HEADS-UP
REACH FOR THE STARS

IGCSE

ECONOMICS

0455

1: The basic economic problem

2: The allocation of resources

3: Microeconomic decision makers

Name :

1. The basic economic problem

1.1 The Nature of the Economic Problem

1.1.1 Finite resources and unlimited wants

- The (basic / central) economic problem:
  Scarcity – Resources are limited (finite) in relation to unlimited human wants.
  This necessitates **choices** and thus incurs **opportunity costs**.

- Consumers, workers, producers, and governments all face scarcity. What are examples for each?

- Scarcity ≠ Shortage
  Scarcity is when resources in nature are not freely available at zero price.
  Shortage is a market condition occurring at a specific price at which demand exceeds supply.

- The study of economics involves examining how to **best use scarce resources** to satisfy **as many** of our needs and wants as possible to **maximise economic welfare**.

- All people have the same basic needs, but people usually want far more than just that.

- **Needs –** G&S that are essential for decent living, e.g. food, shelter, clothing

- **Wants –** G&S in addition to basic needs and for comfortable living (not essential for living), e.g. designer clothing, luxury cars, overseas holidays, latest smartphone models

- Note:
  - "Products" refer to **both** goods **and** services (products = G&S)
  - These terms are sometimes interchangeable:
    "Firms" = "Producers" = "Sellers" → represent "supply"
    "Consumers" = "Buyers" → represent "demand"

1.1.2 Economic and free goods

Economic Goods	Free Goods
Goods that are scarce (i.e. in limited supply) and have a price (require effort to be obtained)	Goods that are not scarce (i.e. in unlimited supply / abundance) and obtained for free
Incurs an opportunity cost in consumption (i.e. something is required, to be sacrificed / paid, e.g. money, labour, time)	Available at NO opportunity cost + can be consumed as much as needed without reducing its availability to others
Can be valued and traded	Available for free and cannot be traded
E.g. books, cars, food, clothes, phones	E.g. sunshine, air, water

When is it NOT a free good?

- **Water** becomes an economic good when its consumption starts incurring opportunity costs, e.g. in dry environments where it is not in abundance, or in a city with a high population density where more water is taken than can be replenished

- Goods given away for free are **NOT** necessarily free goods! E.g. "Free" toys given away by a business still incur an economic cost as it requires time and materials to make. The business could have otherwise reduced their product prices, made more profit, etc. (i.e. handing out the "free" toys incurs an opportunity cost)

(Not explicitly in syllabus)

Terms

- **Rival / Rivalrous:** a good whose consumption by one consumer prevents simultaneous consumption by other consumers (i.e. consuming it redeuces its availability for other consumers)
- **Non-rival:** benefits available for next user will not diminish once consumed by first user
- **Excludable:** a good for which it is possible to prevent people from consuming it
- **Non-excludable:** a good for which it is impractical / difficult to exclude others from consuming it

Other Types of goods & services: public/private, merit/demerit, consumer/capital

Public Goods	Private Goods
Are non-excludable and non-rival (i.e. goods that can be consumed simultaneously by everyone and from which no one can be excluded), e.g. streetlights, national defence, flood control system	Are excludable and rival(rous) (i.e. goods for which consumption is rival and from which consumers can be excluded)
- Provided **free** at the point of consumption - Funded by **general taxation** (or other general form of charge, e.g. a licence fee)	- Consumers generally have to **pay** to enjoy its benefits - Are scarce economic resources, so there is **competition** to obtain it

- Public goods give rise to the free-rider problem:
  - Because it is difficult to charge people for benefitting from public goods
  - May lead to the **under-provision** of certain G&S for which no one has the incentive to pay and which **profit-driven private firms will NOT provide**
  - **Free rider –** someone who enjoys the benefits of a good without paying for it

Merit Goods	Demerit Goods
Confer significant external benefits (creates positive externalities) when consumed	Creates negative externalities when consumed and are socially undesirable
Tend to be under-consumed if consumption depends on ability to pay for it (i.e. in a free market / provided solely by private firms) as their benefits tend to be underestimated	Tend to be over-produced in a free market (no government intervention) as their costs tend to be underestimated
Important and ought to be subsidised / provided free at the point of consumption by the government, e.g. healthcare, education	E.g. cigarettes, alcohol, drugs

- **Consumer goods:**
  - Good & services that satisfy consumer needs and wants
  - Consumer durables last a long time, e.g. televisions, furniture, cars, electronic devices
  - Non-durables are perishable or used up quickly, e.g. bread, vegetables, petrol, matches
  - Consumer services, e.g. services of a doctor, teacher, insurance agent, window cleaner

- **Capital goods:**
  - Man-made resources that assist in further production or provision of other goods & services
  - Wanted not for themselves but for what they can help to produce or provide

- The buying of capital goods is known as **investment**, which increases production and boosts economic growth.
- E.g. machinery, screwdrivers, trucks, roads, bridges, power stations

1.2 The Factors of Production

1.2.1 Definitions of the factors of production and their rewards

- **Factors of production (FOP) –** productive resources used to produce goods &services

1. **Land:**
   - Natural resources used to produce goods & services
   - E.g. farmland, oil, marine life, forest trees, minerals
2. **Labour:**
   - Human resources, i.e. number of workers available to make products
   - Refers to people who provide the physical and mental effort to produce goods & services
   - Factors that determine the quantity + quality of the output of goods & services:
     a – Size of labour force
     b – Ability of labour force (e.g. educated/skilled OR uneducated/unskilled)
3. **Capital:**
   - Man-made resources used to assist in the further production or provision of other products
   - E.g. technology, buildings, factories, and machinery
4. **Enterprise:**
   - The skill and risk-taking of entrepreneurs in organising factors of production and producing goods & services
   - E.g. opening and operating a new restaurant, starting and running a new business
   - **Entrepreneurs:** people who organise the factors of production and take risks to produce goods & services, e.g. the founders and owners of restaurants, businessmen and businesswomen
   - When **risk** is correctly taken, entrepreneurs will be **rewarded with profits**.

- The FOPs are scarce and limited and have alternative uses. For example, land can be used for either agricultural, residential, industrial, or commercial purposes. Skilled labour is limited, and people only have 24 hours a day.

- Land = natural resources
  Labour = human resources
  Capital = man-made resources
  Enterprise brings all 3 resources together for the production and provision of G&S.

- Other resources: energy, time, expertise, management, etc.

1.2.2 Mobility of the factors of production

1.2.3 Quantity and quality of the factors of production

The causes of changes in the quantity and quality of the various factors

- An increase in the quantity or quality of the FOPs can lead to an increase in the production capacity of the economy (see 4.6.4 Causes of economic growth)

Quantity (examples)

- Land:
  - Discovery of new resources, e.g. oil, arable land
- Labour:
  - Influx of migrants (net inward migration)
  - Increase in size of population
  - Increasing retirement age
  - Movement towards full employment
  - All these result in an increase of the size of labour force
- Capital:
  - Invest in new and more advanced capital equipment & infrastructure results in an increase in economy's productive potential

Quality (examples)

- Land:
  - Improved fertilisers and irrigation techniques help to increase farm yield
- Labour:
  - Improved education, training, and healthcare would increase skills, knowledge, and productivity
- Capital:
  - R&D leads to technological advancements, which increase efficiency of capital and the productivity of existing resources

1.3 Opportunity Cost

1.3.1 Definition of opportunity cost

- Resources are scarce and have alternative and competing uses.
- Human wants are infinite.
- The economic problem of scarcity necessitates choice and thus incurs opportunity costs.
- A choice has to be made for the resources to be best utilised.

- **Opportunity cost (of a course of action) –** the benefit of the next best alternative forgone to take that course of action

1.3.2 The influence of opportunity cost on decision making

Decisions made by consumers, workers, producers, and governments when allocating their resources

- All economic agents, i.e. the consumers, producers/firms, and government, face OC.
- OC arises when deciding how to allocate scarce resources to produce, provide, or buy different goods & services.

Consumer:
Scarce resource: money (only $10)
Choice: Coffee or sandwich? Decides to buy coffee.
OC of choice to buy coffee: the benefits from sandwich he could have enjoyed

Producer/Firm:
Scarce resource: funds, labour, baking supplies, time, etc.
Choice: cakes or muffins? Decides on cakes.
OC of choice to bake cakes: the benefits from baking muffins

Producer/Firm:
Scarce resource: funds, human resource, materials, time, etc.
Choice: develop new product or extend current product life cycle? Decides on new product.
OC of choice to develop new product: the benefits from extending the current product life cycle

Government:
Scarce resources: funds, labour (builders, engineers, etc.), building supplies, time, etc.
Choice: Public investment in a hospital or a school? Decides on the school.
OC of choice to invest in a school: the benefits of the hospital

Others:
Workers can make a choice as to who they wish to work for, what they wish to do with their time and effort, how long they wish to work, etc.
E.g. use time to volunteer, work for a big urban college instead of a small rural primary school, early retirement

Note: A choice can have many benefits! E.g. enjoyment, health benefits, sales, customer loyalty, joy and satisfaction, status, free time, flexibility, convenience, maintain friendships / social connections, leadership and promotion opportunities, positive externalities (like employment, increased skill of future workforce, increased health and productivity of workers, reduced crime rates, etc.)

1.4 Production Possibility Curve Diagrams (PPC)

1.4.1 Definition of PPC

Definition, drawing, and interpretation of appropriate diagrams

- **Production possibility curve –** shows the maximum production capacity an economy can achieve when all resources are fully and efficiently employed, at a given time period and at the current level of technology
  (i.e. shows various combinations of the amounts of two goods which can be produced with the given resources and technology, given that the resources are fully and efficiently utilised per unit time)

- Assumptions:
  1. Only 2 goods produced

2. Technology is constant
3. Full employment

- AKA production possibility frontier (PPF) / boundary (PPB)

- The PPC reflects **OC, choices, and scarcity:**
  - OC and choices
    OC is reflected by the **negative gradient** (i.e. the PPC is **downward sloping**), which indicates that an ↑ in the production of one good will lead to a ↓ in the production of the other good. Because resources are scarce and have alternative and competing uses, a decision to devote more resources to producing one product means fewer resources available to produce another. A choice has to be made of what combination of the amounts of the 2 goods to produce.

  - Scarcity
    Scarcity is reflected by the **unattainable** points that lie **outside** the PPC.

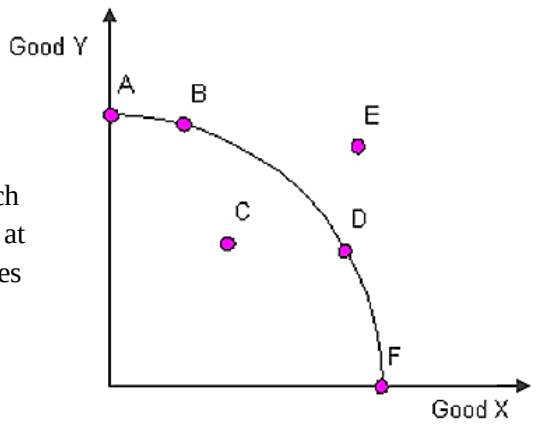
- Shapes of the PPC:
  - **Concave to the origin:** This means OC increases as more of a good is produced (i.e. near the axes / near the ends of the curve) because the resources used become less suitable for producing that good. Most PPCs are concave as resources are not equally suited or adaptable to alternative uses. The law of increasing OC states that as the production of one good rises, the OC of producing that good increases.

  - **Linear:** OC remains constant (because gradient remains constant).

  - **Convex to the origin:** This means OC decreases as more of a good is produced.

Note: Be careful! Watch for the units along the axes of a PPC (and all other graphs). If it says "tonnes of wheat per week", then answer by writing 80 tonnes of carrots per week, not 80 carrots.

1.4.2 Points under, on, and beyond a PPC
The significance of the location of production points



Which point shows scarcity?
Point E (point beyond the PPC). Resources are limited, which means it is not possible to produce the combination of G&S at that point. E is unattainable with the current level of resources and technology.

Which point/points show concept of choices?
Points A, B, D, F (points on the PPC)

Point C (point under the PPC): A rational person will not choose point C (though it's attainable) because resources are not fully utilized at this point, which means unemployment and inefficiency exist.

Illustrate the concept of OC through movement along the curve.
As economy moves from point B to D, for example, to increase 10 units of good X, 5 units of good Y has to be sacrificed.

1.4.3 Movements along a PPC

Movements along a PPC and opportunity cost

- **Outwards:** When a point moves from inside the curve to a point on the curve / still inside but closer to the curve, there is no OC as the economy was not operating efficiently at the point inside the curve.

- **Inwards:** A recession causes the economy to move to a point inside the PPC (from a point on the PPC, assuming all resources are fully and efficiently employed initially).

- **Along the PPC:** The movement of a point along the curve shows choice, OC, and the allocation of scarce resources. (Elaborate this answer based on previous points given in 1.4 PPC.)

1.4.4 Shifts in a PPC

The causes and consequences of shifts in a PPC in terms of an economy's growth

- An outward shift of the PPC is due to **economic growth.** It is caused by an ↑ in the **quantity and/or quality** of the FOPs, which leads to an ↑ in the **production capacity** of the economy. This results in a decrease in scarcity as some points previously unattainable will have become attainable. (Note: a decrease in investment expenditure would **slow down** the outward shift of the PPC)

- An inward shift of the PPC occurs due to the **destruction of resources (FOPs),** or the fall in the quantity and/or quality of the FOPs, e.g. when the amount of new capital falls below the level necessary to replace the amount of worn-out capital

2. The Allocation of Resources

2.1 Microeconomics and Macroeconomics

MICROECONOMICS	MACROECONOMICS
Examines the behaviour and decisions of individual agents within the economy, such as households, consumers, producers, companies, and workers	Examines the performance, structure, behaviour, and decisions of an economy as a whole and of countries and governments
Studies individual markets and agents within an economy	Studies economies on the national, regional, and international / global scales
Terms – firms/companies/businesses, consumers, producers, households, workers, employers, choice, demand, supply, price, wage differentials, costs of production	Terms – countries, governments, international, aggregates, GDP, unemployment, inflation, national income, net exports, fiscal and monetary policies
Graph + Terms Used	
➔ Price VS Quantity (Q) ➔ SS and DD graphs ➔ Label on x-axis = Q	➔ Price level VS Real GDP (Y) ➔ AS and AD graphs ➔ Label on x-axis = Y Remember: aggregates

2.2 The Role of Markets in Allocating Resources

- In an **economy**, people and firms produce, exchange & consume goods & services.

