

Cambridge IGCSE · Economics 0455

Economics 0455 formulas and definitions

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1 The basic economic problem

1.1 The nature of the economic problem

Economic problem: unlimited (infinite) wants but finite (limited) resources

Scarcity: there are not enough resources to satisfy all wants

Finite resources: resources used in production that are limited in amount and can run out

Opportunity cost: the next best alternative given up when a choice is made

Economic good: uses scarce resources, so it has an opportunity cost

Free good: needs no scarce resources, unlimited compared with wants, no opportunity cost (sunlight, air, sea water)

Consumers are limited by income, workers by time and skills, producers by factors of production, governments by tax revenue

Scarcity → choice → opportunity cost

1.2 The factors of production

Factor of production: a resource used to produce goods and services

Land = natural resources, reward **rent**

Labour = human effort, reward **wages**

Capital = human-made goods used to produce other goods and services, reward **interest**; money is not capital

Enterprise = organising the factors, making decisions and taking risks, reward **profit**

Rent, wages and interest are agreed before production; profit is not known until afterwards and can be a loss

$\text{profit} = \text{total revenue} - \text{total costs}$

Occupational mobility: ease of changing job or use; geographical mobility: ease of changing place

Skills, qualifications and training affect occupational mobility; housing, moving costs, family ties, information and visa rules affect geographical mobility

Land is geographically immobile but often occupationally mobile

1.3 Opportunity cost

Opportunity cost: the next best alternative given up (forgone) when a choice is made

Scarcity forces choice, and every choice has an opportunity cost

Opportunity cost = the value of the next best alternative only, not all the alternatives and not the price paid

Output forgone = output per hour $\times$ hours given up

On a choice line, the gain is read on one axis and the opportunity cost on the other

Consumers are limited by income, workers by time and skills, producers by resources and finance, governments by tax revenue

A free good has no opportunity cost

1.4 Production possibility curve (PPC) diagrams

PPC: the maximum combinations of two products an economy can make with all its resources fully and efficiently used

Axes: the output of two named products (e.g. capital goods and consumer goods), never price and quantity

Inside: unemployed or underused resources, output below the maximum; on: full employment of resources, maximum output, efficient; beyond: unattainable now

Movement along the PPC = reallocating resources; it shows opportunity cost

Opportunity cost of a move = the fall on the **other** axis

Bowed-out curve: rising opportunity cost; straight line: constant opportunity cost

Outward shift: more or better resources or technology, higher productive capacity (economic growth)

Inward shift: fewer or worse resources, lower productive capacity

Using unemployed resources moves a point towards the curve; it does not shift the curve

2 The allocation of resources

2.1 Microeconomics and macroeconomics

Microeconomics: the study of individual decision makers (households, workers, firms) and single markets

Macroeconomics: the study of the whole economy (total demand, output, growth, inflation, unemployment, the balance of payments)

Micro decision makers: consumers/households, workers and trade unions, firms and their managers

Macro decision makers: the government and the central bank

One industry, one firm, one product or one group of workers is micro, even with "total" or "average" in front

Inflation, unemployment rate, GDP, growth, exchange rates, money supply, interest rates, tax rates and total government spending are macro

A government policy aimed at one market (maximum price, one product's tax or subsidy, competition policy) is micro

2.2 The role of markets in allocating resources

The three key resource allocation questions: what to produce, how to produce, for whom to produce

A market: any arrangement that brings buyers and sellers together to trade a product

Market system: resources allocated through demand and supply (the price mechanism), not by the government

Equilibrium: the price at which the quantity demanded equals the quantity supplied

Disequilibrium: shortage (demand > supply, price rises) or surplus (supply > demand, price falls)

Shortage or surplus = the gap between the quantity demanded and the quantity supplied at that price

Functions of prices: signalling, incentive, rationing

Demand rises → price rises → more profit → more resources move into the product (and the reverse for a fall)

How: the cheapest method; high wages → capital-intensive, low wages → labour-intensive

For whom: those willing and able to pay, which depends on income earned from selling resources

2.3 Demand

Demand: the willingness and ability to buy a product at a given price over a period of time

