

The Purpose of Economic Activity

To produce goods and services to meet our needs and wants
Need: something you must have to survive or to do something
Want: something you desire but it is not essential

Basic Economic Problem

The **basic economic problem** is that there are infinite wants and finite resources. Resources are **scarce** in relation to wants.
Choices need to be made about how to **allocate** resources among competing uses: **What to produce? How to produce? For whom to produce?**

Resources = factors of production

Resources are used in the production process:
Land – natural physical resources
Labour – human input
Capital – man-made resources, eg machinery
Enterprise/Entrepreneurship - the ability and willingness to organize, coordinate, and take risks in the production process

Rewards to factors of production

Land = rent
Labour = wages
Capital = interest
Enterprise = profit

Microeconomics v Macroeconomics

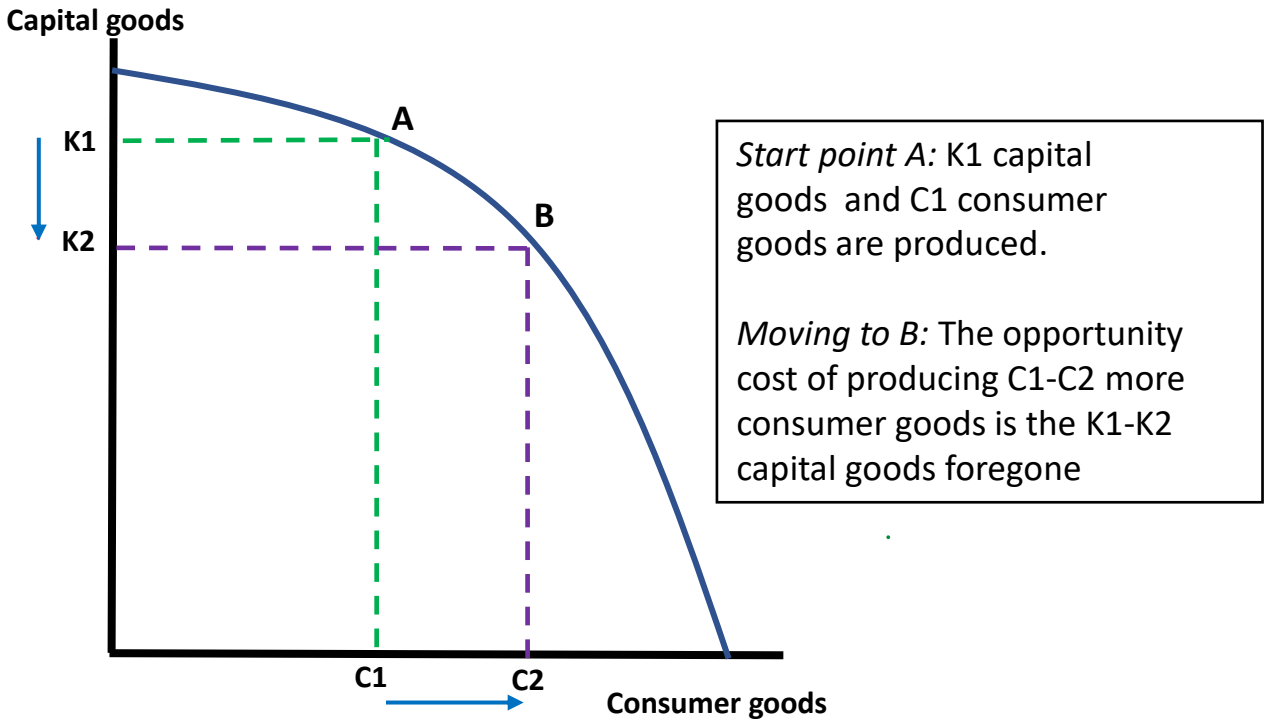
Microeconomics is a branch of economics that studies the behaviour of individuals and firms in the market.
Macroeconomics considers the economy as a whole

Economic agents and rational decision-making

What rational economic agents aim to maximise:
Consumers: total utility
Workers: wages and benefits from work
Producers: profit
Government: social welfare

Opportunity Cost

Opportunity cost is the value of the next best alternative foregone (given up) when a **choice** is made



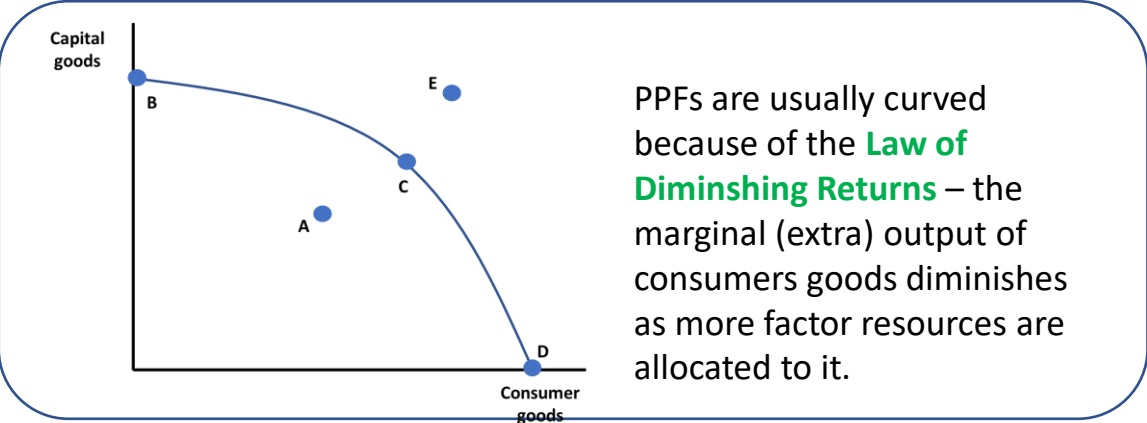
Positive and normative statements

Positive statements describe the world as it is, without making any value judgements. They are based on **objective facts**, and they can be proven or disproven.
Example: A rise in the minimum wage decreases employment.

Normative statements express an opinion about what ought to be. They are subjective statements - i.e. they carry **value judgements**.
Example: The government should increase spending on healthcare.

Production possibility frontier (PPF)

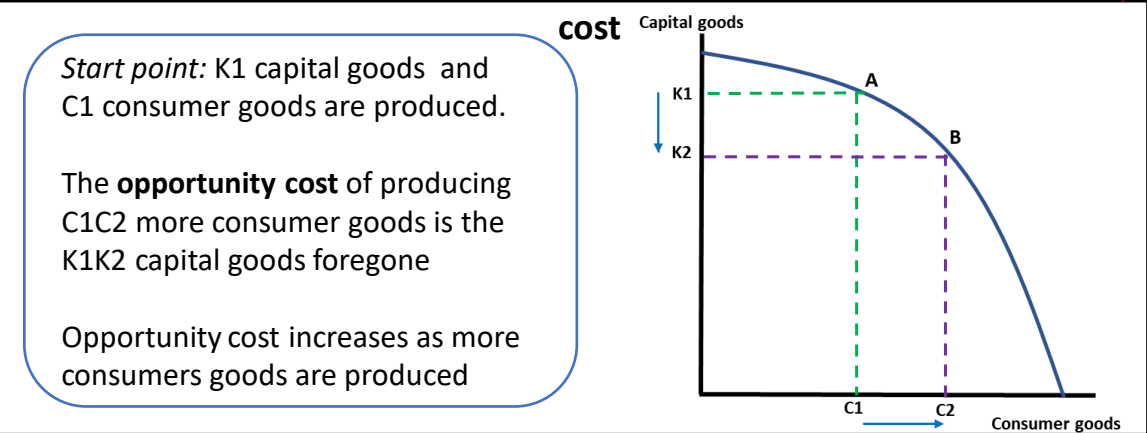
A **production possibility frontier (PPF)** shows the maximum possible output combinations of two goods or services an economy can achieve when all resources are fully and efficiently employed



PPFs and productive efficiency

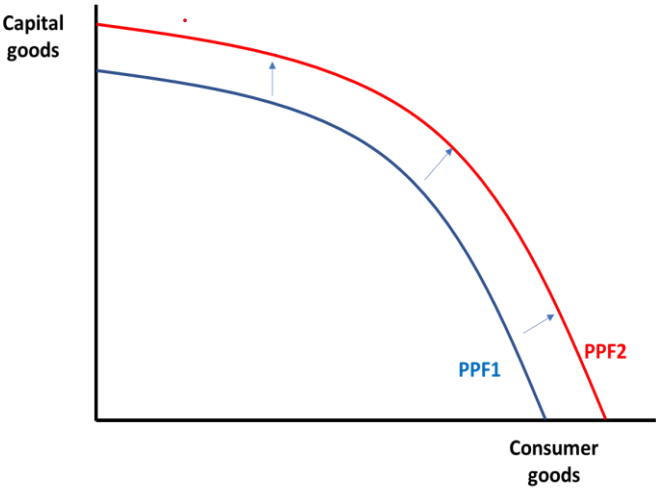
- Using the diagram above:
- Point A – inefficient, some resources unemployed
 - Points B, C & D – efficient, all resources fully employed
 - Point E – unattainable with current resources and state of technology

Movements along the PPF and opportunity

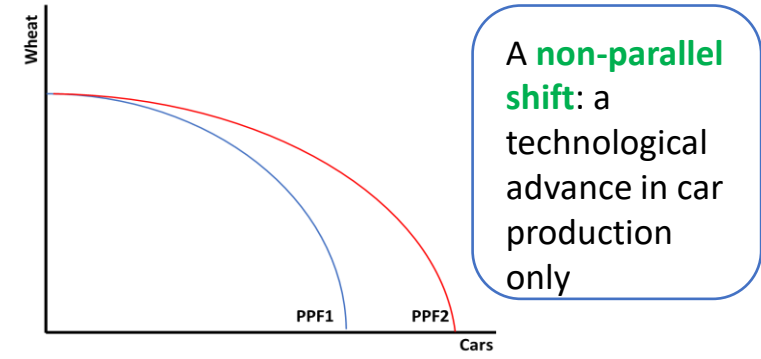


Shifts in PPFs

- What causes an outward shift in the PPF?**
- An increase in the quantity of the factors of production: eg discovery & extraction of new natural resources
 - An increase in the quality of the factors of production: eg increase in labour productivity due to better management
 - An advance in technology: eg a new innovation in resource use



- What causes an inward shift in the PPF?**
- A decrease in the quantity of the factors of production: eg war or conflict or natural disasters
 - A decrease in the quality of the factors of production: eg capital scrapping or labour hysteresis (loss of workers' skills) in a prolonged recession



A **non-parallel shift**: a technological advance in car production only

A **straight line** PPF indicates resources are equally efficient at producing both goods shown on the PPF axes – opportunity cost is constant

Consumer behaviour

Rational consumer behaviour: decision-making process that is based on making choices that maximise utility. This assumes:

- Consumers make all choices *independently*
- Consumers have fixed and *consistent preferences*
- Consumers have *full information*
- Consumers always make the *optimal choice* given their preferences

Law of Diminishing Marginal Utility

Total utility – the total satisfaction the consumer gets from purchasing units of a good. Rational consumers aim to maximise their total utility.

Marginal utility - the change in total utility from consuming an extra unit of a product.

Law of Diminishing Marginal Utility – as a consumer buys and consumes more units of a good, the extra satisfaction gained diminishes. This means at higher quantities, consumers are less willing to pay a higher price, helping to explain the downward sloping demand curve.

Importance of the margin when making choices

Rational consumers make decisions by calculating the marginal cost (change in total cost when one more unit is bought) and marginal benefit (change in total when one more unit is consumed)

Imperfect information

Information failure occurs when people have inaccurate, incomplete, uncertain or misunderstood data and so make potentially 'wrong' choices

Information gaps exist when either the buyer or seller does not have access to the information needed for them to make a fully-informed decision, leading to a misallocation of scarce resources = market failure

Important information failure terms

Symmetric information – for markets to work, buyers and sellers need to have the same perfect information

Asymmetric information – buyers and sellers have different amounts of information e.g. buyers often know less than sellers when buying second-hand cars; buyers often know more than sellers when buying car insurance

Adverse selection - people taking out insurance are often those at highest risk e.g. a person leading an unhealthy lifestyle is more likely to take out health insurance, meaning more payouts for insurance company

Moral Hazard – being insured can make you more careless e.g. banks made risky decisions before the global financial crisis aware that they would likely receive bail-outs

Principal-agent problem – goals of the principals, those who lose/gain from a decision, are different from the agents, those making the decisions e.g. managers (agents) may have more information than shareholders (principals)

Policies to address information failure/gaps

Government policies can **improve information** to help producers and consumers value the actual costs and benefits more accurately, reducing or eliminating the market failure. Remember that the government may act on poor/incomplete information so there may be **government failure**.

