O Level and IGCSE Economics: full syllabus summary notes

These notes cover all six sections of the Cambridge O Level Economics (2281) and Cambridge IGCSE Economics (0455) syllabus in syllabus order. Each section gives the key terms you must define, the diagrams you must be able to draw and explain, and examples from Pakistan that you can use in longer answers. A Quick check with full worked answers is at the end.

> **How to use these notes.** Learn the boxed definitions word for word: definition questions are worth easy marks and examiners look for precise wording. When a question says "explain", give a chain of reasoning (cause, link, effect). When it says "discuss" or "evaluate", give both sides and finish with a justified conclusion that says "it depends on..." and names what it depends on.

1. The basic economic problem

1.1 The nature of the economic problem

Every economy faces the same basic problem: human wants are unlimited, but the resources available to satisfy them are limited. This is called scarcity. Because of scarcity, choices must be made about how resources are used. Scarcity affects consumers (limited income), workers (limited time and skills), producers (limited capital and raw materials) and governments (limited tax revenue).

> **Economic problem:** the situation where there are unlimited wants but finite (limited) resources to satisfy them.
> **Scarcity:** a situation where there are insufficient resources to satisfy all wants.

Goods can be divided into two types. **Economic goods** are scarce and so have an opportunity cost when they are produced: a textbook, a bag of rice, a cricket bat. **Free goods** are not scarce and have no opportunity cost: air to breathe or seawater on a beach. Using a free good does not mean anyone else has less of it.

Because resources are scarce, every economy must answer three fundamental questions:

1. **What to produce?** Which goods and services, and in what quantities.
2. **How to produce?** Which combination of resources and methods, for example labour-intensive or capital-intensive.
3. **For whom to produce?** How the output is distributed among people.

1.2 The factors of production

Resources used to produce goods and services are called factors of production. There are four.

Factor	Meaning	Reward	Pakistan example
Land	All natural resources: land surface, minerals, water, forests, fish	Rent	The fertile plains of Punjab, coal at Thar, natural gas at Sui

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Labour	Human effort, physical and mental, used in production	Wages	Textile workers in Faisalabad, software developers in Lahore
Capital	Human-made goods used to produce other goods and services	Interest	Looms, tractors, delivery vans, the Karachi port cranes
Enterprise	The willingness to take risks and organise the other factors of production	Profit	An entrepreneur starting a food delivery business

The **quantity** of a factor can change. The quantity of land can rise if land is reclaimed or new resources are discovered, and fall through soil erosion or depletion. The quantity of labour depends on population size, the age structure, the retirement age and the labour force participation rate (for example, the share of women in paid work). The quantity of capital rises with investment. Enterprise rises if the business environment improves, for example through lower taxes on profits or easier business registration.

The **quality** of a factor can also change. Labour quality improves with education, training and better healthcare. Capital quality improves with advances in technology. Land quality can improve with irrigation and fertilisers, or fall with pollution and over-farming.

Factors of production are **mobile** to different degrees. **Occupational mobility** is the ease with which a factor can move from one use to another, for example a bank clerk retraining as a programmer. **Geographical mobility** is the ease with which a factor can move from one place to another, for example a worker moving from a village in Sindh to Karachi. Low mobility of labour is a cause of unemployment.

1.3 Opportunity cost

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

Opportunity cost affects decisions by all economic agents. A student who spends an evening on a part-time job gives up an evening of revision. A firm that spends on a new machine cannot spend the same money on advertising. A government that spends more on defence may have to spend less on schools and hospitals. Opportunity cost is the single best alternative, not a list of everything that could have been chosen.

1.4 Production possibility curve (PPC)

> **Production possibility curve (PPC):** a curve showing the maximum combinations of two goods or services that can be produced in an economy when all resources are fully and efficiently used.

Diagram described: one good on each axis (for example consumer goods on the vertical axis and capital goods on the horizontal axis). The PPC is usually drawn bowed outwards (concave to the origin) because resources are not equally suited to producing both goods, so opportunity cost rises as more of one good is produced.

