative Externalities

- When a product or activity causes harm to others (a negative externality), the government can step in with an indirect tax to fix the problem. This tax makes production more expensive for businesses, shifting the supply curve (or the Marginal Private Cost, MPC curve) from **S1** to **S2**.



2.11 Government intervention

Indirect Taxation

What's the Issue?

- Without intervention, the free market produces at **PeQe**, where **MPC = MPB** (Marginal Private Benefit). But here's the problem: at this point, the harm caused to society (**Marginal Social Cost, MSC**) is greater than the benefit. The **socially optimal level** is actually at **P1Q1**, where **MSB = MSC** (Marginal Social Benefit = Marginal Social Cost).

How Does the Tax Work?

- By introducing a tax, the government forces businesses to "internalise" the external cost (like pollution or noise). This shifts the market to **P1Q1**, which is better for everyone. It reduces overproduction and cuts down on the harm caused to society.

Bonus: Government Revenue

- The orange rectangle in the diagram shows the revenue raised by the government from this tax. This money could be used to fix the damage caused by the externality (like funding clean-up projects or public health campaigns).

- The tax is shared between producers and consumers based on demand and supply elasticities. Consumers pay the red area; producers pay the blue area.

Specific vs Ad Valorem Taxes

- This example uses a **specific tax**, which adds a fixed cost per unit. An **ad valorem tax** (a percentage-based tax) would also work, but the curve would shift slightly differently.

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2.11 Government intervention

Indirect Taxation

Advantages

- **Solves Problems:** Taxes fix externalities by making markets operate at the socially optimal level, reducing harm like pollution.
- **Generates Revenue:** Taxes fund public services like healthcare, education, and recycling programmes.
- **Adaptable:** Governments can adjust taxes based on the level of harm (e.g. higher taxes on coal than bread).

Disadvantages

- **Hard to Measure:** It's tricky to calculate the exact harm and set the right tax.
- **Black Markets:** High taxes can lead to illegal trade, like untaxed alcohol or fuel.
- **Limited Effect on Necessities:** Inelastic goods like fuel won't see much demand reduction despite high taxes.
- **Hits the Poor Harder:** Lower-income groups spend more of their income on taxed basics like energy or fuel.
- **Conflicting Goals:** Governments may focus on revenue over fixing the externality.
- **Costly to Enforce:** Collecting and monitoring taxes can be expensive, especially for small or informal markets.

2.11 Government intervention

Indirect Taxation

Examples:

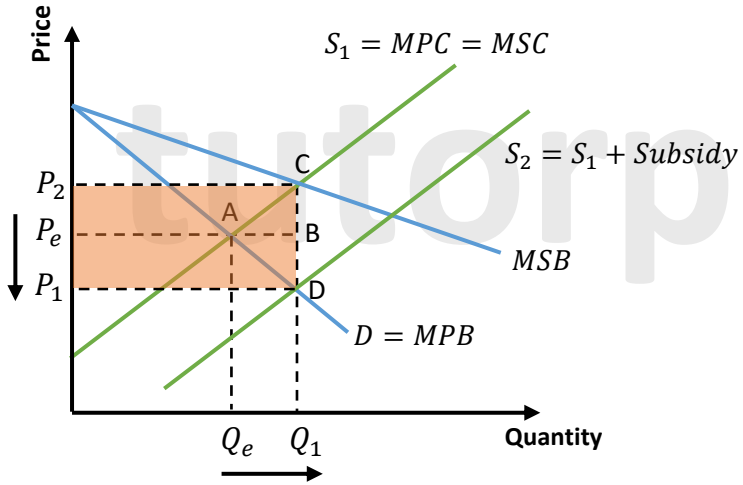
- **Plastic Tax:** Reduces waste by encouraging reusable bags and biodegradable materials.
- **Congestion Charges:** Cuts traffic and funds public transport.
- **Water Taxes:** Discourages wasteful water use and funds conservation efforts.

2.11 Government intervention

Subsidies

A subsidy is financial support, often from the government, to help businesses produce more. For example, farmers may get subsidies to grow more crops, which increases supply and lowers food prices. This benefits both producers and consumers, making goods cheaper and more accessible.

When the government gives a subsidy, it shifts the supply curve. This helps increase the quantity and lowers the price for consumers.



Without help, the market produces at QePe, where private costs and benefits (MPC = MPB) balance out. But society's ideal spot is at Q1P2, where social costs and benefits (MSC = MSB) align. A subsidy shifts the supply curve to the right (from S1 to S2), making it cheaper for producers to create more and reach that socially optimal output.

