Economics Competitive Markets and How They Work essay (50)

What is a 'Competitive Market'?

- The market economy tries to resolve the economic problem via demand and supply, through the price mechanism
- But how do markets work? And how does it allocate scarce resources in relation to our infinite wants

- There are many examples of markets, but each has the same basic characteristics:
    - A willingness to trade or exchange goods and services. This is usually done using money, but bartering may be used in a developing country
    - A physical place where buyers and sellers can meet or contact each other.

- Markets are also competitive
- This is because they provide for the resolution of the basic economic problem, whereby scarce resources are allocated via the price system.
- In every market where money is used, the products that are bought and sold command a price
- This reflects what suppliers wish to sell their product for and what consumers are willing to pay to consume it.
- The interaction of buyers and sellers determines the price of a product in any market situation.

- The fact that markets are competitive means that prices fluctuate
- So if more producers put more of their products on the market, the most likely result is that prices will fall.
- The same thing will happen if buyers hold back from purchasing a product
- In contrast, if producers restrict what they are willing to sell, then prices will increase, as well as a sudden surge in demand from consumers

- Markets may be relatively complex to describe
- Big markets can be split up into sub markets, and those submarkets split up further
- The same general principles for the operation of markets apply in all cases.

Demand

- Demand is what consumers want
- However, what consumers want and what they demand are not the same thing for two reasons

- Wants are unlimited. We would always like to consume more or consume things we aspire to e.g. Rolex watches
- Demand is that to consume a product, customers must have the ability to pay.
- They must be able to afford what they demand

- The distinction can be made clear between wants and demand with the introduction of the terms notional and effective demand. The former being like wants.

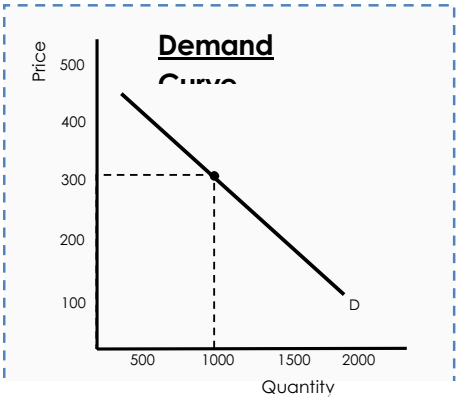
- The definition of demand – effective demand – assumes that all other factors that affect the demand of the product don't ch ange
  - I.e. any changes in the quantity demanded are due to the price of the product alone.
  - This is referred to as ceteris paribus
- As defined, the quantity demanded must be time related in the sense that it needs to be specified over a day, week, etc.
- If sales for holidays were for a given week, then the quantity demanded would clearly be lower than for annual sales.

Relationship Between price and Quantity Demanded

- From prior experience, we know that if the price of something falls, we want it more
- Similarly, in a supermarket, a price reduction in a product we normally buy will result in an increase in the quantity demanded
- So as price increases, demand decreases
  - This is an inverse relationship
- In considering matters of demand and price, we assume consumers a re rational, and if products are exactly the same, they will opt for the cheaper on.

The Demand Curve

- The demand curve shows the relationship between the price of a product and the quantity demanded
- Price is plotted on the y-axis, demand on the x-axis.
- The data from which a demand curve is derived is the demand schedule
- The data for a demand schedule can be gained from past records and questionnaires, where customers are asked on issues like price.

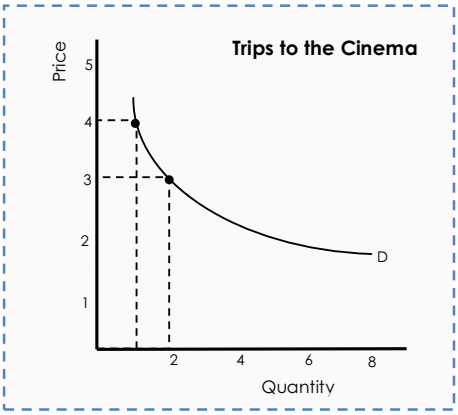


Demand Schedule – Holidays in Ibiza

Price per Person (£)	Quantity Demanded
500	300
450	500
400	650
350	800
300	1000
250	1150
200	1300
150	1500

- Notable points:
- Notable Points
  - Normal Inverse relationship
  - Linear relationship
  - Relationship only applies to holidays in June
  - Can extrapolate data:
    - At £325, 900 holidays will be demanded

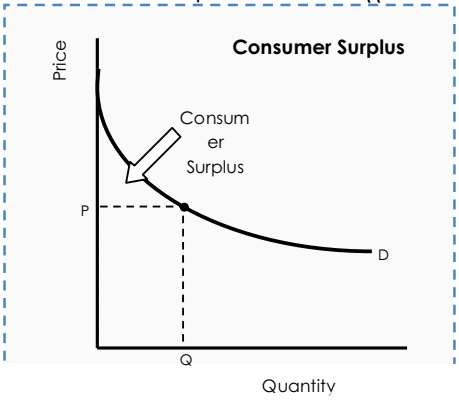
- Demand curves can also represent the demands of an individual.
- When representing just an individual, the curve may be cu rvilinear



