



# DEMAND

*Microeconomics*

# Definition of **DEMAND**

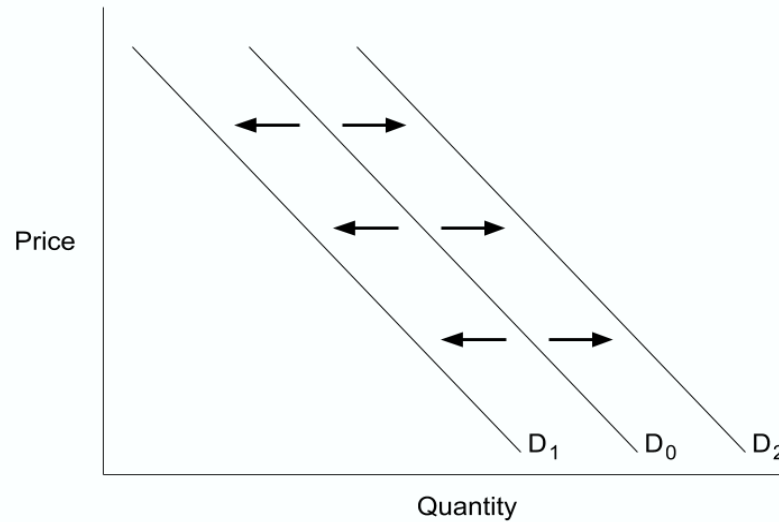
- Demand is the amount of a good or service that consumers are willing and able to buy at various prices, over a particular period of time, ceteris paribus.

## ***LAW OF DEMAND***

- States that there is an **INVERSE** relationship between the **price** and the **quantity demanded** of a good, ceteris paribus.
- Hence, demand curve is **ALWAYS** sloping **DOWNWARDS**.

# The Demand CURVE

- Changes in **Quantity Demanded**: Represented by a **MOVEMENT** along the curve. Affected by **price factors**.
- Changes in **Demand**: Represented by a **SHIFT** of the entire curve (leftwards if fall in demand and rightwards if rise in demand). Affected by **non-price factors**.



# NON-PRICE factors affecting **DEMAND**

Expectation of future prices

Government Regulations

Y(I)ncome of Household

Price of related goods

Taste and Preference

Population changes

Interest Rates

Exchange Rates

# Expectation of future prices

- When consumers expect prices to increase in the future, they tend to buy more now to avoid paying more in the future → RISE in current demand.
- Tends to be non-perishable goods which can be stored over a long period of time (e.g. detergent, cup noodles, canned food).

# Government Regulations

- Regulations can **forcefully** cause demand to rise or fall.
- E.g. Regulation that requires babies to be placed in baby seats → **RISE** in demand for baby seats.
- Excludes indirect taxes and subsidies as these affect price hence are **PRICE FACTORS**.

# Y(I)ncome of Households

- When income rises, consumers tend to purchase more of a good, ceteris paribus → **RISE** in demand of good.
- However, it depends on the **nature of goods** and the level of income.
  - **Normal** goods: Cars, movies, smartphones will enjoy a higher rise in demand when income rises.
  - **Inferior** goods: Budget mobile phones, poor quality rice will see a greater fall in demand when income rises.

# Price of related goods

- 2 main types of related goods: Substitutes and Complements

## Substitutes

- Can be used in place of another good (known as competitive demand) → Demand may fall due to innovation/other non-price related factors changing.

## Complements

- Used on conjunction with another good (known as joint demand) → Demand will rise when demand of another product increases. [E.g. Petrol and Car]



# Taste and Preference

- A more **IMPORTANT** determinant of demand.
- Tastes and Preferences are influenced by factors such as advertising, fashion trends, education, culture, health considerations → Causes demand to **RISE** or **FALL**.

# Population changes

- With aging population → Demand for healthcare services and products will **RISE** as more consumers demand for it.
- With growing baby population → Demand for strollers and baby powder will **RISE**.

# Interest Rates

- Prompts consumers to buy more or less of a good.
- Applies more to big-ticket items such as cars and properties.
  - E.g. *When mortgage rates increase → Less affordable for people to borrow for a house due to higher costs → Demand **FALLS**.*

# Exchange Rates

- Refers to current market price at which one currency can be exchanged for another.
  - *E.g. If there is an appreciation for SGD, one SGD = more RM (malaysian dollar) → Trips to Malaysia become cheaper → **RISE** in demand for RM.*

# Exam Requirements

- Understand the difference between **demand** and **quantity demanded** and how they affect the demand curve.
- Remember that changes in **price** factors will change **quantity demanded**.
- Remember that changes in **non-price** factors will change **demand**.
- Non-price factors can come out as essay questions where you will need to identify the non-price factor stated in the preamble. This comes in conjunction with supply non-price factors.



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# PED, YED, XED

**[Elasticity Concepts]**

*Microeconomics*



# Price Elasticity of Demand [PED]

## Definition

- PED measures the degree of responsiveness of quantity demanded due to a change in **price** of the same good, ceteris paribus.

## *Formula*

**PED** = % change in  $Q_{dd}$  / % change in Price

- ALWAYS **negative** due to law of demand. Usually ignore negative sign and just take absolute value.
- E.g. 10% increase in price causes a 50% decrease in  $Q_{dd}$  → PED = -5

# TAKE NOTE!

Use **PED** if there is a change in **SUPPLY**.