Demand curve: price on the vertical axis, quantity demanded on the horizontal; slopes down from left to right

Own price falls → extension (movement down the curve); own price rises → contraction (movement up)

Any other condition changes → the whole curve shifts: right = increase in demand, left = decrease

Conditions of demand: income, prices of substitutes and complements, tastes, advertising, population, expected prices, quality, season, interest rates, government policy

Substitutes: price of one and demand for the other move the same way

Complements: price of one and demand for the other move in opposite ways

Market demand = the sum of every individual's quantity demanded at each price: $Q_{\text{market}} = Q_A + Q_B + \dots$

Total spending (the firm's revenue) = price × quantity demanded

2.4 Supply

Supply: the willingness and ability of producers to sell a product at a given price over a period of time

Supply curve: price on the vertical axis, quantity supplied on the horizontal; slopes up from left to right (a positive relationship)

Own price rises → extension (movement up the curve); own price falls → contraction (movement down)

Any other condition changes → the whole curve shifts: right = increase in supply, left = decrease

Conditions of supply: costs of production, productivity, technology, indirect taxes, subsidies, weather, number of firms, prices of other products, regulation

Lower costs, higher productivity, better technology, a subsidy, good weather → supply increases

Higher costs, an indirect tax, a drought or natural disaster → supply decreases

A change in demand changes the price, which causes a movement along the supply curve

Market supply = the sum of every firm's quantity supplied at each price: $Q_{\text{market}} = Q_X + Q_Y + \dots$

2.5 Price determination

Equilibrium: quantity demanded = quantity supplied; the market clears; shown where D crosses S

Equilibrium price and equilibrium quantity (sales) are read off the crossing point, or the row of the table where the two quantities are equal

Disequilibrium: quantity demanded $\neq$ quantity supplied

Shortage (excess demand): $Q_d > Q_s$, price below equilibrium; size = $Q_d - Q_s$

Surplus (excess supply): $Q_s > Q_d$, price above equilibrium; size = $Q_s - Q_d$

Shortage → price rises; surplus → price falls; both by movements along the curves

Total spending = total revenue = price $\times$ quantity sold

At the old price after a shift: more demand or less supply → shortage; less demand or more supply → surplus

2.6 Price changes

Prices change when conditions of demand or supply change (a shift), not because of the product's own price

Increase = shift right; decrease = shift left (for both demand and supply)

D right: price and quantity rise. D left: both fall

S right: price falls, quantity rises. S left: price rises, quantity falls

Price and quantity move together → demand shifted; move opposite ways → supply shifted

Both curves shift: one result is certain, the other depends on the size of the shifts (see the table above)

Revenue (consumers' spending) = price $\times$ quantity sold, at the equilibrium

A diagram shows: axes price and quantity, D and S labelled, the new curve (D2 or S2), old and new equilibria P1 Q1 and P2 Q2 (or E1 and E2)

2.7 Price elasticity of demand (PED)

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

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

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

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

PED is negative; ignore the sign when judging: more than 1 elastic, less than 1 inelastic, 1 unitary, 0 perfectly inelastic, infinite perfectly elastic

Total revenue (total spending) = price $\times$ quantity sold

Inelastic: price and revenue move the same way. Elastic: opposite ways. Unitary: revenue unchanged

Vertical demand curve: PED = 0. Horizontal: PED infinite. Steeper (same scale): more inelastic

Determinants: substitutes, necessity or luxury, share of income, time, habit or addiction, how widely defined, whether the purchase can wait

2.8 Price elasticity of supply (PES)

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

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

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

PES is positive: more than 1 elastic, less than 1 inelastic, 1 unitary, 0 perfectly inelastic, infinite perfectly elastic

Vertical supply curve: PES = 0. Horizontal: PES infinite. Straight line from the origin: PES = 1

Straight line starting on the price axis: elastic. Starting on the quantity axis: inelastic

Determinants: production time, stocks and storage, spare capacity, mobility of factors, time period, cost of raising output

A rise in demand raises the price more, and quantity less, the more inelastic the supply