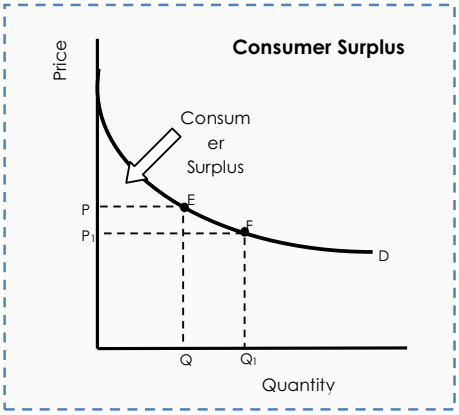
- When the price is £4, the person will make 1 trip a month
- If the price falls from A to B, the quantity demanded increases
- Such movements are referred to as 'movements along the demand curve', and are only cause by a change in the price of the product
- Where the move is upwards along the demand curve (B to A), then it is known as 'extension in

Consumer Surplus

- In almost every market situation, there will always be some individuals who are willing to pay above what they actually have to pay to satisfy their demand
- However, consumers pay the price offered, and no the price that they're willing to pay, and so potentially save some money.
- This is known as consumer surplus
- For the cinema trip scenario, the consumer would be willing to pay £4 for the first cinema trip, but the actual price of tickets is £1.50
- This means that the consumer receives a surplus of £2.50 (£4 - £1.50)
- When the demand is 5 trips per moth, the consumer will receive a surplus of £5.05 ((£4 - £1.50) + (£3 - £1.50) + ... etc...)



- The area between P, the Y axis and the curve represents consumer surplus (and should be shaded)
- This area indicates the additional money that the consumer is willing to pay to consume the



- If the market price changes from P, the consumer surplus will also change
- ⮝ fall from price P to P_1 results in an increase in consumer surplus
- The additional consumer surplus is represented by the area $PEFP_1$

Calculation of Total Expenditure and Total Revenue

- Data which is drawn from a demand curve can be used to calculate the total expenditure made by the consumer
- In turn, this is the total revenue or sales of the producer
  - **Total Expenditure = (price x quantity demanded)**

- If we take another look at the 'holidays in Ibiza' marke t demand curve, we can see at a price of £300, 1000 holidays will be demanded
- Total expenditure by those consumers is (300 x 1000) = 300,000
- If the price rises to £325, then 900 holidays are demanded
- This means that the total revenue of the tour operator i s (900 x 325) = £292,500

Other Factors Affecting Demand

- Obviously, it is clear that price has a major effect on the quantity of a product that is demanded
- Price, however, is not the only reason or factor that affect demand
- Three non-price factors that influence the demand for a product are
  - Consumer Income
  - The prices of other products
  - Tastes and Fashion

Consumer Income

- Income obviously has an important influence on whether or not we actually buy a good
- If something is outside the price we are willing to pay, then there will be no effective demand for it

- To be more specific, it is best to look at income in terms of what is left over once tax has been deducted, state benefits are added and the effects of inflation have been taken into account
- This is called real disposable income
- For most young people, disposable income is the allowance that is given after deductions are made
- The 'real' element changes the meaning
- For example, if the money you receive increases by 5% over a period of time, but prices rise by 3%, then 'real' income has increase by just 2% (5% - 3%)
- If the rise in prices has risen more than the rise in income, then 'real' income has actually fallen

- With the aforementioned in mind, the demand for a product will increase as consumers' income increases
- With more income, consumers have greater spending power, and so buy more of most goods and services
- This is true for most goods, such as cars, TVs, holidays, cinema trips, and so on
    - These products are known as normal goods

- In some cases, the relationship between income and demand is inverse
    - As income rises, demand for the product fall
- These are known as inferior goods
- This doesn't mean that these products are of inferior quality
- They are products that are consumed only because more desirable alternative cannot be purchased with available income
- So as income increases, a better alternative can be purchased

- It is difficult to generalise about inferior goods
- What is inferior to one person may be normal to another
- This all depends on a consumer's income
- Some consumers may regard a holiday to Benidorm as inferior.
- Other people, who have not been able to afford a holiday, will include such a trip as a normal good
- Despite the subjectiveness, products such as supermarket own label goods (compared to recognised brands) can be regarded as inferior goods
- The final outcome is determined by what happens to the total demand for a product following a change in income, not one individual's demand.

- The demand for a product can also be affected by a change in the price of another, different product
- Two possible cases are recognised
    - These are where there are substitutes and complements to the product in question

- Most products have substitutes.
- They occur when a good or product faces competition from another product
- In such situations, there is competitive demand

- To the economist, there is a relationship between the price of one product and the demand for a substitute
    - If the price of a product goes up, then there will be an increase in demand for another product
    - Alternatively, if the price for a product falls, then there will be more of a demand for this product, resulting in a fall in demand for the substitute, as this product will no longer be as price competitive

- Complements, on the other hand, tend to be jointly demanded
    - If the price of a product increases, then it will lead to the rise in price of another product which is a complement, and a subsequent fall in demand for both of them
- There is therefore an inverse relationship between the price of the complement and the demand for the product that is jointly demanded.

- In order to make rational decisions with respect to demand in general, it is very important that consumers are aware of market prices
- The internet has allowed users to find accurate up-to-date information on a whole range of prices
- This has put on increased pressure on retailers to be competitive

Tastes and fashion

- Consumer tastes constantly change, and there is obviously demand for a product when it's to a consumer's tastes
- If a thing is fashionable, it will be in high demand
    - Examples include things like the latest mobile phones, clothing, and holidays.