- | | |
|--|---|
| • Compulsory labelling on products | • Campaigns on dangers of gambling addiction |
| • Improved nutritional information on food/drinks | • Performance league tables for schools/school inspections |
| • Hard-hitting anti-speeding advertising | • Consumer protection laws |
| • Campaigns to raise awareness of risks of drink-driving/drug abuse/smoking/vaping | • Industry standards and guarantees for selling used products |

Demand concepts

Effective demand – demand supported by intention and ability to buy

Latent demand – willingness to buy but not yet ability to buy

Joint or complementary demand – demand for one good is closely linked to the demand for another, ie two or more goods that go well together

Competitive demand - two or more goods that are close substitutes for each other

Derived demand – when demand for one product drives the demand for another (eg demand for factors of production driven by demand for final goods)

Composite demand – good is demanded for more than one use

Individual demand – a consumer's demand for a good/service

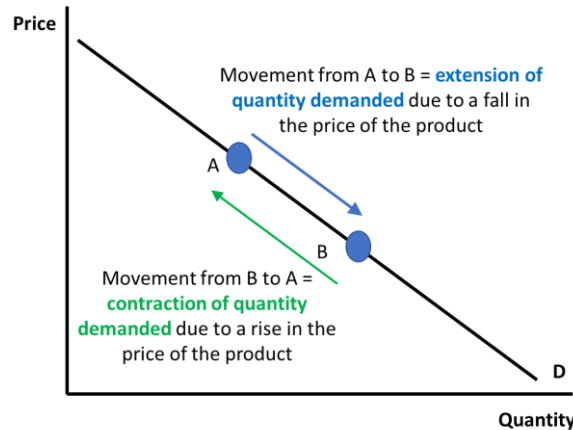
Market demand – all consumers' demands in the market summed together

Movements along the demand curve

Law of Demand – as price falls, the quantity demanded increases and vice versa. Demand slopes downwards to the right

Extension in demand – a movement along the demand curve from A to B (lower P, higher Qd)

Contraction in demand – a movement along the demand curve from B to A (higher P, lower Qd)



Ceteris Paribus

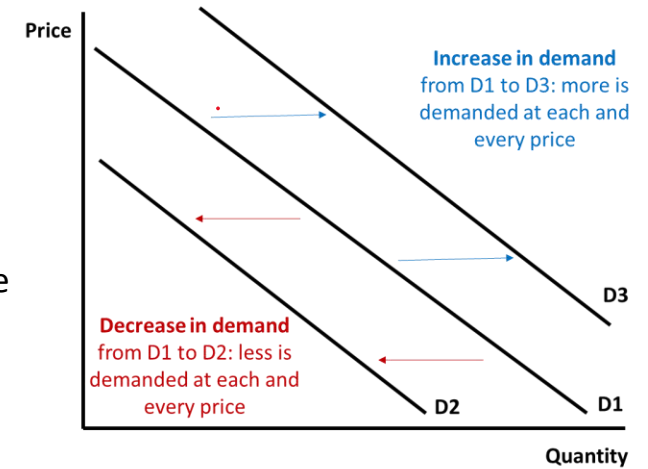
Ceteris paribus – all other influencing factors are held constant

The demand curve is drawn “ceteris paribus”. Other factors affecting demand, such as income and tastes, are held constant to show how demand varies with price.

Shifts in demand (non-price determinants of demand)

Factors causing a shift in demand:

- Change in tastes/preferences
- Change in incomes
- Change in the price of related goods (complements or substitutes)
- Change in size/structure of the population
- Changes in interest rates
- Changes in the law
- Changes in expectations



Why the demand curve slopes downwards

Substitution effect – consumers substitute in favour of the good that become relatively cheaper; if price of good X falls, consumers buy more of good X

Real income effect – if the price of good X falls, the consumer buying good X will gain purchasing power; this extra 'income' available for spending can be used to buy more X

Consumer irrationality/behavioural economics

When using demand, economists assume consumers are rational but they may be **irrational** because:

- Bounded rationality and bounded self-control
- Biases in decision making – rules of thumb, anchoring, availability & social norms
- The importance of altruism & perceptions of fairness
- Choice architecture & framing
- Nudges
- Default choices, restricted choice & mandated choice

Price Elasticity of Demand

Price elasticity of demand – the responsiveness of quantity demanded of a good to a change in its price

PED = $\frac{\% \text{ change in quantity demanded}}{\% \text{ change in price}}$

Values for PED

PED is **negative** because the quantity demanded is inversely related to price.

The values of PED ranges from 0 to – infinity. The mid-value is -1

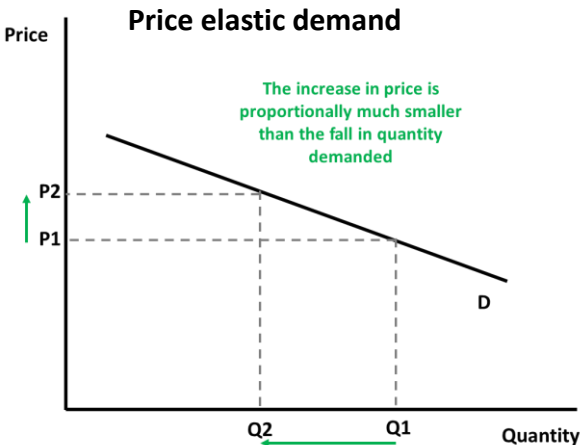
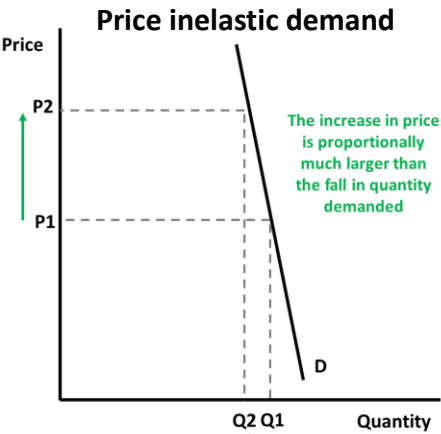
Inelastic demand: quantity demanded is not responsive to price changes; the % change in Qd is < the % change in P; value is between 0 and -1

Elastic demand: quantity demanded is very responsive to price changes; the % change in Qd is more than the % change in P; value is between -1 and -∞

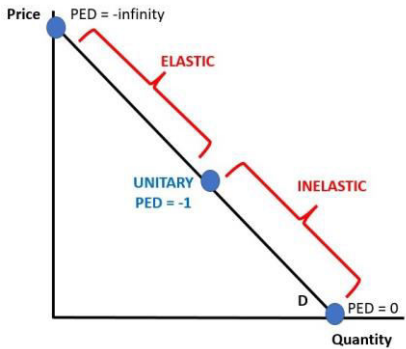
Unit or unitary demand: PED = -1; the % change in Qd is the same as the % change in P

Perfectly elastic demand: PED = -infinity

Perfectly inelastic demand: PED = 0



PED along a straight-line demand curve



PED is NOT the gradient or slope of the demand curve

- PED = -1 at the mid-point of the demand curve
- PED is elastic at high prices
- PED is inelastic at low prices
- PED varies all the way along the demand curve

PED and total revenue (TR)

When PED is elastic:

- a rise in P leads to a more than proportionate fall in Qd, so TR falls
- a fall in P leads to a more than proportionate rise in Qd, so TR rises

When PED is inelastic:

- a rise in P leads to a less than proportionate fall in Qd, so TR rises
- a fall in P leads to a less than proportionate rise in Qd, so TR falls

When PED = unitary, TR will not change when price changes

Factors influencing PED

- Availability of close substitutes
- Cost of switching suppliers
- Breadth of product definition
- Degree of necessity
- Time frame when making choice
- Brand loyalty
- % of income spent on product
- Habitual demand

Uses of PED

- Determination of pricing policy/impact on revenue
- Indication of competition faced (number/closeness of substitutes)
- Price setting in price discrimination
- Government decision on which goods to tax indirectly

Income Elasticity of Demand (YED)

Income elasticity of demand – the responsiveness of demand for a good to a change in income

$$YED = \frac{\% \text{ change in demand}}{\% \text{ change in income}}$$

Values for YED

YED is **positive** for normal goods (when income rises, the Qd increases)

YED is **negative** for inferior goods (when income rises, the Qd decreases)

Interpreting values of YED

Positive YED between 0 and +1: as income rises, there is only a relatively small increase in demand (and vice versa); this typically indicates the good is a necessity

Positive YED between +1 and + infinity: as income rises, there is a relatively large increase in demand (and vice versa); this typically indicates the good is a luxury

Negative YED: as income rises, there is a fall in the quantity demanded (and vice versa); this typically indicates the good is an inferior good

Normal v inferior goods

Normal goods are products or services for which demand increases as consumer income rises.

- When people's incomes go up, they tend to buy more of these goods.
- Examples of normal goods include restaurant meals, vacations, and higher-end electronics.

Inferior goods are products or services for which demand decreases as consumer income rises.

- When people's incomes increase, they typically buy less of these goods and may shift to higher-quality alternatives.
- Examples of inferior goods often include lower-quality or generic foods, used or older-model cars, and certain low-cost, generic products.

Cross elasticity of demand (XED)

Cross elasticity of demand – the responsiveness of demand for a good to a change in the price of a related good

$$XED = \frac{\% \text{ change in demand for good A}}{\% \text{ change in price of good B}}$$

Values for XED

XED is **positive** for **substitute goods** (when price of good B rises, the demand for good A increases and vice versa)

XED is **negative** for **complementary goods** (when the price of good B rises, the demand for good A decreases and vice versa)

Interpreting values of XED

Positive XED between 0 and +1: goods are weak substitutes

Positive XED between +1 and + infinity: goods are strong substitutes

Negative XED between 0 and -1: goods are weak complements

Negative XED between -1 and - infinity: goods are strong complements

Substitutes and complements

Substitutes are goods that can be used in place of each other to satisfy a similar need or desire, eg tea and coffee

Complements are goods that are typically consumed or used together because they enhance each other's value, eg tennis rackets and tennis balls

Uses of YED

- Effect of recession/growth on demand
- Business planning for product range
- Helps firms anticipate future demand

Uses of XED

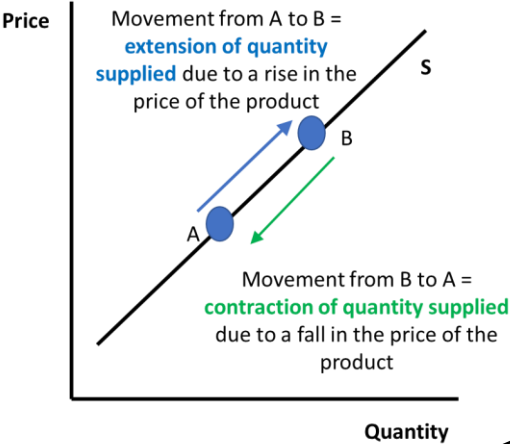
- Marketing strategies, eg selling complements together / in bundles
- If a competitor changes its price, firms can work out the effect on their demand

Supply concepts

- Joint supply** – two or more goods that derive from a single production process; a change in the supply of one good leads to a change in the supply of a by-product
- Individual supply** – a producer's supply of a good/service
- Market supply** – all producers' supplies to the market summed together

Movements along the supply curve

- Law of Supply** – as price falls, the quantity supplied decreases and vice versa. Supply slopes upwards to the right
- Extension in supply** – a movement along the supply curve from A to B (higher P, higher Qs)
- Contraction in supply** – a movement along the supply curve from B to A (lower P, lower Qs)



Why the supply curve slopes upwards

- Higher market prices motivate firms to supply more as they expect more profit.
- Producing more increases the marginal cost of production so firms need higher prices to cover these costs (assumes Law of Diminishing Returns)