2.2.1 The market system

How a market system works; including buyers, sellers, allocation of scarce resources, market equilibrium, and market disequilibrium

Market System

Goods & services are freely exchanged through a market between buyers and sellers without the need for government intervention (as economic decisions are made by the buyers and sellers). Prices signal the preferences of the buyers and thus the profitability of a good or service to the profit-driven sellers, who will only produce the types and amounts of goods & services that are in demand and profitable as signalled by prices. Through the price mechanism of a free market, the interaction of buyers and sellers establishes an equilibrium price and quantity and thus determines the allocation of scarce resources. This also means that profits will encourage the reallocation of resources to the production of goods & services that are more profitable.

- The market for any goods & services is made up of 2 agents:

- Buyers (represented by **demand**) – consumers willing and able to buy the product
- Sellers (represented by **supply**) – producers willing and able to make and supply the product

- In economics, a market is any set of arrangements that brings together all the buyers and sellers (producers and consumers) of a good or service so they may engage in exchange. A market in economics does NOT refer to a particular location where G&S are traded.

- Markets can be spread over a small or large area. Some goods & services are exchanged all over the world (i.e. international or global markets), like the markets for crude oil and aircraft.

2.2.2 Key resources allocation decisions
2.2.3 Introduction to the price mechanism

- The central economic problem of scarcity creates 3 fundamental questions about determining resource allocation (which all economies face, regardless of size and state of development) → **what, how, and for whom to produce**

- The answers to the 3 fundamental economic questions is related to:
  - **Price mechanism**
  - **Efficiency** (determines whether the objective of the 3 questions is achieved)
  - **Economic system** (see 2.9 Market Economic System)

2 types of efficiency:

1. Productive efficiency:
   The economy is **productively efficient** when it is impossible to increase the production of one good without reducing the production of other goods, given the quantity and quality of the FOPs in the economy. In other words, the economy is **producing on the PPC**, or production occurs through the least-cost method. It is a necessary condition for allocative efficiency.

2. Allocative efficiency:
   The economy is **allocatively efficient** when it is impossible to change the allocation of resources in a way that will make someone better off without making anyone else worse off. In other words, the economy is producing the combination of G&S that **maximises the welfare of society** or that is most desired by society, which is determined by tastes and preferences.

The 3 key allocation questions that arise due to the central economic problem of scarcity:

1. **What (and how much) to produce → resource allocation**

- **Price mechanism –** refers to the system where the market forces of demand and supply interact to determine the prices of goods and services

The types & amounts of goods & services to produce (and which wants to satisfy with scarce resources) are jointly determined by consumers and firms (producers) through the price mechanism. Profit-driven firms only produce what consumers are willing and able to pay for, and so prices signal the types & amounts of goods and services that are in demand and their profitability. This signalling role of prices is the essence of the price mechanism.

2. **How to produce → production technique**

The profit motive means businesses will choose the least-cost method to produce any amount of output. Relative factor (FOP) prices determine the ways in which goods & services are produced (i.e. the least-cost method). E.g. if labour is cheaper than capital, then businesses will opt for labour-intensive production

Production techniques → refer to: ~ (method of) production / processes / or industries

- **Capital-intensive –** where the proportion of **capital** used is greater relative to the other factors of production in the production process, e.g. telecommunications, automobile industry, oil refineries
- **Labour-intensive –** where the proportion of **labour** used is greater relative to the other factors of production in the production process, e.g. nursing, retail, handicraft industry

China is labour-abundant while Germany is at the forefront of technology. Which methods of production is each most likely to employ?

3. **For whom to produce → distribution of G&S**

The market system distributes goods to consumers with the ability and willingness to pay for the goods & services, which is determined by their preferences and income levels.

Determining who will get the final goods & services produced involves making a **value judgement** (as the answer depends on the opinions of society, with no right or best answer).

(Note: A value judgement is the subjective judgement of the rightness, wrongness, or usefulness of something or someone based on your principles/beliefs/priorities. In other words, it is an opinion about how good or bad something or someone is. There is no right or wrong answer.)

2.3 Demand

2.3.1 Definition of demand
2.3.3 Individual and market demand
The link between individual and market demand in terms of aggregation

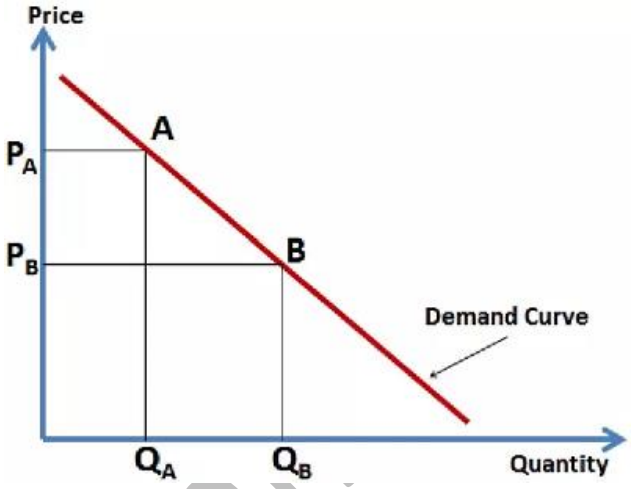
- **Demand –** the willingness and ability of consumers to buy a good or service at each price
- **Effective demand –** willingness to buy backed by purchasing power (i.e. ability to pay)
  (Latent demand is when the willingness of consumers is not backed by the ability to pay)
- **Individual demand –** the demand of an individual buyer at each price
- **Market demand –** the horizontal summation of all the demand by all buyers in a market
  → it represents the aggregate (i.e. total) of all individual demand
- **Quantity demanded (Q_d) –** the quantity of G/S consumers are willing to buy at a given price, over a certain period of time, e.g. litres of petrol per week

	Change in Demand	Change in Quantity Demanded
Represented by	Shift of the demand curve	Movement along a demand curve

Caused by	Change in one of the determinants of demand (non-price factors)	Change in price (the price factor)
Terminology	Increase and decrease in demand	Extensions and contractions in demand
Note	Change in demand ≠ Change in quantity demanded A change in demand is a change in quantity demanded at every price.	

- Law of demand:
  Keeping all other factors constant (*ceteris paribus*), there is an **inverse relationship** between price (P) and quantity demanded (Q_d), i.e. when price increases, quantity demanded decreases, and vice versa.

- The demand curve is **downward sloping** due to the inverse relationship between P and Q_d.



Advertising (2 Types)

- Effects of advertising on DD and PED:
  - Increases / Boosts demand
  - Makes demand more price inelastic (i.e. reduces PED)

- Advertising **boosts demand** + **promotes customer loyalty** + **makes demand more inelastic** by:
  - Creating consumer wants
  - Influencing consumer preferences
  - Creating positive and powerful brand images

- Benefits of customer brand loyalty to a business:
  - Repeat purchases leads to steady revenue
  - Protects sales & market share from competition
  - Customers may continue to buy the brand even at a higher price

1. **Informative advertising:** Provides information about a product and its features to a consumer
   - Increases product credibility & creates a good reputation for a business
   - E.g. bus timetables, menus, ingredients on food packaging
   - Government organisations often use this method to tell people about new regulations or increase awareness of personal health and safety issues.
2. **Persuasive advertising:** Creates consumer wants and boosts demand and hence sales

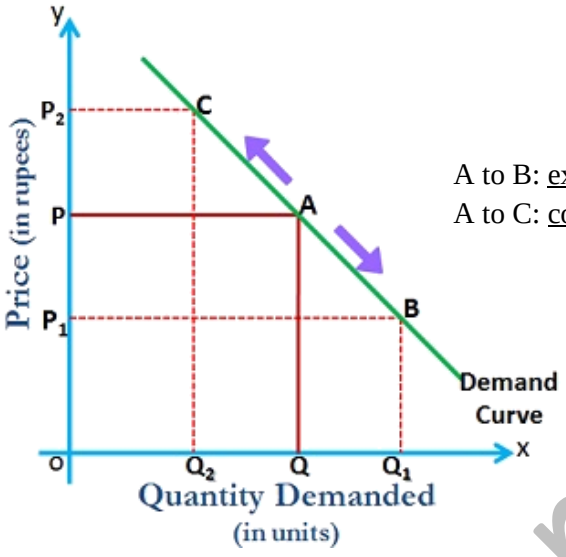
- Brand switching may occur, which is when a brand loses a loyal customer to a competitor.

2.3.2 Price and demand

A demand curve to be drawn and used to illustrate movements along a demand curve with appropriate terminology, e.g. extensions and contractions in demand

Price Factor

- **Price of the product itself (P)** determines **quantity demanded (Q_d)** according to the law of demand (inverse relationship). It does NOT determine demand. Movement along the curve is due to changes in the price of the product itself (P).
- **Extension in demand** (movement DOWN the demand curve) – when Q_d rises due to a fall in P
- **Contraction in demand** (movement UP the demand curve) – when Q_d falls due to a rise in P



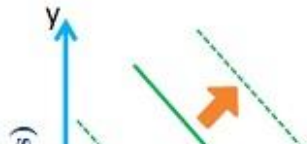
A to B: extension in demand
A to C: contraction in demand

2.3.4 Conditions of demand

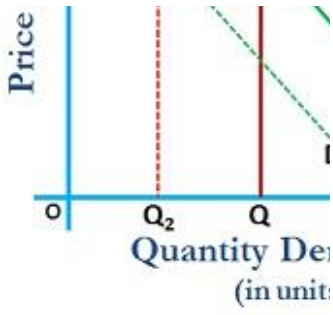
Causes of shifts in a demand curve with appropriate terminology, e.g. increase and decrease in demand

Determinants of Demand (Non-Price Factors)

- These non-price determinants of demand cause a shift in a demand curve, i.e. a change in quantity demanded at every price



D to D_1: increase in demand
D to D_2: decrease in demand



Mnemonic → **SPRITE**:

- 5 **S**easonality
- 6 **P**opulation
- 1 **R**elated goods
- 2 **I**ncome of consumers
- 3 **T**astes and preferences
- 4 **E**xpectations of the future

1. Price of related goods

Substitute Goods (or Substitutes)	Complementary Goods (or Complements)
Alternative goods that perform the same functions or satisfy the same wants	Goods that are jointly consumed and are in joint demand
E.g. Sunway and INTI, 100 PLUS and Revive, Nike and Adidas, iPhone and Xiaomi, margarine and butter	E.g. car and petrol, iPhone and iPhone cases, marker pen and refill ink, ice cream and cones
A rise in the price of a good results in a fall in demand for it and a rise in demand for its substitutes	A rise in the price of a good results in a fall in demand for both it and its complements

Extra: The info on changes in prices + quality of competing (substitutes) and complementary (complements) products of rival producers is useful to firms as any changes can affect their own sales, revenues, and profits.

2. Income of consumers

- In general, an ↑ in consumer income would ↑ the demand for many G&S, which is what happens during an economic boom.

- **Normal goods –** goods for which demand rises as consumer income rises (and vice versa)
- **Inferior goods –** goods for which demand falls as consumer income rises (and vice versa)
- As incomes rise, more people switch from train travel to air travel for long distances, and hence long-distance train travel appears to be an inferior good in consumer preferences.

3. Tastes and preferences

- Demand for G&S can change dramatically because of changing consumer preferences.
- Tastes and preferences can be changed, such as through advertising (more effective if carefully planned and based on market research).

Examples:

- Negative news about mad cow disease leads to a decrease in demand for beef
- Increasing number of consumers are switching to eco-friendly goods and healthier foods due to increased education and awareness campaigns on health and the environment.
- In the recent years, spectacles have become a popular fashion accessory and not just something for the visually impair, e.g. South Korean celebrities wear and popularise the round-framed glasses

4. Expectations of the future prices

- If consumers anticipate an ↑ in prices in the near future, demand is likely to ↑ now.
  E.g. demand for cars increase before the introduction of the GST (goods and services tax).
- If consumers anticipate a ↓ in prices in the near future, demand is likely to ↓ now. This is called **delayed spending**, which may lead a vicious circle called a **deflationary cycle.**
- Future price changes could be caused by the changes in taxation, supply of raw materials, etc.

5. Seasonality

- The need for goods varies by time of year, such as the 4 seasons, holiday seasons, festivals, etc.

Examples:

- A hot summer can boost the demand for ice, cold drinks, and ice cream.
- There is a major increase in demand for CNY cookies a few months before Chinese New Year.
- Demand for winter clothing peaks in autumn and falls in spring. Prices will change accordingly (price mechanism). (Tip: This is why it is best to shop for winter clothes during end-of-season winter sales.)

6. Population changes (or demographic changes)

- In general, as population size increases ↑ (i.e. number of buyers ↑), the demand for many G&S ↑.
- However, the changes in demand are usually **not** spread out equally among all G&S as the changes in population size may only occur more significantly in certain categories of a population.

Examples:

- The fall in birth and death rates in Western countries results in an aging population (= change in age distribution). This may increase demand for treatments and drugs for arthritis, dementia, cancer, etc.
- If birth rates suddenly skyrocketed, the demand for baby products would also increase.

There are other factors that affect demand as well.
Changes in laws, e.g. illegal to ride motorbikes without a helmet, illegal to smoke in public places

2.4 Supply

2.4.1 Definition of supply
2.4.3 Individual and market supply
The link between individual and market supply in terms of aggregation

- **Supply –** the willingness and ability of producers to produce and sell a good or a service at each price
- **Individual supply –** the supply of an individual producer at each price
- **Market supply –** the horizontal summation of all individual supplies of all producers in a market → it represents the aggregate (i.e. total) of all individual supplies (of all producers competing to supply that product)
- **Quantity supplied (Q_s) –** the quantity of G/S that producers are willing and able to produce and sell at a given price over a certain period of time, e.g. tonnes of flour per month
- **(Change in) Supply ≠ (Change in) Quantity Supplied**
- Law of supply:
  Keeping all other factors constant (*ceteris paribus*), there is a **direct relationship** between price (P) and quantity supplied (Q_s), i.e. when price increases, quantity supplied increases, and vice versa.
- The supply curve is **upward sloping** due to the direct relationship between P and Q_s.

2.4.2 Price and supply

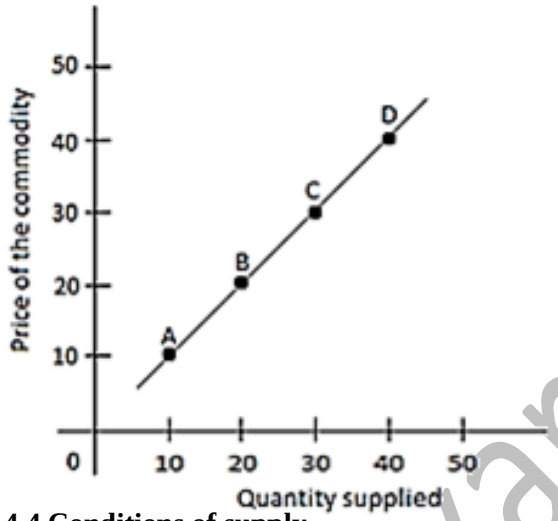
A supply curve to be drawn and used to illustrate movements along a supply curve with appropriate terminology, e.g. extensions and contractions in supply

Price Factor

- **Price of the product itself (P)** determines **quantity supplied (Q_s)** according to the law of supply (direct relationship). It does NOT determine supply. Movement along the curve is due to changes in the price of the product itself (P).