2.9 Market economic system

Market economic system: resources mainly privately owned; what, how and for whom settled by the price mechanism (demand and supply), with little or no government intervention

Planned economic system: state owns resources and planners decide; mixed economic system: private and public sectors both allocate resources

Features of a market economic system: private ownership, price mechanism, profit motive, competition, consumer sovereignty, a small role for the state

Profit = total revenue – total cost; in a market system firms move resources to where expected profit is highest

Advantages of a market economic system: consumer sovereignty, efficiency, lower prices, choice and quality, fast adjustment, incentives to work and take risks, growth, freedom

Disadvantages of a market economic system: public goods not made, merit goods under-consumed, demerit goods over-consumed, external costs ignored, inequality and poverty, monopoly, poor information, instability and unemployment

Anything that needs the state to own, fund or order it is government intervention, so it is **not** a feature of a market economic system

2.10 Market failure

Market failure: the market forces of demand and supply fail to allocate resources efficiently

social cost = private cost + external cost

social benefit = private benefit + external benefit

external cost = social cost – private cost; external benefit = social benefit – private benefit

Production harms society when social cost > social benefit

Private = the buyer and seller; external = a third party, not involved and not paid

Public good: non-excludable and non-rival; free riders, so no profit, so not supplied by the market

Merit good: benefit under-valued, under-consumed, usually external benefits (education, healthcare)

Demerit good: harm under-valued, over-consumed, usually external costs (cigarettes, alcohol)

Causes: public goods, merit and demerit goods, external costs and benefits, abuse of monopoly power, factor immobility

Consequences: over-consumption of demerit goods and goods with external costs; under-consumption of merit goods and goods with external benefits

2.11 Mixed economic system

Mixed economic system: resources allocated by both the private sector (price mechanism) and the public sector (government)

Maximum price: set **below** equilibrium to have an effect; shortage = $Q_d - Q_s$ at the maximum price

Minimum price (and minimum wage): set **above** equilibrium to have an effect; surplus = $Q_s - Q_d$ at the minimum price

Price controls do **not** shift the demand or supply curve

Indirect tax: supply shifts **left** by the tax per unit; price rises (by less than the tax), quantity falls

Subsidy: supply shifts **right** by the subsidy per unit; price falls, quantity rises

tax revenue = tax per unit $\times$ quantity after the tax

cost of a subsidy = subsidy per unit $\times$ quantity after the subsidy

Producer receives: price paid – tax per unit; or price paid + subsidy per unit

Privatisation: public $\rightarrow$ private sector; nationalisation: private $\rightarrow$ public sector

Government failure: intervention that makes the allocation of resources worse

3 Microeconomic decision makers

3.1 Money and banking

Functions of money: medium of exchange, unit of account (measure of value), store of value (wealth), standard of deferred payment

Characteristics of money: acceptable, durable, portable, divisible, uniform, limited in supply, recognisable

Forms of money: coins, banknotes, bank deposits. Cheques and cards are **not** money

Interest earned = amount saved $\times$ interest rate

Inflation above the interest rate means savings buy less: money is a worse store of value

Commercial bank: private sector, profit, deals with households, firms and government

Central bank: government-owned; issues currency, banker to government and banks, lender of last resort, regulator, monetary policy, reserves

Central bank runs monetary policy, **not** fiscal policy

3.2 Households

saving = disposable income – spending; negative saving is dissaving

share of income saved (%) = $\frac{\text{saving}}{\text{disposable income}} \times 100$

interest per year = amount $\times \frac{\text{interest rate (\%)}}{100}$

Interest rate **up**: saving up, borrowing down, spending down. Interest rate **down**: saving down, borrowing up, spending up

Higher income: spending **and** saving both rise; a **smaller share** goes on necessities and a **larger share** is saved

High confidence: spend more, save less, borrow more. Low confidence: the reverse

Expect prices to rise: buy now; expect prices to fall: wait and save

Life stages: borrow when young, save in middle age, run down savings after retirement