- A point **on** the curve: all resources are fully and efficiently employed.
- A point **inside** the curve: some resources are unemployed or used inefficiently.
- A point **outside** the curve: unattainable with current resources and technology.

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- A **movement along** the curve shows the opportunity cost of producing more of one good: some of the other good must be given up.
- An **outward shift** of the PPC shows economic growth in productive capacity, caused by more resources or better quality resources (more capital, a larger or better educated labour force, new technology).
- An **inward shift** shows a fall in productive capacity, for example after a flood destroys farmland and infrastructure, or after emigration of skilled workers.

Worked example. An economy can produce either 100 tractors and 400 tonnes of wheat, or 120 tractors and 340 tonnes of wheat. What is the opportunity cost of the extra 20 tractors?
Wheat given up = 400 – 340 = 60 tonnes. Opportunity cost of 20 tractors = 60 tonnes of wheat, so the opportunity cost of one tractor is 60 ÷ 20 = 3 tonnes of wheat.

2. The allocation of resources

2.1 Microeconomics and macroeconomics

Microeconomics studies individual decision makers: households, workers and firms, and particular markets such as the market for wheat or for doctors. **Macroeconomics** studies the economy as a whole: total output, the general price level, total employment, the balance of payments and government policy.

2.2 The role of markets in allocating resources

Market: any arrangement that brings buyers and sellers together to exchange goods and services.
Price mechanism: the system in which the interaction of demand and supply determines prices, and prices allocate resources.

In a market system the three questions are answered by price. If consumers want more of a good, its price rises, making production more profitable, so firms move resources into making it. Prices act as **signals** (showing where demand is strong), **incentives** (rewarding producers who respond) and a **rationing** device (limiting purchases of scarce goods to those willing and able to pay).

2.3 Demand

Demand: the willingness and ability to buy a good or service at a given price in a given time period.
Effective demand is demand backed by the ability to pay.

Individual demand is the demand of one consumer; **market demand** is the sum of all individual demands at each price.

The **law of demand**: as price rises, quantity demanded falls, other things being equal. The demand curve slopes downwards from left to right. Reasons: at a lower price consumers can afford more (income effect), and the good becomes cheaper compared with substitutes (substitution effect).

Movement along the demand curve: caused only by a change in the good's own price. A fall in price

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causes an **extension** of demand; a rise in price causes a **contraction** of demand.

Shift of the demand curve: caused by a change in any other factor (the conditions of demand). A shift to the right is an increase in demand; a shift to the left is a decrease. Causes:

- Income: higher income increases demand for most goods (normal goods).
- Price of substitutes: if tea becomes more expensive, demand for coffee increases.
- Price of complements: if petrol becomes more expensive, demand for cars may decrease.
- Tastes and fashion, often influenced by advertising.
- Population size and age structure.
- Taxes on income and subsidies to consumers.
- Expected future prices, seasons and festivals (demand for sacrificial animals rises before Eid ul Adha).

2.4 Supply

> **Supply:** the willingness and ability to sell a good or service at a given price in a given time period.

The **law of supply**: as price rises, quantity supplied rises, other things being equal, because higher prices make production more profitable and firms can cover higher costs of extra output. The supply curve slopes upwards from left to right. Market supply is the sum of individual firms' supply.

Movement along the supply curve: caused only by a change in the good's own price (extension when price rises, contraction when price falls).

Shift of the supply curve: caused by changes in the conditions of supply:

- Costs of production (wages, raw materials, energy). Higher costs shift supply to the left.
- Technology and productivity improvements shift supply to the right.
- Indirect taxes shift supply to the left; subsidies to producers shift it to the right.
- Weather and natural events, important for farming (the 2022 floods in Pakistan reduced the supply of cotton, rice and vegetables).
- The number of firms in the market.
- Prices of other goods the firm could produce instead (a farmer may switch from cotton to sugar cane).

2.5 Price determination

> **Equilibrium price:** the price at which demand and supply are equal, so there is no tendency for the price to change.

Diagram described: price on the vertical axis, quantity on the horizontal axis; a downward sloping demand curve D and an upward sloping supply curve S cross at the equilibrium price P_e and quantity Q_e.