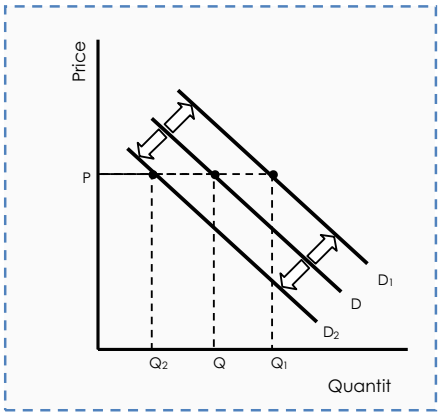
- Taste, to some extent, is more personal
- Some people may like a particular product, while others may not want to consumer it, irrespective of its price
    - A vegetarian, for instance, would never buy beef or chicken

- Advertising has a huge effect on demand, as it affects tastes and fashion
- Informative advertising, where the positive features of a product are promoted, can have a powerful effect on demand.

A Change in Demand due to a Change in Non-Price Factors

- It is clear that changes in consumer income, the prices of other products, and tastes in fashion cause a change in demand for a product
- When this occurs, it results in a shift of the demand curve or schedule
- This means that in a different amount of the good or service is now demanded at the same price
- This must not be confused with a movement along a demand curve, which is due to a change in the price of a product resulting in the change in the quantity demanded.

- A change in demand can product two results:
  - An increase in demand, where the demand curve shifts to the right
    - This means that more of the product is being produced at the same price
  - A decrease in demand, where the demand curve shifts to the left
    - This means that less of the product is now demanded at the same price



An increase in consumer income A rise in price of substitutes A fall in price of complements A positive change in tastes and fashion	A shift to the **RIGHT**
A fall in consumer income A fall in the price of substitutes	

Supply

- Supply is what the producers of any type of product provide from the scarce resources available to them
- Through supply, they are aiming to meet the unlimited wants of consumers

- Supply in the market is in the hands of the producers
- This is whether we are dealing with tangible goods (mobile phones, food, clothing) or services

- Supply seeks to satisfy consumers, but the main motives of suppliers are to do with profit
- Economics assumes that the behaviour of a supplier is governed by the consistent need to maximise profits

- The producer's function is to combine the factors of production together in an efficient and profitable way
- To do this, a producer needs to decide how to use the various factors of production to find the least costly and hence most profitable combination for the output they produce
- With the example of mobile phones, when the producer combines the factors of production, this involves:
  - The assembly of components and parts
  - Employing skilled labour
  - Producing at a suitable location
  - Hiring the business skills and contracts to survive
- Supply, therefore, can be increased by producing more or by releasing stocks of goods held in a warehouse

Relationship between price and Quantity Supplied

- Given the producer's motivation to supply, it should be clear that there is a greater willingness to increase the quantity supplied when there is a rise in prices
- This is because firms are more likely to be making a greater profit
- So when price increases, the quantity supplied also increases
- If there is a fall in price, there will be a fall in the quantity supplied as producers are less likely to make a profit

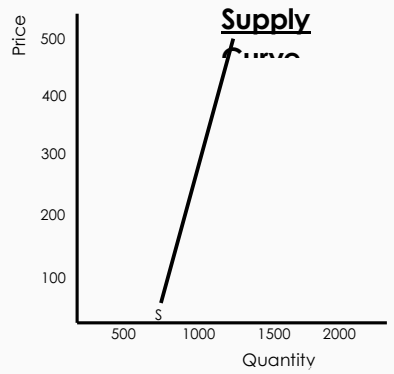
The Supply Curve

- The supply curve is a representation between the price of a product and the quantity that is supplied
- Price is on the y axis, quantity supplied is on the x.

- The data for which a supply curve is derives is taken from a supply schedule
- This is a data set which shows how much of a product is likely to be supplied over a range of prices
- Obtaining this data is easier than for a demand schedule, as suppliers can control how much they are willing and able to supply at a particular price

Supply Schedule – Holidays in Ibiza

500	1200
450	1150
400	1100
350	1050
300	1000

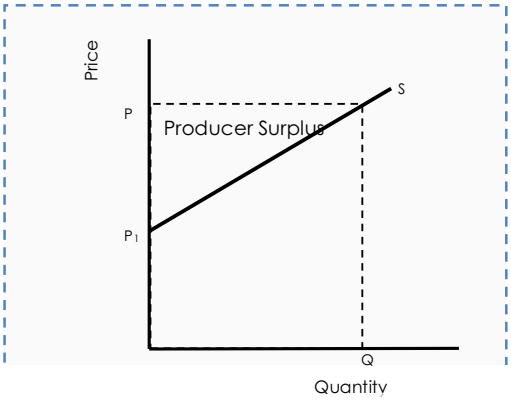


- There is a normal positive relationship between price and quantity supplied
  - As the price of a holiday increases, the quantity supplied increases
- The relationship is linear, but ra ther steep
- The relationship only applies for holidays taken in June
- It is possible to use the market supply curve to extrapolate the likely supply at any price
  - For example, at a price of £325, 1,025 holidays will be supplied.

- Here we have assumed that there is only one sup plier of self-catering holidays to Ibiza in June
  - In other words, the supply curve is also the market supply curve
- If there is more than one supplier, the market supply curve is the sum of the individual supply curves of all producers.