3.3 Workers

women's pay as a % of men's = $\frac{\text{women's wage}}{\text{men's wage}} \times 100$; the lower this is, the larger the relative gap

labour productivity = $\frac{\text{total output}}{\text{number of workers}}$

weekly earnings = wage per hour $\times$ hours worked

Minimum wage above equilibrium: unemployment = labour supplied – labour demanded at that wage;
below equilibrium: no effect

Demand for labour is a **derived demand**: it depends on the demand for the product

Demand for labour right: wage and employment rise. Supply of labour left: wage rises, employment falls

High pay: high demand (high productivity) and low, inelastic supply (skills, training, qualifications), strong bargaining power

3.4 Trade unions

union membership as % of labour force = $\frac{\text{members}}{\text{labour force}} \times 100$

percentage change = $\frac{\text{new} - \text{old}}{\text{old}} \times 100$

Union wage above equilibrium: change in employment = equilibrium employment – labour demanded at the union wage

Union wage above equilibrium: unemployment = labour supplied – labour demanded at the union wage

Trade union: an organisation of workers that bargains collectively for its members' pay and conditions

Three roles: collective bargaining (wages, hours, conditions); protecting jobs; influencing government policy

Strong union: high membership, workers hard to replace, growing profitable firm, inelastic demand for the product, wages a small share of costs, laws that allow strikes

3.5 Firms

average total cost = $\frac{\text{total cost}}{\text{output}}$

% in one sector = 100 – (the other two sectors' %)

percentage change = $\frac{\text{new} - \text{old}}{\text{old}} \times 100$

Economies of scale: average cost **falls** as the firm grows; diseconomies: average cost **rises**

Internal economies: purchasing, technical, labour, managerial, financial, marketing, R&D, risk-bearing

Internal diseconomies: control and co-ordination, communication and slow decisions, poor motivation and industrial relations

External economies shift the average cost curve **down**; external diseconomies shift it **up**

Horizontal: same industry, same stage; vertical: same industry, different stage (backward to suppliers, forward to customers); conglomerate: unrelated industries

Primary: natural resources; secondary: manufacturing and construction; tertiary: services

3.6 Firms and production

labour productivity = $\frac{\text{total output}}{\text{number of workers}}$ (or $\div$ worker-hours)

percentage change = $\frac{\text{new} - \text{old}}{\text{old}} \times 100$

Production = total output; productivity = output per unit of input

Demand for a factor is a **derived demand**: it comes from demand for the product

Influences on demand for a factor: demand for the product, its price, prices of other factors, productivity, availability

Influences on productivity: education and training, capital and technology, motivation (wages, conditions), health, organisation, quality of other factors

Labour-intensive: high proportion of labour to capital; capital-intensive: high proportion of capital to labour

Switching to capital-intensive: fixed costs' share rises, variable costs' share falls

3.7 Firms' costs, revenue and objectives

$TC = FC + VC$, so $VC = TC - FC$ and $FC = TC$ at zero output

$ATC = \frac{TC}{\text{output}} = AFC + AVC$

$AFC = \frac{FC}{\text{output}}$, $AVC = \frac{VC}{\text{output}}$

$TR = \text{price} \times \text{quantity sold}$

$AR = \frac{TR}{\text{quantity sold}} = \text{price}$

$\text{profit} = TR - TC = (AR - ATC) \times \text{quantity}$

Fixed costs don't change with output and are paid at zero output; variable costs change with output

AFC falls continuously; AVC and ATC are U-shaped; TFC is horizontal; TC is TVC shifted up by FC

Objectives: survival, social welfare, profit maximisation, growth

3.8 Market structure

Competitive market: many sellers, many buyers, low barriers to entry, close substitutes

Many firms → lower price, higher quality, more choice, lower profit per firm

Monopoly: single seller, many buyers, high barriers to entry, price maker, no close substitutes

Monopoly profits stay high in the long run because barriers stop new firms entering

Competitive → monopoly: price ↑, profit ↑, barriers, firm size and economies of scale ↑; output ↓, choice ↓, competition ↓

Advantages of monopoly: economies of scale, R&D from profits, no wasteful duplication, state monopoly may aim at welfare