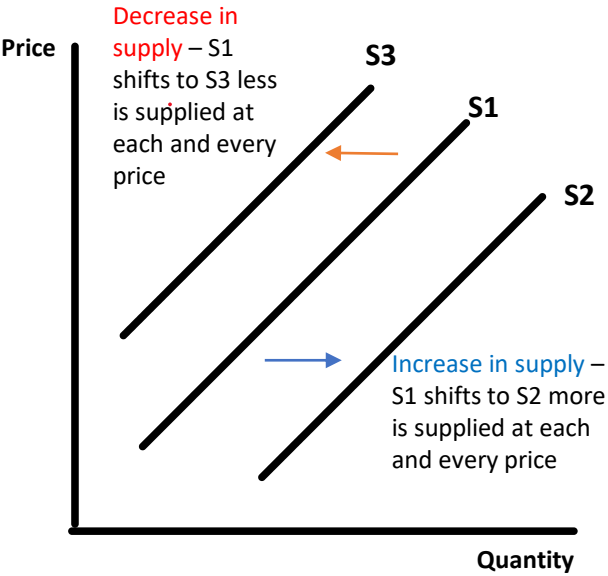
Ceteris Paribus

- Ceteris paribus** – all other influencing factors are held constant. The supply curve is drawn ceteris paribus. Other factors affecting supply, such as costs of production, are held constant to show how demand varies with price

Shifts in supply (non-price determinants of supply)

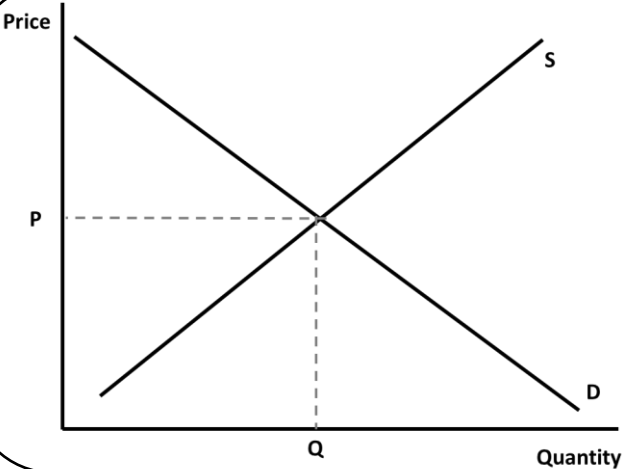
Factors causing a shift in supply:

- Change in the costs of production (raw materials, wages, energy...)
- Change in production technology
- Change in weather/climate
- Events such as strikes, pandemic
- Changes in indirect taxes
- Changes in producer subsidies
- Changes in the price of substitutes in production
- Changes in the number of firms supplying to the market



The Market

The market is created by the interaction of buyers (demand) and sellers (supply)



Equilibrium = a state of rest

- At equilibrium E1, there is one unique price P1, where the plans of producers match the plans of consumers
- The quantity demanded equals the quantity supplied at P1
- This is sometimes called the market-clearing price.

Price Elasticity of Supply

Price elasticity of supply – the responsiveness of quantity supplied of a good to a change in its price

$$\text{PES} = \frac{\% \text{ change in quantity supplied}}{\% \text{ change in price}}$$

Values for PES

PES is **positive** because the quantity supplied is positively related to price. The values of PES range from 0 to + infinity. The mid-value is +1.

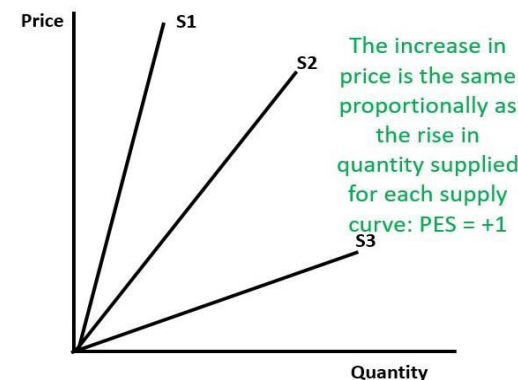
Inelastic supply: quantity supplied is not responsive to price changes; the % change in Q_s is less than the % change in P ; value lies between 0 and +1.

Elastic supply: quantity supplied is very responsive to price changes; the % change in Q_s is more than the % change in P ; value lies between +1 and +∞.

Unit or unitary supply: PES = +1; the % change in Q_s is the same as the % change in P .

Perfectly elastic supply: PES = + infinity.

Perfectly inelastic supply: PES = 0.

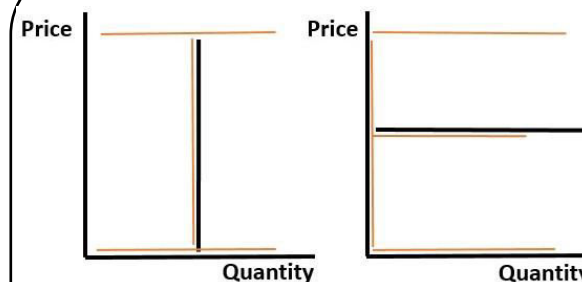


Any straight line supply curve that starts at the origin has PES = +1

Factors influencing PES

- Time period
- Bottlenecks in supply
- Breakdowns in supply chains
- Spare capacity
- Stock levels
- Availability of producer substitutes
- Ease of entry into the market

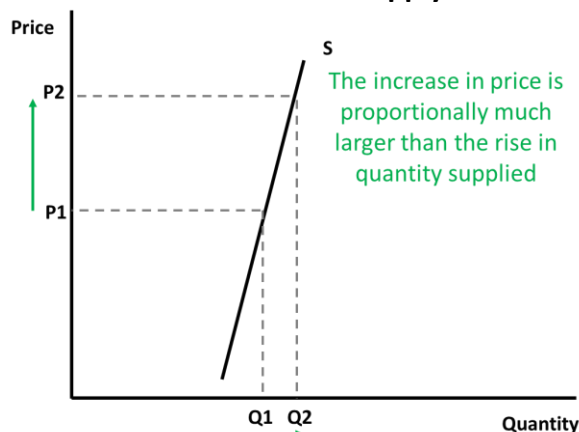
Elasticity diagram tips



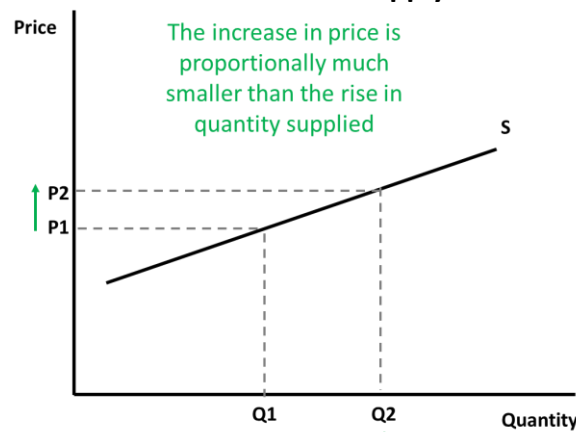
Sketch a line across the top of your diagram. This creates an I for the Inelastic curve and an E for the Elastic one. Applies to both demand and supply.

Steep curves are relatively inelastic, shallow curves are relatively elastic

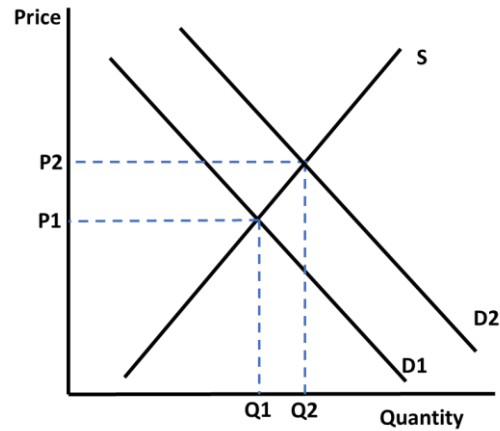
Price inelastic supply



Price elastic supply

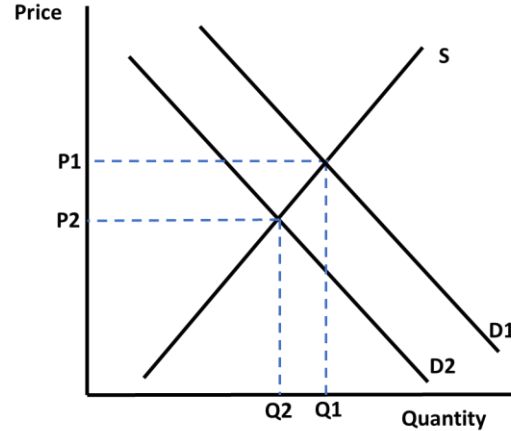


Shifts in demand



Increase in demand

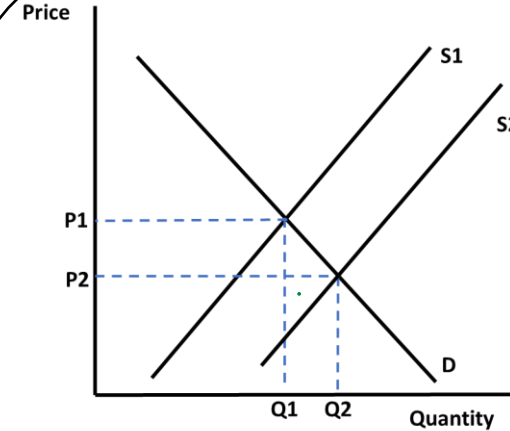
- Demand shifts right from D1 to D2
- At original price P1, there is now an excess demand.
- This signals to producers to increase price and extend their supply from Q1 to Q2 to restore the market equilibrium.
- The new equilibrium is at P2 and Q2



Decrease in demand

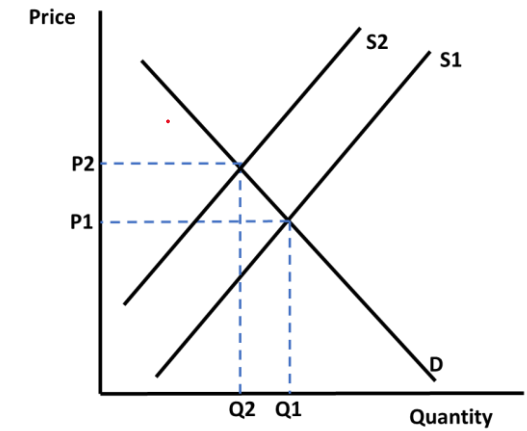
- Demand shifts left from D1 to D2
- At original price P1, there is now an excess supply.
- This signals to producers to reduce price and contract their supply from Q1 to Q2 to restore the market equilibrium.
- The new equilibrium is at P2 and Q2.

Shifts in supply



Increase in supply

- Supply shifts right from S1 to S2
- At original price P1, there is now an excess supply, so price falls.
- This signals to consumers to extend their demand from Q1 to Q2 to restore the market equilibrium
- The new equilibrium is at P2 and Q2.



Decrease in supply

- Supply shifts left from S1 to S2
- At original price P1, there is now an excess demand, price rises.
- This signals to consumers to contract their demand from Q1 to Q2 to restore the market equilibrium
- The new equilibrium is at P2 and Q2.

Interrelated markets

Substitutes - if supply of a good shifts left, this increases the market price, so the demand for a substitute will shift to the right

Complements/joint demand – if the supply of a good shifts right, this decrease its market price, which will cause demand for the complement to shift right

Composite demand – if the demand for a good increases, the quantity increases, this causes supply to shift left in the market for the good that is in composite demand

More interrelated markets

Joint supply – if the demand for a good decrease (left shift), then the market equilibrium quantity falls, so the supply of a good in joint supply will decrease (shift left).

Derived demand – if the demand for a final good increases, then the demand for the factors of production used to produce it will also increase.

ALL EXAMPLES CAN BE DONE 'VICE VERSA' and all assume CETERIS PARIBUS

Functions of Prices

Prices in markets help **ALLOCATE** the scarce resources between their competing uses via their signalling, incentivising and rationing functions.

Signalling

SIGNAL – prices provide key information to buyers and sellers; if the price changes because of a shift in demand, this signals to producers to adjust their output levels; if the price changes because of a shift in supply, this indicates to consumers to re-think how much they will purchase.