*[E.g. if there is an increase in supply → Use PED to show whether price/Qdd changed in a huge/small proportion as a result, as the type of elasticity (price elastic or inelastic) will determine this]*

## 2 main Types of PED

<u>Price Elastic Demand</u>	<u>Price Inelastic Demand</u>
<ul style="list-style-type: none"><li>- Absolute value of PED lies between 1 and infinite.</li><li>- Occurs when a change in price causes a <b>more than proportionate</b> change in <math>Q_{dd}</math>.</li><li>- <i>E.g. If <math>PED=2</math>, demand is price elastic as a 1% fall in price brings a 2% increase in <math>Q_{dd}</math></i></li></ul>	<ul style="list-style-type: none"><li>- Absolute value of PED lies between 0 and 1.</li><li>- Occurs when a change in price causes a <b>less than proportionate</b> change in <math>Q_{dd}</math>.</li><li>- <i>E.g. If <math>PED=0.5</math>, demand is price inelastic as a 1% fall in price brings a 0.5% increase in <math>Q_{dd}</math></i></li></ul>

# Main **DETERMINANTS** of PED

## **1. Number and Closeness of substitutes**

- The **greater** the number of substitutes and the **closer** the substitutes of a good → **MORE PRICE ELASTIC** the demand for the good.
- When the price of good rises → Q<sub>dd</sub> falls **more than proportionately**.
  - *E.g. Nike shoes are more price elastic as there is always substitutes such as Adidas, Reebok, etc.*

*Availability of substitutes affected by:*

- **Definition of good** [More price inelastic for goods which are broadly defined, e.g. Fanta vs drinking water (more broadly defined).
- **Nature of good** [The greater the need, the more price inelastic the demand, e.g. additives such as drugs, cigarettes]

# Main DETERMINANTS of PED

## 2. Proportion of Income spent on the good

- The **higher** the income spent on the good → MORE PRICE ELASTIC the demand for the good.
- When the price of good rises → Q<sub>dd</sub> falls **more than proportionately**.
  - *E.g. Cars vs Salt: Salt is price inelastic as it takes up a very small proportion of income as compared to a car hence changes in price will be more price elastic for the car.*

# Income Elasticity of Demand [YED]

## Definition

- YED measures the degree of responsiveness of quantity demanded due to a change in **level of income**, ceteris paribus.

## *Formula*

**YED** = % change in  $Q_{dd}$  / % change in Income

- Can be positive or negative.
- E.g. 10% increase in income causes a 50% increase in  $Q_{dd}$  → YED = 5

## 2 main Types of YED

<u>Positive YED value [+]</u>	<u>Negative YED value [-]</u>
<ul style="list-style-type: none"><li>- Known as <b><u>NORMAL</u></b> goods.</li><li>- Rise in income → Leads to a rise in Qdd for the good.</li><li>- <i>E.g. Smartphones, tour packages.</i></li><li>- Broken down further into <b><u>2</u></b> <b><u>subcategories</u></b> [<b><u>Necessities vs Luxury goods</u></b>].</li></ul>	<ul style="list-style-type: none"><li>- Known as INFERIOR goods.</li><li>- Rise in income → Leads to a fall in Qdd for the good.</li><li>- <i>E.g. Value-dollar shop products.</i></li></ul>

# NORMAL goods

<u>Income ELASTIC demand</u>	<u>Income INELASTIC demand</u>
<p><b>YED &gt; 1</b></p> <ul style="list-style-type: none"><li>- Change in income causes a <b><u>more than proportionate</u></b> change in Qdd.</li><li>- Luxury goods like cars, club memberships are income elastic.</li></ul>	<p><b>0 &lt; YED &lt; 1</b></p> <ul style="list-style-type: none"><li>- Change in income causes a <b><u>less than proportionate</u></b> change in Qdd.</li><li>- Goods such as necessities like food are income inelastic.</li></ul>



# Main DETERMINANTS of YED

## 1. Degree and necessity of the good

- The **higher** the degree of necessity of the good → LOWER YED.
  - *E.g. Basic goods like food, clothing will have a low YED while luxury goods like overseas holidays will have a higher YED.*

## 2. Consumers' Income level

- For consumers with very low income levels → Food and clothing can be considered as luxuries while necessities to the richer lot. However, as their income **increases** → These items that were once luxury goods may become necessities.
- YED for the same good depends on income levels of the individuals or countries.

# Cross Elasticity of Demand [XED]

## Definition

- XED measures the degree of responsiveness of quantity demanded of good A due to a change in **price** of a different good B, ceteris paribus.

## *Formula*

**XED** = % change in Q<sub>dd</sub> of good A / % change in Price of good B

- Cannot ignore sign and magnitude.
- E.g. 10% increase in price of good A causes a 50% decrease in Q<sub>dd</sub> of good B → XED = -5

## 2 main Types of XED

<u>Positive XED value [+]</u>	<u>Negative XED value [-]</u>
<ul style="list-style-type: none"><li>- <b>Rise</b> in price of one good → Leads to a <b>rise</b> in Qdd of another good.</li><li>- The two goods are <b>substitutes</b>.</li><li>- <i>E.g. When the price of Pepsi increases → Less people will buy Pepsi and switch to relatively cheaper coke → Qdd of coke increases → Positive CED.</i></li></ul>	<ul style="list-style-type: none"><li>- <b>Rise</b> in price of one good → Leads to a <b>fall</b> in Qdd of another good.</li><li>- The two goods are <b>complements</b>.</li><li>- <i>E.g. When the price of cars increase → Consumers will buy lesser cards (Qdd falls) → Qdd for petrol falls → Negative CED.</i></li></ul>

# Main **DETERMINANTS** of XED

## **1. Magnitude**

- The **greater** the magnitude → Closer the substitute/complement of the 2 goods.
- The **closer** the substitute or the **stronger** the complementary relationship → **Higher** absolute value of XED.