2.11 Government intervention

Subsidies

The result? Social welfare is maximised. The market now produces at a level that benefits everyone, with government spending (the orange box in the diagram [P2CBP1]). Think of it as the government stepping in to make sure resources are used where they do the most good.

Part of the subsidy is passed on to consumers equal to the area PeBDP1 and the other portion of the subsidy (P2CBPe) remains with the producer.

Advantages of subsidies:

- **Boosts society's benefits**: Subsidies help reach the ideal output, where everyone benefits and welfare is at its best.
- **Promotes fairness**: Subsidies can level the playing field, helping smaller farms or struggling renewable energy projects.

Disadvantages of subsidies:

- **Expensive for governments**: Subsidies cost a lot and can divert money from other crucial areas like healthcare or education.
- **Hard to target perfectly**: Governments may not always know the right amount of subsidy needed to fix the problem (e.g., how much support clean water projects need).
- **Difficult to stop**: Once subsidies are in place, removing them can lead to backlash, like protests or companies struggling to survive without support.

Subsidies can support public transport to cut traffic and pollution, boost AI tech startups for better healthcare, and fund affordable housing projects.

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2.11 Government intervention

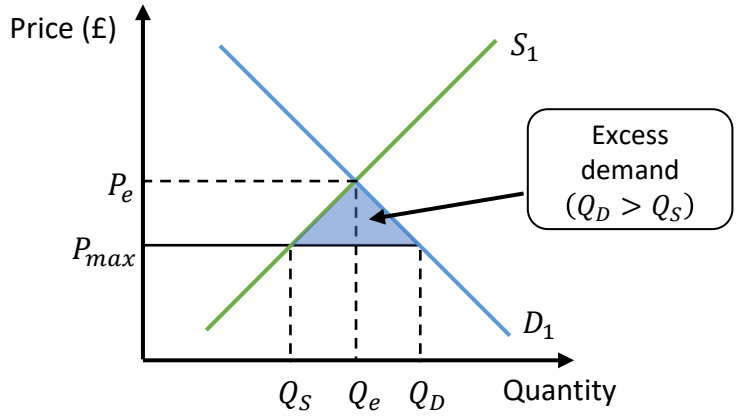
Price controls - Maximum Prices

A **maximum price**, also known as a **price cap**, is like a rulebook move from the government to make certain essential goods or services more affordable for everyone. This price cap is set **below** the free market price (Pmax < Pe), ensuring that suppliers can't overcharge. But it creates a bit of chaos in the form of **excess demand** (or a shortage). Why? Because at this lower price, more people want the good (QD), but fewer suppliers are willing to provide it (QS).

For example: the government can cap rents to make housing affordable. By capping rents, more people can afford homes. However, some landlords might pull out of the market, leading to a **housing shortage**. Another example could be **fuel caps during a crisis** to ensure people can still fill their cars without going broke.

In the graph:

- The free-market equilibrium is at Pe and Qe.
- The **maximum price (Pmax)** reduces the price but creates a gap between QS (what's supplied) and QD (what's demanded).
- That shaded triangle? It's the **excess demand** showing more people wanting the product than what's available.



2.11 Government intervention

Price controls - Minimum Prices

A **minimum price** is like a safety net set by the government to stop prices from falling too low. It's usually done to either help producers or reduce the consumption of harmful goods (like alcohol). For it to work, the minimum price has to be **above** the current market price, so sellers can't legally charge anything less.

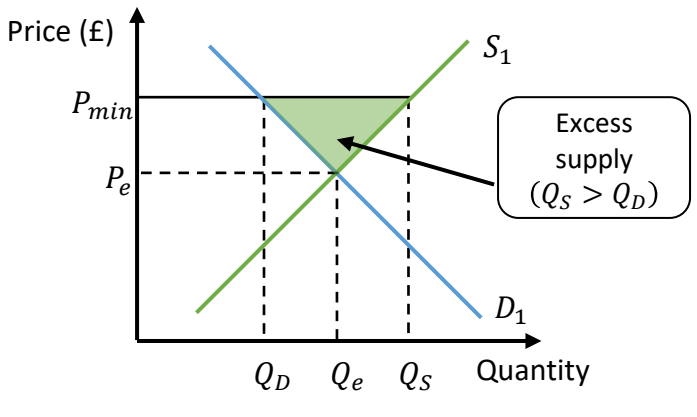
Imagine this: the government sets a **minimum price on milk** to support farmers. The new price is higher than the market price, so farmers make more money. However, now there's **excess supply,** the farmers are producing more (QS), but shoppers only want less (QD). This creates a surplus, shown in the diagrams as the **orange triangle** (QS - QD).