If the price is above equilibrium, quantity supplied exceeds quantity demanded: there is **excess supply** (a surplus). Sellers cut prices to clear stocks until equilibrium is reached. If the price is below equilibrium, quantity demanded exceeds quantity supplied: there is **excess demand** (a shortage).

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Buyers compete and sellers raise prices until equilibrium is reached.

2.6 Price changes

Changes in market conditions shift the curves and give a new equilibrium:

Change	Effect on equilibrium price	Effect on equilibrium quantity
Demand increases (shifts right)	Rises	Rises
Demand decreases (shifts left)	Falls	Falls
Supply increases (shifts right)	Falls	Rises
Supply decreases (shifts left)	Rises	Falls

Worked example (Pakistan). Explain the effect of a poor wheat harvest on the price of flour.
A poor harvest reduces the supply of wheat, shifting the supply curve of wheat to the left. At the original price there is now excess demand, so the price of wheat rises. Wheat is the main raw material for flour, so mills' costs rise and the supply of flour shifts to the left. The equilibrium price of flour rises and the quantity bought falls.

2.7 Price elasticity of demand (PED)

Price elasticity of demand (PED): a measure of the responsiveness of quantity demanded to a change in price.
PED = percentage change in quantity demanded ÷ percentage change in price

PED is negative because price and quantity demanded move in opposite directions; the minus sign is often ignored when describing the size.

Value (ignoring sign)	Name	Meaning
Greater than 1	Price elastic	Quantity changes by a bigger percentage than price
Less than 1	Price inelastic	Quantity changes by a smaller percentage than price
Equal to 1	Unit elastic	Quantity changes by the same percentage as price
0	Perfectly inelastic	Quantity does not change at all (vertical demand curve)
Infinity	Perfectly elastic	Any rise in price makes quantity fall to zero (horizontal demand curve)

Determinants of PED:

- **Number and closeness of substitutes:** more close substitutes make demand more elastic. One brand of cooking oil is elastic; salt in general is inelastic.
- **Proportion of income spent on the good:** a small share (matches) gives inelastic demand; a large share (cars) gives more elastic demand.
- **Necessity or luxury:** necessities such as basic medicines are inelastic.

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- **Habit or addiction:** cigarettes are inelastic.
- **Time:** demand becomes more elastic over a longer period as people find alternatives.
- **Definition of the market:** demand for "food" is inelastic; demand for one brand of biscuit is elastic.

PED and total revenue (total spending). Total revenue = price × quantity. If demand is price elastic, a price cut increases total revenue and a price rise reduces it. If demand is price inelastic, a price rise increases total revenue and a price cut reduces it. If unit elastic, total revenue does not change.

> **Worked example.** The price of a phone case rises from Rs 500 to Rs 600 and the quantity sold per week falls from 200 to 140.
> Percentage change in price = (600 – 500) ÷ 500 × 100 = +20%.
> Percentage change in quantity = (140 – 200) ÷ 200 × 100 = –30%.
> PED = –30 ÷ 20 = –1.5. Demand is price elastic.
> Check with revenue: before = 500 × 200 = Rs 100,000; after = 600 × 140 = Rs 84,000. Revenue fell, which is what we expect when price rises and demand is elastic.

Uses of PED: firms use it to set prices (raise prices on inelastic goods to raise revenue); governments use it to choose what to tax (taxes on goods with inelastic demand, such as petrol and cigarettes, raise more revenue but do little to reduce consumption); it also helps predict how a currency depreciation will affect export revenue.

2.8 Price elasticity of supply (PES)

> **Price elasticity of supply (PES):** a measure of the responsiveness of quantity supplied to a change in price.
> PES = percentage change in quantity supplied ÷ percentage change in price

PES is positive. Above 1 is elastic, below 1 is inelastic, 0 is perfectly inelastic (vertical supply curve), infinity is perfectly elastic (horizontal supply curve), 1 is unit elastic.