- Prices signal the **demand for + profitability** of a good / service to producers.

- **Extension in supply** (movement UP the supply curve) – when Q_s rises due to a rise in P
- **Contraction in supply** (movement DOWN the supply curve) – when Q_s falls due to a fall in P



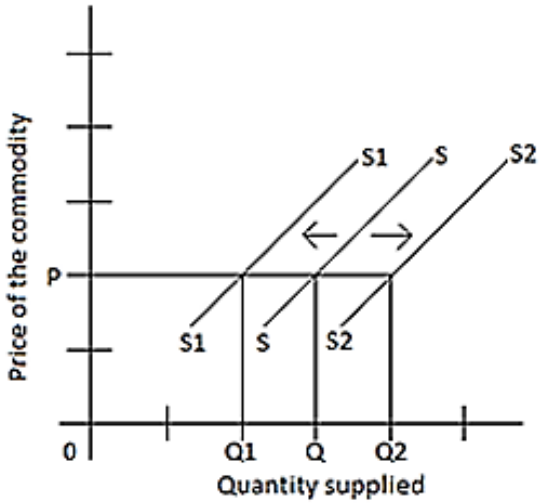
A to B, B to D, etc: extension in supply
D to A, C to B, etc: contraction in supply

2.4.4 Conditions of supply

Causes of shifts in a supply curve with appropriate terminology, e.g. increase and decrease in supply

Determinants of Supply (Non-Price Factors)

- These non-price determinants of supply cause a shift in a supply curve, i.e. a change in quantity supplied at every price



S to S_1: decrease in supply
S to S_2: increase in supply

1. Production costs / Costs of production

- Lower production costs imply higher profits, which would encourage profit-motivated producers to increase supply, and vice versa.
- Note:
  - Production costs are mainly the costs of factors of production (FOP).
  - E.g. raw material costs, labour costs (wages), rental costs (for machinery, buildings, land, etc.), maintenance costs

2. Technology

- Technological advancements lead to improved productivity and efficiency, e.g. improved machinery with shorter production times and reduced wastage
- This would increase output while lowering production costs, thus leading to increased supply and higher profits.

3. Number of sellers in a market

- The more sellers/producers/firms in the market/industry, the greater the market supply of the product, and vice versa.

4. Expectations of future prices

- Higher prices signal higher demand and profitability to producers. If producers expect future prices to be higher, they will try to hold on to their stock for sale in the future to capture higher prices, thus reducing supply in the short run.
-

5. Government policies and regulations

- Governments can make policies and regulations that impact (boost or reduce) supply, such as by providing subsidies or imposing taxes.

Examples:

- **Subsidies** and **Taxation** (see Subsidies and Indirect Taxes)
- **Quotas –** Restricting the maximum quantity of imported wheat through quotas would reduce the supply of wheat and of other products that require wheat in their production, such as bread.
- **Land development scheme –** In the late 1950s, a land development scheme (FELDA scheme) was launched to combat poverty by assigning the poor to settlements to cultivate oil palms. This greatly reduced poverty while also increasing the supply of palm oil, making Malaysia a top palm oil producer (second largest).
- **Others –** increased food labelling regulations, more stringent quality control, etc.

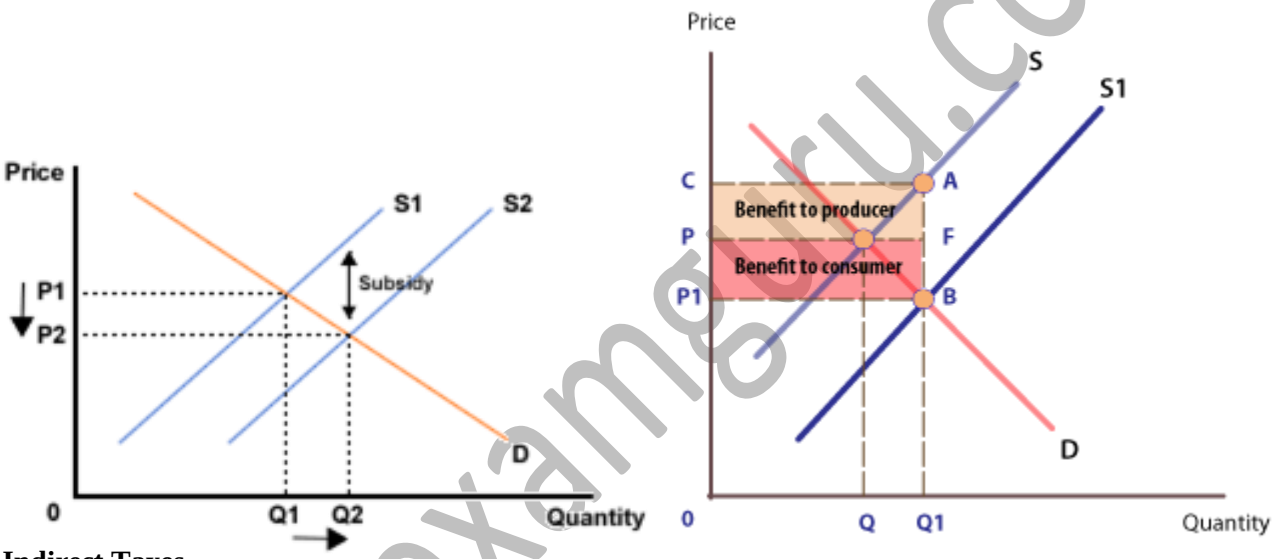
6. Other Factors

- The production of agricultural products is influenced by weather conditions, e.g. crop yields decrease due to bad weather.
- Other factors affecting supply: extended strikes (disrupt production), floods and natural disasters, political instability, war, etc.

Subsidies

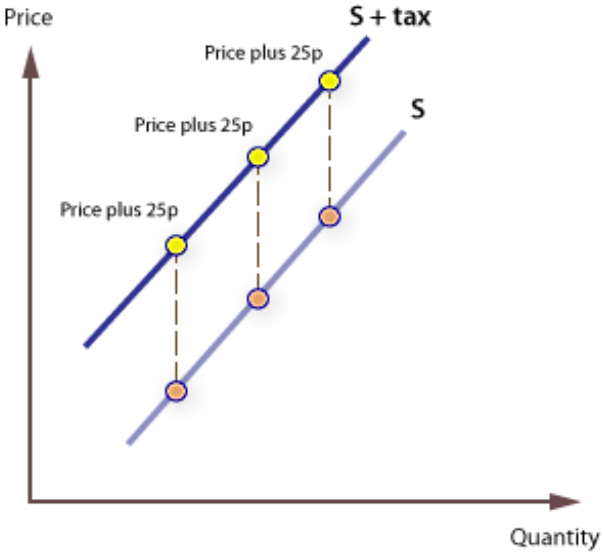
- **Subsidy** – a financial grant from the government to producers to reduce production costs and encourage production (↑ SS)
- Subsidies allow producers to keep prices low (i.e. keep products more price competitive).
- Uses → e.g. encourage consumption of merit and public goods, make exports and domestic products more price competitive against foreign products
- Note: the SS curve shifts down vertically by the amount of subsidy

Explanation:
A **subsidy** is a financial grant from the government to producers to reduce production costs and encourage production. Hence, SS ↑ from S_1 to S_2, and price ↓ (from P_1 to P_2), thus encouraging consumption.



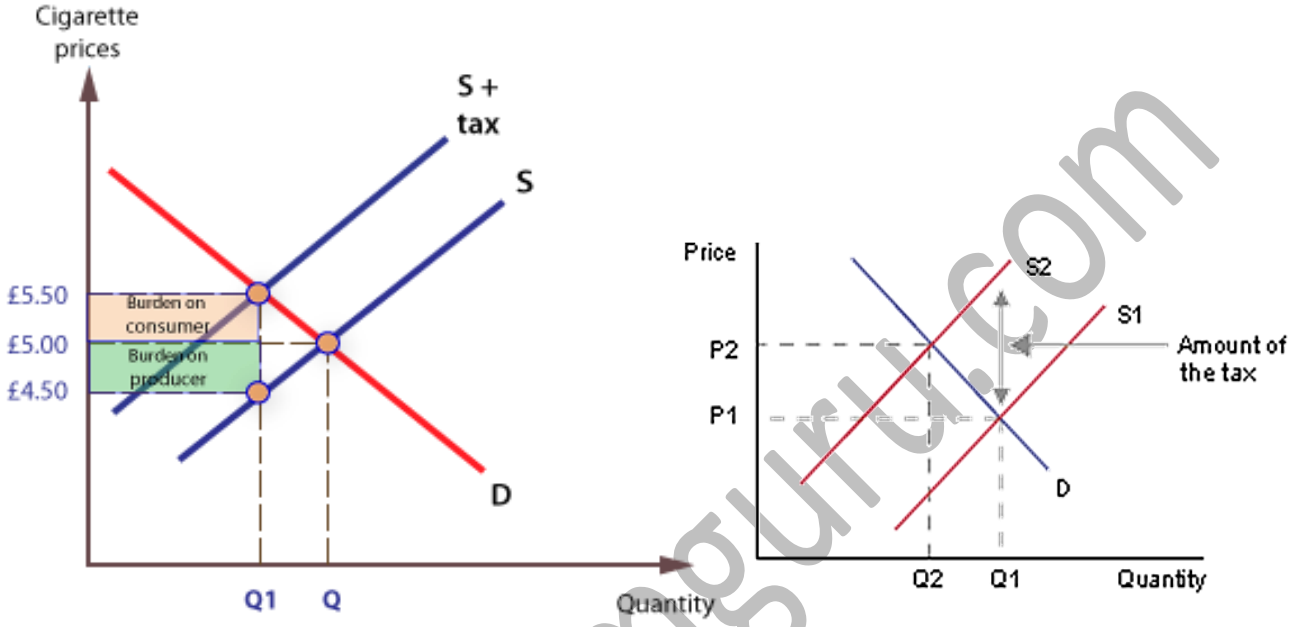
Indirect Taxes

- **Indirect tax** – tax imposed on goods & services
- Imposing or increasing direct taxes (such as in an expansionary fiscal policy) would reduce production costs and reduces post-tax profits. This acts as a disincentive to producers and thus decrease SS.
- The tax burden / incidence falls on producers but can be passed on to consumers through higher prices

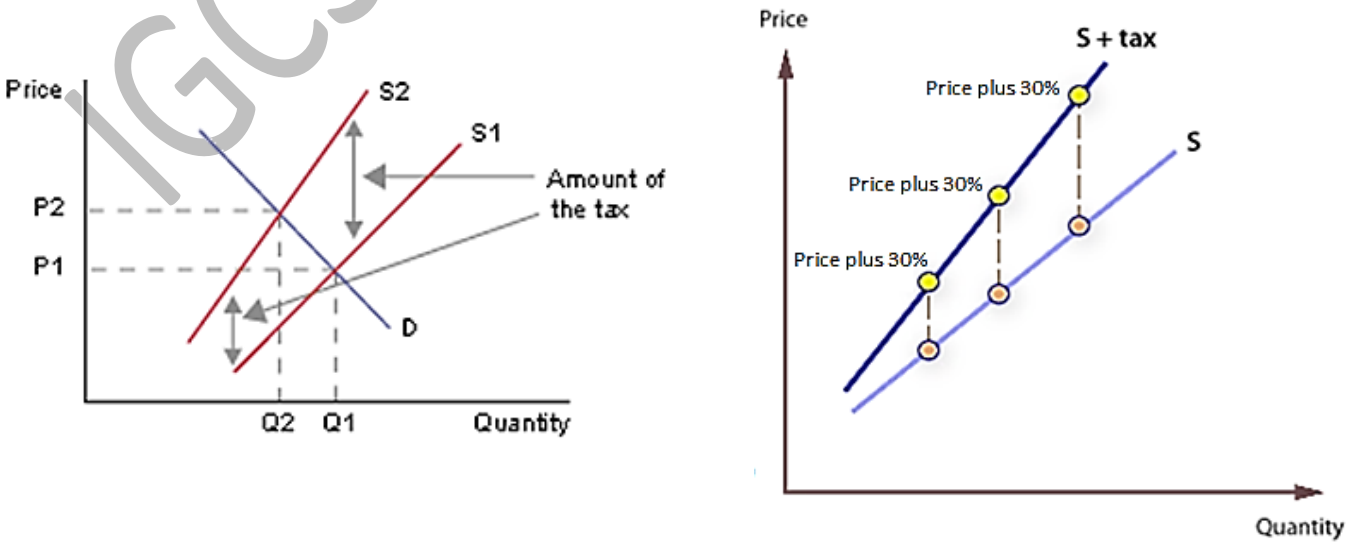


Types of indirect taxes

1. **Specific tax (a per unit tax):**
   - A fixed amount per unit of a good or service, e.g. tobacco tax
   - Causes SS curve to shift upwards parallel to the original curve (i.e. shift upwards the same amount at each price)



2. **Ad-valorem tax (a percentage tax):**
   - A fixed percentage on the price / value of the good or service (i.e. the amount of the tax depends on the value of the good or service), e.g. GST, sales tax
   - Causes SS curve to shift upwards but more so at higher price levels



2.5 Price Determination

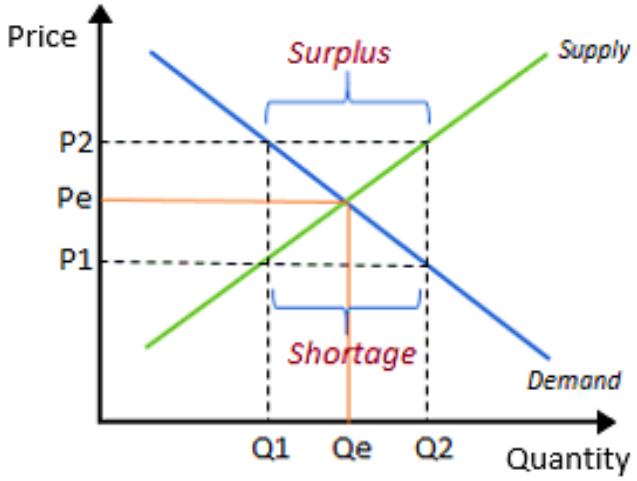
2.5.1 Market equilibrium

2.5.2 Market disequilibrium

Definition, drawing, and interpretation of demand and supply schedules and curves used to establish equilibrium price and sales in a market and to identify disequilibrium prices and shortages and surpluses

- Market equilibrium:
  - Occurs when the 2 opposing forces of supply and demand are equal, which is at the **equilibrium price and equilibrium quantity**

- Market disequilibrium:
  - Occurs at a **disequilibrium price and quantity**, at which supply does NOT equal demand, leading to either shortages or surpluses
  - **Shortage –** when demand exceeds supply (disequilibrium price below equilibrium price)
  - **Surplus –** when supply exceeds demand (disequilibrium price above equilibrium price)
  - A surplus / shortage is the difference between the Q_s and Q_d at a disequilibrium price



2.6 Price Changes

2.6.1 Causes of price changes

Changing market conditions as causes of price changes

2.6.2 Consequences of price changes

Demand and supply diagrams to be used to illustrate these changes in market conditions and their consequences for equilibrium price and sales

2.7 Price Elasticity of Demand (PED)

2.7.1 Definition of PED

2.7.2 Calculation of PED

Using the formula and interpreting the significance of the result
Drawing and interpretation of demand curve diagrams to show different PED

- **Price elasticity of demand** – a measure of the responsiveness of demand to a change in price

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

$$\boldsymbol{PED} = \frac{\%\boldsymbol{\Delta}\ \textbf{in}\ \boldsymbol{Q_d}}{\%\boldsymbol{\Delta}\ \textbf{in P}} = \frac{\frac{Q_{d,2} - Q_{d,1}}{Q_{d,1}} \times 100\%}{\frac{P_2 - P_1}{P_1} \times 100\%} = \frac{\frac{Q_{d,2} - Q_{d,1}}{Q_{d,1}}}{\frac{P_2 - P_1}{P_1}} = \frac{\boldsymbol{Q_{d,2} - Qd_{,1}}}{\boldsymbol{Q_{d,1}}} \times \frac{\boldsymbol{P_1}}{\boldsymbol{P_2 - P_1}}$$

- (Except for goods that do not conform to the law of demand, like Veblen goods)
  Most products have a **negative PED coefficient** due to the **inverse relationship** between price and quantity demanded according to the law of demand. However, by convention, elasticities are **interpreted** as positive numbers, so we take the **absolute value** of the result.