Producer Surplus

- Producer surplus is much like consumer surplus
- As producers aim to maximise profits, they will be keen to supply to consumers who are willing to pay a price above what the producers are normally willing to accept
- If we go back to the previous table and suppose that the producer has a baseline price of £350 per holiday:
  - This is what, on average, the firm might see as a fair price for a holiday to Ibiza
  - However, there are more likely to be more consumers that are willing to pay over this price
  - So, when they pay this, they will be providing additional revenue to the producer – above what is the normal expectation
- This is what is meant by producer surplus



- Anything the firm sells below price P is because it is willing to sell to consumers at this price
- At P_1, the producer is completely unwilling to supply
- A change in price affects producer surplus
- A fall in price reduces consumer surplus, while a

Other Factors Affecting Supply

- Other factors, aside from price, that affects a producer's willingness to supply are:
  - Costs of production
  - Size and nature of the industry
  - Government policy and other factors

Costs of production

- There are many things that can affect the costs of production
- Any change in any input can have an effect on the firm's profits and willingness to supply the market.

- The most obvious is a change in the costs of the factors of production
  - For example, oil prices have been rising over the years, and this clearly impacts upon a firm's production costs
  - How much is imports will depend upon how important these factors are for a firm's production costs

- In some types of activity, labour costs are a high proportion of total costs
- This is true in service sector activities, such as retailing and transport
- Therefore, an increase in labour costs has to be passed onto the consumers in the form of higher prices

- In practise, it is difficult to generalise
- Labour in plentiful supply will usually not increase in price to the same extent as labour which is specialist and in short supply
- The extent of any change in the supply price will depend upon if a producer can be more efficient in their production process

- An example would be replacing workers in car manufacturing with machines (capital)
- Technological advances decrease production costs

Size and Power of the Industry

- Some industries are more competitive than others
- Where this is the case (such as grocery retailing), minor increases in costs can have a big impact on supply
- Any cost increases in less price competitive markets can usually be passed on to consumers, with very little effect on profits

Government Policy

- Most product that firms supply are subject to indirect taxation such as VAT
- Any increase in this taxation will have to be passed on to the consumer through increase prices
- In turn, the increased prices will affect the producer's willingness to supply

- Legislation and regulations can also affect a firm's costs
- Health and Safety regulations invariable lead to higher production costs
- Such regulations tend to affect all firms, so any effect on the costs of production tends to affect all firms in a fair way

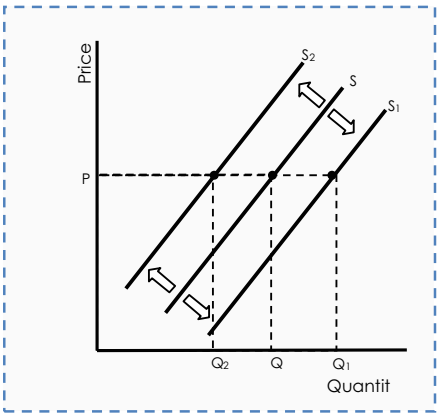
- In a few instances, the government is prepared to give an annual subsidy to firms
- This is in the form of a payment to reduce costs, and hence prices
  - Examples are to farmers to keep food costs low, and to rail transport companies
- As a result, the supply of products is increased

Other Factors

- The supply of products is often subject to factors that suppliers have little or no influence
  - An example is agriculture, where bad weather can destroy a whole season's harvest
  - Another example is that when foot and mouth disease spread, it reduced the supply of pork and beef coming onto the market
  - To contrast, nutritionists claimed that pomegranate juice was very beneficial to one's health, and as a result, the demand for pomegranate juice has increased

⮝ Change in Supply due to a Change in Non-Price Factors

- Costs or production, size and nature of the industry, government policy and other uncontrollable factors can result in the change in supply of a product
- This means that a different quantity is now being supplied at the same price
- When this occurs, the supply curve is being shifted to either the left or the right
- There are 2 possibilities:
  - ⮝n increase in supply, meaning that more will be supplied at the same price
    - E.g. tax reduction or technological advance – shift to the right
  - ⮝ decrease in supply, where less of a product is being supplied at the same price
  - E.g. increased tax or a more expensive factor of production – shift to the left
- ⮝ change in supply must not be confused with a change in the quantity supplied, which is due to the price of the product alone



⮝ fall in raw material costs ⮝n improvement in labour efficiency ⮝ reduction in the rate of indirect taxation ⮝ positive technological advance ⮝ny other positive factor	⮝ shift to the **RIGHT**
⮝n increase in raw material costs ⮝n increase in labour costs	⮝ shift to the **LEFT**

How Prices are Determined

- ⮝s consumers, for many of the things we purchase, price is a very important consideration
- We always want to pay the lowest price we can
- For suppliers, their decision on whether to supply the market is based heavily on the price that they can obtain
- Therefore, price is central to the way in which resources are allocated

- [illegible]

- The equilibrium price, or clearing price, is where the amount consumers wish to buy and the amount producers wish to put up for sale are equal
- In other words, both parties in the market are satisfied
    - Demand is being met, and there are no unsold produ cts, so neither side will have any reason to want to change

- The equilibrium price is £300 per holiday
- This is where the demand and supply curve cross
- At this point, the equili brium quantity is 1,000 holidays
- The total expenditure at this point, and hence revenue for pro