Another example could be **minimum wages**. It ensures workers earn a fair amount, but if the wage is set too high, businesses might not hire as many people, leading to unemployment (excess supply of workers).

Government response to **minimum prices:**

Agriculture: Farmers benefit as they earn more. The government buys the extra supply and may **export it** or store it for later.

Demerit goods (e.g., alcohol): Producers face lower demand and excess supply. The government **doesn't buy the surplus**, so producers cut back on production.



Price controls - Pros and Cons of Maximum and Minimum Prices

Advantages:

1. **Helps society and fairness:** Prices can be set where the social benefit equals the social cost (MSB = MSC). This means everyone benefits, and society's well-being improves.
    - **Example:** Minimum wages can reduce poverty by ensuring workers earn a fair income.
2. **Improves access and equity:** Maximum prices make essential goods like food or housing affordable, while minimum prices ensure farmers or producers get paid fairly.
    - **Example:** Rent controls can help people afford housing in expensive cities.

Disadvantages:

1. **Messes up supply and demand:** Maximum prices can cause shortages (too many people want it, but there's not enough to go around). Minimum prices can cause surpluses (too much is produced, but not enough buyers).
    - **Example:** With rent caps, more people want homes, but fewer landlords want to rent them out, creating a housing shortage.
2. **Hard for governments to get it right:** It's tricky to decide where to set these prices. If they're set too high or too low, they can miss the mark and create unintended problems.
    - **Example:** Misjudging a minimum price for crops could leave tons of unsold food.

2.11 Government intervention

Price controls - Buffer Stock Scheme

A **buffer stock scheme** is like a safety net for prices, used for goods like agricultural products where prices can swing wildly. Here the government implements both a maximum and minimum price at the same time. Imagine wheat farmers: some years they grow too much, and prices crash; other years, there's barely any, and prices skyrocket. A buffer stock scheme helps keep things balanced.

Here's how it works:

- **When prices drop below a set minimum**, the government steps in to buy the extra supply. This stops prices from falling too low.
- **When prices shoot above a set maximum**, the government sells from its stored stock to bring prices back down.

This keeps prices stable and ensures farmers earn a steady income, but it comes with challenges:

- **High costs for the government:** Buying and storing all that extra produce isn't cheap.
- **Encourages overproduction:** Farmers might grow too much, knowing the government will always buy it.

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2.11 Government intervention

Pollution permits

Governments give out “pollution tickets” to factories, letting them release a set amount of pollution. Want to pollute more? Buy extra tickets from cleaner companies. This helps reduce **negative externalities** of production and also makes pollution expensive, so firms invest in cleaner technology. Bonus: Cleaner companies can sell their extra tickets and earn money.

Advantages of pollution permits

- **Revenue for the government**: Selling permits and fining companies brings in money, which can be spent on projects like renewable energy or tree planting.
- **Pollution is guaranteed to drop**: By limiting the number of permits, the government makes sure pollution stays under control.
- **Tech gets greener**: Companies are motivated to upgrade to cleaner technologies. Because it's often cheaper than buying more permits.

Disadvantages of pollution permits

- **Prices might go up**: Businesses often pass on the extra costs of permits to customers.
- **Costs a fortune to monitor**: Keeping an eye on who’s polluting and enforcing rules takes a lot of effort (and cash).
- **Tricky to set the right number**: Deciding how many permits to allow isn’t easy. Too many, and pollution won’t drop. Too few, and businesses struggle.

2.11 Government intervention

Public goods

Think parks, streetlights, and lighthouses, things we all enjoy but no business wants to provide because they can’t stop people from using them for free (free rider problem). That’s where the government comes in, using taxes to make sure we get these essentials.

Advantages of public goods

- **Promotes equality**: By ensuring everyone has access to basic needs like education or clean water, the government helps bridge the gap between the rich and poor.
- **Fixes market failure**: The government steps in to provide essential goods (like fire services or vaccines) that the market would otherwise ignore. This boosts social welfare and keeps things running smoothly.
- **Benefits the public**: For example, funding public libraries gives people free access to knowledge, helping students, jobseekers, and lifelong learners thrive.