# Exam Requirements

- Understand fully the various elasticity concepts of PED, YED, XED, PES (to be covered in another video). This consists of the **definition, magnitude, sign values**, etc.
- Be able to explain the **different determinants** of the various elasticities.
- Apply the elasticity concepts to demand/supply essay questions in a form of analysis and evaluation.



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# SUPPLY

*Microeconomics*



# Definition of SUPPLY

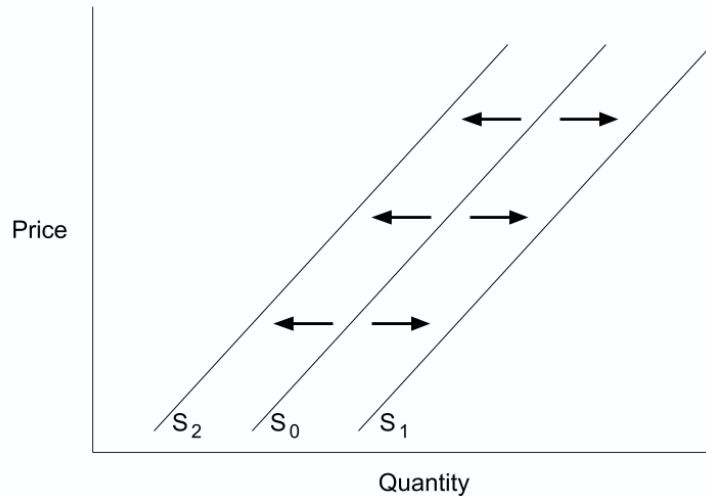
- Supply is the quantity of a good or service that producers are willing and able to sell at any given price, over a particular period of time, ceteris paribus.

## *LAW OF SUPPLY*

- States that there is a DIRECT relationship between the **price** and the **quantity supplied** of a good, ceteris paribus.
- Hence, supply curve is **ALWAYS** sloping UPWARDS.
- At higher output levels, the marginal cost of producing increase, hence producers want to be compensated with higher prices so as to be willing to produce more →  $Q_{ss}$  will increase only if price increases.

# The Supply CURVE

- Changes in **Quantity Supplied**: Represented by a **MOVEMENT** along the curve. Affected by **price factors**.
- Changes in **Supply**: Represented by a **SHIFT** of the entire curve (leftwards if fall in supply and rightwards if rise in supply). Affected by **non-price factors**.



# NON-PRICE factors affecting **SUPPLY**

Weather

Expectation of future prices

Technological Changes

Price of related goods

Input Costs

Government Policies

# Weather

- Changes in weather can affect the supply of some goods → **RISE** or **FALL** in supply .
  - *E.g. The supply of lettuce can fall if there are prolonged droughts.*

# Expectation of future prices

- If market price of a good is expected to rise in the future → Producers will hold back supply and still in the future for higher price and profits → Results in a **FALL** in current supply.

# Technological Changes

- With technological changes → Producers can produce faster or more goods with each factor or production.
  - E.g. *Pre-fabricated parts for construction off-site → Supply for housing increases as more can be completed off-site.*

# Price of related goods

- 2 main types of related goods: Joint Supply and Competitive Supply

## Joint Supply

- E.g. Beef & Hide (leather)
- If price of beef increases → **Quantity supplied** increases. While there is no increase in the price of hide → **Supply** increases due to killing of cows.

## Competitive Supply

- E.g. Cattle vs Vegetables
- Increase in rearing of cattles due to increased price → **Supply** of vegetables will fall even though there is no price changes as more land was taken up to rear cattles.

# Input Costs

- When input costs increases → Less profit will be made with the same selling price.
1. **Increase in cost of factors of production** → Supply falls as producers are less willing and able to produce at the same price.
  2. **Increase in worker productivity** → Results in a fall in costs of production as more goods can be produced with the same amount of labour. Hence, labour unit cost for one unit of good decreases.
  3. **Improvement in state of technology** → More goods can be produced with the same amount of resources → Costs of one unit of good falls.



# Government Policies

## Subsidies

- With government subsidies → Cost of production will be reduce by the subsidized amount → Increases profit → **Increase** in supply.

## Indirect Taxes

- An additional cost to production → Rises unit cost of good → **Fall** in supply.

# Exam Requirements

- Understand the difference between **supply** and **quantity supply** and how they affect the demand curve.
- Remember that changes in **price** factors will change **quantity supplied**.
- Remember that changes in **non-price** factors will change **supply**.
- Non-price factors can come out as essay questions where you will need to identify the non-price factor stated in the preamble. This comes in conjunction with demand non-price factors.



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# PES

**[*Elasticity Concepts*]**

*Microeconomics*

# Price Elasticity of Supply [PES]

## Definition

- PES measures the degree of responsiveness of quantity supplied due to a change in price of the same good, ceteris paribus.