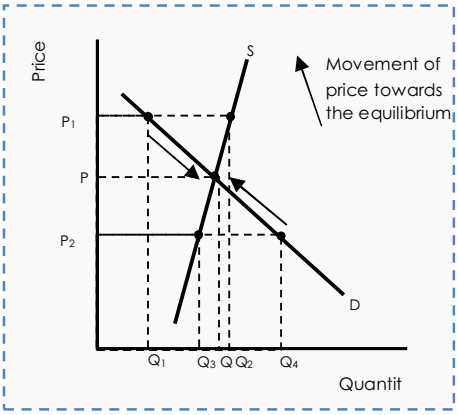
250	1150	950
200	1300	900

unstable and not always in equilibrium

    - This is called disequilibrium – demand and supply are not equal
- Where this happens, the natural forces in the market re sult in the market price and output moving to the equilibrium position.
- Two cases are:
    - Where the price set by producers is too high
        - If the tour operator for holidays thinks that consumers would be willing to pay £400 for a holiday, they will supply 1,100 h olidays
        - Consumers, however, at £400, would only want to buy 650, leaving lots of unsold holidays or a surplus
        - This situation cannot persist, so the tour operator is forced to reduce the price of these holidays, to clear the surplus supply
- [illegible]

    - Where the price set by producers is too low
        - If the tour operator set prices at £200, consumers would be willing to buy 1,300 holidays
        - However, at this price, the tour operator will only be able to provide 900 holidays, creating a shortage
        - In this situation, companies looking to maximise profits will see this as an opportunity to raise prices and provide more holidays for the market.
        - Prices will rise to the equilibrium price, which will be too high for some consumers, so demand will fall

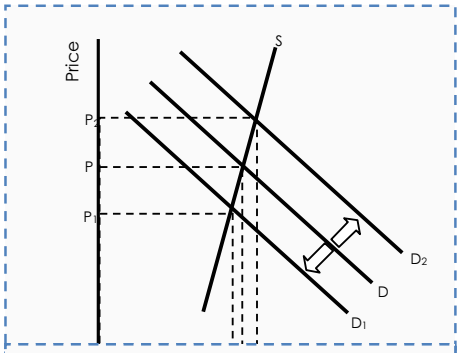
- When there is excess supply, price will rise



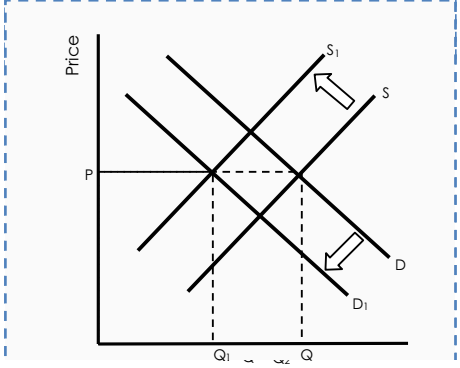
Effects of a Change in Demand or Supply on the Equilibrium Position

- Within a market, the position of equilibrium could change due to:
  - A change in demand, whereby the demand c urve shifts to the right or left
  - A change in supply, whereby the supply curve shifts to the right or left
  - A more or less simultaneous change in demand and supply

- When looking at these effects, it is important to be mindful of the time scale
- Markets, especially on the supply side, cannot adjust quickly
- On the demand side, however, epidemics can have a rapid effect on the equilibrium price and quantity
- The usual assumption made is that all other market factors remain unchanged.



- A fall in demand shows the demand curve shift downwards,
  - This would result in a fall in both the equilibrium price and the quantity
- An increase in demand would see a shift to the right and upwards of the demand curve
  - This would result in an increase in both the equilibrium price and quantity



- With a decrease in supply, and no change in demand, there would be a fall in equilibrium quantity, but a rise in the equilibrium price
- An increase in supply would lead to an increase in equilibrium quantity but a fall in equilibrium

Elasticity

- We have no covered how much demand and supply changes when any factors, including price of the product changes.
- This is where the concept of elasticity comes in, which is:
    - A numerical estimate
    - It measures the response to a change in price or any o ther factors that determine the demand and supply of a product
- Elasticity explains things like:
    - The price of a summer holiday in May or June is around 2/3rds of the price it is in August
    - The demand for some products increases more than others when real disposable income increases
    - It is often difficult for suppliers to respond quickly when there is a surge in demand for their products.

Price Elasticity of Demand (PED)

- PED measures how responsive the quantity demanded of a product is to a change in its price
- All other factors that affect demand are assumed to remain unchanged

- $$Price\ Elasticity\ of\ Demand = \frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ price}$$

- Mathematically, it is no more than the gradient of the demand curve
    - For example, supposed a tour operator sells 5,0 00 holidays a month to Ibiza for a price of £400.

- When the price is increased to £440, the demand falls to 4,000 holidays per month
- So:
  - $Price\ Elasticity\ of\ Demand = \frac{(-1{,}000 \div 5{,}000)}{(40 \div 400)} \times 100\%$
  - $Price\ Elasticity\ of\ Demand = \frac{-20}{10}$
  - $Price\ Elasticity\ of\ Demand = -2$

(It's common practise to leave out the minus sign)

- This estimate of -2 indicates that the demand for holidays to Majorca is responsive to a change in the price of these holidays
- This is known as a price elastic of price sensitive situation
- The negative sign just shows that the quantity demanded has fallen as a result of the increase in price

- Not all products we buy are very responsive to a change in their price
  - For example, if the price of household water were to increase by 10%, demand would hardly fall – maybe by 1%
    - This would produce an estimate of PED to be -0.1
    - This is price inelastic or price insensitive, meaning that the