Determinants of PES:

- **Time:** supply is more elastic in the long run, when firms can build new capacity. Farm output is inelastic in the short run because crops take months to grow.
- **Spare capacity:** firms with unused machines and workers can raise output quickly.
- **Stocks:** goods that can be stored (cement, packaged food) have more elastic supply than perishables (fresh milk).
- **Mobility of factors:** if resources can easily be switched from other uses, supply is more elastic.
- **Ease of entry:** if new firms can enter quickly, market supply is more elastic.

> **Worked example.** The price of mangoes rises by 25% and the quantity supplied in the market rises by 5%. PES = 5 ÷ 25 = 0.2, so supply is price inelastic. Reason: trees take years to grow and the harvest for the season is fixed.

2.9 Market economic system

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> **Market economic system:** an economic system in which resources are allocated by the price mechanism and are mainly owned by the private sector.

Advantages: wide consumer choice; firms respond quickly to what consumers want; the profit motive gives incentives to be efficient and innovate; no need for a large government bureaucracy.

Disadvantages: merit goods are under-provided and demerit goods over-provided; public goods may not be provided at all; external costs such as pollution are ignored; income and wealth can become very unequal; monopolies can exploit consumers; unemployment can rise in recessions.

2.10 Market failure

> **Market failure:** a situation where the market forces of demand and supply lead to an inefficient allocation of resources.

Key terms to learn:

> **Private costs:** costs paid by those who produce or consume a product.
> **External costs:** costs imposed on third parties not involved in the transaction.
> **Social costs:** the total cost to society = private costs + external costs.
> **Private benefits:** benefits received by those who produce or consume a product.
> **External benefits:** benefits received by third parties.
> **Social benefits:** the total benefit to society = private benefits + external benefits.

Causes of market failure:

- **Public goods.** Goods that are non-excludable (people who do not pay cannot be stopped from benefiting) and non-rival (one person's use does not reduce the amount available to others). Examples: street lighting, national defence, flood barriers. Because of the **free-rider problem**, private firms cannot charge for them, so the market fails to provide them.
- **Merit goods.** Goods that are more beneficial to consumers than they realise and give external benefits, so they are under-consumed in a free market: education, healthcare, vaccinations.
- **Demerit goods.** Goods that are more harmful than consumers realise and give external costs, so they are over-consumed: cigarettes, alcohol, drugs.
- **External costs and benefits.** Producers and consumers base decisions on private costs and benefits only. Goods with external costs (a brick kiln polluting the air near Lahore) are over-produced; goods with external benefits (a farmer planting trees) are under-produced.
- **Abuse of monopoly power.** A monopoly can restrict output and raise prices.
- **Factor immobility.** Workers who cannot move to new jobs stay unemployed.
- **Lack of information.** Consumers may not know the risks of a product.

2.11 Mixed economic system

> **Mixed economic system:** an economic system in which resources are allocated by both the price mechanism and the government, with both a private sector and a public sector.

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Pakistan is a mixed economy: most farms, shops, textile mills and banks are privately owned, while the government provides public schools and hospitals, owns or has owned large enterprises such as Pakistan Railways and WAPDA, and regulates many markets.

Government measures to correct market failure:

- **Maximum price** set below the equilibrium price to make a necessity affordable. Diagram: a horizontal line below equilibrium; quantity demanded exceeds quantity supplied, creating a shortage. Possible results: queues, rationing, black markets.
- **Minimum price** set above the equilibrium price, for example a support price for wheat to protect farmers' incomes, or a minimum wage. Diagram: a horizontal line above equilibrium; quantity supplied exceeds quantity demanded, creating a surplus that the government may have to buy and store.
- **Indirect taxes** on demerit goods and goods with external costs. Diagram: supply shifts left (upwards by the amount of a specific tax); price rises and quantity falls. Effectiveness depends on PED: if demand is inelastic, consumption falls only a little.
- **Subsidies** on merit goods and goods with external benefits. Diagram: supply shifts right; price falls and quantity rises. Opportunity cost: the money could be spent elsewhere.
- **Regulation:** laws such as bans on smoking in public places, emission limits, compulsory schooling.
- **Direct provision** of public and merit goods, financed by taxation.
- **Privatisation and nationalisation:** transferring ownership to the private or public sector.
- **Information provision:** health warnings on cigarette packets, public campaigns for polio vaccination.