Disadvantages of public goods

- **Could mess up priorities**: Without market signals, governments might overspend on unnecessary things. Imagine too many sports stadiums but no public toilets.
- **It’s expensive**: Running big public projects costs loads of money, which could’ve been spent elsewhere (this is what economists call "high opportunity cost"). Plus, admin costs can pile up.
- **Corruption risk**: Politicians and officials might prioritise their own interests or conflicting goals, leading to misuse of funds or poor decisions.

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2.11 Government intervention

Information provision

Sometimes, markets fail because not everyone has the same information, this is called an **information gap**. To fix this, governments step in with easy-to-access resources (like job centres) or force companies to provide the information e.g., nutritional labels.

Advantages

- It helps people make **smarter choices.** With better information, consumers can act **rationally**, making the market run smoother.
- It works even better when paired with other policies. For example, combining it with taxes can help reduce demand for harmful products like sugary drinks in the long run.

Disadvantages

- Even the **government might not know everything;** if they don't have the right facts, how can they inform others?
- It's **not cheap**. Running campaigns, creating websites, or printing labels costs the government time and money (which could've been used elsewhere).
- People can be stubborn. Even with all the information, some might just **ignore it** or stick to old habits.

2.11 Government intervention

Government expenditure

Governments spend money to fix **market failures** (when markets on their own don't produce the best outcome for society). This spending includes things like:

- **Transfer payments** (e.g. welfare benefits or pensions) → these redistribute income to support the most vulnerable.
- **Public goods** (like street lighting or national defence) → these are things everyone benefits from, but private firms wouldn't provide on their own because they can't easily charge people for them.

⚖️ The tricky part is finding the **right balance** between the **public sector** (government provision) and the **private sector** (businesses).

For example:

- If the government **under-invests** in infrastructure (roads, railways, broadband), businesses face higher costs and struggle to compete internationally. Imagine trucks stuck on pothole-filled roads; that slows down trade.
- But if the government **over-invests**, it uses up resources that could have been used by private firms. That's an **opportunity cost** (the next best alternative that's given up).

The UK's **HS2 rail project** shows this dilemma: some argue it's essential to improve transport links, while others say the money could be better spent elsewhere.

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2.11 Government intervention

Government expenditure

👴💼 The UK National Minimum Wage

The **minimum wage** (introduced in the UK in 1999) sets the lowest legal hourly pay that employers can give their workers. Its aim? To protect people on low incomes and stop exploitation.

Here's how it works:

- In a labour market, employers demand workers. The **lower the wage**, the more workers firms want to hire.
- On the other side, the supply of workers rises when wages go up, because more people are willing to work for higher pay.

If left unregulated, wages settle at an **equilibrium wage** (W1) with a certain number of jobs. But if the government sets a **minimum wage** above that (NMW1), a few things happen:

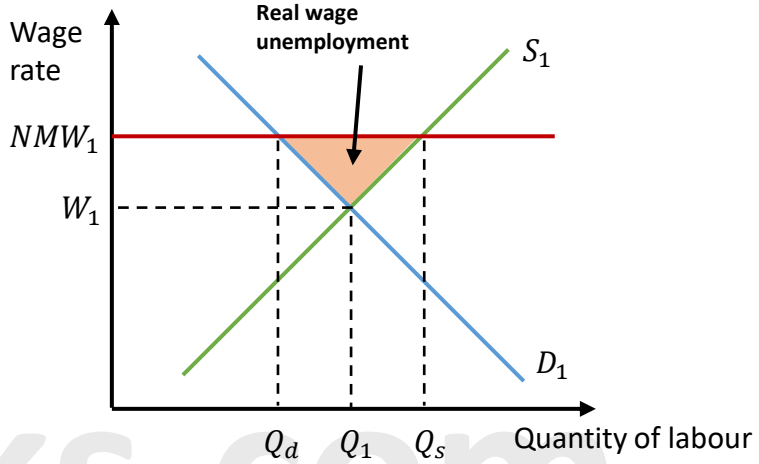
- 👍 Workers who keep their jobs earn more and have better living standards.
- 👎 But some workers may lose jobs because employers can't afford to hire as many people at the higher wage → this is **unemployment**.

In the UK, the minimum wage changes **depending on your age**.

2.11 Government intervention

Government expenditure

Understanding the diagram



Let's say we are looking at the market for **baristas** in coffee shops:

- At the start, the market wage is W_1, where the number of baristas needed by cafes matches the number willing to work.
- Then the government sets a **new national minimum wage** at $\boldsymbol{NMW_1}$ (higher than W_1).