2.7.4 PED and total spending on a product / revenue

Relationship between PED and total spending on a product/revenue, both in a diagram and as a calculation

2.8 Price elasticity of supply (PES)

2.8.1 Definition of PES

2.8.2 Calculation of PES

Using the formula and interpreting the significance of the result

- **Price elasticity of supply** – a measure of the responsiveness of supply to a change in price

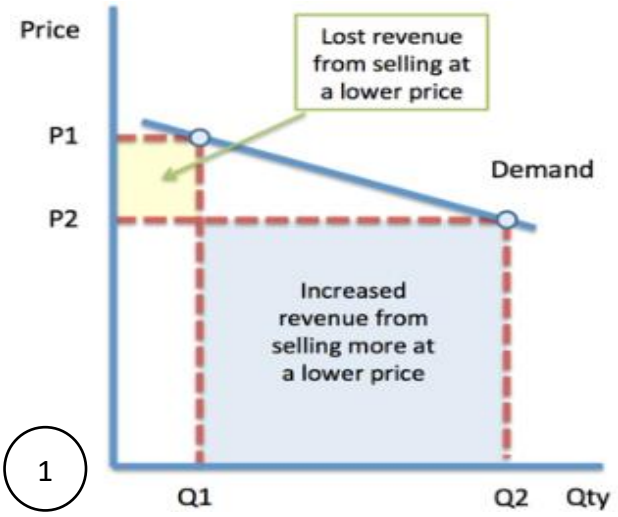
$$PES = \frac{Percentage\ change\ in\ quantity\ supplied}{Percentage\ change\ in\ price}$$

$$PES = \frac{\%\Delta\ \text{in}\ Q_s}{\%\Delta\ \text{in P}} = \frac{\frac{Q_{s,2} - Q_{s,1}}{Q_{s,1}} \times 100\%}{\frac{P_2 - P_1}{P_1} \times 100\%} = \frac{\frac{Q_{s,2} - Q_{s,1}}{Q_{s,1}}}{\frac{P_2 - P_1}{P_1}} = \frac{Q_{s,2} - Qs_{,1}}{Q_{s,1}} \times \frac{P_1}{P_2 - P_1}$$

5 Degrees/Types of PED

Note → all PED is in **absolute** value!

1



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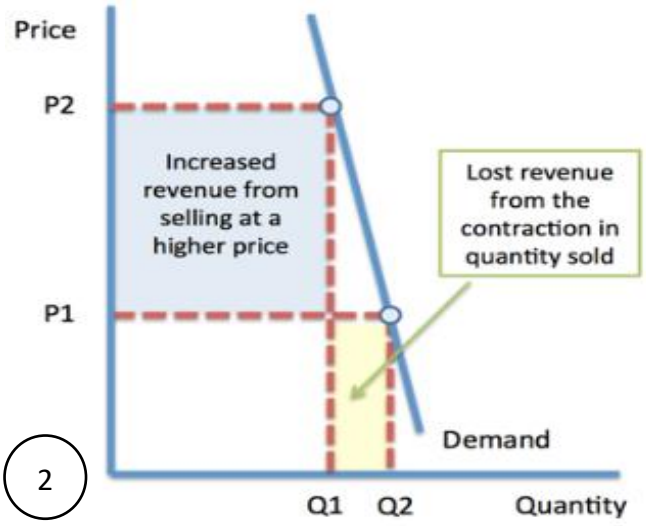
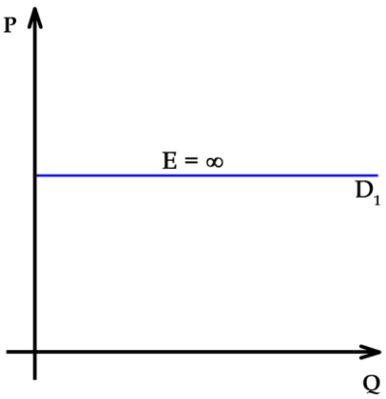


Elastic demand	Inelastic demand
$1 < PED < \infty$	$0 < PED < 1$
A change in price will lead to a more than proportionate change in quantity demanded.	A change in price will lead to a less than proportionate change in quantity demanded.
$\Delta P < \Delta Q_d$	$\Delta P > \Delta Q_d$

3



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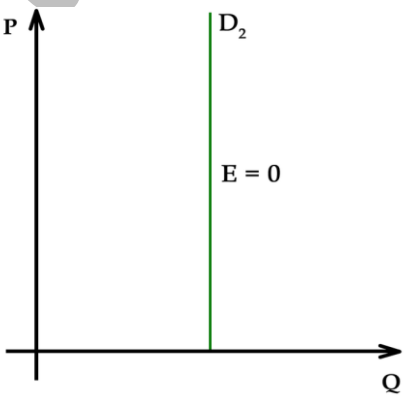
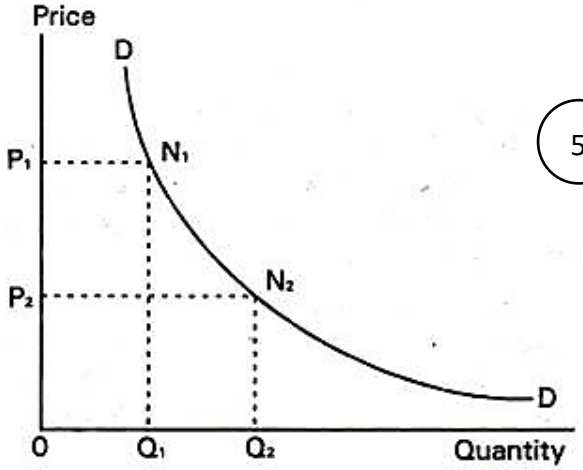


Perfectly elastic demand	Perfectly inelastic demand
PED = ∞	PED = 0
A slight change in price will lead to an infinitely large change in quantity demanded.	A change in price will lead to no change in quantity demanded (i.e. quantity demanded remains constant whatever the price).

5



Unitary elastic demand
PED = 1
A change in price will lead to a proportionate change in quantity demanded.
$\Delta P = \Delta Q_d$
The DD curve is a **rectangular hyperbola**

2.7.3 Determinants of PED (Price Elasticity of Demand)

1. Proportion of income spent

- Direct relationship → the smaller the proportion of income spent on the product, the smaller the PED and the less elastic the demand (i.e. more inelastic).

Goods with inelastic demands – paper clips, newspapers, matches
Goods with elastic demands – cars, houses, flight tickets

2. Time period

- If prices increase, consumers tend to source for cheaper substitutes, which may be difficult in the short run. The longer consumers have to look for cheaper substitutes, the more likely they are to find one. Hence, demand tends to be more elastic in the long run than the short run.

3. Degree of necessity

- The demand for necessities tends to be inelastic as consumers need them for basic survival and living, e.g. certain food products like rice, oil, and salt
- Luxury goods tend to have elastic demands, e.g. overseas holiday packages

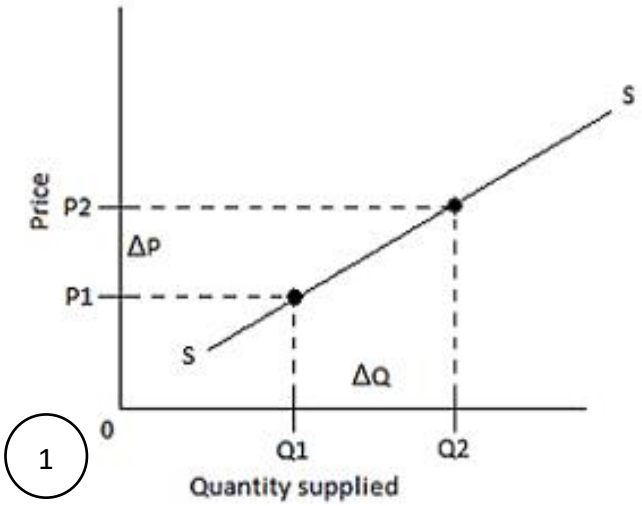
4. Addictiveness

- Goods such as alcohol and tobacco have demands that are price inelastic due to their addictive nature. Consumers are likely to continue consumption even if price increases.

5. Availability (and closeness) of substitutes

- The more substitutes there are for a product in the market, the more elastic the demand because consumers.
- If no close substitutes are available, people tend to still buy it even when prices rise.
- The greater the possibility of substitution of a product, the greater the price elasticity of demand for it.
- If a good has more substitutes, demand is likely to be more elastic, e.g. demand for a specific medicine with no substitutes will likely have an inelastic demand.

5 Degrees/Types of PES



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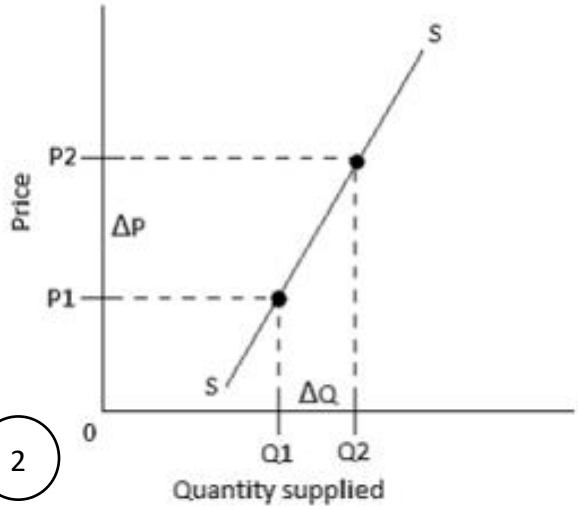
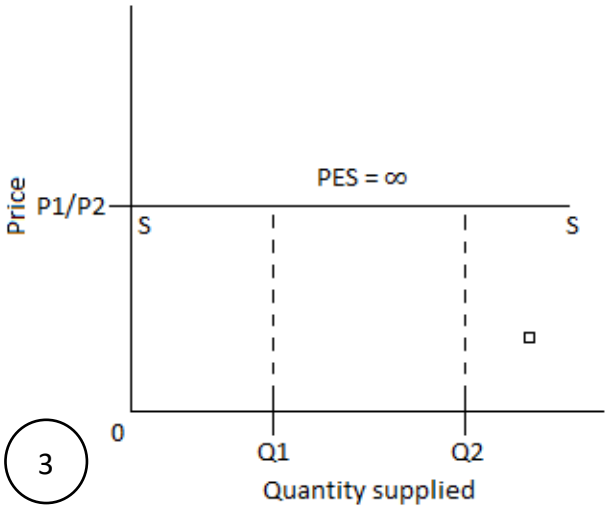


2

Elastic supply	Inelastic supply
1 < PES < ∞ A change in price will lead to more than proportionate change in quantity supplied. $\Delta P < \Delta Q_s$	0 < PES < 1 A change in price will lead to a less than proportionate change in quantity supplied. $\Delta P > \Delta Q_s$



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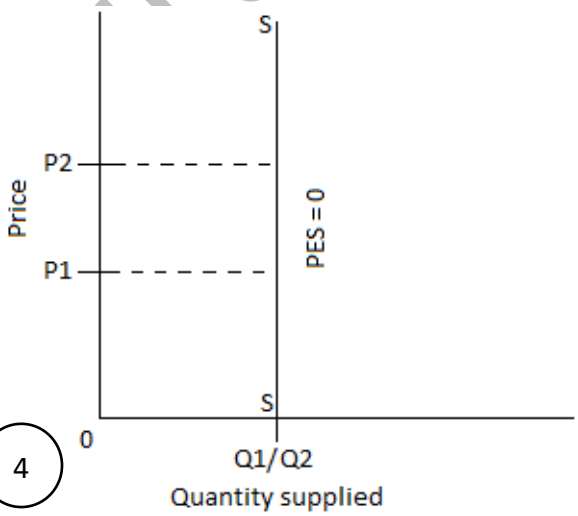
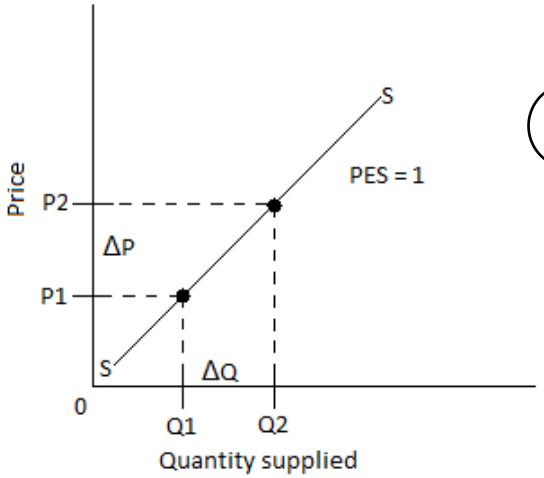


4

Perfectly elastic supply	Perfectly inelastic supply
PES = ∞ A slight change in price will lead to an infinitely large change in quantity supplied.	PES = 0 A change in price will lead to no change in quantity supplied (i.e. quantity supplied remains constant whatever the price).