Government failure can occur: a tax may be set too low to change behaviour, a maximum price can create black markets, and subsidies can encourage inefficiency.

3. Microeconomic decision makers

3.1 Money and banking

> **Money:** anything that is generally acceptable as a means of payment for goods and services.

Functions of money: a medium of exchange (removes the need for a double coincidence of wants that barter requires); a unit of account (measures the value of goods); a store of value (can be saved for future use); a standard for deferred payment (allows borrowing and lending to be repaid later).

Characteristics of good money: acceptable, durable, portable, divisible, homogeneous (each unit identical), scarce (limited in supply so it keeps its value), and difficult to forge.

Forms of money: coins and notes (cash), bank deposits, and electronic money (mobile wallets such as those widely used in Pakistan for transfers and bill payments).

Central bank. The State Bank of Pakistan (SBP) is Pakistan's central bank. Functions of a central bank: issues notes and coins; acts as the government's bank; acts as the bankers' bank (holds commercial banks' deposits and lends to them as lender of last resort); conducts monetary policy (sets the policy interest rate); manages the country's foreign exchange reserves and influences the

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exchange rate; regulates and supervises commercial banks.

Commercial banks (for example HBL, MCB, UBL, Meezan Bank) are profit-making firms. Functions: accept deposits; make loans and overdrafts to households and firms; provide payment services (debit cards, transfers, cheques); offer other services such as foreign exchange and safe custody. Islamic banks offer Shariah-compliant products based on profit-sharing rather than interest.

3.2 Households

Spending (consumption). Influences on household spending:

- **Income:** higher disposable income raises spending. Poorer households spend a larger proportion of their income than richer households.
- **Wealth:** households with more assets (property, savings) spend more and are more confident.
- **Interest rates:** higher rates encourage saving and make borrowing more expensive, reducing spending on items bought on credit such as cars and motorcycles.
- **Confidence:** fear of job loss reduces spending.
- **Inflation expectations:** if prices are expected to rise, people may buy now.
- **Availability of credit** and the size and age of the household.

Saving is disposable income not spent. Influences: income (richer households save a larger proportion), interest rates, confidence, availability of savings products, social attitudes, and the level of state pensions.

Borrowing. Influences: interest rates, availability of loans, confidence, wealth (collateral), and social attitudes to debt.

3.3 Workers

Factors affecting an individual's choice of occupation. Wage factors: the wage or salary, bonuses, overtime pay, commission. Non-wage factors: job security, working hours, holidays, working conditions, promotion prospects, training, pension, fringe benefits (company car, medical cover), job satisfaction, location and status.

Wage determination. In a free labour market the wage is set by the demand for and supply of labour.

- Demand for labour is a **derived demand**: it depends on demand for the product the workers make. It also depends on labour productivity and the price of capital that could replace labour.
- Supply of labour to an occupation depends on the wage, the qualifications and skills needed, non-wage factors, and the size of the working population.

Other influences on wages: government policy (minimum wage, public sector pay scales), trade union bargaining power, and discrimination.

Reasons for differences in earnings:

- Skilled workers earn more than unskilled workers because the supply of skilled labour is lower and their productivity is higher (a surgeon compared with a cleaner).
- Private sector and public sector pay differ.
- Workers in primary, secondary and tertiary sectors earn different wages; tertiary and highly skilled jobs tend to pay more.

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- Male and female earnings differ because of discrimination, occupational choices, career breaks and fewer women in senior posts.
- Earnings rise with age and experience up to a point, then may level off.
- Dangerous or unpleasant jobs may pay more to attract workers.

> **Specialisation of workers (division of labour):** workers concentrating on particular tasks or jobs.

Advantages for workers: become more skilled at the task, possibly higher pay. **Disadvantages for workers:** boredom, reduced occupational mobility, risk of unemployment if the task is automated. **Advantages for firms:** higher productivity, less time lost switching tasks, lower training costs. **Disadvantages for firms:** bored workers may make mistakes; if one stage stops the whole production line stops.