What happens after that?

- **More people want to be baristas** because the pay is better (supply rises from Q_1 to Q_s).
- **Cafes want to hire fewer baristas** because the new wage is more expensive (demand falls from Q_1 to Q_d).
- Result: **More people are looking for jobs than there are jobs available,** this is **real wage unemployment**.

At wage $\boldsymbol{NMW_1}$, the gap between Q_d and Q_s shows how many baristas are now unemployed despite wanting to work.

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2.11 Government intervention

Pros and cons of national minimum wage

Arguments for the National Minimum Wage

- **Reducing poverty**: A minimum wage helps lift the lowest earners above the poverty line, making sure they have enough income to cover basics like food, shelter, and heating. For example, in New Zealand, introducing a minimum wage boost helped thousands avoid falling into severe hardship.
- **Reducing gender wage gaps**: Since women are often overrepresented in lower-paid roles (think childcare workers or shop assistants), a decent minimum wage helps narrow the income gap between men and women.
- **Fairness**: Everyone deserves a fair wage that reflects their effort and prevents exploitation, especially in sectors like cleaning or hospitality where low pay was common before minimum wage laws came in.
- **Avoiding the "unemployment trap"**: If people earn more working than they would on welfare benefits, they are more motivated to find and keep a job. This helps reduce long-term unemployment. In places like Canada, stronger minimum wages have been linked to increased workforce participation.

2.11 Government intervention

Pros and cons of national minimum wage

Arguments against the national minimum wage

- **Risk of job losses**: If wages are pushed up too high, some businesses might cut jobs to save money, or even close down. For example, some small cafes in the USA closed after a sudden hike in minimum wages.
- **Higher costs for businesses**: Companies may face bigger wage bills, leading them to raise prices. This could make everything from burgers to haircuts more expensive.
- **Ignoring regional differences**: A single national wage might not fit everywhere. Living costs in London are way higher than in rural Wales, for instance. A flat minimum wage could either be too low in expensive cities or too high in cheaper areas, affecting jobs unevenly.

The debate is ongoing:

- Does a minimum wage help society overall by reducing poverty?
- Or does it create more unemployment by pricing some workers out of the market?

It often depends on the industry, the strength of unions, and how high the minimum wage is set.

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2.11 Government intervention

Competition policy

Competition policy is all about making sure businesses compete fairly so that consumers get better prices, more choices, and good quality. It's kind of like being a referee in a football match, making sure no team (or business) plays dirty.

In the **UK**, competition policy includes a bunch of tools to keep the market fair and open:

- **Legislation**: Laws are made to stop unfair practices like price fixing (where companies secretly agree to keep prices high).
- **Privatisation**: When the government sells public companies (like Royal Mail) to private owners to increase competition.
- **Deregulation**: Removing unnecessary rules so more companies can enter the market. For example, letting more bus companies operate in one city.
- **Stopping harmful mergers**: Big mergers (when two companies combine) might reduce competition. So, the government checks if a merger would hurt customers by giving one firm too much power.
- **Controlling monopoly power**: A **monopoly*** is when one firm dominates the market. Policies help stop them from charging super high prices or reducing quality just because they can.

👮 In the UK, all of this is overseen by the **Competition and Markets Authority (CMA).** They're like the watchdogs making sure the rules are followed.

2.11 Government intervention

Principles of UK competition policy

⚖️ **Key Ideas Behind the Policy:**

- **Efficiency is better with competition**: If we ignore the benefits of large-scale production (**economies of scale**), then **perfect competition** (many small firms) is seen as more efficient. This is because it pushes firms to use resources wisely (**productive efficiency**) and to produce what society actually wants (**allocative efficiency**).
- **Monopolies can be bad for consumers**: A monopoly might limit how much they produce so they can charge higher prices and earn **supernormal profits** (profits above the normal expected level). This means consumers lose out as they pay more and get less, which reduces **consumer surplus** (the extra value consumers get over what they pay) and leads to lower **welfare** in society.

😏 **But Wait — Monopolies Aren't Always Bad...**

- **Sometimes big firms are cheaper**: If a monopoly can produce at a lower cost per unit than smaller firms (thanks to **economies of scale**, like bulk buying or big machines), then it might actually be good for prices.
- **Innovation can thrive in big firms**: Some monopolies, like big tech companies, can reinvest their profits into new technologies, making them more **dynamically efficient** (better over time).
- **Each case is different**: The CMA looks at every situation on its own. Not all monopolies are punished; it depends on whether they harm consumers or not.