Incentivising

INCENTIVISE – higher prices can incentivise producers to extend supply as they anticipate more profit; lower prices can incentivise consumers to extend demand as they pay less for a good yielding the same utility (and vice versa)

Rationing

RATION – if supply is limited, the price rises, which rations the good to those who are most willing and able to pay;

When the functions of prices may not work effectively

Signalling - can fail if there are externalities; if the government imposes a maximum or minimum price; if the price set by producers is not at the equilibrium; if there is imperfect information

Incentivising – may be missing for public goods

Rationing – may not work if the government sets the price

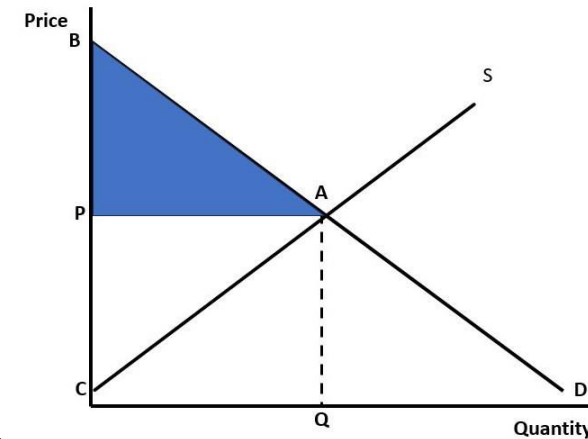
Consumer Surplus

Consumer surplus – the difference between the total amount that consumers are willing and able to pay for a good or service (indicated by the demand curve) and the total they pay (the market price). It is a measure of consumer welfare.

Producer surplus

Producer surplus - the difference between what producers are willing and able to supply a good for (indicated by the supply curve) and the price they actually receive (the market price). It is a measure of producer welfare.

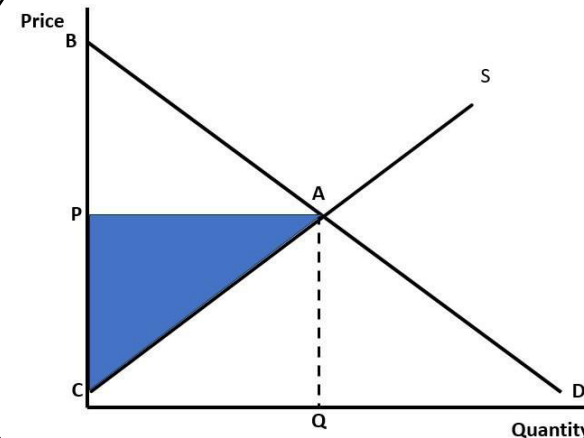
Diagram for consumer surplus



The consumer surplus is area APB.

If supply increases ie shifts right, the market price falls and the consumer surplus will increase (and vice versa)

Diagram for producer surplus



The producer surplus is area APC.

If demand increases ie shifts right, the market price rises and the producer surplus will increase (and vice versa)

Production and productivity

Production converts inputs (the factors of production) into output

Factors of production – the resources used as inputs = land, labour, capital and enterprise

Short run - the time period where at least one factor of production is fixed

Long run – the time period when all factors of production are variable

Productivity measures the efficiency of a factor input

Labour productivity – output per worker or per labour hour

Total factor productivity – output per unit of input

Importance of productivity

Higher productivity can lead to:

- Higher profit
- Higher wages
- Lower unit costs
- Greater international competitiveness
- Better trade performance
- Faster economic growth

Specialisation & division of labour

Specialisation - the concentration of individuals, firms, or nations on producing a limited range of goods or services.

Specialisation can occur at household, firm, region and country level.

The **division of labour** - a form of specialisation where the tasks needed to produce an item are divided among workers.

Adam Smith argued that specialisation leads to increased productivity and economic growth in the *Wealth of Nations* (1776)

Advantages and disadvantages of specialisation and the division of labour

Advantages

Increased Productivity

- greater output from same resources
- allows workers to become more skilled & experienced in specific tasks, leading to higher efficiency
- develop specialist machinery, more automation

Lower Costs

- reduced training time and waste

Economies of Scale

- mass production possible including assembly lines
- larger quantities of identical goods can be produced more efficiently.

Disadvantages

Higher staff turnover

- workers may find repetitive tasks monotonous & unrewarding, leading to job dissatisfaction.

Dependency

- overreliance on one work/task/factory makes units vulnerable to staff illness or economic shocks.

Structural unemployment

- workers trained in fewer skills
- machines can replace some labour tasks (technological unemployment)

Lack of variety

- Mass produced goods can reduce consumer choice

Money and its role in exchange

Money – anything generally accepted in payment of a debt; removes the needs to barter, avoiding the double coincidence of wants

Characteristics of money: acceptable to all, portable, durable, easily divisible, uncounterfeitable and scarce in supply.

The Four Functions of Money

Medium of exchange – money facilitates transactions between buyer and seller; specialisation and the division of labour requires a means of exchanging goods and services; money promotes this.

Unit of account - a nominal unit of measure used to value/cost/price products, assets, debts, incomes and spending

Store of Value – an asset that holds value over time

Standard for deferred payment – the accepted way in each market to settle debt

Economic system

Economic system is a network of individuals, organisations and institutions used by a society to resolve the basic problem of **what, how much, how** and **for whom** to produce.

Characteristics of a free market economy

Also known as a laissez-faire, market or capitalist economy:

- Private ownership of resources
- Owners of resources and producers are free to buy/sell
- Economic agents are motivated by self-interest
- Consumers have sovereignty – they determine what is produced by being willing and able to buy goods and services
- Income depends on the market value of an individual's work
- Resources are allocated by the **price mechanism** (market mechanism)

Free market economies still require the allocation of property rights and a legal system to protect them.

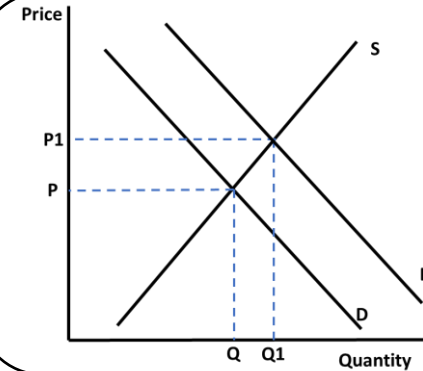
Advantages of free market economy

- Resources can be bought and sold
- Consumer sovereignty
- Freedom of choice
- Profit-motive and self-interest incentivises
- Incentive to worker harder for higher wages; productivity rises
- Firms face competitive forces driving down prices
- Incentive to innovate and invest in new ideas (dynamic efficiency)

The invisible hand

Adam Smith's 'invisible hand' - if economic agents act in their own best interests, the forces of demand and supply in the market can promote an efficient allocation of scarce resources for society

The price mechanism in action



- If consumers exercise their sovereignty and are willing and able to buy more of a good, the market demand curve shifts right
- Suppliers are incentivised to extend supply to meet the demand and can increase price to reduce the excess demand
- This causes the market price and quantity to increase
- The market has allocated more scarce resources to the production of this good – the quantity has increased.

Disadvantages of a free market economy

- Income/wealth inequality, and poverty
- Market failure can reduce social welfare
- Lack of provision of public goods
- Over-provision of goods with negative externalities
- Under-provision of goods with positive externalities
- Information gaps may cause market failure
- Unemployment/worker exploitation/low pay for some
- Environmental depletion/degradation
- Resources may be wasted on advertising and marketing
- Firms may develop monopoly power and push up prices
- Macroeconomic instability

Friedrich Hayek

Hayek came from the *Austrian School* of economics. He had a strong belief in the individual in an economy rather than government. In the 1930s **Keynes** supported active government intervention to stimulate growth, whereas Hayek did not. Hayek favoured market economies – he thought a small group of individuals in government would never have enough information to meet people's needs.

Characteristics of a Command Economy (centrally planned)

- Government owns and allocates resources deciding what, how and for whom to produce
- Government sets productions targets and growth rates according to its view of people's wants
- Goods are allocated through rationing
- Workers are given job by the government
- Market prices do not inform resource allocation
- Queuing is used to ration scarce goods

Advantages of a Command Economy

- Resources are allocated by the government to maximise social welfare
- Relatively even distribution of income/wealth
- Workers are given jobs by the state; there is no unemployment
- Adequate provision of public goods
- Government should take externalities into account in decision-making
- Environmental protection possible
- Government can invest in economy's infrastructure easily
- Policies to manage the macroeconomy
- Welfare safety net
- National interest considered rather than individual profits

Karl Marx

In his *Communist Manifesto*, **Marx** defined a command economy as 'common ownership of the means of production'. **Marx** argued free markets are chaotic and there is often surplus labour; labour specialisation and population growth push wages down – workers are exploited (not paid the value they add to production). He argued that capitalism would eventually push workers towards revolution against the capital owners. Communism is not the same as Socialism, but both favour more government intervention in the economy.

Disadvantages of a Command Economy

- Danger of government failure
- Difficult for the government to set and correct output planning targets and fix prices appropriately
- Government may not have enough information to make good decisions eg malinvestment by state
- Very bureaucratic – lots of red tape which reduces efficiency
- Underemployment
- Lack of choice for consumers
- Lack of incentives to be innovative and entrepreneurial
- Lack of incentives to work hard, causing lower productivity
- Corruption is likely to develop
- Shadow market activity can flourish

Mixed economy

There is a **mix** of private and public (government) sectors
Resources are allocated by the **price mechanism**, when it works efficiently, but the **government intervenes** to correct market failures
Aims to achieve the best aspects for both free market and command economies while avoiding their disadvantages.

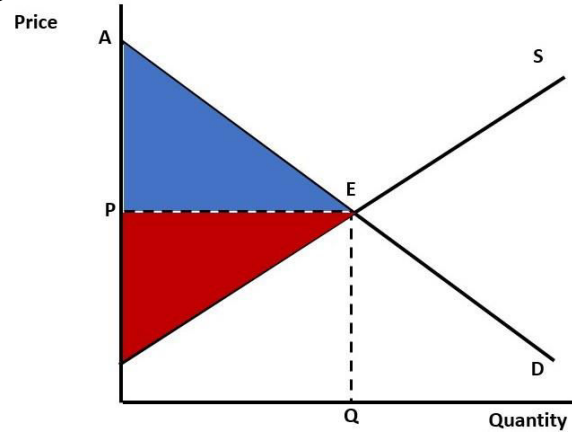
Traditional Economies

Traditional/subsistence economies are those characterised by family groups, low productivity, little specialisation, barter trade and no surplus production for investment
eg in world's most underdeveloped regions

Transition Economies

Transition economies are in the process of moving from a command economy to a mixed/free market economy. Markets are liberalised, state assets are privatised, state subsidies are removed. This can cause some short-term problems such as inflation and unemployment
eg Cuba, Eastern European countries

Markets and the allocation of resources



In the absence of market failure, the price mechanism is a very efficient method of allocation scarce resources amongst competing uses. Social welfare (the consumer surplus plus the producer surplus) is maximised at the market equilibrium.

Allocative efficiency

Allocative efficiency occurs when **price = marginal cost**.

$P > MC$: If the value consumers place on the unit of the good exceeds the cost of producing that unit, it is efficient to allocate scarce resources to the production of that good.

$P < MC$: If the value consumers place on the unit of the good is less than the cost of producing that unit, it is efficient to allocate scarce resources to the production of that good.

Market failure

Market failure exists when the competitive outcome of markets is not efficient (or equitable) from the point of view of the economy as a whole, ie resources are not allocated as efficiently as they could be.

Complete market failure

Complete market failure occurs when the market does not supply products at all – there is a **missing market**.

Examples: public goods, some information failure such as asymmetric information, when there is a lack of property rights

Partial market failure

Partial market failure occurs when the market functions/exists, but it supplies the wrong quantity of a product.

Examples:

- Negative externalities from production and consumption
- Positive externalities from production and consumption
- Some information gaps
- Market concentration and frictions
- Irrationality (linked to behavioural economics).
- Inequality (some groups are not able to express their preferences through effective demand)
- Volatile prices
- Market prices is deemed too high or too low by the government
- Merit goods
- Demerit goods

Rationale for government intervention in markets

Market failure provides a **rationale for the government to intervene** to correct the market failure (or at least reduce it).

There are a range of policies available for the government to use.