Disadvantages of monopoly: higher prices, lower output, less choice, lower quality, complacency, diseconomies of scale

4 Government and the macroeconomy

4.1 The role of government

The government's roles in the economy: producer, employer, buyer, regulator, tax collector and spender, manager of the economy

Local role: local services such as rubbish collection, local roads and transport, parks, local schools, planning permission, paid partly by local taxes

National role: public goods (defence, justice), merit goods (education, health care), state benefits, laws and regulation, managing the macroeconomic aims

International role: trade agreements, tariffs and quotas, exchange-rate policy, visas and immigration, international organisations, foreign and humanitarian aid

An action is international if it mainly changes trade, external competitiveness or relations with other countries

Paying dividends to shareholders is a firm's role, not the government's

4.2 The macroeconomic aims of government

The five aims: economic growth, full employment/low unemployment, stable prices/low inflation, balance of payments stability, redistribution of income

Aims are outcomes; interest rates, taxes, subsidies and government spending are policies (tools), not aims

Typical criteria: growth of 2–3% a year; unemployment below about 5%; inflation target of about 2%; current account deficit or surplus within about 3% of GDP; a smaller gap between rich and poor or less poverty

Full employment → more tax revenue and less benefit spending → better government budget

Stable prices → confidence and investment, competitive exports, no random redistribution, no menu or shoe-leather costs, no deflation spiral

Higher total demand → growth ↑, unemployment ↓, but inflation ↑ and imports ↑

Main conflicts: full employment v stable prices; growth v balance of payments stability; full employment v balance of payments stability

Usually not a conflict: redistribution and full employment; growth and full employment

4.3 Fiscal policy

Budget balance = government revenue – government spending (negative: a deficit; positive: a surplus)

$$\text{Deficit as \% of GDP} = \frac{\text{deficit}}{\text{GDP}} \times 100$$

$$\text{Tax as a \% of income} = \frac{\text{tax paid}}{\text{income}} \times 100; \text{ rising} = \text{progressive, constant} = \text{proportional, falling} = \text{regressive}$$

Direct taxes: income tax, corporation tax, inheritance tax, wealth and property taxes, taxes on wages

Indirect taxes: sales tax/VAT, excise duties, customs and import duties (tariffs), air passenger duty

Consumers' share of an indirect tax per unit = rise in price; producers' share = tax – rise in price

Tax revenue from an indirect tax = tax per unit × new quantity

Expansionary: spending ↑ and/or taxes ↓; contractionary: spending ↓ and/or taxes ↑

Qualities of a good tax: equitable, certain, convenient, economical, efficient, flexible

4.4 Monetary policy

Money supply: notes and coins in circulation plus money in bank accounts

Monetary policy tools: interest rate, money supply, foreign exchange rate (usually run by the central bank)

Expansionary: interest rate ↓, money supply ↑, currency ↓ → total demand ↑

Contractionary: interest rate ↑, money supply ↓, currency ↑ → total demand ↓

$$\text{Yearly interest} = \text{amount borrowed or saved} \times \frac{\text{rate}}{100}$$

$$\text{Foreign price of an export} = \frac{\text{home price}}{\text{home currency per unit of foreign currency}}$$

Rate rise: borrowers lose, savers gain; rate cut: borrowers gain, savers lose

4.5 Supply-side policy

Supply-side policy: government measures to raise the economy's productive capacity (total supply)

$$\text{Productivity} = \frac{\text{total output}}{\text{number of workers}}$$

$$\text{Labour cost per unit} = \frac{\text{wage per worker}}{\text{output per worker}}$$

$$\text{Percentage change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$$

Measures: education and training, labour market reforms, lower direct taxes, deregulation, incentives to work and invest, privatisation

Privatisation: transfer of ownership from the public sector to the private sector

Success shows as: higher productivity, an outward shift of the PPC, higher potential output, growth without extra inflation

Short run: extra spending on training adds to demand; long run: it adds to capacity

4.6 Economic growth

Economic growth: a rise in real GDP (real output) over time; a rise in productive capacity