## *Formula*

$PES = \% \text{ change in } Q_{ss} / \% \text{ change in Price}$

- ALWAYS positive due to the law of supply.
- E.g. 10% increase in price causes a 50% increase in  $Q_{ss}$  →  $PES = 5$

# TAKE NOTE!

Use **PES** if there is a change in DEMAND.

*[E.g. if there is an increase in demand → Use PES to show whether price/Qss changed in a huge/small proportion as a result, as the type of elasticity (price elastic or inelastic) will determine this]*

## 2 main Types of PES

<u>Price Elastic Supply</u>	<u>Price Inelastic Supply</u>
<ul style="list-style-type: none"><li>- Absolute value of PES lies between 1 and infinite.</li><li>- Occurs when a change in price causes a <b>more than proportionate</b> change in <math>Q_{ss}</math>.</li><li>- <i>E.g. If <math>PES=3</math>, supply is price elastic as a 1% increase in price brings a 3% increase in <math>Q_{ss}</math></i></li></ul>	<ul style="list-style-type: none"><li>- Absolute value of PES lies between 0 and 1.</li><li>- Occurs when a change in price causes a <b>less than proportionate</b> change in <math>Q_{ss}</math>.</li><li>- <i>E.g. If <math>PES=0.7</math>, supply is price inelastic as a 1% increase in price brings a 0.7% increase in <math>Q_{ss}</math></i></li></ul>



# Main **DETERMINANTS** of PES

## **1. Availability and Mobility of Factors of Production**

- Greater factor mobility → **More price elastic** supply.
- FoP can move from one use to another easily.
- In the long run → Goods tend to be more price elastic → Firms can find more FoP to increase  $Q_s$ .

# Main **DETERMINANTS** of PES

## **2. Level of Stocks or Inventories**

- Greater availability and durability of stocks, the **more price elastic the supply**.
- When a good can be stored as part of its inventory without any loss of quality or incurring any undue expenses → Supply tends to be **price elastic** as long as there are stocks available.
- *E.g. Canned foods are more price elastic than fresh fruits and vegetables.*

# Main **DETERMINANTS** of PES

## **3. Length and Complexity of production processes**

- More **price inelastic** if production process is more complex and takes a long time.
  - *E.g. Crops, oil* → Long cultivating processes → Supply is ***price inelastic***.
- Producers are unable to respond quickly to rise in prices as they cannot increase the  $Q_{ss}$  in a short time.
- The higher the availability of spare capacity → More **price elastic the supply** due to ability to respond quickly in the short run.

# Exam Requirements

- Understand fully the various elasticity concepts of PED, YED, XED (Part 4), PES. This consists of the **definition, magnitude, sign values**, etc.
- Be able to explain the **different determinants** of PES.
- Apply the elasticity concepts to demand/supply essay questions in a form of analysis and evaluation.



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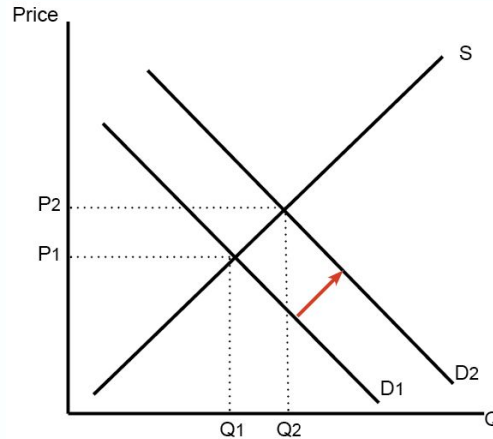


# Price Adjustment Process

*Microeconomics*

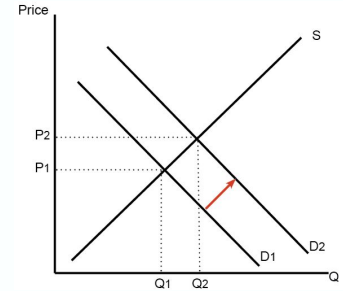
# Change in DEMAND

Change in Taste and Preference → Increase in demand → Demand curve shifts rightwards from D1 to D2.





# Change in **DEMAND**

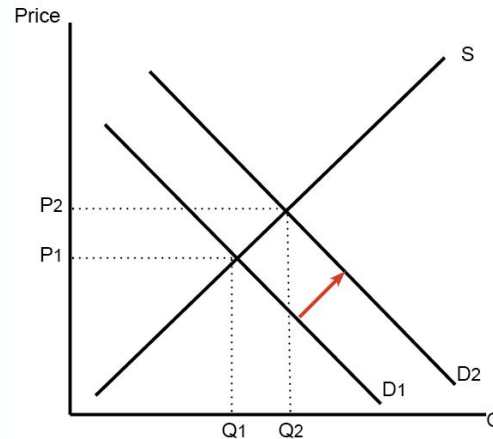


Assuming  $SS$  remains constant  $\rightarrow$  At original price,  $P_1$ ,  $Q_{dd} > Q_{ss} \rightarrow$  Creating a **shortage**.

Consumers will apply an **upward pressure** on price + Shortage causes price to rise  $\rightarrow$   $Q_{dd}$  will decrease while  $Q_{ss}$  increases.