Examples:

- Indirect taxes
- Subsidies
- Regulations
- Bans
- Free provision at point of use
- Price controls (maximum or minimum prices)
- Competition policy
- Redistributive policies

If the government fails to improve the allocation of resources or makes it worse this is known as **government failure**.

Characteristics of private goods

Private goods are goods and services supplied and sold through markets by private sector businesses. They are:

- **Excludable** – buyers can be excluded from benefiting from the good if they are not willing or able to pay for it
- **Rival** - one person's consumption of a product *reduces* the amount left for others to consume and benefit from
- **Rejectable** - can be rejected by the consumer if their needs and preferences or their budget changes

Characteristics of public goods

Public goods are defined by their characteristics:

- **Non-excludable** – once a good is provided it is impossible to prevent people from using and benefiting from it; non-payers can enjoy the benefits for free creating a '**free rider**' problem.
- **Non-rival** (or non-diminishable) - consumption of a good by one person does not prevent or reduce the benefits to another person consuming the good.
- **Non-rejectable** – the collective supply of a pure public good means it cannot be rejected by people.

Pure public goods v quasi public goods

Pure public good: non-excludable and non-rival all of the time, e.g. national defence, security, mass vaccination

Quasi public good (semi-public goods): has some, but not all public good characteristics i.e. it has one or other characteristics, or has both some of the time, but not all of the time. e.g. TV & radio broadcasting, toll bridge
Technological advances can change a pure public good into a quasi-public good or a quasi-public good into a private good

Public 'bads'

Public bads are non-excludable and non-rival, but provide dis-satisfaction to people who consume, eg flytipping, air pollution

The free rider problem

Free rider - someone who consumes a good without paying for it. Because public goods are non-excludable, it is difficult to charge consumers once a good has been provided – there is a **free rider problem**.

- Consumers *do not reveal their preferences* if they think they can free ride
- This means there is *no demand curve* in the market
- There is *no incentive for producers* to supply the good because it will not be profitable
- The **market is missing** – resources are not allocated to produce public goods, even though consumers may actually want them

The free market will fail to provide pure public goods (**complete market failure**).

For quasi-public goods, under-provision is still likely to occur (**partial market failure**).

Possible solutions to market failure of public goods

Government provision – collective provision through taxation

Government funding – the government could fund private provision financed through taxation or charges (eg TV licence)

Voluntary/charitable donations – eg RNLI

Communities may act **altruistically** – and pay collectively eg private road

Advantages and disadvantages of government provision

- | | |
|--|---|
| • Equity – all people, whatever their income have access to public goods | • Government may lack the information needed to provide best amount of public goods |
| • Efficiency – collective provision allows economies of scale | • Possible diseconomies of scale |
| • Overcomes the free rider problem/missing market | • Government funding of private sector provision is often costly & wasteful |
| • Public sector investment is higher | • Government corruption issues |

Negative externalities

Negative production externality – a third party or spillover external cost arising from the production of a good for which no compensation is paid e.g. pollution

Negative consumption externality – a third party or spillover external cost arising from the consumption of a good for which no compensation is paid e.g. tobacco consumption causing passive smoking (often called demerit goods)

Important externality terms

Social benefit = private benefit + external benefit

Social cost = private cost + external cost

MPC = marginal private cost – all the costs of producing one more unit of the good to the producer

MSC = marginal social cost – all the costs of producing one more unit of the good to society

MPB = marginal private benefit – all the benefits of consuming one more unit of the good to the consumer

MSB = marginal social benefit – all the benefits of consuming one more unit to society

In a perfect market, **allocative efficiency** is achieved when $P = MC$, but if externalities exist, then the **social optimum** is achieved when $MSC = MSB$

Policies to address negative externalities

Government policies can help reduce negative externalities, so the **externalities are internalised** e.g. the **polluter pays principle**, reducing or eliminating the market failure. It is important to remember that there may be **government failure** if the policies worsen the allocation of resources.

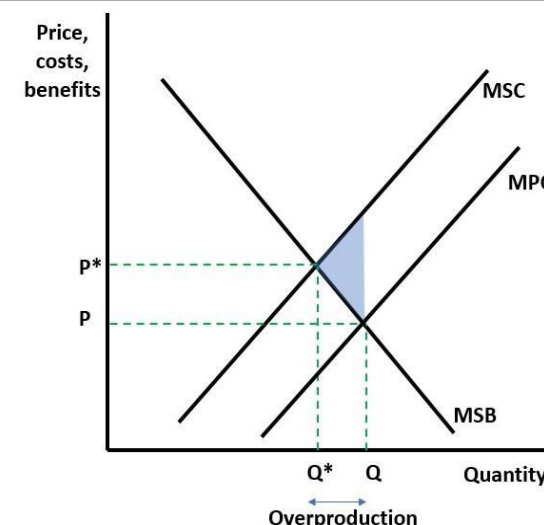
Policies that could be used include indirect taxes, tradeable pollution permits, banning/restricting output, legislation/regulations, 'nudge' policies

Negative production externality diagram

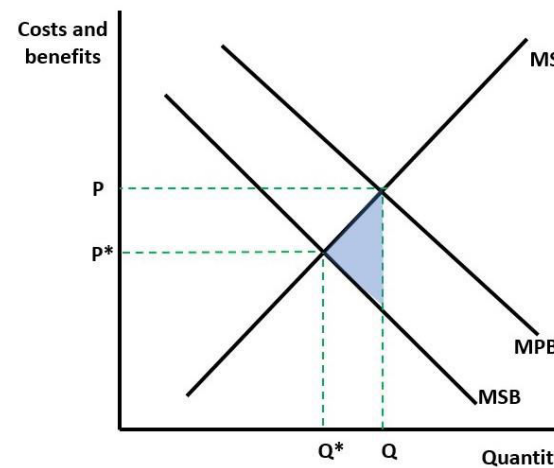
The market only considers private costs and benefits with equilibrium at P and Q .

The *negative production externality* means $MSC > MPC$. The social optimum will be where $MSC = MSB$, at Q^* .

The market **overproduces** by Q^*Q . There is a **net welfare loss** (shaded area) at the market equilibrium.



Negative consumption externality diagram



For a negative consumption externality, $MSB < MPB$. The market will over-provide & over-consume by QQ^* ; too many scarce resources are allocated to the production and consumption of the good; there is a **net welfare loss** (shaded area) in the market. There is a case for government intervention to correct the market failure.

Examples of negative externalities

Negative production externalities: air, noise & water pollution, environmental damage

Negative consumption externalities: tobacco, alcohol, gambling, obesity, congestion

Positive externalities

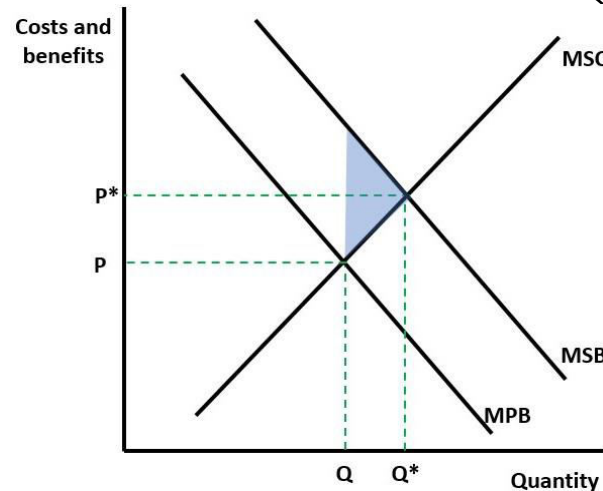
Positive consumption externality: a third party or spillover external benefit arising from the consumption of a good for which no compensation is paid e.g. vaccination, healthcare & hygiene, public transport.

Positive production externality: a third party or spillover external benefit arising from the production of a good for which no compensation is paid e.g. R&D, training and education.

Positive consumption externality

The market only considers private costs and benefits with equilibrium at P and Q. The *positive consumption externality* means **MSB > MPB**. The social optimum will be where **MSC = MSB**, at Q*.

The market **under-provides** by Q*Q. There is a **net welfare loss** (shaded area) at the market equilibrium.



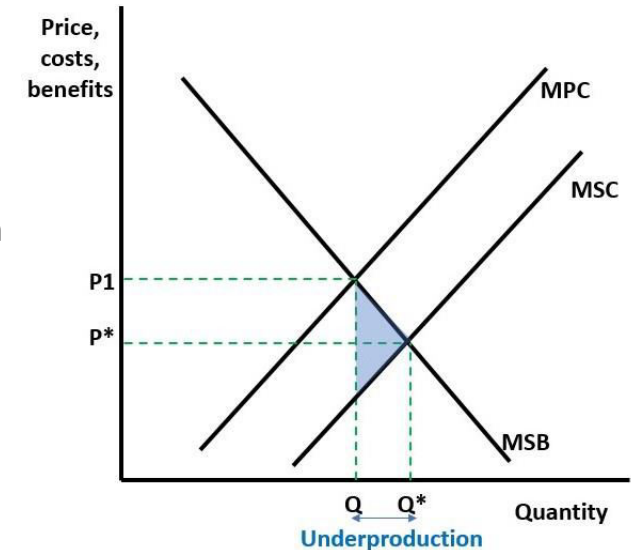
Policies to address positive externalities

Government policies can help reduce positive externalities, so the **externalities are internalised**. It is important to remember that there may be **government failure** if the policies worsen the allocation of resources.

Policies could include subsidies, government provision free at the point of use, legislation/regulations, make it compulsory, 'nudge' policies

Positive production externality

For a positive production externality, **MSC < MPC**. The market will under-produce by Q*Q; too few scarce resources are allocated to the production and consumption of the good; there is a **net welfare loss** (shaded area) in the market. There is a case for government intervention to correct the market failure.



Examples of positive externalities

Positive production externalities: fish industry benefitting from a dam built to store water (reservoir); honey producer benefitting from being near an apple orchard

Positive consumption externalities: healthcare, education, dental care, green spaces/parks

Evaluation of government policies to reduce/eliminate externalities

Success of the policy intervention depends on:

- Size of externality
- The extent to which the externality can be measured
- Whether there are unintended consequences from the policy
- Whether there is government failure (this could be an information failure)
- Opportunity cost of policy – some interventions are expensive
- How the policy affect the distribution of income – are there winners and losers?

The government needs to judge whether the benefits of intervening are sufficiently high relative to the costs to make it worthwhile for social welfare.

Merit goods

Merit goods are those goods/services that the government judges that people will **under-consume**, and which ought to be **subsidised** or provided **free at the point of use**.

- People do not fully understand the private benefits of their consumption.
- Consumption of merit goods also often generates positive externalities - where the social benefit exceeds the private benefit.

Examples: healthcare, dental care, education

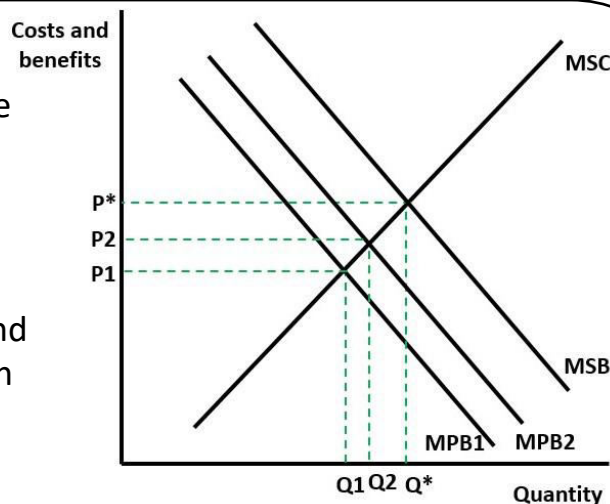
A **value judgement** must be made to classify a good as a merit or demerit good.

Merit good diagram

This diagram shows a merit good where there is information failure and some positive externalities. The market underprovides by Q_1Q^* .