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Dairy Produce	-0.05
Bread and cereals	-0.22
Alcohol	-0.83
Alcoholic spirits	-1.27
Entertainment	-1.40
Foreign leisure travel	-1.63

- The demand for food items is not particularly price sensitive
- The demand for alcoholic drink is generally price inelastic, although the demand for spirits is elastic
- The demand for both entertainment and leisure travel is price sensitive

- **If PED > 1 – elastic**
- **If PED < 1 – inelastic**
- **If PED = 1 – unit PED (change in price causes a proportional change in demand)**

- Variations in PED lead us to ask the question: 'What determines the price elasticity of demand f or a product or group of products?'
- There are three main determinants:
  - The availability and closeness of the substitutes
  - The relative exposure of the product with respect to income
  - Time

- We know that a substitute is an alternative to a particular product

- In general, the greater the number of substitutes and the greater their closeness to a given product, then such a product is likely to be price elastic
    - An example is baked beans
        - There are many brands that are similar to each other, and so a rise in the price of one brand would result in a steep fall in demand, as more consumers would be buying other brands

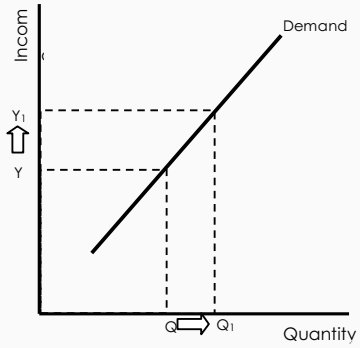
- If a product takes up a very small percentage of a consumer's income (e.g. a banana) – the doubling in price wouldn't affect the quantity demanded that much –it'd be price inelastic
- The reverse is true
    - If a product takes up a large part of a person's income, then its demand would be more sensitive to a change in price – it'd be price elastic

- Time also plays a part, as it takes a while for consumers to change their spending habits
- As a result, they are quite likely to continue to purchase a product despite a price increase
- Over time, however, as consumers find out more about other substitutes, demand for a product is likely to become more price elastic.
- Also, where consumption of a product can be delayed (new car, new kitchen), demand for that product is likely to be price elastic.

Income Elasticity of Demand (YED)

- $Income\ Elasticity\ of\ Demand = \frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ income}$
- The sign **is** important, as it indicates whether there is an increase or decrease in the quantity demanded following a change in income

- Most products have a positive YED – these are called normal goods
- This means that as real disposable income increases, demand for these products will also increase
    - E.g. holidays, wine, clothes, electronics, etc.



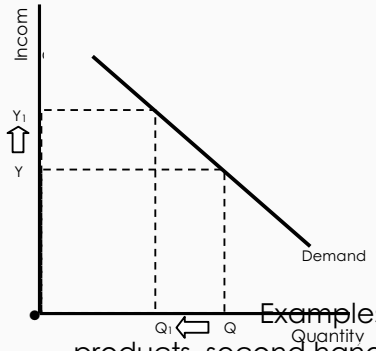
- The curve shows the relationship between a change in income and a change in quantity demanded for normal goods
- Here, as income increases from Y to Y_1, the quantity demanded also increases from Q to Q_1

- The extent of the response of demand to the change in income can vary.
    - Two examples are:
    - Where the estimate of income elasticity of demand is < 1 –income inelastic
    - Where income elasticity of demand (YED) is > 1 – income elastic

- Some goods have a very large income elasticity of demand – these are called superior goods
- Demand for them increases considerably more in relation to the change in income
- Definitive examples are hard to list, as it is subjective.
- What is a normal good for one person could be a superior good to a person on lower income

Dairy Produce	0.53
Foreign Travel	1.14
Recreational Goods	1.99

- This data is an estimate
- All products are normal goods
- YED for dairy products is inelastic – it's elastic for all the others
- The quantity demanded of wines and spirits increases most significantly as income increases
- If income were to fall, then the quantity demanded for all these products would fall, but to varying



- The curve shows negative YED (inferior goods)
- As income increases from Y to Y_1, the quantity demanded falls from Q to Q_1
- If income were to fall, more of these goods would be demanded

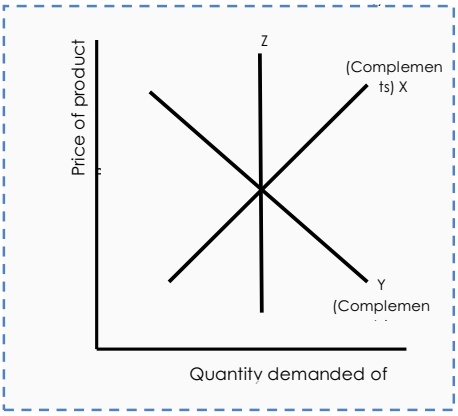
- Examples of inferior goods are own-brand supermarket products, second hand goods, coach travel, etc.
- Better substitutes are available, but for a family on low income, such alternatives are out of their reach.

Cross elasticity of demand (XED)

- XED is derived from what was previously stated – that the price of substitutes and complements can affect the demand for a particular product
- $$Cross\ Elasticity\ of\ Demand = \frac{\%\ change\ in\ quantity\ demanded\ of\ product\ A}{\%\ change\ in\ price\ of\ product\ B}$$

- It measures the relationship between two different products, so the sign and size of the XED are relevant
  - ⮝ positive estimate indicates that the two products are substitutes
  - ⮝ negative estimate means that they are complements
  - ⮝ zero estimate means that there is no particular relationship

  - The size of the XED indicates the strength of the relationship between a change in the price of one product and the change in demand for another product
  - Where products are good or close substitutes, the value of the XED will be higher than if they are only mo dest substitutes.
  - Similarly, for the complements, a high value of XED is indicative of products with a high degree of complementarity.