3.4 Trade unions

> **Trade union:** an association of workers formed to protect and promote the interests of its members.

Role: collective bargaining with employers over wages, hours and conditions; protecting jobs; improving health and safety; providing legal advice and training; influencing government policy.

Factors influencing the strength of a trade union: the number and share of workers who are members; whether workers are skilled and hard to replace; whether the employer is profitable; the state of the economy (unions are stronger when unemployment is low); laws on union activity; public support.

Industrial action includes overtime bans, work-to-rule, go-slows and strikes.

Advantages of trade unions: higher wages and better conditions for members; a single voice reduces the cost of negotiation for employers; can improve worker morale and productivity. **Disadvantages:** higher wages can raise costs and cause job losses; strikes cause lost output for firms, lost wages for workers and disruption for the public; can resist new technology.

3.5 Firms

Classification of firms:

- By sector: **primary** (extracting natural resources: farming, fishing, mining), **secondary** (manufacturing and construction: textiles, cement), **tertiary** (services: banking, transport, education). In Pakistan, services form the largest share of output, agriculture is a large employer, and textiles are the main manufactured export.
- By ownership: **private sector** firms are owned by individuals or shareholders and aim mainly for profit; **public sector** organisations are owned by the government.
- By size: measured by number of employees, value of output, capital employed or market share.

Small firms survive because they serve small or niche markets, offer personal service, are flexible, can be supported by government schemes, and some owners prefer to stay small. **Challenges** for small firms: hard to raise finance, higher average costs, limited ability to advertise, risk from larger competitors.

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Growth of firms. Internal growth (organic): the firm expands its own capacity, for example opening new branches. **External growth**: through mergers (two firms agree to join) and takeovers. Types of merger:

- **Horizontal:** firms at the same stage of production in the same industry (two banks merging).
- **Vertical backward:** with a supplier (a textile mill buying a cotton ginning firm). **Vertical forward:** with a customer or retail outlet (a clothing producer buying a chain of shops).
- **Conglomerate:** firms in unrelated industries, which spreads risk.

Economies of scale are falls in long-run average cost as a firm increases its scale of production. **Internal economies of scale** come from the firm's own growth:

- **Purchasing (bulk buying):** discounts on large orders.
- **Marketing:** advertising costs spread over more output.
- **Financial:** large firms borrow more cheaply.
- **Managerial:** can employ specialist managers.
- **Technical:** can afford large, efficient machines.
- **Risk-bearing:** can diversify products and markets.

External economies of scale come from the growth of the whole industry, often in one area: skilled workforce, specialist suppliers, training colleges and good infrastructure. Sialkot's sports goods and surgical instruments cluster is an example.

Diseconomies of scale are rises in long-run average cost when a firm grows too large: poor communication, coordination problems, low worker morale and slow decision-making. External diseconomies include traffic congestion and higher land prices in crowded industrial areas.

3.6 Firms and production

Demand for factors of production depends on demand for the product, the price of each factor, the productivity of each factor, and the availability of substitute factors.

Labour-intensive production uses a high proportion of labour compared with capital (hand-knotted carpets, hand-picking cotton). **Capital-intensive production** uses a high proportion of capital (an automated fertiliser plant, an oil refinery). Firms choose depending on relative factor prices, the size of the market, and the type of product. Where labour is cheap and plentiful, as in Pakistan, many industries are labour-intensive.

> **Production:** the use of factors of production to make goods and services.
> **Productivity:** output per factor of production per time period (for example, output per worker per hour).

Productivity is not the same as production. Production can rise because more workers are hired while productivity stays the same. Productivity rises through better training, better technology and capital, better management and motivation.

3.7 Firms' costs, revenue and objectives

> **Fixed costs (FC):** costs that do not change with the level of output in the short run (rent,

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insurance, salaries of permanent managers).
Variable costs (VC): costs that change directly with output (raw materials, electricity used by machines, piece-rate wages).
Total cost (TC) = fixed cost + variable cost.
Average total cost (ATC) = total cost ÷ output.
Average fixed cost (AFC) = fixed cost ÷ output.
Average variable cost (AVC) = variable cost ÷ output.