Q_1Q_2 is underprovided because consumers do not fully understand the benefits, with full information demand would be MPB_2 not MPB_1)

Q_2Q^* is underprovided because the market does not take into account the positive externalities ($MSB > MPB_2$)



NB:

- Merit goods suffer from information failure
- They may have positive externalities
- Not all goods with positive consumption externalities are merit goods

Demerit goods

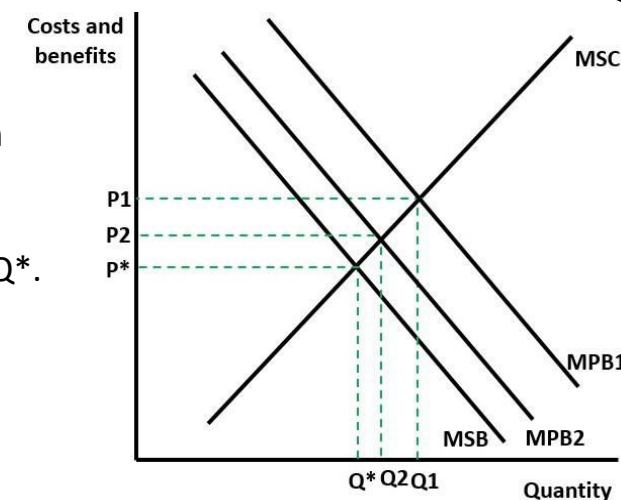
Demerit goods are those goods/services that the government judges that people will **over-consume**, and which ought to be **taxed** or **regulated**.

- People do not fully understand the private costs of their consumption.
- Consumption of demerit goods also often generates negative externalities - where the private benefit exceeds the social benefit.

Examples: tobacco, alcohol, gambling

Demerit good diagram

This diagram shows a demerit good where there is information failure and some negative externalities. The market overprovides by Q_1Q^* . Q_1Q_2 is overprovided because consumers do not fully understand the costs, with full information demand would be MPB_2 not MPB_1) Q_2Q^* is overprovided because the market does not take into account the negative externalities ($MSB > MPB_2$)



NB: Demerit goods suffer from information failure

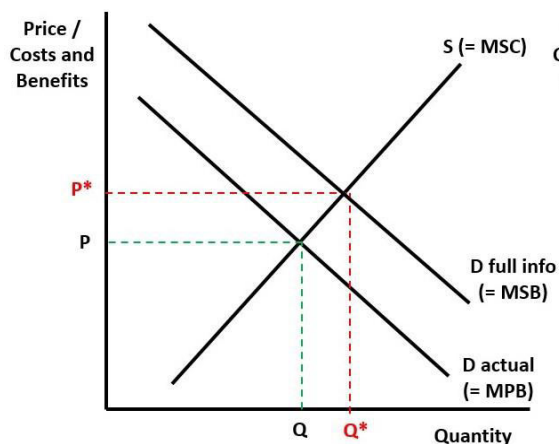
- They may have negative externalities
- Not all goods with negative consumption externalities are demerit goods

Behavioural economics can help explain why consumers face information gaps; consumers do not always act on full information even when they have it

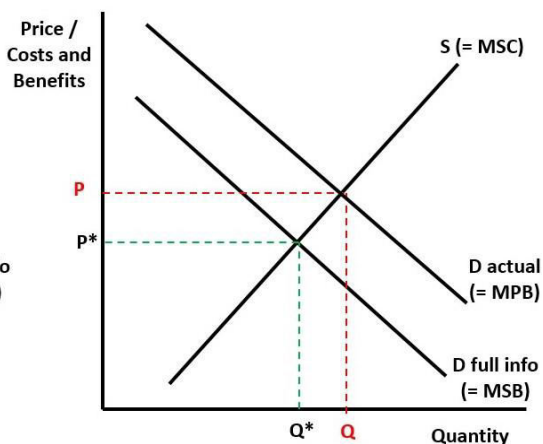
Information gaps

Information gaps exist when either the buyer or seller does not have access to the information needed for them to make a fully-informed decision, leading to a misallocation of scarce resources = market failure

Information gap diagrams



If consumers had full information, they would demand more because they are aware of the extra societal benefits; the **information gap** causes under-consumption at Q



If consumers had full information, they would demand less because they are aware of the extra societal costs; the **information gap** causes over-consumption at Q

Examples of information failure

- Risks from using tanning salons
- Addiction to painkillers and other drugs
- Complexity of pension schemes
- Uncertain quality of second-hand goods
- Knowledge of the nutritional content of food
- Cowboy builders and other rip-off merchants
- Tourist bazaars or buying and selling antiques

Factor immobility

Factor mobility occurs when factors of production can easily be moved from one use to another.

Geographical immobility of labour – in practice, labour may not be fully mobile because of regional house price variation, family & social ties, children in school etc.

Occupational immobility of labour – can occur because of insufficient education and training, a lack of transferable skills, inability to afford training etc.

Land is not geographically mobile but can be occupationally mobile, eg land used for agriculture or housing.

Capital can be both occupationally and geographically mobile, eg hand tools or vehicles, but heavy industry capital, eg a blast furnace, may not be mobile at all.

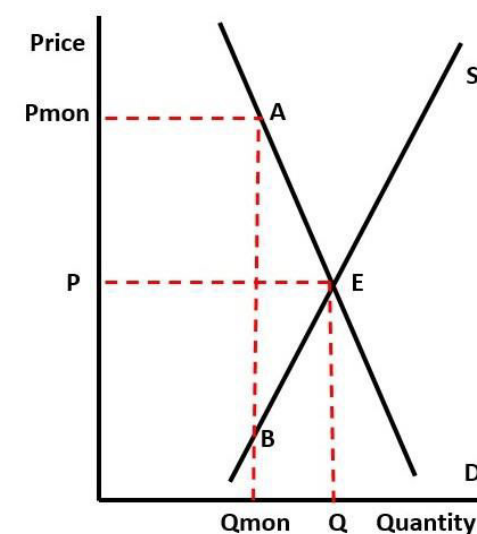
Factor immobility can cause structural unemployment and regional inequality which leads to market failure

Monopoly and monopoly power

A monopoly can use its market power to restrict output to increase price to maximise its profits

The monopoly price P_{mon} is higher than the market price P and the monopoly output Q_{mon} is less than the market equilibrium output.

The monopoly causes a **loss of social welfare** of ABE. Both consumer and producer surpluses are reduced by this monopoly behaviour causing **market failure**.



Tragedy of the Commons

Tragedy of the Commons: When no one owns a resource, it may get over-used, for example fish stocks and deforestation - people use and benefit from a common pool resource such as grazing land without regard to the effects on others.

Our natural resources are often over-used, leading to **environmental degradation and depletion**.

Green tax e.g. carbon tax

Carbon tax on carbon emissions – an indirect tax on producers that raises the price of emissions

Advantages

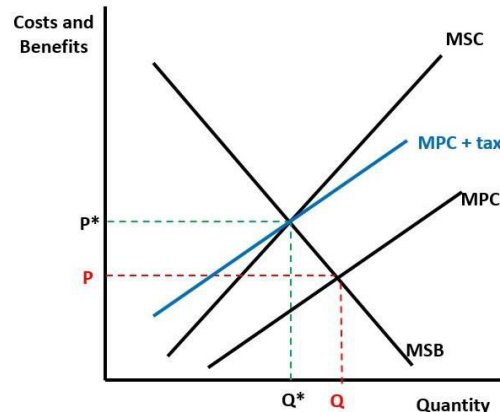
- Mandates a specific price on carbon
- Makes the polluter pay and internalises the externality
- Incentives firms to lower their emissions and for consumers to change their behaviour
- Revenue generated can be 'ringfenced' (hypothecated) and spent on other environmental initiatives

Disadvantages

- Problems determining the size of the tax; hard to assess the true cost of CO₂ emissions and climate change
- Demand may be price inelastic so tax may have little impact on pollution
- Reluctance to impose if it could cause a loss of international competitiveness
- Could be regressive
- Costs of compliance and rise of tax evasion
- Countries may 'free ride' – let others tax and yet gain benefits

Diagram of green tax

- Environmental damage means $MSC > MPC$
- Carbon tax shifts MPC up
- Market equilibrium changes from P and Q to P* and Q*
- Q* is the social optimum (where $MSB = MSC$)
- The carbon tax has eliminated the welfare loss, internalised the externality and made the polluter pay

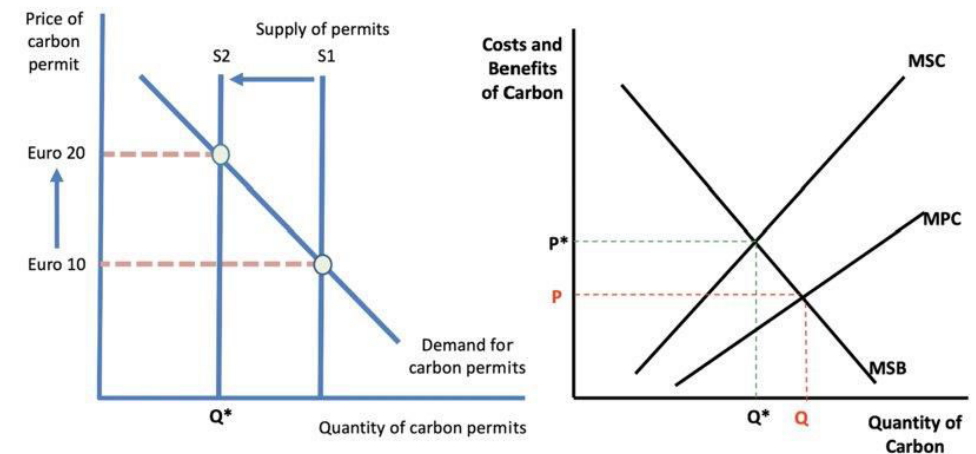


Tradeable permit scheme

Carbon emissions trading, also known as **cap-and-trade**, is a market-based system for reducing greenhouse gas emissions.

- Under a cap-and-trade system, the government sets a limit, or cap, on the total amount of emissions that can be produced in a given period
- Companies are then issued permits, or allowances, to emit a certain amount of CO₂
- If a company emits less than its allotted amount, it can sell its surplus allowances to another company that has exceeded its limit
- This incentivises firms to emit less because they can increase their revenue by selling permits and/or because if they pollute they will have to buy more permits adding to their costs

Diagram for permits



Other green policies

Other green taxes – fuel duty, air passenger duty, landfill tax etc

Subsidies – for green energy, fitting heat pumps, home insulation

Regulations – targets for net zero, electric vehicles, renewable energy; energy labelling for homes/appliances

Behavioural changes – waste reduction & circular economy, nudges (e.g. lower default temperature on boiler/showers)

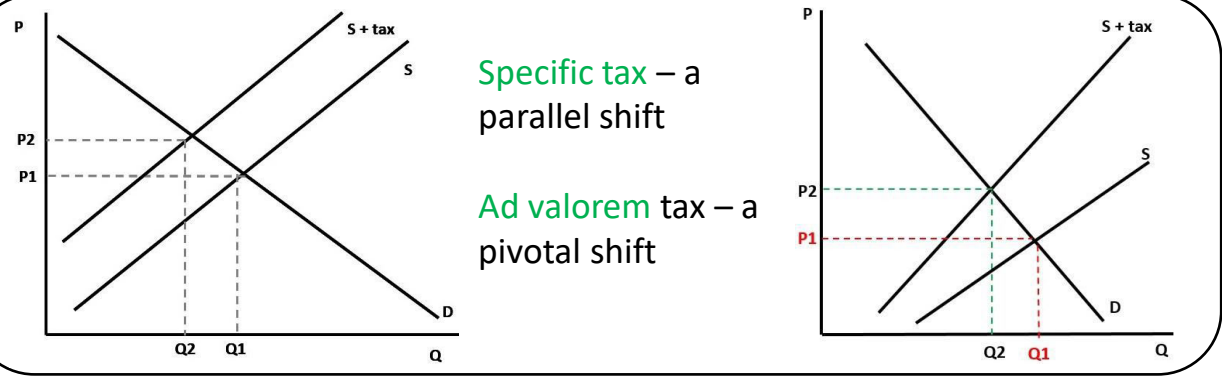
Voluntary carbon footprint offsetting emissions – e.g. tree planting