* A **monopoly** happens when one company is the **only major player** in a market. In the UK, if a firm controls more than **25%** of the market, it's considered to have **monopoly power**.

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2.11 Government intervention

Principles of UK competition policy

🔍 **What Does UK Competition Policy Focus On?**

- **Monopolies** – preventing abuse of power and high prices
- **Mergers** – making sure big companies joining forces won't reduce competition
- **Restrictive practices** – stopping sneaky behaviour like price-fixing or blocking rivals
- **Promoting competition** – encouraging new businesses to enter the market and shake things up

2.11 Government intervention

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2.11 Government intervention

The cost and benefits of competition policies

Competition policies are rules and actions put in place to keep markets fair. The goal? Stop firms from becoming too powerful and ensure consumers get good value.

But let's be real, to make these policies work, regulators (like the CMA in the UK) need to constantly check up on businesses. And that takes a lot of time and money.

Benefits of competition policies

What's Great About It	Why It Matters
Lower Prices	When firms compete, they often drop prices to attract customers. More competition = cheaper prices for us.,
Better Quality & Service	No business wants to lose customers. So, they work harder to give us better products and friendlier service.
Efficiency Boosts	We get: • **Productive efficiency** – making stuff using fewer resources • **Allocative efficiency** – producing what people actually want.
More Innovation	Companies invest more in R&D (research and development) to stay ahead. That means new tech, smarter processes, and better products.

2.11 Government intervention

The cost and benefits of competition policies

Costs of competition policies

Potential Downsides	Why It's a Problem
Risk of Government Failure	If the government messes up (like regulating too much or in the wrong way) it could make markets worse, not better. That's called **government failure**.
Hurts Natural Monopolies	Think of water or rail networks, these are **natural monopolies** (where it's more efficient for one company to operate). Interfering might stop them from growing efficiently.
Less "Creative Destruction"	Some monopolies (big dominant firms) pump tons of money into R&D. If you limit their power, you might limit future innovation too.

Example:

- **Innovation win**: In a competitive tech market like smartphones, we get new features every year. That's thanks to companies trying to outdo each other.
- **Government failure risk**: If regulators set price limits on energy that are too low, companies might stop investing and then everyone suffers from blackouts or poor service.

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2.11 Government intervention

Public/private partnerships

Public ownership (also called **state ownership**) means the government owns businesses, industries, or important services instead of private companies running them for profit.

Nationalisation is the process where a government takes something from private ownership and brings it under public control. This is often done for:

- **Merit goods** (like healthcare and education), which benefit society but might not be provided enough by private firms.
- **Public goods** (like street lighting)

2.11 Government intervention

Public/private partnerships

✅ **Benefits of Public Ownership**

Advantage	Why It's Helpful
1. Supplies stuff the market may ignore	The free market might not provide enough schools, buses, or public libraries. Government steps in so we're not left without.
2. Helps control natural monopolies	Some services are just better when there's only one provider. For example, we don't need five different companies digging up roads to lay **water pipes;** one public provider is more efficient.
3. Some services are too important to fail	Things like water or emergency services are essential. Leaving them to profit-driven firms can be risky.
4. Focuses on social good, not just money	Unlike private companies, public firms can make choices that help society like keeping bus fares low for everyone.
5. Can create positive externalities	These are benefits to society that go beyond the person using the service. For example, **public transport** reduces car use, which cuts down traffic jams and pollution
6. More efficient outcomes (sometimes)	Governments aim for **allocative efficiency** meaning they try to produce exactly what people need.

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2.11 Government intervention

Public/private partnerships

⚠️ Downsides of Public Ownership

🚫 Disadvantage	💬 Why It's a Problem
1. May lack business know-how	Governments aren't always the best at running businesses; this could lead to poor decisions.
2. Can create **natural monopolies**	For example: You wouldn't want 10 companies digging roads to lay water pipes. One firm is more efficient but that also means no competition.
3. Higher cost to taxpayers	Running industries can be expensive, so more public ownership = higher taxes.
4. Risk of inefficiency	Publicly owned firms can lack competition, which might lead to inefficiency.

2.11 Government intervention

Public/private partnerships

Privatisation is when the government sells something it owns (like a company or service) to private businesses or individuals. Basically, it moves from the **public sector** (run by the government) to the **private sector** (run by private people or companies).