- The curve shows three possibilities with respect to the sign of the XED estimate
- Line X shows the position for substitutes where XED is positive
  - ⮝ rise in the price of product B will result in an increase in the quantity demanded of product ⮝
- In the case of complements, line Y represents negative XED
  - This shows that a rise in the price of product B will lead to a fall in the quantity demanded of product ⮝
- Line Z indicates zero XED
  - ⮝ rise in the price of product B has no

Price Elasticity of Supply

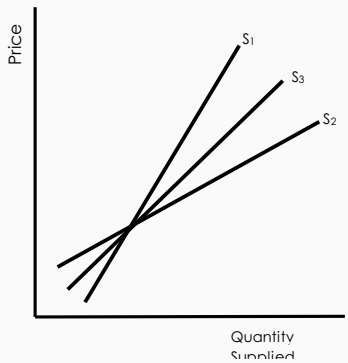
- equivalent of PED

Price Elasticity of Supply (PES) is the supply

- $$Price\ Elasticity\ of\ Supply = \frac{\%\ change\ in\ quantity\ supplied}{\%\ change\ in\ price}$$

- PES indicates how much additional supply a producer is willing to provide for the market following a change in the price of the product
- Given that the supplier wants to maximise profits, it follows that the PES will always be positive
- Obviously, if the price falls, it would be unusual for the supplier to produce more goods for the market in a free market solution

- The size of the PES is therefore very important, and can take the following values:
  - Between 0 and 1
    - This means that the PES is inelastic
    - Supply is not very responsive to a change in the price of the product
  - Greater than 1
    - PES if elastic
    - Producers are able to respond with a relatively large change in supply if price rises
  - Equal to 1
    - ⮝ change in price causes an exactly proportional change in the quantity supplied



- S_1 is where supply is inelastic to price change
  - For a given % change in price, change in % of quantity supplied will be smaller
- S_2 represents a situation where suppliers are able to react strongly to a price change – PES is elastic
  - For a given % change in price, there will be a larger % change in supply

- In practise, suppliers are not always able to respond to a change in price with the same speed as consumers
- This is because for most products, it takes time for producers to alter their production schedules in response to market ne ed, unless they can draw upon stocks.
  - For farmers, this time lag could be as much as a year – the time it takes to alter the mix of their production

- Large parts of the service sector face a rather different supply issue.

- In the long term, the supply of their products is more elastic than in the short term
    - In the case of hotel or air-craft, supply is perishable as the product can't be stored
    - If a hotel room is not sold on a particular night, this represents a loss to the business.

- So there are three main factors that determine the PES of a product:
    - Availability of stocks of the product
    - Availability of factors of production
    - Time period

- Stocks or inventory allow supplies to store products in a warehouse
- This relates to elasticity of supply as they can be quickly distributed if demand increases and henceforth price
- Equally, if price falls, goods can be stored, depending on how perishable they are
    - For example, supermarkets like ASDA carry a certain amount of 'buffer stock', which can be released if market conditions change
    - For service sector businesses like hotels, supply is infinitely inelastic since the product cannot be stored, it has to be consumed on a particular day or time period otherwise it is lost.

- With regards to the factors of production and its effect on PES, labour is usually the most available.
- Provided there is spare capacity, additional works can be used to increase output, often in a short time span
- Here, elasticity of supply is relatively elastic
- For some businesses, it is the availability of capital that determines whether a firm can increase output
- When new machinery has to be purchased and installed, the elasticity of supply will be inelastic
    - The risk is that market conditions may change before any increased production can reach the market

- With regards to time, where it takes a long time for supply to be adjusted, supply will be inelastic
- In the longer term, however, supply will normally be more price elastic
    - An example is travel companies – they have to reserve flights up to a year in advance for some consumers - making supply price inelastic

- The problem companies then face is if demand is low, they are left with unsold holidays
- Price will therefore have to fall in order to clear excess supply

[illegible]

- Elasticity measure have considerable practical business relevance
  - For example, knowledge of PED is an essential input when a firm is generating a pricing strategy which enables them to maximise sales revenue.
- But how might this data be collected and what are th e general limitations of elasticity data?

- All elasticity measures require information to be collected at two separate points in time
- The formulas make this clear by indicating that 'change' is being measured

- The information can be collected by means of:
  - Sample surveys of consumers (price and YED)
  - Past records from within a company (PES)
  - Competitor analysis (XED)

- Given the nature of how the data is collected, it is necessary to appreciate that:
  - The data gathered will be estimates, since the data collected might be inaccurate
  - Over time, there could be other factors that aren't in the forecast that affect the demand of supply of a product
  - Prices may fall due to this, which produces an unfair elasticity estimate

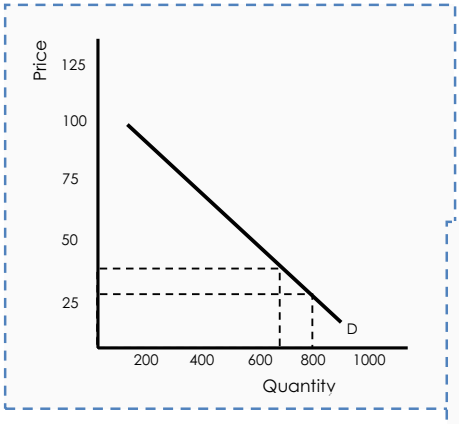
[illegible]