Indirect tax

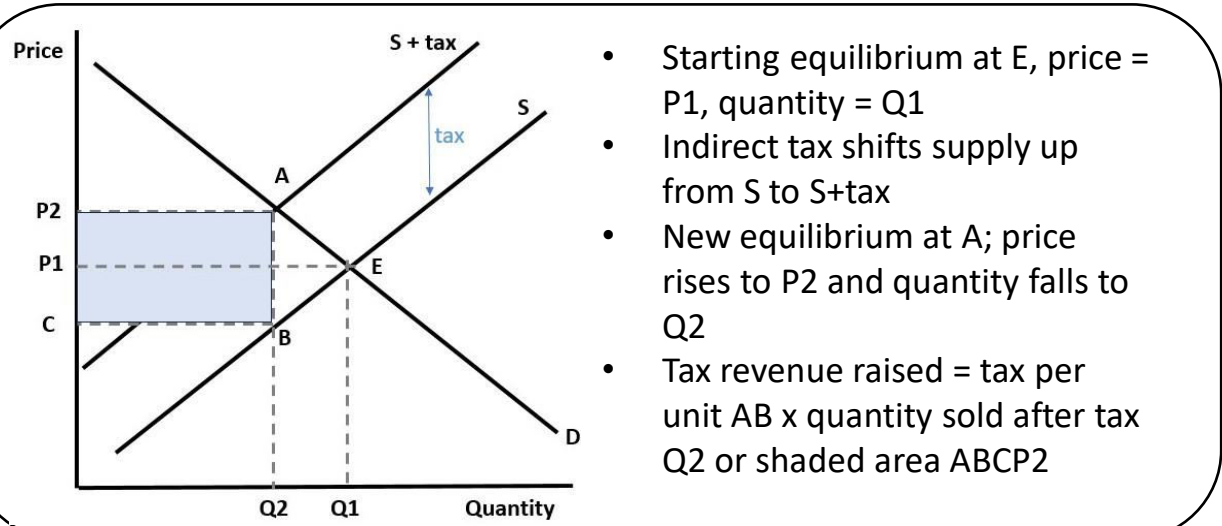
Indirect tax- tax imposed on producers (suppliers) by the government; producers may be able and choose to pass on some or all an indirect tax to their customers by raising prices. Indirect taxes are a form of **government intervention** in markets often with the aim of addressing **market failure**.

Examples include duties on cigarettes, alcohol and fuel, the sugar levy, VAT and carbon taxes

Specific (unit) tax v. ad valorem tax



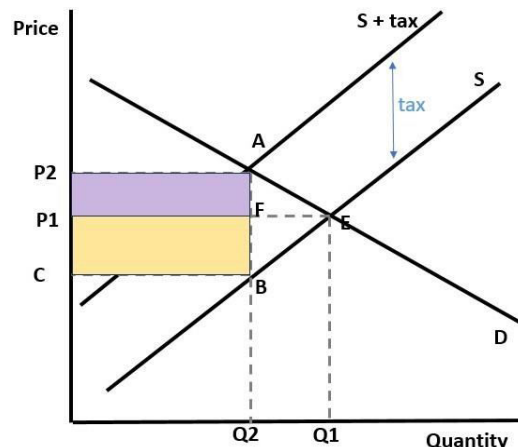
Impact of indirect tax on the market



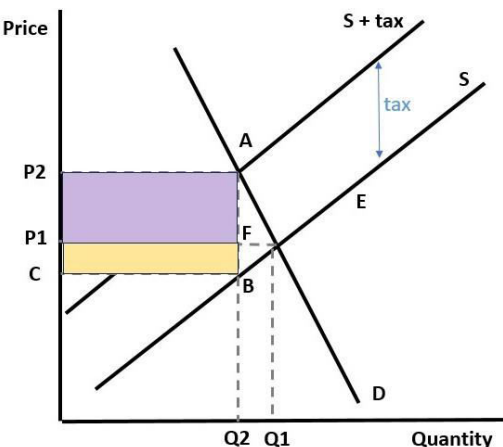
The incidence of the tax

Tax incidence: How the final burden of a tax is shared between the producers and the consumers.

If demand for a good is **price elastic**, then the tax will fall mainly on the producer (area P1FBC) as they will be unable to put prices up without losing a lot of demand. The consumer only pays area P1P2AF



If demand for a good is **price inelastic**, then the tax may fall mainly on the consumer (area P1P2AF) as the producer can put prices up without losing a lot of demand. The producer only has to absorb area P1FBC.



Tip: Find the area the consumer pays by looking at the increase in the market price – this is tax incidence on the consumer

Advantages and disadvantages of indirect taxes

Advantages

- Corrects market failures e.g. negative externalities, information failures that lead to over-provision
- Deters consumption of goods that are bad for us, e.g. tobacco, sugar
- Source of revenue for government
- Helps tackle climate change

Disadvantages

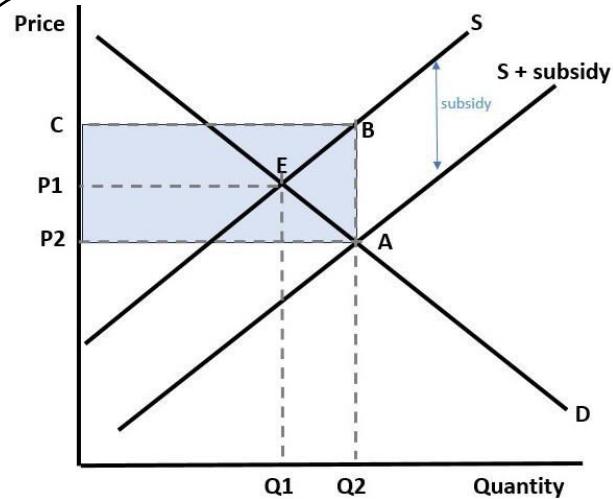
- Regressive
- Hard to determine best size of tax
- Compliance costs
- Possible tax avoidance/evasion
- Shadow market activity
- Government failure/unintended consequences

Subsidies

Producer subsidies – payments to producers by the government to reduce the costs of production e.g. subsidies for renewable energy; shifts supply right

Consumer subsidies – payments to consumers to allow them to purchase more of a good/service e.g. childcare vouchers; shifts demand right

Impact of a producer subsidy



- Starting equilibrium at E, price = P1, quantity = Q1
- Subsidy shifts supply down from S to S+subsidy
- New equilibrium at A; price falls to P2 and quantity rises to Q2
- Total cost of subsidy = subsidy per unit AB x quantity sold after subsidy Q2 or shaded area ABCP2

Advantages and disadvantages of producer subsidies

Advantages

- Corrects market failures e.g. positive externalities, information failures that lead to under-provision
- Encourages consumption of goods that are good for us, e.g. healthcare; fresh fruit
- Encourages firms to invest & innovate
- Helps protect producer incomes & jobs
- Supports those on lower incomes
- Can help tackle climate change
- Can help make exports more competitive

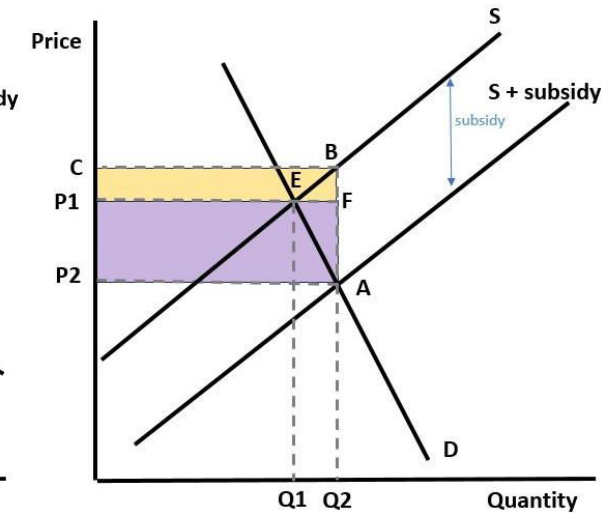
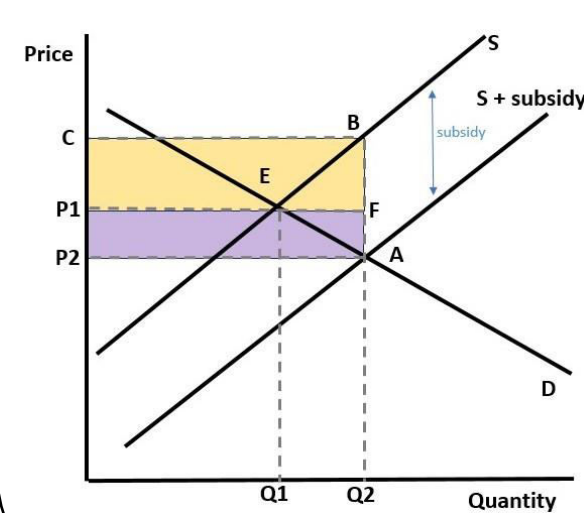
Disadvantages

- Cost to government (opportunity cost)
- Firms may become over-reliant on subsidy
- Firms have less incentive to be efficient and productive
- Firms may distribute extra profit to shareholders rather than re-invest
- May cause fraud/corruption
- Government failure/unintended consequences

The benefits of the subsidy

If demand for a good is **price elastic**, then the subsidy will mainly benefit the producer (area P1FBC) as they will not have to cut price much to gain more demand. The consumer only gains area P1P2AF

If demand for a good is **price inelastic**, then the subsidy mainly benefits consumers (area P1P2AF) as the producer has to put prices down a lot to gain a small increase in demand. The producer gains area P1FBC.



Tip: Find the area the consumer benefits by looking at the decrease in the market price as this indicates the benefit to consumers

Evaluation of subsidies

- Are the subsidies meeting their aims?
- Does the outcome depend on the size and scope of the subsidy? Or on the elasticity of demand or supply?
- Will the subsidy promote efficiency?
- What is the opportunity cost of the subsidy? Who will gain/loss from the subsidy cost?
- Does the subsidy help correct a market failure?
- Are there unintended consequences? Government failure?

NB: These ideas/questions could be applied to indirect taxes when evaluating too

Price controls

If the market price is **sub-optimal** for social, environmental or political reasons, the government may decide to **control the market price** directly

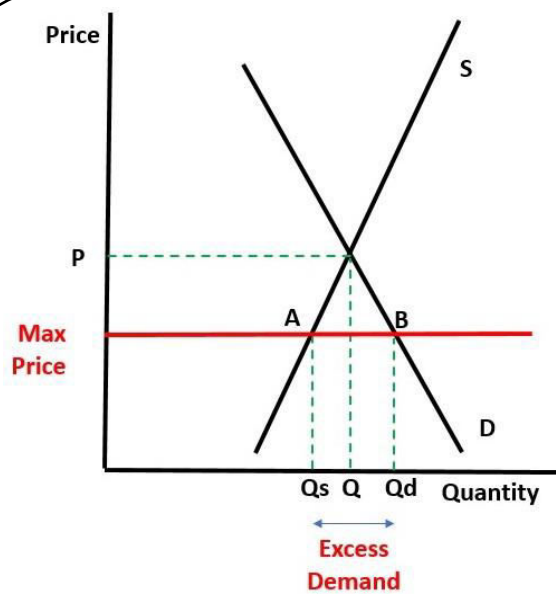
Maximum price

Maximum price –the government or an industry regulator can set a **maximum price** to prevent the market price from rising above a certain level. Also known as a **price cap** or **price ceiling**.

Rationale for maximum prices

- To make necessities more affordable, especially for those on low incomes (more equitable); reduces poverty/hardship
- To encourage consumption of goods that are good for social welfare, have positive externalities or where consumers may lack all information
- To prevent businesses profiteering at expense of consumers

Impact of a maximum price in a market



- Starting equilibrium at price = P, quantity = Q
- Maximum price is set **below** the market price
- New price = the max price
- New quantity demanded is Qd, the lower price causes an **extension** in demand
- New quantity supplied is Qs, the lower price causes a **contraction** in supply
- There is an **excess demand** of QsQd or AB at the maximum price

Consequences of maximum price

- The maximum price causes a **shortage** of the good.
- There is a **disequilibrium** at the maximum price.
- The price cannot rise to remove the excess demand – it has lost its **rationing function**
- The quantity supplied will need to be rationed in a different way, e.g. first come, first served; waiting lists; preferred customer priority; ration books; via shadow market activity
- There is potential for **government failure** and **unintended consequences**.