5

Unitary elastic supply

PES = 1

A change in price will lead to a proportionate change in quantity supplied.

$\Delta P = \Delta Q_s$

The SS curve is a **straight line** that passes through the **origin**.

2.8.3 Determinants of PES (Price Elasticity of Supply)

1. Existence of spare capacity

- If there is plenty of spare capacity, i.e. if firms are not producing near / at full capacity, then the firms can more easily increase output to take advantage of rising prices. Hence, supply will be more elastic.
- Supply is very elastic during a recession, when there is plenty of spare labour and capital resources (i.e. spare productive resources) available for use in production.

2. Time period

- Supply is more elastic in the long run than the short run as there is more time for firms to expand production (e.g. buy more land, hire more workers) and more time for new firms to enter the market.

3. Level of stock

- If there is plenty of stock available for sale, a firm is more able to respond quickly to a sudden increase in price, and hence supply is more elastic.

4. Production times

- Shorter production times allow firms increase output more quickly when prices rise.

Long production time – inelastic supply – examples:
- Agricultural crops such as pineapples and rubber trees (require many months and years to grow)
- Massive vehicles such as cruise ships (require many months to manufacture)
- High-quality luxury goods that undergo stringent quality control

Short production time – elastic supply – examples:
- Mass-produced goods such as clothing and bread (firms can mass-produce thousands of pieces a day)
- Some inferior goods (due to the limited focus on quality)

5. Factor mobility

- How easily the FOPs can be substituted or moved from one use to another would affect PES.
- The higher the factor mobility, the greater the elasticity of supply because firms can quickly reallocate resources to raise or reduce output in response to changes in product prices.

Examples:
- A sweatshop manufacturing clothes can easily hire new unskilled workers to increase output when prices rise. The supply of unskilled sweatshop labour is more elastic than the supply of highly skilled workers in technological industries, who are more immobile as they require long periods of training.

- It is easier for primary school teachers to switch between teaching different subjects than university professors, who require longer periods of education. Thus, the supply of primary school math teachers is more elastic than the supply of math professors.

- A printing press can switch easily between printing greeting cards and magazines as both require similar equipment, materials, and skill sets to produce, so the supply of greeting cards and magazines are relatively price elastic due to the high mobility of the factors of production used.

6. Number of firms in the market/industry

- The more firms in the market, the more elastic the supply.
- If one firm cannot respond quickly to a rise in price, there are other firms that can.

7. Unemployment rate

- If unemployment rate is high, supply is more price elastic as there are more human resources are available, so it is easier for firms to expand production when prices rise.

2.7.5 Significance of PED and PES
2.8.4 Significance of PES
The implications for decision making by consumers, producers, and government

The Use of PED

- PED is closely linked to revenue changes. (If DD is price inelastic, then when P is raised, there is a less than proportionate contraction in DD, so total revenue rises. Thus, increasing P would raise revenue. If DD is price elastic, the P has to be lowered in order to boost sales and revenue.)

- PED is also useful to governments in increasing tax revenue, their main income source. Indirect taxes increase cost of production and thus increase P. This would cause Q_d to fall. Thus, if the government wants to increase revenue from indirect taxes, it should do so for goods with a price inelastic demand.

Limitations of PED

- Data used in these calculations may be **irrelevant, outdated, or unreliable**. Respondents may not be truthful, and some data may be outdated as the determinants of demand may have changed over time.

- The assumption of *ceteris paribus* made in calculations is an **unrealistic assumption** and unlikely to hold in reality. In reality, many factors and determinants are changing simultaneously.

- Due to the **omission of total cost**, PED may only be useful to increase total revenue but not necessarily to increase total profit. Changes in total profit depend on whether or not total cost changes by a larger extent than Q_d.

Limitations of PED and PES

- Data on PED and PES are merely **estimates**. They can change and become outdated over time as consumption patterns change. In practice, businessmen do not rely solely on PED and PES but have to consider other factors in business, like their rivals' marketing strategies, consumer preferences, and so on. PED and PES are very useful, but it is not the only useful knowledge for use in business.

2.9 Market economic system

2.9.1 Definition of market economic system

Including the roles of the private sector (firms and consumers) and the public sector (government)

- An **economic system** is the way an economy decides what, how, and for whom to produce G&S, which varies in terms of the degree of government intervention in making those fundamental economic decisions. (See 2.2 The role of markets in allocating resources)

- The 3 economic systems:
  - Free market economy / Laissez-faire economic system
  - Command economy / Planned economy
  - Mixed economy

Free market economy: Adam Smith, a famous economist, was a strong advocate of the free market economy. He stated that resources should be allocated by the "invisible hand" principle, i.e. through the interaction of the market forces of DD and SS. The private sector (firms and consumers) make all economic decisions and determine resource allocation (what, how, and for whom to produce).

Command economy: The public sector (government) plays a very important economic role in deciding what, how, and for whom to produce to maximise society's welfare. There is a central committee that controls all economic activities and allocate resources to where they deem fit and necessary.

- **Advantages of a command system:**
  - Theoretically, it creates a classless society. Inequality is reduced, ands society's welfare is maximised as everyone has access to basic necessities, and the government determines wages and ensures an equal distribution of income.
  - Government intervention prevents the abuse of monopoly power.
  - The government provides public and merit goods for free.

- **Disadvantages of a command system:**
  - Information failure may occur as the government is not fully aware of consumer preferences, resulting in the misallocation of resources. There may be large surpluses and shortages of certain G&S. Planning is difficult and accurate forecasts almost impossible as planners do not have perfect knowledge.
  - The major role of the government in the economy limits democracy and the freedom of choice and enterprise.
  - The lack of incentive to produce and innovate limits economic progress. Firms are generally inefficient due to the absence of the profit motive, and innovation and technological developments are reduced.

Free market economies	Command economies
All resources are privately owned by individuals and firms, i.e. private ownership.	All resources are owned by the government, i.e. public ownership.
There is minimum government intervention in economic activities. The role of the government is restricted to mainly issuing currency and ensuring an adequate legal framework for the economy to operate smoothly. Resources are allocated through the price mechanism, i.e. the interaction of demand and supply. Consumer sovereignty is upheld. Consumers decide what, how, and for whom to produce, and firms will respond to stay in business.	Economic decision-making is fully controlled by the government (i.e. centralised). The government sets the prices and determines the allocation of resources (what, how, and for whom) that maximises society's welfare. There is no freedom of enterprise.
Competition exists in all economic activities: - Firms compete for resources and sales - Consumers compete for G&S	No competition exists.
Pursuit of self-interest: - Producers seek to maximise profit - Consumers seek to maximise satisfaction / utility - Government seeks to maximise society's welfare	Private individuals and firms cannot pursue self-interest.
Firms aim to maximise profit. Profits act as an incentive to profit-motivated firms to increase the production of a G/S.	Governments aim to maximise the welfare of society.
Possible problems: income inequality, market failure (see disadvantages of free market economy)	Possible problems: inefficiency, disequilibrium (shortages and surpluses), reduced choice and freedom, reduced incentives
Examples: Hong Kong and Singapore are among the freest in the world (but not 100%)	Examples: North Korea, Cuba (China is a now a mixed economy.)

2.9.2 Advantages and disadvantages of the market economic system

Including examples of how it works in a variety of different countries

Advantages of the Free Market Economic System

1. A wide variety of G&S is produced as many producers will compete to improve on price, quality, and design due to the profit motive. This benefits consumers and increases consumer surplus.

2. Producers are quick to respond to changing market conditions and consumer spending patterns in order to survive and maximise profit. They will reallocate resources from unprofitable ranges of G&S to produce whatever is profitable and in demand according to consumer preferences. Also, consumer sovereignty is upheld.

3. The free market system encourages innovation and efficiency. Firms are likely productively efficient as they use the least-cost production method and also allocatively efficient as they produce the combination of G&S most desired by society. Profit-motivated firms carry out R&D to develop new and more efficient processes and technologies, which would help to reduce costs and maximise profit.

Note: **Disadvantages/Drawbacks** of the free market economic system are **market failures**.

2.10 Market Failure

2.10.1 Definition of market failure

- **Market failure –** occurs when the free market is left unregulated and fails to allocate resources efficiently

Social = Private + External
Costs: SC = PC + EC
Benefits: SB = PB + EB

- **Private costs/benefits –** costs incurred by / benefits received by the individuals who are directly involved in the economic activity of production or consumption (that led to those costs/benefits)

- **External costs/benefits –** costs incurred by / benefits received by a third party who is not directly involved in the economic activity of production or consumption (that led to those costs/benefits)

- **Externality –** an external cost or benefit
  External costs = negative externalities
  External benefits = positive externalities

- **Why does EC exist in the equation SC = PC + EC?**
  EC exists because SC is higher than PC, i.e. SC is more than PC.
  A negative externality (i.e. an external cost) exists if the social cost of an economic activity is higher than the private cost, and vice versa for a positive externality.

- An economic use of resources will raise economic welfare because SB > SC (VS. an uneconomic use of resources). However, private firms are only interested in profits (PB), so their production decisions tend to ignore externalities (EC and EB). When private firms are in complete control of all scarce resources, it's possible that society will be worse off and SC > SB, and market failure occurs.

Examples

1. **Education**
   - PC – tuition fees
   - PB – higher wages, social status
   - EC – negligible
   - EB – a more productive labour force, which contributes to economic growth
2. **Smoking**
   - PC – cost of a pack of cigarettes, health problems
   - PB – stress relief
   - EC – health problems caused by inhaling second-hand smoke
   - EB – negligible
3. **Pollution (chemical processing plant dumping industrial wastes into river)**
   - PC – total costs of production (including labour wages, rent, loan interests, etc.)
   - PB – revenue generated
   - EC – pollution of water, aquatic life harmed, adverse health effects on people who use the water
   - EB – employment (jobs) created

Disadvantages of the Free Market Economic System (Market Failures)

1. **Public goods not provided at all:**
   Public goods, such as national defence, are not provided at all because they are non-rival and non-excludable, which gives rise to the free-rider problem. Private profit-motivated firms will fail to provide public goods since it is impossible to charge for their usage.

   (All consumers automatically benefit from the provision of public goods, and market systems cannot prevent people who refuse to pay from benefitting, so consumers will withhold payment to enjoy the benefits for free.)

2. **Merit goods underprovided:**
   Merit goods, such as education and healthcare services, are underprovided and under-consumed in the market system (i.e. less than the socially optimal level). One of the reasons is information failure as individuals are not fully aware of the long-term benefits from merit goods. Consumption of merit goods would generate significant positive externalities (e.g. healthcare services make the labour force healthier and thus increase labour productivity, which contributes to economic growth).

3. **Demerit goods overprovided:**
   Demerit goods, such as tobacco, will be overprovided and overconsumed in the market system if left entirely to market forces (i.e. charged at market price). People tend to underestimate their costs and harmful effects.

4. **Occurrence of negative externalities:**
   Negative externalities, such as pollution, occur as private producers disregard the effects of their production activities on the environment. Pollution is a form of market failure as those not directly involved in production still suffer from the pollution and its adverse effects on health. Pollution is an external cost (i.e. negative externality), which occurs when social costs exceed private costs.

5. **Emergence of monopolies:**
   In reality, the market tends to be dominated by a few large sellers and subjected to their exploitation in terms of high prices and lower output, which undermines consumer welfare. The presence of monopolies leads to productive and allocative inefficiencies. Producer sovereignty is upheld instead. Producers have the ability to set prices and decide what, how, and for whom to produce. Producers also use aggressive advertising to influence consumers.

6. **Unequal distribution of income and wealth:**
   In a free market economy, there is an unequal distribution of income and wealth. Income earned depends on the value of resources owned by individuals, and prices of resources are determined by the price mechanism. There is a wide income disparity between the high-income earners, or owners of highly valued resources, and the low-income earners. The rich starts off rich and gets richer while the poor remain poor.

Conservation or Commercialisation

- Natural resources are scarce. Should they be conserved, or should they be used / commercialised?

- **Conservation of resources**
  - Avoids rapid resource depletion and environmental damage, which are more common in commercialisation
  - Prevents the loss of natural resources that may beneficial and useful in the future, such as a species with medicinal properties, or areas of natural beauty that can potentially generate revenue from tourism
  - More sustainable growth in the long run
  - More of a long-term strategy

  - **Evaluation →** However, the benefits of conservation may be occurring at the expense of current growth, employment, and standard of living.

- **Commercialisation / Use of resources**
  - Raises output, income, and employment, leading to economic growth and higher standard of living
  - If resources are exported, BOP position would improve
  - Resources can also potentially be used to achieve social, economic, and environmental goals instead of being left idle
  - More of a short-term measure

  - **Evaluation →** However, commercialisation of resources, if extreme and uncontrolled, leads to rapid resource depletion, such as overfishing and deforestation. It also harms the environment and its plants and animals, leading to problems such as pollution, global warming, and extinction.

2.11 Mixed Economic System

2.11.1 Definition of the mixed economic system

- A mixed economy comprises both the public sector (government) and private sector (consumers and firms). Economic decisions, including what, how, and for whom to produce, are made by both sectors.

  Basically, the characteristics of the free market system are present but partially restricted by the government, e.g. competition, pursuit of self-interest.

- In reality, due to the flaws of the free market and command systems, all economies in the world are a mixture of both economic systems.

  Command-oriented economies, e.g. North Korea, rely on the market system to some extent, and market-oriented economies, e.g. Singapore, have some degree of government intervention.

- Characteristics of the mixed economic system:
  - Public and private sectors work together in economic activities (consumers, firms, government)
  - Resources are partly state-owned and partly owned by the private sector
  - Resources are largely controlled by the price mechanism
  - Government intervenes where necessary to overcome the market failures in a free market system, e.g. provide public goods, subsidise merit goods, impose taxes on demerit goods, introduce laws that protect the environment, regulate or break up monopolies

2.11.2 Government intervention to address market failure

Definitions, drawing, and interpretation of appropriate diagrams showing the effects of three government microeconomic policy measures: maximum and minimum prices in product, labour, and foreign exchange markets; indirect taxation; and subsidies

- **Government failure –** occurs when government intervention leads to net welfare loss

1. **Political self-interest:**
   The **pursuit of self-interest** among politicians and civil servants can often lead to a misallocation of resources. The pressure of an upcoming election or the influence exerted by a special interest group may lead to inappropriate public spending and tax decisions, such as by increasing welfare spending in the run-up to an election to boost popularity.