- After it's sold, it operates in the **free market**, where competition and profit take the lead.
- A common example is British Airways which was once owned by the government but was privatised and now competes like any other airline.

✅ Benefits of Public Ownership

💡 Advantages	💬 Why It's a Problem
1. More Efficiency	In the private sector, businesses are driven by profit, so they have a strong incentive to be **efficient**, cut waste, and find better ways to operate. That can mean faster services, fewer delays, and smarter use of resources.
2. Brings in money for the government	Selling government-owned companies brings **short-term revenue** that can be spent on things like healthcare or education.
3. Encourages competition and innovation	When firms are privatised, **new players** might enter the market. This can lead to better services and lower prices because everyone's trying to win over customers.

2.11 Government intervention

Public/private partnerships

⚠ Downsides of Privatisation

🚫 Disadvantage	💬 Why It's a Problem
1. Monopolies might stay monopolies	Even after privatisation, a company can still hold a **huge chunk of market power** meaning they dominate and face little competition. That's risky for consumers.
2. Profit before people	Private firms might **cut corners** or raise prices just to make more money. For example, they might reduce customer service quality or raise energy bills.
3. Might sell assets too cheaply	Sometimes government-owned businesses are sold **below their true value**, which means taxpayers lose out.
4. Supernormal profits	These are **extra-large profits** firms make when they have little competition. Some privatised firms may restrict supply to keep prices (and profits) high.

2.11 Government intervention

Regulation

Regulation is when the government steps in to make sure markets don't go wild. It's all about **monitoring and enforcing rules** to protect people, the environment, and ensure fair competition.

Governments create rules to:

- **Limit harm** from **negative externalities** (when a product causes harm to people who aren't directly involved like air pollution from factories).
- Make sure markets are **competitive** so no business becomes too powerful and takes advantage of consumers.

Who enforces the rules?
That's the job of **regulatory agencies**. Think of them as referees in a football match. They blow the whistle if a business breaks the rules.

- Regulators include FCA (ensure fair play in financial services), Ofwat (watches over water providers) and Ofgem (keeps an eye on energy companies.
- Breaking the rules can lead to **fines or even prison**.

2.11 Government intervention

The arguments for and against the regulation of markets

✅ **Pros and** ❌ **Cons of Regulation**

Advantages	Disadvantages
Businesses that don't follow the rules may face **big fines**, which discourages them from breaking the law. And fines = extra money for the government.	Could result in **government failure** when the government's attempt to fix a problem makes things worse
Leads to **positive externalities** like requiring kids to stay in education longer, creating a smarter, more skilled workforce	Some rules can be **expensive to enforce** (like checking everyone is recycling properly) which **reduces profits** for firms, which might lead to less investment in innovation
Can reduce **external costs** of **demerit goods** (harmful goods like junk food or cigarettes)	Can create **barriers to entry** making it tough for small or new businesses to join the market
Can lead to **lower prices**, giving consumers more bang for their buck (increases **consumer surplus**)	People might still **break the rules** (e.g., banned goods may be sold on the black market).
	Risk of **regulatory capture** when regulators end up helping the very companies, they're supposed to be policing

2.11 Government intervention

The arguments for and against the deregulation of markets

Deregulation means reducing or removing government rules, giving firms more freedom. It's like **cutting the red tape** that slows businesses down.

Why Deregulate?

- It encourages **competition** – more firms can enter the market, keeping prices down and quality up.
- It can improve **economic efficiency** – businesses can produce more, innovate faster, and react to consumer needs.

Advantages	Disadvantages
💸 **Lower Prices** – Deregulation can increase competition, which often leads to lower prices for consumers. For example, in the airline market, budget airlines have popped up.	💼 **Hard for Small Firms to Compete** – Big private firms might dominate the market, making it hard for smaller ones to survive.
⚡ **Better Efficiency** – Firms are motivated to cut waste, improve services, and reduce costs.	💰 **Higher Prices Possible** – If one big firm takes over, it might charge more without regulation keeping it in check.
🏢 **Less Red Tape** – Fewer government rules can mean lower administrative costs for businesses.	📉 **Worsened Service Quality** – Companies might cut corners to save money. For instance, deregulated bus routes sometimes led to congestion and duplicated services.
🧑💼 **More Choice** – With fewer barriers, new firms can enter the market, giving consumers more options.	⚠️ **Safety Risks** – In essential industries (like construction), cutting rules might put safety at risk.