# Change in DEMAND

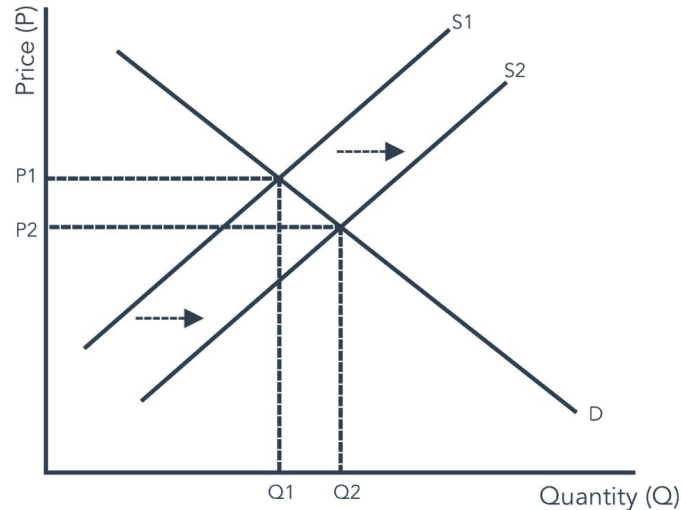
When  $Q_{dd} = Q_{ss} \rightarrow$  Market reaches a new equilibrium with a higher equilibrium price and quantity at  $P_2, Q_2$ .



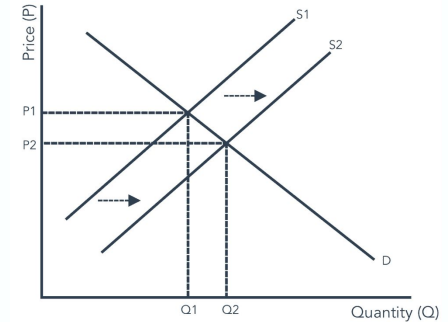
Conversely, when there is a fall in demand  $\rightarrow$  Surplus occurs  $\rightarrow$  Fall in eqm price and quantity.

# Change in SUPPLY

Change in technology → Increase in supply → Supply curve shifts rightwards from S1 to S2.



# Change in SUPPLY

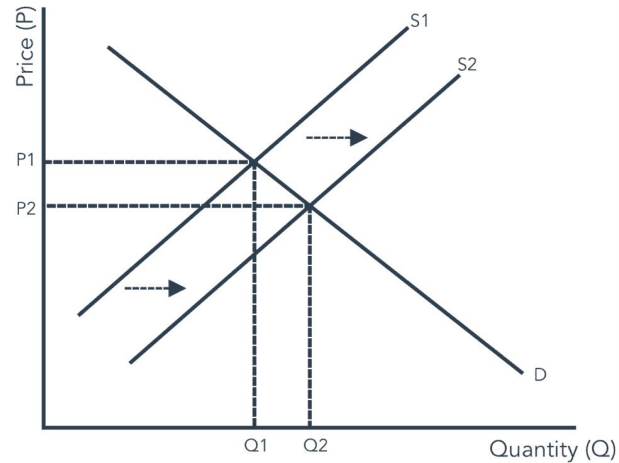


Assuming DD remains constant → At original price,  $Q_{ss} > Q_{dd}$  → Creating a surplus.

Producers are willing to accept a lower price to clear the surplus →  $Q_{dd}$  will increase while  $Q_{ss}$  decreases.

# Change in SUPPLY

When  $Q_{dd} = Q_{ss}$  → Market reaches a new equilibrium with a lower equilibrium price and higher equilibrium quantity at  $P_2, Q_2$ .



Conversely, when there is a fall in supply → Shortage occurs → Rise in eqm price and fall in quantity.

# Change in **BOTH** demand and supply

- When there is a change in both demand and supply, to determine the impact on equilibrium price and quantity → Look at the **EXTENT** of each change.

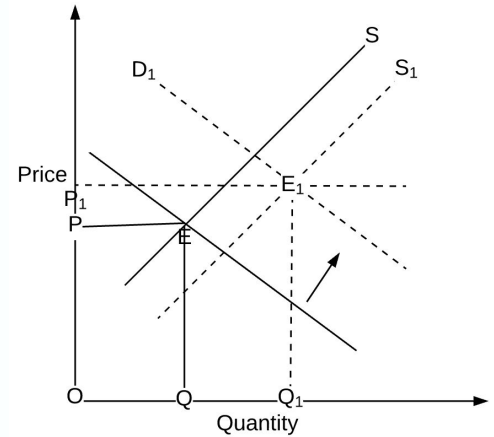
Higher DD	Eqm Qty increases	Eqm Price increases
Higher SS	Eqm Qty increases	Eqm Price decreases
Effect of both	Eqm Qty increases	Eqm Price <b><u>UNCERTAIN</u></b> *

\* Need to look at 2 cases (Increase DD > Increase SS) or (Increase SS > Increase DD).

# Change in **BOTH** demand and supply

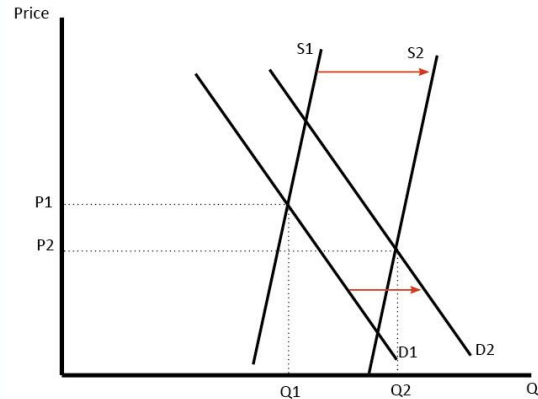
## Case 1: Increase DD > Increase SS

- Equilibrium Price INCREASES.