2. **Policy myopia:**
   Politicians tend to resort to myopic decision-making and look for short-term solutions for difficult economic problems rather than making long-term considerations and addressing structural economic problems, e.g. a decision to build more roads may simply increase traffic congestion in the long run.

3. **Regulatory capture:**
   Regulators, such as government agencies, should act in the interest of the public and consumers, but when they work very closely with the producers and industries under their control, they may begin to promote the producer's interest instead. Problems such as corruption and inefficiencies may occur.

4. **The law of unintended consequences:**
   The actions, regulations, and policies of governments may have unintended consequences, whether adverse or beneficial. For example, the government may implement a maximum price policy on an essential good such as rich with the goal to keep it affordable for all, especially lower-income groups. However, this policy may lead to shortage as quantity demanded exceeds quantity supplied. Additionally, those who do not have the good may resort to the black market to get their supply at higher prices, and trading in the informal sector means a loss of government tax revenue through tax evasion. Also, enforcement costs have to be incurred when administering the maximum price policy.

5. **Disincentive effects:**
   High tax rates, with the aim to fund public spending and reduce income inequalities, may reduce incentives among people to work longer hours, seek better pay, or set up and run businesses. This is because profits, which are the rewards for work and risk-taking, are reduced after deducting the tax.

3. Microeconomic Decision Makers

3.1 Money and Banking

History of Money

- **Barter –** exchanging one good or service for another

Problems with the barter system

1. **Double coincidence of wants**: Before two people can barter, a double coincidence of wants is required, i.e. they must both want the good that the other person is offering.

2. **Fixing a rate of exchange**: The value of each and every good must be expressed in terms of every other good. E.g. 1 kg oranges = 0.5 kg cheese, 1 lamb leg, 1 clay pot, …

3. **Trying to save:** Bartering is a very inefficient method of exchange as saving would be a problem, e.g. a pig farmer cannot store her meat for very long to barter in the future without a refrigerator

Specialisation increases wealth and surplus in a society as individuals or groups concentrated in the production of G&S they are best at. Trade (or exchange) allows society to move from being self-sufficient to being specialised.

Trade through bartering is difficult, e.g. an expert pin-maker may not be able to find people willing to swap G&S at a fair exchange rate in a barter system. However, money is a single commodity that everyone was willing to accept in exchange for their labour and all other G&S. Trading with money overcomes the problems of the barter system.

3.1.1 Money (forms, functions, characteristics)

- **Functions of money:**
  - Money serves as a medium of exchange as it is generally acceptable to everyone as a means of payment for most G&S. This overcomes the need for a double coincidence of wants.
  - Money serves as a unit of account (measure of value). The price of each item can be expressed in monetary terms (i.e. how many units of currency it is worth), which allows buyers and sellers to agree on what each good is worth relative to another.
  - Money serves as a store of value as it can hold its value over time. Hence, money can be saved for future use.
  - Money serves as a standard for deferred payment as it is durable and holds its value over time. It allows goods to be bought on credit terms or money to be loaned or borrowed, and payment can be made at a later date.

- **Characteristics of a good money:**
  - Accepted by everyone
  - Durable → which allows it to act as a store of value
  - Portable → lightweight and easy to carry around
  - Divisible → to make small purchases or give change without it losing value
  - Scarce → so people will value it as a good to be used in exchange
  - Homogeneous → consistent in quality and mass when representing a certain value
  - Difficult to forge

3.1.2 Banking

Functions of a commercial bank

1. **Loans / Lending**

- Many individuals and firms borrow from banks for a variety of purposes, e.g. taking out a mortgage to buy a house, buying cars through hire purchase. Interest is charged on the loan principal.
- Commercial banks also provide overdraft facilities, which allow customers to withdraw and using an amount more than what they have in their accounts. Interest is charged on the amount borrowed.
- (Credit cards provide a short-term loan to fund spending.)

2. **Accept deposits**

- Commercial banks provide savings and fixed deposit accounts that pay interest to savers.
  - Savings accounts: have low interest rates as interest is calculated on a daily basis and savers can withdraw at any time.
  - Fixed deposit accounts: are given a higher interest rate as money has to be kept in the bank for a minimum period of time, e.g. 1 month, 6 months, 12 months.

3. **Means of payment**

- Commercial banks help customers make payments, such as through credit cards, which offer a short-term loan.
- Commercial banks also provide current accounts (a deposit account), which allow customers to make and also receive payment through cheques and debit cards.

4. **Exchanging foreign currencies**

- Commercial banks also facilitate the buying and selling of foreign currencies, which is needed by customers for international trade and investments, as well as travelling or studying abroad. Customers can make payments to other people or firms overseas in the currency of that country.

Functions of a central bank

1. **Issue notes and coins –** A central bank can issue the notes and coins of a country's currency.

2. **Government's banker –** A central bank serves as the government's banker as it operates an account for the government through which it manages payment to and from the government.

3. **Lender of last resort –** A central bank acts as a lender of last resort to the banking system as it lends money (loans) to commercial banks that encounter financial difficulties.

4. **Interest rates and monetary policy –** A central bank can set interest rates and control monetary policy to influence inflation, employment, and growth in the economy. Changing interest rates would influence the level of borrowing, saving, and spending by consumers and firms.

   For example, extremely low interest rates (r) during a recession may increase borrowing and reduce savings too much, leading to high consumer and investment spending (C and I) and high growth. This causes high inflation. A central bank may need to curb the inflationary pressures by setting a higher interest rate (r).

Central Bank	Commercial Bank
Issue notes and coins	Usually not allowed to issue notes and coins
Customers: commercial banks and the government	Customers: people and firms
Controls and implements monetary policy	Affected by monetary policy
Government-owned	Usually in the private sector

3.2 Households

3.2.1 The influences on spending, saving, and borrowing

- There are many factors that influence spending/consumption + saving + borrowing between different households and over time, including:
  - **Incomes**
  - **Interest rates**
  - **Confidence**
  - And many more ☺

Incomes (Spending Patterns)

Rich households have higher incomes compared to poor households. They spend on luxuries as well as higher quality necessities. For example, their necessities may include iPhones, Nike shoes, and French hams while a private jet and a million-dollar bag may be considered a luxury.

Poor households have low incomes and can only afford basic food, clothing, and housing. Examples include simple home-cooked meals, unbranded items, or cheap brands like Ayamas and Bata, and some can only afford rented accommodation. They may not have much or any money left for luxuries.

Example (Per Month)

Rich	Poor
Income: $100 000 Total spending: $50 000 % of income spent: 50%	Income: $2 000 Total spending: $1 800 % of income spent: 90%

- Marginal propensity to consume (MPC) and to save (MPS):

$$MPC = \frac{\Delta\, Consumption}{\Delta\, Total\ income} \qquad MPS = \frac{\Delta\, Savings}{\Delta\, Total\ income}$$

- As income increases, total spending will increase too but **less than proportionately**. That is why richer households with higher incomes have higher total spending BUT a lower MPC compared to poorer households.

- Richer households with higher incomes also have higher total savings and a higher MPS compared to poorer households. Poorer households may have little or no savings at all. Sometimes, they may resort to **dissaving** (which means spending more than the income earned) as they take from their past savings or resort to borrowing during financial difficulties.

Factors that affect spending / consumption

1. Income (and wealth)
2. Consumer confidence
3. Interest rates → affect saving and borrowing → and thus affect spending / consumption

Motives for saving

1. **High interest rates**
   - Savings generate interest income.
   - The higher the interest rate, the higher the returns from saving and the more rewarding it is to save.
   - Note: Interest rate is the price of money + cost of borrowing + reward for parting with liquidity

2. **Low consumer confidence**
   If consumer confidence is low, such as due to concerns about job security, then consumers would tend to save more and spend less.

3. **Save for big ticket (expensive) items**
   E.g. cars, houses

4. **"Save for a rainy day" (emergencies)**
   E.g. unexpected medical bills, flat tyres

5. **Availability of saving schemes**
   Banks nowadays offer many attractive saving schemes, which motivate people to save. The more and longer people are willing to save without withdrawing, the higher the interest rate they can get. Some saving schemes also offer tax-free returns.

Motives for borrowing

1. **Low interest rates**
   When interest rate is low, cost of borrowing is low, and thus people will borrow more.

2. **To purchase big ticket items**
   People who plan to buy expensive items usually take up loans to finance their purchase as most would not have sufficient funds to pay in cash. E.g. car loan (hire purchase), housing loan (mortgage)

3. **For emergencies**
   Emergencies may require people to resort to borrowing. E.g. after your car has been destroyed in an accident, you may have to borrow to buy a new one to ensure that you can continue working in order to earn a living and to work the repayments into your cash flow

4. **To finance education or training**
   Borrowing to finance education or training is a valid reason because improving qualifications and skills is likely to increase earning potential (i.e. more likely to obtain higher incomes in the future).

5. **To start or expand a business**
   Borrowing to start or expand a business is a good idea if a thorough business plan and cash flow projection has been carried out. This is likely to increase future incomes.

3.3 Workers
3.4 Trade Unions

3.3.1 Factors affecting an individual's choice of occupation → wage (1) and non-wage factors (2 to 8)

- **Wages –** payment made to workers for their labour and services

1. **Wages**
   - The fundamental motivational factor for a worker to seek employment
   - Other monetary rewards include bonuses, commissions, and overtime claims

2. **Career prospects**
   - Occupations or firms with more opportunities for promotion are preferred. E.g. people may not want to become janitors or work in firms that remain small due to low chances of promotion.

3. **Fringe benefits (non-monetary benefits)**
   - E.g. company car, staff discounts for company products, medical insurance

4. **Job security**
   - People generally do not prefer jobs in which they are likely to be laid off.
   - Jobs as civil servants in the public sector usually offer greater job security as the public sectors is not just profit-driven but also concerned for the welfare of workers.
   - Larger firms are usually stronger financially and perceived as more stable and offering greater job security. Thus, employment in larger firms is usually preferred over jobs in smaller firms.

5. **Travelling distance**
   - Workplaces closer to home are preferred as workers can save on travelling time and costs.
   - (Note: The more geographically mobile the worker is, the more choices of occupation he/she has.)

6. **Qualifications and skills required**
   - Workers can only choose the jobs and occupations in which they can meet the minimum qualifications. (Note: The level and types of qualifications and skills workers have affects occupational mobility.)
   - Certain occupations also require lengthy periods of study or training that incur huge costs and take many years, which may put many people off, e.g. neurosurgery. However, they usually have much higher earning potentials compared to jobs that require little to no training, e.g. office cleaner.

7. **Holiday entitlements**
   - More generous holiday entitlements will be more appealing to workers

8. **Job satisfaction**
   - Some people may opt to pursue a career in which they could directly help people and gain high satisfaction but which may not offer very high pay, e.g. teaching, nursing

Limiting factors: Most people would prefer a well-paid and highly satisfying job with good working conditions, generous holiday entitlements, good career prospects, high job security, and a convenient location. However, in practice, people's choice of occupation is limited by a variety of factors:

- Their level of qualifications
- Skills they have
- Experience they have
- The place they live

3.3.2 Wage determination

Influences of DD and SS, relative bargaining power, and government policy, including minimum wage

3.3.4 Division of labour / specialisation

Advantages and disadvantages (of specialisation / division of labour) for workers, firms, and the economy

- There is a **labour market** for every type of occupation (just as there is a market for every G&S).

- Factors that influence wages:
  - DD and SS
  - Relative bargaining power
  - Government policies, e.g. minimum wage

Labour mobility

- **Labour mobility –** the ease with which workers can move between different jobs in the economy

- 2 main factors:
  - **Occupational mobility –** the ability of a worker to move from one occupation to another
    → occupational immobility occurs due to a lack of transferable skills.

  - **Geographical mobility –** the ability of a worker to move from one geographical region to another
    → geographical immobility occurs due to regional differences, such as differences in house prices, family ties, transportation networks, language, etc.

- Labour mobility affects:
  - **Choice of occupation:** The higher the occupational and geographical mobility of the workers, the wider the choices of occupation available to them.
  - **Demand for labour:** The higher the labour mobility, the higher the demand for labour.

Specialisation

- **Specialisation –** concentration by individuals, firms, regions, or countries on the production of specific goods and services

- Benefits:
  - Specialisation allows individuals to make the best use of their talents and skills.
  - Specialisation increases labour productivity through repetition. Productivity gains would offset production costs, thus allowing firms to make more profits
  - Workers can command higher wages because demand for their services is greater due to their increased labour productivity and efficiency from specialisation.

- Disadvantages:
  - The repetitive nature of specialised jobs may lead to boredom. This may reduce labour productivity. This may also reduce product quality and result in more rejects.
  - Workers may be unemployed if their skills and qualifications become outdated / obsolete due to changes in consumer demand or technology.
  - The introduction of industrial robots, computer-integrated manufacturing (CIM), etc. may cause some workers, especially low-skilled ones, to lose their jobs.

3.3.3 Reasons for differences in earnings

Wage differentials exist within the same occupation and across occupations for various reasons.

1. Economic factors

- DD for labour (demand factor):
  - Demand for labour is a **derived demand** as it is based on what the worker can do or contribute in the production process.
  - Demand for labour depends on productivity, which depends on work experience, education level, training, and so on, e.g. compared to a GP, a neurosurgeon commands higher wages because he/she is more productive.
  - Demand for labour also depends on the demand for the goods & services that the labour can produce, e.g. during the Covid-19 epidemic, there is high demand for workers that manufacture masks
  - Factors affecting DD for labour:
    - Consumer demand for goods & services
    - Productivity of labour (affected by many factors, including skilled/unskilled)
    - Skilled or unskilled labour
    - Price and productivity of capital
    - Non-wage employment costs

- SS for labour (supply factor):
  - Wage level is also determined by the supply of labour. If labour is scarce, e.g. professional football players, then the employees can command higher wages compared to those in jobs that have an abundant supply of labour, e.g. clerks.
  - The nature of the job also affects labour supply. E.g. because construction workers have dangerous jobs and are exposed to weather conditions such as the hot sun, labour supply is limited, and thus they are compensated with higher wages (aka **compensating wage differentials,** due to undesirable job features / working conditions). Clerks work in safe and comfortable office environments and are thus paid less as many are willing to work in such pleasant conditions.
  - Factors affecting SS of labour:
    - Net advantages of an occupation
    - Provision and quality of education and training
    - Demographic changes (changes in population)

- Price Elasticity of DD and SS:
  - The price elasticity of both the demand and supply of labour also affects wage level.
  - Skilled labour, e.g. doctors, command higher wages than unskilled labour, e.g. janitors, as both the demand and supply for skilled labour is inelastic compared to unskilled labour.

3.4.1 Definition of a trade union, 3.4.2 Role of trade unions in the economy
3.4.3 The advantages and disadvantages of trade union activity
From the viewpoint of workers, firms, and the government

2. Trade unions

- **Trade union –** an organised group of workers with the aim of increasing wages and improving working conditions by means of collective bargaining

- Trade unions negotiate with employers on behalf of the employees to improve wages, fringe benefits, working hours, and working conditions.