2.11 Government intervention

The problem of regulatory capture

Regulatory capture happens when the people who are supposed to keep an eye on businesses (regulators) start looking out for those businesses instead of the public. It's like asking a referee to coach the team they're supposed to be judging.

This often happens because **regulators rely on the company's information**, which can be **biased or incomplete**. The company knows a lot more about its business than the regulator does; this is called **asymmetric information**. And when the regulator doesn't have the full picture, they might accidentally make rules that help the company more than the consumers.

💡 **Example:** Suppose a water company tells the regulator their costs are super high (even if they're not). The regulator might allow them to raise prices to cover these "costs." Meanwhile, customers end up overpaying.

If the government doesn't get accurate info, they might:

- Set **price caps** (maximum prices) that are too high or too low
- Approve decisions that **waste resources** (e.g. building unnecessary infrastructure)
- Miss the chance to protect consumers properly

2.11 Government intervention

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2.11 Government intervention

Government failure happens when the government tries to fix a problem in the market (like market failure) but ends up making things worse. Instead of helping, their intervention causes **more harm** by wasting resources and creating a **net welfare loss**.

- **Bigger Welfare Loss**: The "fix" backfires, leaving society worse off.
- **Poor Value for Money**: Taxpayer money goes down the drain without achieving much.
- **Lasting Consequences**: The damage could take years to undo, affecting the economy and people's lives.

Causes of government failure

Governments step in to fix markets, but sometimes their "solutions" make things worse. Let's explore how:

1. Distorting Price Signals

Governments sometimes send the wrong message with their price controls:

- **Example 1: Agricultural Markets**
  A minimum price on crops? Sounds great – except farmers grow too much, and the extra goes to waste.
- **Example 2: Housing Markets**
  A **minimum price** for rent to protect landlords might sound nice. But it could lead to landlords holding onto empty properties, leaving fewer homes available for renters.

💡 **Takeaway**: Interventions can accidentally create waste, shortages, or overproduction.

2.11 Government intervention

Causes of government failure

2. Unintended Consequences

People are clever and always aim to maximise their self interest. When governments step in, producers and consumers find ways around the system. Instead of solving issues, interventions can fuel unintended chaos. For example, **loopholes** or even create **illegal markets** (think black markets for banned goods).

3. Excessive Administrative Costs: It's Expensive.

Running these schemes isn't cheap:

- Managing all the rules and regulations costs **a lot of money.**
- Sometimes, the expense of running these programmes outweighs the benefits they bring. Imagine spending £10 to save £5.

4. Information Gaps: Nobody's Perfect

Governments aren't perfect. They:

- Lack **perfect information** (just like the rest of us).
- Face **political pressure** to please everyone.
- Make decisions based on **flawed data**, which leads to bad calls.

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2.11 Government intervention

Government failure in various markets

Clean Air Zones – Great Idea, Poor Execution

- To reduce air pollution, clean air zones were introduced in cities, charging high-polluting vehicles to enter. While it improved air quality, small businesses relying on older vans faced skyrocketing costs. Many had to close down or relocate, defeating the purpose of supporting local economies.

Rail Privatisation – Derailing Expectations

- The UK privatised its rail network to improve efficiency, but ticket prices soared, and delays became more common. Commuters faced **record-high fares**, while service quality declined. Instead of competition improving things, it left the public paying more for less.

Sugar Tax – A Bittersweet Solution

- The sugar tax was introduced to combat obesity by increasing prices of sugary drinks. While consumption fell slightly, people shifted to **cheaper high-calorie snacks**, which didn't solve the health issue. Worse, some lower-income families found themselves paying more for their usual groceries.

Housing Crisis – The Rent Control Dilemma

- Rent caps were introduced in some cities to make housing affordable. Sounds great, right? But landlords withdrew properties from the rental market, creating a **shortage of homes**. Tenants ended up competing for fewer properties, leaving many struggling to find a place to live.

2.11 Government intervention

Government failure in various markets

Failed Tech Projects – Money Down the Drain

1. **Track and Trace App**: The UK government spent millions on a COVID-19 contact tracing app that barely worked and wasn't even compatible with all smartphones.
2. **Universal Credit System**: A welfare reform programme aimed at simplifying benefits turned into a nightmare. Delays in payments caused hardship for vulnerable families, and the costs of rolling it out spiralled out of control.

Please see the ‘2. The role of markets Worked Examples’ pack for exam style questions.

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