GDP: the total value of goods and services produced in a country in a year

$$\text{Growth rate} = \frac{\text{real GDP this year} - \text{real GDP last year}}{\text{real GDP last year}} \times 100$$

Real growth $\approx$ nominal growth – inflation

$$\text{GDP per head} = \frac{\text{real GDP}}{\text{population}}$$

Growth in GDP per head $\approx$ growth in real GDP – growth in population

Recession: real GDP falls for two consecutive quarters (negative growth)

Total demand = consumer spending + investment + government spending + (exports – imports)

PPC: recession = move inside; recovery = move toward it; more capacity = shift right

4.7 Employment and unemployment

Unemployed: of working age, without a paid job, willing and able to work and actively seeking work at the current wage

Labour force = employed + unemployed

$$\text{Unemployment rate} = \frac{\text{number unemployed}}{\text{labour force}} \times 100$$

Full employment: everyone willing and able to work at the going wage has a job; no cyclical unemployment

Claimant count: people receiving unemployment benefit (understates unemployment)

Labour force survey: sample asked whether they are without work, available and actively seeking work

Frictional = between jobs; structural = change in the economy's structure; cyclical = lack of total demand

Primary = natural resources; secondary = manufacturing and construction; tertiary = services

Demand for labour is a derived demand

4.8 Inflation and deflation

Inflation: a sustained rise in the general price level; deflation: a sustained fall in the general price level

CPI: a weighted index of the prices of a basket of goods and services bought by households, compared with a base year (= 100)

Weight of an item = its share of household spending

$$\text{CPI} = \frac{\sum (\text{weight} \times \text{price index of item})}{\sum \text{weights}}$$

Contribution of an item to inflation = weight (as a fraction) $\times$ % price change

$$\text{Rate of inflation} = \frac{\text{new CPI} - \text{old CPI}}{\text{old CPI}} \times 100$$

% change in real income $\approx$ % change in money income – rate of inflation

Purchasing power: \$100 at new prices buys what $100 \times \frac{\text{old CPI}}{\text{new CPI}}$ dollars bought at old prices

Real interest rate = interest rate – rate of inflation

Total demand = $C + I + G + (X - M)$

Inflation: borrowers gain; savers, lenders and fixed-income earners lose. Deflation: the reverse, and the real value of debt rises

5 Economic development

5.1 Living standards

$$\text{GDP per head} = \frac{\text{GDP}}{\text{total population}}$$

$$\text{Real GDP} = \text{nominal GDP} \times \frac{100}{\text{price index}} \quad (\text{base year} = 100)$$

Real GDP per head adjusts for **inflation** (real) and **population** (per head)

Growth in GDP per head $\approx$ growth in real GDP – growth in population

HDI dimensions: life expectancy at birth; mean and expected years of schooling; GNI per head

HDI value lies between 0 and 1; closer to 1 means higher human development

GNI = GDP + income earned from abroad – income paid abroad

Perfect equality: each fifth of households receives 20% of total income

5.2 Poverty

Absolute poverty: income too low to buy the basic necessities (food, water, shelter, clothing, basic health care)

Relative poverty: living standard well below the typical (acceptable) standard in that society

Relative poverty line, for example: $\frac{1}{2} \times$ average income

$$\text{Average tax rate} = \frac{\text{tax paid}}{\text{income}} \times 100$$

Progressive: % paid rises with income; proportional: % the same; regressive: % falls

$$\text{Percentage change} = \frac{\text{new} - \text{old}}{\text{old}} \times 100$$

Weekly pay = hourly wage $\times$ hours worked

5.3 Population

Birth rate = live births per year per 1 000 of the population

Death rate = deaths per year per 1 000 of the population

$$\text{Number of births} = \frac{\text{population} \times \text{birth rate}}{1000} \quad (\text{the same for deaths})$$

Natural increase = births – deaths (rate: birth rate – death rate; migration not included)

Net migration = immigration – emigration

Change in population = natural increase + net migration

$$\text{Population growth rate (\%)} = \frac{\text{change in population}}{\text{population at the start}} \times 100$$