## Case 2: Increase SS > Increase DD

- Equilibrium Price DECREASES.



# Exam Requirements

- Understand how a **change in demand or supply** (increase or decrease) can have impacts on the equilibrium market price and quantity of a good/service.
- Understand how to write the price adjustment process in a neat and orderly causal linked fashion.
- Come up with **conclusive results** on the change in equilibrium price and quantity based on the question requirements (Is it an increase in demand but fall in supply? Greater increase in demand than supply?).





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# Total Revenue & Strategies

[Impact of market outcome]

*Microeconomics*

# 2 part series

## Part 8A

- Definition of Total Revenue (producers).
- Consumer expenditure vs Producer revenue.
- How PED, YED, XED affects total revenue.
- **Strategies** which producers should employ, in order to maximise profits.

## Part 8B

- Consumer and Producer surplus

# Consumer Expenditure vs Total Revenue

Total Revenue = Price x Quantity

- \* Total Revenue is the **SAME** as Total Expenditure
- \* Total Revenue = Producers
- \* Total Expenditure = Consumers
- \* Profit = Total Revenue - Total Cost [*Learn in a later video*]

# Changes in PRICE [PED]

- Changes in price will affect producers' revenue and consumers' expenditure → This depends on the PED of the good.

## 1. Price Elastic Demand (PED > 1)

- Total Revenue will increase when price **falls** for goods with a price elastic demand as this leads to a *more than proportionate increase* in Q<sub>dd</sub>.
- Hence, producers should decrease price to increase revenue.

## 2. Price Inelastic Demand (0 < PED < 1)

- Total Revenue will decrease when price **falls** for goods with a price inelastic demand as this leads to a *less than proportionate decrease* in Q<sub>dd</sub>.
- Hence, producers should increase price to increase revenue.

# Changes in PRICE [PED]

## *Evaluation of PED*

- Not easy to estimate PED value cause environment changes all the time.
- Ceteris paribus condition does not hold in the real world.
- Firms objective may be to maximise profits rather than total revenue.

# Changes in INCOME [YED]

- YED has an important effect on resource allocation and output.
- **High YED: Very sensitive to a change in income.**

## 2 Cases:

- *Economic Boom* → Firms should stock up more **income elastic goods (luxury goods)** in anticipation of a more than proportionate increase in  $Q_{dd}$  → Increase TR.
- *Economic Recession* → Firms should reduce the scale of production and increase advertising efforts for inferior goods, and possibly focus resources to exports into other countries which can yield a greater TR.

→ Companies need to focus on a product mix to maximise profits in different economic situations.



# Changes in **INCOME** [YED]

## **TAKE NOTE:**

- Only variable that can change is **INCOME**. Do **NOT** bring in marketing strategies like discounts.

# Changes in DIFFERENT PRODUCTS [XED]

- XED is important for producers to estimate the effects on demand of their products when prices of related goods change.

## 1. Highly POSITIVE XED (Substitutes)

- Fall in price of Good A will take away a significant market share from Good B → Good A forced to respond by dropping price → Leads to a price war → Not desirable in the long run.
- Good A may engage in non-price competition such as aggressive advertisements and product innovation to boost sales → Reduces CED with respect to rivals.
- However, if XED is low due to brand loyalty → Good A may choose to ignore fall in price of Good B.
- Alternatively, substitutes can consider merging to eliminate competition and gain market share.

# Changes in DIFFERENT PRODUCTS [XED]

## 2. Highly NEGATIVE XED (Complements)

- Firms may want to collaborate with another firm that sells complementary goods by **jointly promoting** their products.
- **Joint promotion** can usually be seen frequently amongst airlines and tour agencies, mobile phones and mobile service providers.
- **Loss-leader strategy:** Producers of printers lower price so more consumers will buy printers and later end up spending more on printer ink cartridges.

# Exam Requirements

- Understand how to derive total revenue.
- Explain how PED, YED and XED **affects the total revenue** earned by producers.
- Derive appropriate **strategies** which makes use of the knowledge on PED, YED and XED in order for producers' to maximise their profits.
- Tends to come out as **essay questions**.



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# Consumer & Producer Surplus

[Impact of market outcome]

*Microeconomics*

# 2 part series

## Part 8B

- Consumer and Producer surplus

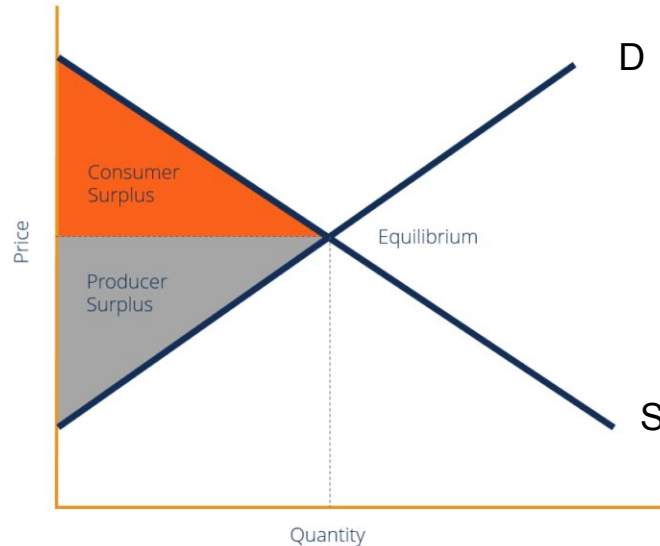
## Part 8A

- Definition of Total Revenue (producers).
- Consumer expenditure vs Producer revenue.
- How PED, YED, XED affects total revenue.
- **Strategies** which producers should employ, in order to maximise profits.