Examples of maximum prices in markets

- | | |
|---------------------------------------|--|
| • Rent controls | • Bus fare price cap |
| • Energy price cap | • Cap on interest rates charged by pay day lenders |
| • Cap on bonuses and CEO pay | • Currency pegs |
| • Cap on mobile phone roaming charges | • Cap on annual charges for occupational pension plans |
| • Price caps for water companies | • Tickets prices for events |
| • Cap on university tuition fees | |

Problems with maximum prices

- Excess demand needs addressing; alternative rationing methods may not work well
- Suppliers may leave the market if they cannot charge a price high enough to make profit (which would increase any shortage created by the maximum price)
- There may be better alternative policies the government could use if it believes the market price is too high e.g. subsidies, provision of information, redistribution from rich to poor, government provision

Minimum price

Minimum price – the government can set a **minimum price** to prevent the market price from falling below a certain level. Also known as a **price floor**.

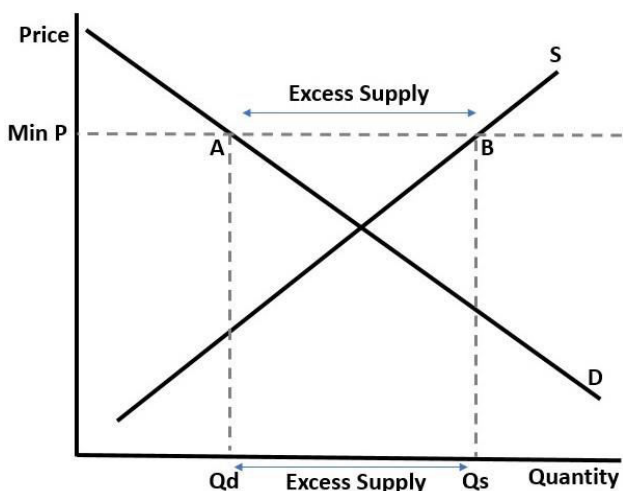
Guaranteed minimum price – the government will buy up any excess supply to guarantee the minimum price e.g. some agricultural minimum prices.

Legal minimum price – the government sets the minimum by law; there is a ban on sales below the price set; the government does not buy up any surplus e.g. minimum price of alcohol.

Rationale for minimum prices

- To support the incomes and jobs of producers and encourage investment and innovation
- To discourage consumption of goods that are bad for social welfare, have negative externalities or where consumers may lack all information
- To prevent consumers abusing any monopsony power they have at expense of suppliers

Impact of a minimum price in a market



- Minimum price is set **above** the market price
- New price = the min price
- New quantity demanded is Q_d , the higher price causes a *contraction* in demand
- New quantity supplied is Q_s , the higher price causes an *extension* in supply
- There is an **excess supply** of $Q_s - Q_d$ or AB at the minimum price

Consequences of minimum price

- The minimum price causes a **surplus** of the good
- There is a **disequilibrium** at the minimum price
- The price cannot fall to remove the excess supply – it has lost its signalling and incentivising **functions**
- For a **legal minimum**, firms cannot sell more than Q_d so they will reduce their supply (supply shifts left)
- For a **guaranteed minimum** the government will buy up the surplus at the minimum price (cost to government = $Q_d AB Q_s$)
- There is potential for **government failure** and **unintended consequences**

Examples of minimum prices in markets

- Minimum price for alcohol
- National minimum/living wage
- Minimum care worker price
- Agricultural support where price is guaranteed to farmers
- Guaranteed prices for renewable energy suppliers

Problems with minimum prices

- Excess supply needs addressing
- For legal minimum price – suppliers cannot sell any excess, so they will cut supply, output and jobs
- For guaranteed minimum price – intervening to buy up the surplus can be expensive (opportunity cost); surplus will need storing, selling on, destroying etc.
- There may be better alternative policies the government could use if it believes the market price is too low e.g. indirect taxes, provision of information, regulations, government ban/restriction; direct grants to support producers

Government failure

Government failure – government intervention worsens the allocation of scarce resources:

- It results in a greater net welfare loss
- The cost of the intervention outweighs the benefits gained
- The policy fails to generate a change in behaviour by economic agents and so the policy fails to achieve its aims

Causes of government failure

- Political self-interest
- Poor value for money
- Policy short-termism
- Regulatory capture
- Conflicting objectives
- Bureaucracy and red tape

Outcomes of government failure

- Greater inequality e.g effects on lower-income households
- High costs of compliance and implementation
- Possible unintended consequences
- Possible conflicts with other micro/macro objectives
- Poor policy choice/outcomes: information failures before a policy is introduced; government may lack information
- Policy may prove ineffective in changing behaviour

Law of Unintended Consequences

Unintended consequences – outcomes that were not foreseen and intended by the government action

- There may be at least one and often many unintended consequences – some may be good, but it is the bad ones that are a cause for concern
- It is impossible for the government to predict outcomes accurately for the economy – these are inevitable
- Unintended consequences can deepen any existing market failure

Examples of unintended consequences

- A minimum wage causes a reduction in non-wage benefits for workers
- An indoor smoking ban increases the use of environmentally-unfriendly patio heaters
- Tariffs to protect the steel industry increase costs for car makers and house builders
- Charging for plastic bags encourages a switch to canvas bag use, which could be worse for environment
- Targets for treating patients could lead to lower quality care
- Moral hazard from bail outs to banks after their risky behaviour

Arguments **against** government intervention in markets

If there is likely to be significant government failure after an intervention, there may be a **case for no intervention**, especially if the market failure is not too severe:

- The price mechanism is very efficient and can promote innovation
- When resources are scarce, higher prices are potentially a good outcome
- Profit motive incentivises businesses and entrepreneurs

Arguments **for** government intervention in markets

There are many features an economy needs to function effectively where intervention is required:

- Allocation of property rights and legal system
- Provision of public goods
- Macroeconomic stability
- Measures to reduce inequality
- Rules about competition

Inaction by the government is possibly the biggest government failure

Rationality

An underlying assumption in economics is that **economic agents are rational**:

- Consumers aim to maximise their utility from consumption
- Workers aim to maximise their wages and other work benefits
- Firms aim to maximise profit
- Governments aim to maximise social welfare

In the **real world**, it is often the case that these assumptions do not hold.

Rational consumer behaviour

Rational consumer behaviour: decision-making process that is based on making choices that maximise utility. This assumes:

- Consumers make all choices *independently*
- Consumers have fixed and *consistent preferences*
- Consumers have *full information*
- Consumers always make the *optimal choice* given their preferences

Irrational consumer behaviour

Irrational consumer behaviour: when people make systematic and persistent deviations from rational choice. This is because:

- Humans are emotional, impulsive and can lack self-control
- Humans are social and belong to many networks
- Humans can be altruistic, generous and forgiving
- Humans have limited time, energy and brain power
- Humans have regrets and also have a strong sense of loss aversion

Bounded rationality is the idea that the cognitive, decision-making capacity of humans cannot be fully rational because of a number of limits that we face

Bounded self-control: consumers have good intentions but may consume more than is rational (eg at a restaurant or pub); this may be because they value the present more than the future; they want instant rewards

Irrational behaviour: influenced by others

Consumers may be irrational because they are **influenced by others**:

- Peer pressure (can be negative and positive); fads/fashion/trends; social networks; social norms & herd behaviour

Irrational behaviour: habit and default bias

Consumers may be irrational because they follow patterns of **habitual behaviour** or stick to what they know or is easiest (**default bias**) eg choosing the same dish off a restaurant

- **Default choices** are options selected automatically if no active choice is made.
- **Restricted choices** limit available options, allowing selection within a defined set.
- **Mandated choices** are obligatory selections enforced by a directive or requirement.

Irrational behaviour: human limitations

Consumers may be irrational because of **weakness at computation**:

- Limited brain power and limited time to use it; decisions sometimes have to be made quickly; may use a 'rule of thumb' for speed
- Limited ability to calculate or absorb complex information
- Emotional responses
- Can be 'misled' by framing and/or anchoring effects

Choice architecture: refers to how decisions are presented and influenced by the way options are organised, leading to certain decisions over others.

Framing: presenting information in a way that influences people's perceptions or decisions, often emphasising specific aspects to shape how a decision is made.

Anchoring: cognitive bias where an initial piece of information (the "anchor") influences how people make subsequent judgments or decisions, even if the anchor is irrelevant or inaccurate.

Irrational behaviour: risk aversion & time preference

There is evidence that humans are **risk averse**; rationality assumes that humans will have a *neutral attitude to risk*, but in practice they are more likely to prefer a certain reward over risking it for a bigger reward.

Humans are also **loss averse**: we emphasise losses more than potential gains – losses can be twice as painful as a similar gain.

There is evidence that humans are **time-sensitive**; rationality assumes that humans have a *neutral attitude to intertemporal decisions*, but in practice they typically prefer a reward earlier than at a later date; a desire for instant rewards!

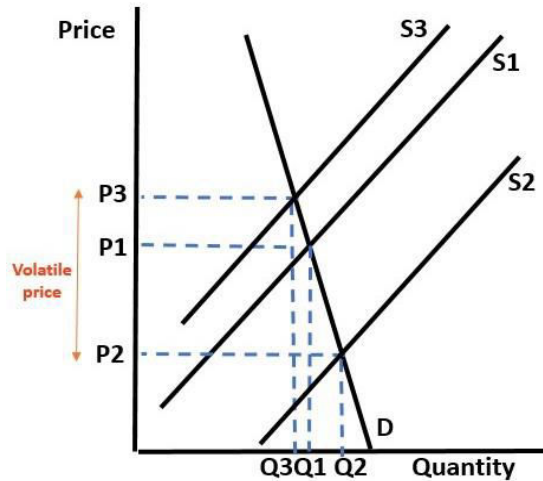
Nudges - subtle pushes or prompts (nudges) to influence and guide people toward making better decisions without limiting their choices or using direct enforcement.

Unstable markets

Some markets have features that mean the price may be too high, too low or **too volatile** to achieve a good outcome for social welfare.

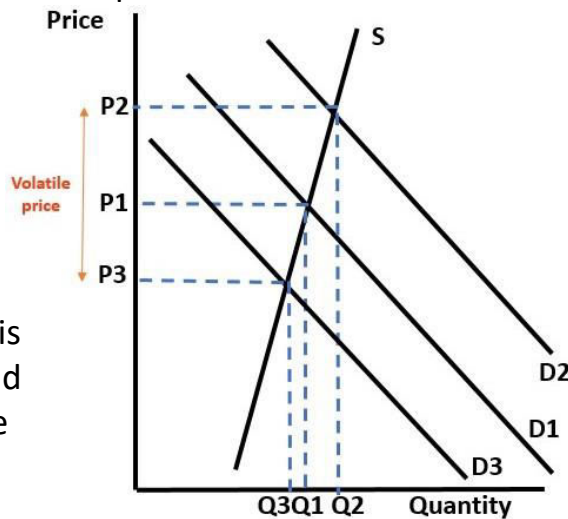
Governments can intervene with price controls and other policies to promote social welfare.

Causes of price volatility in markets



Price inelastic

demand: when demand is price inelastic, any change in supply will have a big impact on price in the market.



Price inelastic supply: when supply is price inelastic, any change in demand will have a big impact on price in the market.

Time lag problems: time lags in supply, e.g. between planting a cereal crop and when it has grown and ready to supply, can cause price fluctuations in a market.

Speculation – speculators can exacerbate changes in price making them more volatile, with boom-bust cycles.

Causes of price instability in markets

Key factors influencing demand:

- Globalisation
- Urbanisation
- Industrialisation
- Geopolitical events & pandemics

Cyclical factors influencing demand:

- Demand during growth/boom phase of cycle v recession
- Global growth cycle

Short term influences:

- Speculation
- Fluctuating exchange rates
- Fluctuating interest rates

Key factors affecting supply:

- Climate change
- Unpredictable weather
- Natural disasters
- Geopolitical events & pandemics

Problems with price volatility in markets

Unstable prices can cause problems for both *consumers and producers*, and there may be a case for government intervention.

For consumers:

- Unpredictable food & energy prices
- Reduces consumer confidence
- May cause poverty/hardship when prices rise rapidly

For producers:

- Unpredictable incomes
- May be forced to leave when prices are low; possible shortages
- May reduce investment and innovation; lower business confidence

Examples of markets that often have volatile prices

Oil and energy markets
Agricultural markets
Livestock & meat

Industrial metals
Precious metals
Fertilisers

A key issue with price volatility is that it is often present in markets for necessities and essential raw materials, affecting consumer budgeting and producer costs