- PED is widely used by businesses when pricing their products in the market
- It is evident in the transport market where the market's segmented on a time basis
- Most firms like this seek to maximise their revenue by charging peak and off-peak fees or prices

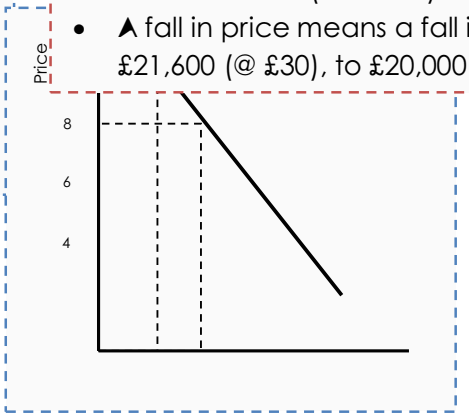
Open return	£185	Any train permitted
Business saver return	£114	Arrive in London after 10:30am
Saver return	£74.80	Restrictions on weekday use in both

- The table shows rail fares from Leeds to London
- The variation in fares is substantial

- In applying market knowledge of PED, companies are pursuing an objective of maximising revenue
- Companies are aware that where demand is inelastic, an increase in price leads to an increase in total revenue.



- ⮝ change in price from £25 to £30 has reduced the quantity demanded from 800 to 720
- The PED is -0.5 (inelastic)
- ⮝ fall in price means a fall in revenue, from £21,600 (@ £30), to £20,000 (@ £25)



- Here, the PED is elastic (-2)
- ⮝ fall in price increases total rev
- ⮝t the original price of £10, quar is 100
- When price is £8, quantity dema

- The business situation in both graphs is clea rly beneficial, as revenue increases
- What is not beneficial is for a firm to reduce prises if demand is inelastic or to increase prices where demand's elastic

[illegible]

- In most economies, real disposable income tends to rise over t ime
- This is significant to businesses that produce goods and services because with a highly positive YED can expect to do well in the future
- Oppositely, firms producing goods with a negative YED might do badly

- An exception to this is where a business changes the image of a product so that YED becomes position
- Upmarket baked beans and spam are examples, as they're not marketed as superior, but used to be inferior products

- In economies such as the UK, where living standards continue to increase, there has been a growth in markets in the service sector, such as overseas holidays, eating out and health spas.
- So these types of businesses would seem to have good business prospects in the long term
- Estimates of YED can provide a basis for forecasting market demand

- When economies force uncertain short term economic prospects, then demand for income elastic products will fall
- This is because consumers are forced to substitute their demands towards inferior goods and services
- Products with a low YED are unlikely to be affected by a rise or fall in living standards

Use of Cross Elasticity of Demand

- Estimates for XED are useful in competitive markets
- Where there are close substitutes, and hence a high positive XED with other products, then the firm are likely to cut prices to increase market share
- This occurs in practise between:
  - Low cost airlines, train and bus companies on identical routes
  - Well known brands of identical grocery or electronic products
  - Products such as wine and butter that are produced in different companies but are virtually the same
- In such cases, there are close substitutes
- Increasing prices is dangerous, as you can lose market share to a rival, which is difficult to regain

- The case of compliments also has implications for firms
- This is because the price of two complimentary goods may not be close
- Here, XED will be high and negative

Use of Price Elasticity of Supply

- PES is always positive – it shows the affect of the relationship between price and quantity supplied
- In many types of business, supply is price inelastic in the short term, as it is often difficult to switch resources into a market

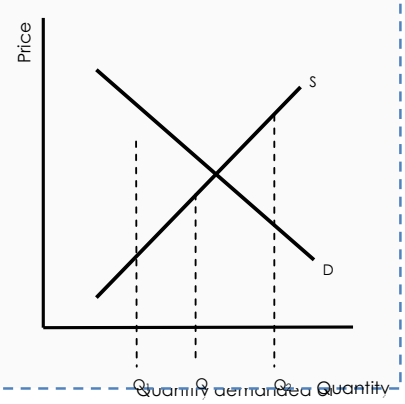
- An exception to this is firms that hold onto stocks in anticipation of a price rise
- In the long term, however, supply is more likely to be price elastic as resources can be re-allocated to respond to the increase in market price

- In general, firms will try to make their supply as elastic as possible, as they want to increase sales to maximise profits
- If prices are falling, an elastic supply will enable them to move resources away from such products and into alternatives where there's a normal relationship between a change in price and the change in quantity supplied.

Allocative Efficiency

- For efficiency to happen, the factors of production must be fully employed to meet consumers' needs
- The prices charged by the producers should be at the lowest level

- With allocative efficiency, scarce resources are used to produce the goods and services that consumers actually demand.
- To achieve this, quantity supplied must be equal to the quantity demanded
- In other words, the market must function at the equilibrium position



- The graph shows two position of allocative inefficiency
- At quantity Q_1, demand is not being met
  - Too few resources are being used in the supply of the product
- At quantity Q_2, too many resources are being used
  - Consumers don't want all that's being produced

- It is invariable the case that in practice, markets don't work efficiently
- Consumers are therefore losing out, since it is not possible to produce what they want in the right quantities
- This is how allocative efficiency is seen from a microeconomic perspective