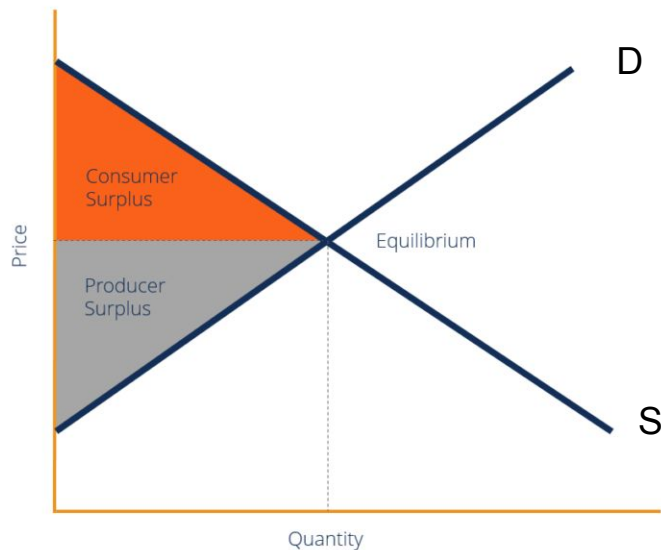
# Consumer Surplus

- Consumer Surplus is the difference between the **price** that consumers pay and the price that they are **willing** to pay.
- It is the difference between equilibrium price and the demand curve.



# Producer Surplus

- Producer Surplus is the difference between the price a firm receives and the price it would be willing to sell the good/service at.
- It is the difference between the **supply curve** and **market price**.



# Consumer Surplus vs Producer Surplus

- Consumers can only gain consumer surplus if prices are kept low → Firms have to keep prices as low and as competitive as possible in order for consumers' to gain.
- If markets were not competitive, the consumer surplus would be less and there would be greater inequality due to a higher amount of **producer surplus** relative to consumer surplus.

# Exam Requirements

- Understand the definitions of consumer and producer surplus and be able to identify which part of the demand/supply curve indicates these surpluses.



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# Microeconomic POLICIES

*Microeconomics*

# 3 types of policies

1. Price Controls
  - a. Price Ceiling
  - b. Price Floor
2. Indirect Taxes
3. Subsidies



# Price Controls

- A policy where the **government** can control the price of a good either by setting a price ceiling [*maximum price*] or a price floor [*minimum price*] → Leads to an efficient allocation of resources.
- A form of **government intervention**.

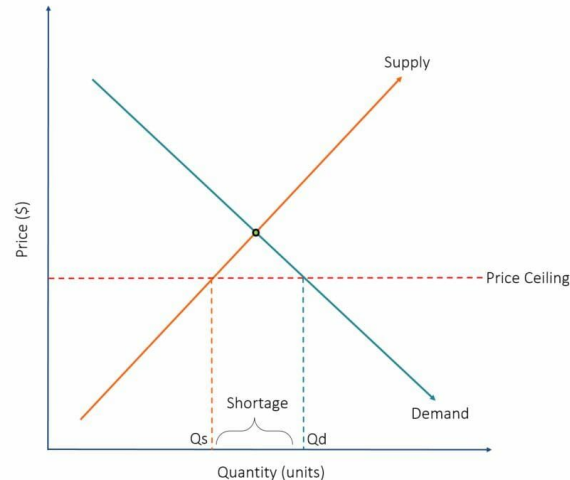
# Price Ceiling

- The **MAXIMUM PRICE** set by the government **below** market equilibrium price which is deemed too high.
  - *E.g. Basic Necessities*
- Achieves a lower rate of inflation.
- Achieves better income distribution → Low-income households can afford.

# Price Ceiling

## Causal Links

- In order to protect consumers from paying a higher price at equilibrium price, the government sets **maximum price** → Creates a **shortage** ( $Q_d > Q_s$ ).
- The **greater** the PED/PES, the **larger** the shortage.



# Price Ceiling

## *Evaluation*

- Government can resolve the shortage through implementing additional policies.
  - **Rationing:** Allocate goods through non-price rationing schemes (coupons only, first-come-first-serve)
  - **Subsidies:** Subsidise producers to increase supply → The price can be maintained at  $P_{max}$  but taxpayers may bear a higher tax burden.
- May not be fully effective due to emergence of black markets (some may come out to sell at higher prices)

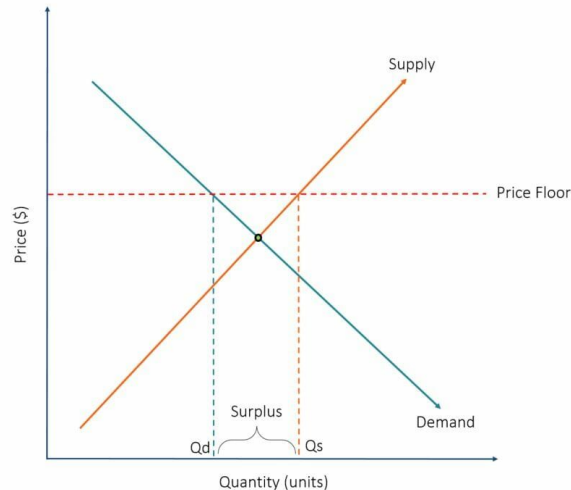
# Price Floor

- The **MINIMUM PRICE** set by the government **above** market equilibrium price which is deemed too low.
  - *E.g. Protecting farmers from loss of revenue, setting minimum wage law to help unskilled workers.*
- Achieves more equitable distribution of income.