Functions of a trade union

- **Improve working conditions (e.g.):**
  - Ensuring employers observe health and safety guidelines
  - Help employees secure better working hours
- **Improve wages and non-monetary benefits (e.g.):**
  - Higher wages and bonuses
  - More generous holiday entitlements
  - Greater medical insurance coverage
- **Protect job security and rights of employees:**
  - Trade union leaders serve as legal representatives in the event of industrial disputes.
  - Ensure that employers honour the employment contracts, observe labour laws, only dismiss workers with a valid reason, etc.
- **Develop the skills of the union members:**
  - By providing training and education courses
  - Boost labour productivity, efficiency, and employability
  - Thus help employees to command higher wages
- **Influence government policy:**
  - Some trade unions can use their power to influence government policies and employment laws to be more favourable to their members or to workers in general.

Factors determining a trade union's bargaining power / strength

1. **PED of goods produced:** Demand for labour is a derived demand as it depends on the demand for G&S that the workers can produce / provide. Bargaining power will be greater if demand for the G&S produced is inelastic.
2. **Representation:** If a large proportion of workers in a firm or industry are members of a trade union, then the bargaining power of that trade union will be greater.
3. **Wage costs as a % of total production cost:** If wage costs constitute a large proportion of total production cost, then the trade union would have less bargaining power.
4. **Profitability of a firm:** A profitable firm is more likely to give in to demands to increase wages, and thus the trade union's bargaining power is higher.

3. Public VS private sector workers

- Governments are major employers for many economies and thus have the ability to hold down wage levels, causing public sector employees in general to receive lower wages compared to their counterparts in the private sector. However, the lower pay is compensated by greater job security (as civil servants don't lose jobs due to falling consumer demand), better pension entitlements, and more generous non-monetary benefits. The public sector also aims to increase employee welfare, and not just maximise profit.

- However, this varies with country, e.g. in general, public sector workers in Singapore receive relatively higher wages compared to those in the private sector.

Other reasons, including:

4. **Government policy** (e.g. national minimum wage laws aim to protect the interests of and prevent the exploitation of the lowest-paid workers, but it could increase unemployment / surplus of labour)

5. **Male VS female workers**

6. **Skilled VS unskilled workers**

7. **Primary VS secondary VS tertiary sector workers**

3.5 Firms

3.5.1 Classification of firms

In terms of primary/secondary/tertiary sectors and private/public sector, and the relative size of firms (NOT required: detailed knowledge of different types of structure of a firm)

Criteria

1. Ownership
2. Finance
3. Liability / Risk
4. Control → making decisions, profits and losses, risks and responsibilities

Control → can be used as advantages and disadvantages, for example:

- Keeping all profits alone VS sharing profits
- Sharing risks, responsibilities, and losses VS bearing them all alone
- Making decisions alone can be good or bad. You could have full control and follow your ideas and plans, but you may not have ideas and advice that other people may have (in group decision making).

Sole Trader /Sole Proprietor

Ownership	1 owner
Finance	Owner's own savings, loans from friends and relatives
Liability / Risk	Owner and business are a single entity Unlimited liability = High risk
Control	Sole owner makes all decisions, keeps all profits, and bears all risks and responsibilities

Advantages

- **Easy to set up**
  - Very few legal formalities
  - Low start-up capital
  - Technological advancements have also reduced initial set-up costs significantly.
- **Personalised services**
  - Owner knows the preferences of his/her regular customers
  - This promotes customer loyalty
- **Full control of business**
  - Makes all decisions by himself/herself
  - Keeps all profits to himself/herself

Disadvantages

- **Unlimited liability**
  - From a legal perspective, the owner and the business are the same entity.
  - Owner can lose all personal possessions to pay off business debts if for example the business goes bankrupt, i.e. the owner is personally liable for business debts and damages
- **Full responsibility**
  - Owner assumes full responsibility for running the business and thus has longer work hours
  - E.g. planning, keeping accounts, recruiting and managing workers, deal directly with customers, marketing and advertising, liaising with suppliers
- **Lack of capital**
  - Source of finance is limited, i.e. only from owners' savings and from friends and family

- Hard to secure bank loans as sole traders are considered high-risk

Partnerships

Ownership	2 – 20 partners
Finance	From partners
Liability / Risk	**General partnerships:** unlimited liability, high risk; owners and the business are a single entity **Limited liability partnership (LLP):** limited liability; owners and the business are separate legal entities
Control	Partners make decisions together and share all profits / losses, risks, and responsibilities

Advantages

- **Relatively easy to set up**
  - Few legal requirements in drawing up partnership agreements
- **More resources**
  - Partners with different skills and ideas will contribute to the growth of the firm
  - Partners share responsibilities in running the business
  - Partners can consult each other when making decisions
- **More capital**
  - Partners need to contribute capital to enter the business
  - Each partner can help financing start-up costs and day-to-day business expenses

Disadvantages

- **Disagreements and conflicts**
  - Partners may disagree, which slows down decision making
  - Some partners may be lazy, causing other partners to suffer
- **Shared profits**
  - Profits will have to be shared among partners based on the percentage of what each put into the business
- **Unlimited liability**
  - General partners (only in general partnerships) have joint unlimited liability and could lose all their personal possessions if for examples the business goes bankrupt. (This is NOT the case in limited liability partnerships / LLPs.)
  - Partners are personally liable to the percentage of ownership in the business
- **Limited capital**
  - Source of finance is only from partners

Private Limited Company

Ownership	2 – 50 shareholders
Finance	Capital is raised through the issuance of shares among a closed group of shareholders, i.e. shares are sold privately
Liability / Risk	Shareholders and the company are separate entities Limited liability
Control	Shareholders elect a board of directors Directors run the business Shareholders receive profits in the form of dividend

- Private limited companies are required to publish annual financial accounts for reasons of transparency and accountability.

Advantages

- **Limited liability**
  - Shareholders and companies are separate legal entities
  - The liability of the shareholder is limited to the his/her investment in the company
- **Management**
  - Shareholders have management responsibility and can appoint directors to run the business
- **More capital**
  - More capital can be raised through the issuance of shares
  - Selling shares as a source of finance is cheaper than taking out bank loans

Disadvantages

- **Limited capital**
  - Shares can only be sold privately to a closed group of shareholders, and so capital is limited
- **Financial accounts**
  - Private limited companies are required to publish financial accounts every year for reasons of transparency and accountability

Public Limited Company

Ownership	Minimum 2 shareholders (no maximum / upper limit)
Finance	Capital is raised through the sale of shares on the stock market to the public
Liability / Risk	Shareholders and the company are separate entities Limited liability
Control	Shareholders elect a board of directors Directors run the business Shareholders receive profits in the form of dividend

- Public limited companies are required to publish annual financial accounts and to hold AGMs (annual general meetings).

- Divorce of ownership from control occurs because though the company is owned by its shareholders (ownership), it is controlled by the board of directors / management (control). Many of the thousands of shareholders hold a very small number of shares and have limited voting power. They are usually unable or unwilling to attend AGMs and thus are mostly not in control of the company they own and its day-to-day decisions. After being elected in an AGM, usually by large shareholders, the directors and management, who are in control, may pursue business strategies that are in their own interest rather than what is best for shareholders (owners).

Advantages

- **Raise huge capital**
  - Huge capitals can be raised as shares can be sold publicly
- **Safeguard interest of shareholders**
  - Public limited companies are required to publish detailed financial statements each year, which will ensure transparency and safeguard the interest of the shareholders.

Disadvantages

- **Expensive and complex to set up**
  - Expensive to set up
  - Complex legal requirements, involving investigations, advertising shares in mass media, developing a prospectus
- **Vulnerable to takeovers**
  - Original owner may lose control if the company is taken over by another company that buys enough shares in the ownership of this company
- **Management diseconomies**
  - Large companies may have problems in communication, control, and coordination
  - Managers and owners may disagree
  - Decision making may be slow

Functions of the stock exchange

- Enables stocks and shares to be bought and sold:
  - Allows public limited companies to sell their stocks to raise finance and fund expansion
  - Helps the public to buy such stocks
- The composite index of a stock exchange can be used to indicate the general value of stocks and shares. This will show how an economy is doing.
- Share prices are an indication of how well a particular firm is doing.

Multinational Corporations (MNCs)

- **Multinational corporation (MNC) –** a large company that has operations worldwide (in other host countries) but its headquarters in one country (home country)

- MNCs are most likely public limited companies, e.g. Nestle, Amazon, Lenovo, Kia Motors, Petronas

Advantages of being an MNC

- **Consumer base**
  - MNCs have a large geographical base of consumers, which means that they reach many more consumers globally and can thus sell much more of their G&S than other types of businesses
- **Minimise cost**
  - MNCs can minimise cost of production by moving their businesses to strategic locations
  - Locating near the supply of raw materials and near key overseas consumer markets would reduce transport costs
  - Operating in low-wage economies would reduce labour costs
- **Avoid trade barriers**
  - MNCs can avoid trade barriers such as tariffs (tax on imports) and quotas (quantity restrictions on imports) by setting up their operations in the country that impose those trade barriers
- **EOS**
  - MNCs tend to benefit from economies of scale and have reduced average costs due to their large scale of production

Positive impacts of MNCs on host nations

- **Bring in FDI**
  - MNCs are a foreign direct investment (FDI) that benefits the host country
  - They invest in new premises, modern equipment, cutting edge technologies, etc.
  - This increases the productive capacity of the economy of the host country
- **Employment**
  - MNCs create employment and increase incomes for locals
- **Knowledge and skills**
  - MNCs bring in new knowledge, skills, and technologies into a country
  - This boosts the productivity and efficiency of domestic firms and workers of the host country
- **Large tax revenue**
  - MNCs contribute large tax revenues from their profits to the government of the host country
- **Exports sector**
  - MNCs can export their huge output and thus boost the exports sector and increase the export earnings of the host nation through international trade
  - This also helps in improving the BOP position of the host nation

Negative impacts of MNCs on host nations

- **Exploitation of workers**
  - MNCs can take advantage of the lax labour laws, lack of enforcement, and lower health and safety standards of less-developed economies
  - May exploit workers in low-wage economies, such as by paying them much less to do more work compared to employees in more-developed economies
- **Exploit the natural resources and environment**
  - MNCs can take advantage of lax environmental laws and lack of enforcement in some developing countries
  - May exploit and deplete natural resources
  - Pursue production and other activities that lead to environmental degradation
- **Avoiding taxes**
  - MNCs may move their profits from their business units to countries with the lowest taxes
  - Tax evasion may also occur some in less-developed economies with poor tax-collection and legal systems

Cooperatives

- **Cooperative –** a business organisation owned and controlled by a group of people to undertake an economic activity for their mutual benefit

- Examples:
  - A farming cooperative is a group of farm owners who work together to grow, market, and sell crops and farm animals.
  - A workers' cooperative gives workers the opportunity to learn how to do business and take part in decision making.

- **Features:**
  - Members are the owners / shareholders
  - Members work together and share profits
  - Cooperatives exist for the benefit of its members
  - Each member has one vote, i.e. there is equal voting that is not based on size of shares held
  - Usually limited liability, i.e. members can only lose what they have invested in the cooperative

- **Advantages:**
  - All members have an equal say in making decisions as each member has one vote only. For example, in a workers' cooperative, workers have the opportunity to learn how to do business and take part in decision making. This may make them work harder.
  - Workers share the profits made by the cooperative. Profits are paid out as dividends, either an equal share for each member or according to how much money each invested into the cooperative.

3.5.2 Small firms

Advantages and disadvantages of small firms; challenges facing small firms; reasons for their existence

Reasons for the existence and survival of small firms

1. **Personalised service**
   - Owners of small firms can give personal attention to details like colour, texture, design, and taste.
   - Some G&S can even be custom-made to cater to individual preferences.
   - A personal touch may be required in certain industries that offer personal services or specialised products.
   - E.g. tailors offering made-to-measure suits, carpenters offering furniture that are made to order

2. **Small local market**
   - Population is small, so demand for G&S is limited and the market size is small, and thus only small firms are set up.
   - That small firm may become a local monopoly.
   - E.g. a clinic in a small town

3. **Niche market**
   - Some firms cater to a niche market and are thus small.
   - A firm may provide G&S exclusively for a handful of rich people, e.g. a jeweller selling very expensive jewellery

4. **Limited capital**
   - Huge capital is needed to expand the scale of production because modern technology and advanced capital equipment are expensive.
   - The owners may have insufficient savings and incomes and may find it hard to obtain an affordable loan to finance expansion.
   - Thus, some firms may remain small due to a lack of capital.

5. **Government assistance**
   - Small and medium enterprises (SMEs) are the largest contributor to employment
   - Government assistance may be financial or in the form of technical know-how
   - Small firms would thrive in the industry that the government supports
   - E.g. giving tax rebates or exemptions to reduce cost of production to the furniture industry would allow small firms to thrive in that industry

6. **Supplying components to big firms**
   - Some small firms supply components and parts to big firms, e.g. a contractor for a large housing developer

7. **Personal choice**
   - Expanding a business may be time-consuming and stressful and require management skills
   - The owner may want to keep full control of the business and know all employees and customers personally. Taxes are also lower for smaller firms with lower profits.
   - The owner may think the profit is enough and reasonable and thus there is no need for expansion

3.5.3 Causes and forms of the growth of firms

- The size of a firm can be measured by:
  - Number of employees:
    - Simple measure of size
    - However, not all big firms have many employees, such as capital-intensive firms.
  - Market share:
    - **Market share** (of a firm) – the share of total market sales that firm is able to capture
    - However, not all markets are large, e.g. a local hairdressing salon may be a very small business in terms of number of employees and capital employed, but it may have a very large share of the small, local market it serves because it is the only salon in the small town.
  - Organisation:
    - The size of an organisation may be judged by how it is organised internally
    - Larger firms tend to be divided up into different departments specialising in particular functions, e.g. marketing, purchasing, IT, HR, finance. Larger firms may also have different offices, factories, and outlets in different locations.
    - In smaller firms, owners and employees tend to carry out all the various functions themselves.
  - Paid-up capital:
    - Paid-up capital (financial, not physical capital) is the amount of money a company has received in payment from shareholders in exchange for its shares.
    - Companies that have greater paid-up capital may be regarded as larger companies.

<u>Types of growth</u>

1. **Internal growth / Organic growth:**
   - **Internal / Organic growth –** involves a firm <u>expanding its own existing operations</u>
   - Happens naturally as a business becomes successful
   - Easier to manage than external growth
   - Example: a firm may experience internal growth through **increased market share** as it opens new outlets in different locations
   - A profitable firm can afford to reinvest its profits into financing its growth. Also, a firm with a good track record will find it easier to obtain finance through loans. With these additional financial resources, the firm can purchase additional capital equipment, hire more workers, rent larger premises, and so on to support the growth and expansion that arise due to an increase in demand for its G&S, which may occur due to effective marketing campaigns.