A rate per thousand $\div 10$ = the rate as a percentage

$$\text{Dependency ratio} = \frac{\text{dependants (young and old)}}{\text{people of working age}} \times 100$$

$$\text{Percentage of a group} = \frac{\text{part}}{\text{whole}} \times 100$$

Optimum population: the population size that gives the highest output (GDP) per head

Labour force: people of working age who are employed or seeking work

5.4 Differences in economic development between countries

$$\text{GDP per head} = \frac{\text{GDP (total output, income or expenditure)}}{\text{population}}$$

Growth in GDP per head $\approx$ growth in output – growth in population

Value added = value of output – cost of bought-in materials

Economic development: a rise in welfare and living standards (income, health, education, less poverty), not just more output

The seven factors: income, productivity, population growth, sector sizes, saving and investment, education, healthcare

Less developed: large primary sector, fast population growth, low saving, low literacy, high infant mortality

More developed: large tertiary sector, slow population growth, high productivity, high literacy, high life expectancy

6 International trade and globalisation

6.1 International specialisation

Basis for national specialisation: superior resources (resource allocation) and/or cheaper production methods

Gain from specialisation = total output with specialisation – total output without, from the same resources

Net exports of a product = output – domestic consumption (positive: net exporter; negative: net importer)

Free trade, low transport costs and different resources encourage specialisation; tariffs, quotas, embargoes and high transport costs discourage it

Advantages: efficiency, economies of scale (lower average costs), exports and growth, lower prices, better quality, more choice

Disadvantages: dependence on other countries, risk from changes in demand or supply, volatile prices, natural disasters, resources running out, structural unemployment

6.2 Globalisation, free trade and protection

Globalisation: the world's economies becoming more connected through trade, MNCs and the movement of capital, people and ideas

MNC: a firm with its headquarters in one country that operates or produces in other countries

Free trade: exchange of goods and services between countries (exports and imports) without restrictions

Tariff: a tax on imports. Quota: a limit on the quantity of imports. Embargo: a ban. Subsidy: a payment to home producers

Dumping: selling exports at a price below their cost of production

A tariff shifts the supply of the imported good up by the tariff: price rises, quantity falls

Tariff revenue = tariff per unit $\times$ quantity imported

Price foreign producers receive = price paid by consumers – tariff per unit

Reasons for protection: infant, declining and strategic industries, avoiding dumping, jobs, current account deficit, revenue

6.3 Foreign exchange rates

Foreign exchange rate: the price of one currency in terms of another currency

Floating system: the rate is set by the demand for and supply of the currency; fixed system: the government or central bank sets the rate and holds it by intervening

Floating: rise = appreciation, fall = depreciation. Fixed: rise = revaluation, fall = devaluation

Price abroad = home price $\times$ exchange rate (foreign currency per unit of home currency)

Home price of an import = foreign price $\div$ exchange rate (foreign currency per unit of home currency)

If 1 unit of home currency = r units of foreign currency, then 1 unit of foreign currency = $\frac{1}{r}$ units of home currency

Percentage change in the exchange rate = $\frac{\text{new rate} - \text{old rate}}{\text{old rate}} \times 100$

Demand for a currency: its exports, inward investment and FDI, hot money, speculation, remittances, central bank buying

Supply of a currency: its imports, investment abroad, money leaving for higher interest rates abroad, speculation, central bank selling

Depreciation: export prices fall, import prices rise. Appreciation: export prices rise, import prices fall

Spending on exports and imports moves the "right" way after a depreciation only if their demand is price elastic

Excess supply at a fixed rate is bought by the central bank with its foreign currency reserves

6.4 Current account of balance of payments

Balance on trade in goods = exports of goods – imports of goods

Balance on trade in services = exports of services – imports of services

Balance on any part of the current account = credits (money in) – debits (money out)

Current account balance = trade in goods balance + trade in services balance + primary income balance + secondary income balance

Current account: positive = surplus; negative = deficit; zero = in balance

Missing balance = current account balance – the sum of the other three balances

Change in a balance = new balance – old balance; a positive change is an improvement

Current account balance as a percentage of GDP = $\frac{\text{current account balance}}{\text{GDP}} \times 100$