# Price Floor

## Causal Links

- At the greater equilibrium price set,  $Q_{ss} > Q_{dd}$  → Producers are trapped with surplus.
- The **greater** the PED/PES, the **larger** the surplus.



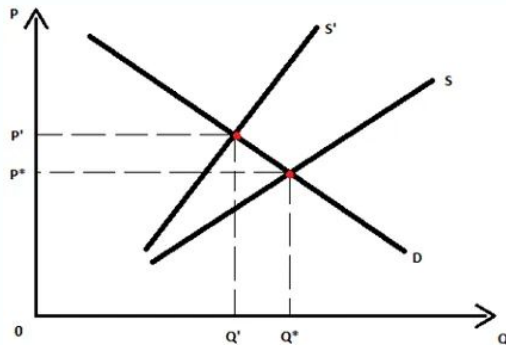
# Price Floor

## *Evaluation*

- To remove surplus, the government will purchase the surplus and sell it during a poor harvest or sell it abroad to other markets.
  - However, this may incur a high cost/expenditure by the government, if government is low on funds they may incur an **opportunity cost**.
- When price controls are used by the government, they prevent the *price mechanism* from clearing the market → **Inefficient allocation** of resources.

# Indirect Taxes

- In general, indirect taxes imposed will increase **cost of production** → Results in a fall in supply.
- Consists of **2 types**:
  - **Specific Tax**: Fixed sum of indirect tax per unit sold (parallel leftward shift in SS curve).
  - **Ad Valorem Tax**: Tax of a certain percentage of the value of the good (pivotal leftward shift in SS curve). *E.g. GST*





# Indirect Taxes

## *Effects of an indirect tax:*

### 1. For **Price Inelastic in Demand** goods

- Consumers less responsive due to lesser availability of substitutes.
- Greater consumer burden, lesser producer burden on surplus.

### 2. For **Price Elastic in Demand** goods

- Lower tax shared by consumers as when prices increase, consumers are able to switch to relatively cheaper substitutes.
- Greater producer burden, lesser consumer burden on surplus.

# Indirect Taxes

## 3. For **Price Inelastic in Supply** goods

- Higher tax borne by producers.

## 4. For **Price Elastic in Supply** goods

- Lower tax borne by producers.

# Indirect Taxes

## *Evaluation*

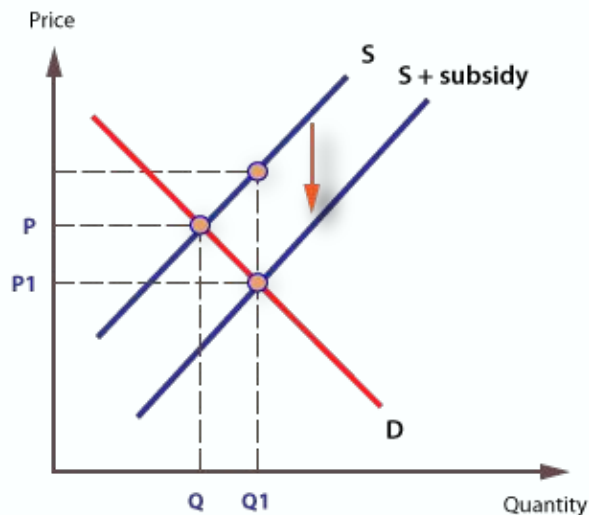
- Taxes are feasible on goods which carry negative externalities (*covered in a market failure policies video*) as they can force consumers to internalise the costs of the good.
- Able to collect **tax revenue** which can be used to fund other sectors of the economy.
- However, it may not be **equitable** for the lower-income as it can cause the price of goods to rise significantly should the producer choose to transfer all costs onto consumers.

## *Take Note*

- Indirect Taxes are only levied on **PRODUCERS**.

# Subsidies

- Causes the cost of production of producers to **fall** → Increase in supply.
- Benefits of subsidies depend on PED & PES
  - More **price inelastic in demand** goods will cause a greater fall in price.



# Subsidies

## *Evaluation*

- Subsidies may result in the government incurring an **opportunity cost** in funding other sectors of the economy. This is especially so if the government is in debt and runs low on funds.
- Implementation of the exact amount of subsidies could also be flawed due to **imperfect information** hence over-subsidisation could be an issue.

## *Take Note*

- Subsidies are only levied on **PRODUCERS**.

# Quotas/Quantity Controls

- Quotas on certain goods/services can be imposed if the equilibrium output is deemed too high.
  - E.g. Certificate of entitlement

## *Evaluation*

- However, policy could be limited by a lack of information
  - Occurs especially if the government is not aware of the optimal level of output to achieve.

# Exam Requirements

- Explain and discuss the **different policies** used to tackle market inefficiencies which can be caused by changes in demand and supply.
- **Evaluate** each different policy in terms of whether they are feasible in terms of scale, costs, impacts, efficiency on allocation of resources (allocative and productive efficiency), equity.



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