2. **External growth:**
   - **External growth –** involves <u>integration</u> through mergers or takeovers
   - **Integration –** when two or more business join, either through a merger or a takeover
   - **Merger –** when two or more firms agree to join to form a new, larger enterprise
   - **Takeover (aka acquisition) –** when one company buys enough shares in the ownership of another company (i.e. more than 50% of shares) and so obtains overall control over that company (In this way, the firm being taken over loses its identity, becoming part of the other company.)

3.5.4 Mergers

Examples, advantages, and disadvantages of different types of mergers: vertical, horizontal, conglomerate

Vertical

- **Vertical merger –** when two or more firms in the same industry but at different stages of production merge

- 2 types of vertical mergers:
  - **Forward vertical merger –** a merger with another firm in a later stage of production (i.e. closer to customers), e.g. a sugar farm merges with a candy factory
  - **Backward vertical merger –** a merger with another firm at an earlier stage of production, e.g. a car manufacturer merges with a tyre manufacturer

- **Advantages:**
  - (General) This may enable a firm to benefit from economies of scale and save costs, e.g. financial economies, where larger firms can secure bank loans more easily and at better rates due to being deemed as more credit-worthy.
  - (Forward) This allows the firm to be in control of a distribution network. This ensures there are outlets available and products can get to market. This also ensures the products are well-displayed and promoted.
  - (Backward) For a manufacturer, merging with a supplier ensures a steady supply of raw materials / component parts at a reasonable price.

Horizontal

- **Horizontal merger –** when two or more firms in the same industry and at the same stage of production merge, e.g. when two car manufacturers such as Toyota and Honda merge

- **Advantages:**
  - New firm benefits from economies of scale and thus enjoys cost savings due to their larger combined size, e.g. price discounts on raw materials from bulk buying, reduced staff and other costs from the merging of their administration departments.
  - Reduced number of competitors
  - Larger market share

Conglomerate

- **Conglomerate merger –** when two or more firms in different industries merge, e.g. a beverage company merging with a watch manufacturer

- A conglomerate merger is a form of **diversification**, which means having activities in a variety of industries.

- A conglomerate merger creates firms known as **conglomerates**, which are corporations that produce a wide range of different and unrelated products. Famous conglomerates include Sime Darby (= motors, healthcare, insurance, etc.) and Samsung (= smartphones, construction, food processing, retail, etc.)

- **Advantages:**
  - Diversification spreads and reduces risk. Businesses that diversify have a lower risk of being greatly affected by falling consumer demand for any of its products as it can still fall back to another of its product ranges, e.g. Sime Darby can still depend on sales from its motors division even when income from its hospitals have fallen
  - Sharing of ideas and innovations between different businesses, e.g. an insurance firm taking over an advertising agency could benefit from newer ideas and better promotion of its insurance products

3.5.5 Economies and diseconomies of scale

How internal and external economies and diseconomies of scale can affect a firm/industry as the scale of production changes

- **Economies of scale (EOS) –** advantages of cost savings arising from large-scale production that leads to falling long run average cost (LRAC)

- **Internal EOS –** advantages of lower average costs that a firm can gain from its own growth in size

- **External EOS –** advantages of lower average costs that firms can gain from the growth in the size of their entire industry

- **Diseconomies of scale (DOS) –** cost disadvantages arising from large-scale production, resulting in higher long run average cost (LRAC)

  Note: DOS occur when the scale of production increases beyond the optimum scale.

Internal economies

1. **Purchasing economies:**
   Large firms can buy raw materials in bulk and benefit from price discounts.

2. **Financial economies:**
   Larger firms can secure larger loans more easily and at lower interest rates. This is because they are usually more financially secure and can offer more assets as collateral against the risk of default and are thus deemed to be more credit-worthy and less risky by lenders.

3. **Marketing economies:**
   The fixed costs of advertising, transportation, and promotions are spread over higher outputs, and larger firms are also more able to spend more to have wider and more effective marketing campaigns.

4. **Managerial economies:**
   Large firms are able to employ specialised and skilled staff and managers that are more productive and able to increase sales. This is because they are structured with specialised departments and are also able to attract and retain specialists as they can offer better wages and other perks. The fixed costs of the salaries of managers are spread over larger outputs.

5. **Technical economies:**
   Large firms can afford to invest in large-scale and specialised efficient equipment that is more efficient, which would produce higher outputs and lower average costs. Large firms are also structured with specialised departments and use specialised equipment, both of which allow them to employ highly specialised and skilled labour, which is more efficient as well.

6. **Risk-bearing economies:**
   Larger firms may have diversified into different product ranges and consumer markets. Diversification spreads and reduces risks, such as falling consumer demand for one of its products. E.g. Unilever is famous for its soap and detergent products but also has interests in food, skincare, plastics, tropical plantations, etc.

Internal diseconomies

1. **Management diseconomies:**
   When firms become too large, it may lead to inefficient management and coordination. They may experience communication breakdowns and disagreements. Also, it may take longer to make decisions and for employees to act on them. These time lags may make the firms slower in responding to changing market conditions.

2. **Labour diseconomies:**
   Large firms may automate production processes, and workers may become bored and demotivated due to repetitive tasks. Also, lack of the personal touch with managers in large firms may also demotivate employees. Low motivation may lead to low productivity. These also lead to poor industrial relations, which increases the likelihood of industrial action, such as strikes, which increase cost of production.

3. **Financial diseconomies:**
   When the loan principal is too large, the risk of default is very high. To protect their interests, banks may charge higher interest rates.

External economies

1. **Ancillary firms:**
   Ancillary firms develop and locate in areas where there are many firms of a particular industry to provide them with the specialised components, equipment, and services they need, e.g. specialist training, specialised machinery, specialist transport services

2. **Shared infrastructure:**
   When many firms of a particular industry develop and are clustered together in an area, it may encourage other industries or the government to invest in new infrastructure in that area, such as new airports and new roads. The firms of that industry and area all benefit from improved transport and communication links and other infrastructure.

3. **Skilled labour:**
   Firms may benefit from the increased availability of skilled labour when their industry grows. An area with many firms of a particular industry would attract many specialised and skilled workers, which reduces recruitment and training costs. Also, the firms can recruit workers trained by other firms in the same industry.

4. **Joint marketing benefits:**
   When firms in the same industry cluster in an area well-known for producing high-quality products, they may share an enhanced reputation. Also, this attracts many customers of that industry to that area.

External diseconomies

1. **Competition:**
   An increase in the number of firms in an expanding industry would increase competition for scarce resources, such as raw materials and skilled labour. Shortages of factors of production would increase their prices, e.g. labour shortages would push up wages. This would increase costs of production.

2. **Congestion:**
   An increase in economic activity and number of firms in an area may place high pressure on the infrastructure in that region. This may lead to external costs like traffic congestion, which leads to transportation delays. This would increase costs of production.

3. **Pollution:**
   The growth of an industry in an area increases pollution, which is an external cost, in that area, thus increasing the social costs. Pollution is harmful to the health of workers and may reduce their productivity, leading to rising costs of production.

3.6 Firms and Production

3.6.1 Demand for factors of production

Influences, to include demand for product, price of different FOP, their availability, and their productivity

3.6.2 Labour-intensive and capital-intensive production

Reasons for adopting the different forms of production and their advantages and disadvantages

Methods of production

1. **Capital-intensive –** where the proportion of **capital** used is greater relative to the other factors of production in the production process, e.g. telecommunications, automobile industry, oil refineries

2. **Labour-intensive –** where the proportion of **labour** used is greater relative to the other factors of production in the production process, e.g. nursing, retail, handicraft industry

3.6.3 Production and productivity

Differences between and influences on production and productivity

- **Production –** the process of converting input into output
- **Productivity –** value of output per input in a given period of time

$$Productivity = \frac{Total\ output}{Total\ input}$$

$$Productivity = \frac{Total\ output}{Total\ no.of\ workers}$$

Theory of production

- Note: factors = factors of production = input

- Time period:
  - **Short run –** a time period that has at least one fixed factor
  - **Long run –** a time period long enough where all factors can be varied

- Factors (inputs):
  - **Fixed factor –** a factor that does not vary with the level of output
  - **Variable factor –** a factor that varies with the level of output

Short-run production theory: the law of diminishing (marginal) returns

- Diminishing returns occur in the short run, when there is at least one fixed factor
- The law of diminishing (marginal) returns states that as the amount of a variable factor of production is increased while holding all other factors constant (*ceteris paribus*), the change in total output will at first rise and then decline (i.e. there comes a point where the marginal increase in output begins to decrease)
- This is because the combination of variable and fixed factors would become less and less efficient and effective, e.g. if capital / land is fixed, hiring extra workers will eventually cause them to get in each other's way of trying to increase production, so output increases but at a decreasing rate.

Long-run production theory → the law of returns <u>to scale</u>

- Both returns to scale and EOS describe what happens when scale of production increases in the long run (i.e. when all FOP are variable), but returns to scale relates input and output only while EOS shows the effect of the increased output on average cost.
- The law of returns to scale describes the changes in output when all the factors (inputs) are increased in the <u>same proportion</u>.
- Types of returns to scale:
  - Constant returns to scale → % change in output = % change in input
  - Increasing returns to scale → % change in output > % change in input
  - Diminishing returns to scale → % change in output < % change in input

Note: The symbols (K) and (L) denote (capital) and (labour) respectively.

	Amos	**Beryl**	**Cadbury**
Initial	**100L + 100K** Total output = 100 000 Total costs = \$100 000 AC = \$1	**200L + 250K** Total output = 200 000 Total costs = \$200 000 AC = \$1	**300L + 200K** Total output = 300 000 Total costs = \$300 000 AC = \$1
Final: initial input × 2	**200L + 200K** Total output = 200 000 Total costs = \$200 000 AC_1 = \$1	**400L + 500K** Total output = 500 000 Total costs = \$400 000 AC_1 = \$0.80	**600L + 400K** Total output = 500 000 Total costs = \$600 000 AC_1 = \$1.20
	AC remains unchanged.	**AC decreases.** Reason for lower LRAC = reaps benefits of EOS	**AC increases.** Reason for higher LRAC = suffers from DOS
	Doubling the input causes the output to exactly double → there is **<u>constant</u> returns to scale**	Doubling the input causes the output to increase but more than double → there is **<u>increasing</u> returns to scale**	Doubling the input causes the output to increase but less than double → there is **<u>decreasing</u> returns to scale**

3.7 Firms' Costs, Revenue, and Objectives

3.7.1 Definition of costs of production

3.7.2 Calculation of costs of production

Calculations of TC, ATC, FC, VC, AFC, and AVC; definition, drawing, and interpretation of diagrams that show how changes in output affect costs of production

- **Total cost (TC):**
  - Total cost = Fixed cost + Variable cost

- **Average total cost (ATC)**

- **Fixed cost (FC):**
  - A cost incurred by fixed factors and does not vary with the level of output
  - E.g. rent, machinery hire charges, loan interest

- **Variable cost (VC):**
  - A cost incurred by variable factors and varies with the level of output
  - E.g. raw material costs (e.g. fabric costs in a clothing factory), packaging costs, sales commissions

- **Average fixed cost (AFC)**

- **Average variable cost (AVC)**

3.7.3 Definition of revenue

3.7.4 Calculation of revenue

Calculations of TR and AR; the influence of sales on revenue
NOT required: marginal revenue

- **Total revenue (TR) = Price x Quantity Traded (PQ)**

- **Average revenue (AR)= TR/Quantity**

3.7.5 Objectives of firms

Survival, social welfare, profit maximisation, growth

3.8 Market Structure

3.8.1 Competitive markets

Effect (of having high no. of firms) on price, quality, choice, and profit

3.8.2 Monopoly markets

Characteristics, advantages, and disadvantages

(NOT required: diagrams; the theory of perfect and imperfect competition)

Market Structure

Criteria of perfect competition and monopolies

Difference	Perfect Competition	Monopoly
No. of sellers in the market / industry	Many buyers Many sellers	Many buyers ONE seller
Types of goods produced	Products made by firms in perfect competition are homogenous / identical	Products are unique and may not be homogenous
Influence on market price (ability in price setting)	Price takers (Reason: The individual firm is relatively small in size and hence has no influence on market price.)	Price setters (Reason: Monopolies are characterised by a lack of competition and have very significant market share and power.)
Freedom of / Barriers to entry and exit	Perfect freedom of entry and exit	High barriers to entry and exit
Level of profits in the long run	Firms in perfect competition can only make abnormal profits in the short run. In the long run, they can only make normal profits.	Monopolies are able to make abnormal profits even in the long run.
Examples	- Agricultural industry / markets - Stock market	Public utilities (companies that provide essential services to the public, e.g. electricity, water, telecommunications)

Perfect Competition / Competitive Market

- **Advantages:**
  - There are many firms, so there are more choices of products, leading to higher consumer satisfaction.
  - Prices are kept low and competitive, which increases consumer surplus.
  - Firms strive to keep cost low and achieve productive efficiency.

- **Disadvantages:**
  - Products are homogeneous / identical, leading to low consumer satisfaction.
  - Firms only make normal profit in the long run, and so there is no incentive to innovate and improve on product quality or design.

Monopoly

- Monopoly:
  - Only one seller (textbook definition)
  - Captures 25% of market share (legal definition)

- Monopolies are characterised by a **lack of economic competition**.

- Barriers to entry (monopoly), such as:
  - Legal barriers, e.g. patents, copyrights, trademarks
  - Cost barriers, due to economies of scale

- Note: abnormal profits = supernormal profits

- **Advantages:**
  - A monopoly earns supernormal profits even in the long run. They can plough back their post-tax profits for reinvestment and R&D to achieve dynamic efficiency and to produce products of higher quality and better design.
  - A monopoly can reap the benefits of EOS and are thus able to price their products at lower prices compared to competitive markets.
  - Some monopolies are natural monopolies due to very high fixed costs, which make it naturally efficient to only have one seller in the market. An example is in a public utility in electricity production. EOS would allow the monopoly to produce at a lower average cost.

- **Disadvantages:**
  - Monopolies may exploit consumers in terms of higher price and lower output, reducing consumer surplus.
  - There is x-inefficiency, which arises from organisational slack and leads to unnecessarily high costs (i.e. higher than they should be). (This is due to a lack of competition, which means less incentive for the monopoly to cut costs.)
  - Allocative inefficiency occurs because price is greater than marginal cost.
  - Productive inefficiency occurs because a monopoly does not produce at the minimum average cost.