Diagrams described: total fixed cost is a horizontal line; total variable cost starts at the origin and rises; total cost is parallel to variable cost but starts at the fixed cost level. Average fixed cost falls continuously as output rises, because the same fixed cost is spread over more units. The average total cost curve is usually U-shaped.

Total revenue (TR) = price × quantity sold.
Average revenue (AR) = total revenue ÷ quantity sold (equal to price).
Profit = total revenue – total cost.

Worked example. A bakery has fixed costs of Rs 60,000 per week. Each loaf costs Rs 40 in variable costs and sells for Rs 100. It sells 1,500 loaves a week.
TR = 100 × 1,500 = Rs 150,000.
VC = 40 × 1,500 = Rs 60,000. TC = 60,000 + 60,000 = Rs 120,000.
Profit = 150,000 – 120,000 = Rs 30,000.
ATC = 120,000 ÷ 1,500 = Rs 80 per loaf. AFC = 60,000 ÷ 1,500 = Rs 40.

Objectives of firms:

- **Survival:** especially for new firms and in recessions.
- **Social welfare:** social enterprises, charities and some public sector bodies aim to benefit society.
- **Profit maximisation:** the usual assumption for private sector firms.
- **Growth:** increasing size and market share, which can bring economies of scale and security.

3.8 Market structure

Competitive markets have many firms, each small relative to the market, selling similar products, with easy entry and exit. Characteristics and effects: prices tend to be low, firms must be efficient to survive, consumers have choice, and in the long run firms earn only normal profit because high profits attract new entrants.

Monopoly: a market structure where there is a single supplier (or one firm dominates the market).

Characteristics of monopoly: one firm with a high market share; high barriers to entry (legal barriers such as patents and licences, very high start-up costs, control of raw materials, economies of scale, strong brand loyalty); the monopolist is a price maker.

Advantages of monopoly: economies of scale can lead to lower costs; high profits can be used for research and development; avoids wasteful duplication in natural monopolies (water pipes, electricity grids).

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Disadvantages: higher prices and lower output than in a competitive market; less choice; less incentive to be efficient or improve quality; may exploit suppliers and consumers. Governments regulate monopolies through competition authorities (in Pakistan, the Competition Commission of Pakistan), price controls and, for natural monopolies, regulators such as NEPRA for electricity.

4. Government and the macroeconomy

4.1 The role of government

The government acts in three roles: as a **producer** of goods and services (state schools, hospitals, roads, some state-owned enterprises); as an **employer** (civil servants, teachers, doctors, armed forces); and as a **regulator** of markets and firms. Government operates at local, national and international levels: local councils provide services such as waste collection; the federal and provincial governments set taxes and run large services; at international level the government negotiates through bodies such as the World Trade Organization (WTO) and the International Monetary Fund (IMF).

4.2 The macroeconomic aims of government

The main aims are:

1. **Economic growth:** a steady rise in real GDP.
2. **Full employment** / **low unemployment.**
3. **Stable prices** / **low inflation.**
4. **Balance of payments stability:** no long-run, large current account deficit.
5. **Redistribution of income:** reducing inequality.

Possible conflicts between aims:

- **Growth vs inflation:** fast growth raises total demand, which can push up prices.
- **Full employment vs inflation:** with low unemployment, firms compete for workers and raise wages, which can raise prices.
- **Growth vs balance of payments:** higher incomes raise spending on imports, worsening the current account. Pakistan has often experienced this: periods of fast growth have been followed by large current account deficits and pressure on foreign exchange reserves.
- **Growth vs redistribution:** higher taxes on the rich to redistribute income may reduce incentives to work and invest.

4.3 Fiscal policy

> **Fiscal policy:** the use of government spending and taxation to influence the economy.
> **Budget:** the government's plan of revenue and spending for the coming year.
> **Budget deficit:** government spending is greater than revenue. **Budget surplus:** revenue is greater than spending.

Reasons for government spending: to provide public and merit goods; to support the poor (for example cash transfers through the Benazir Income Support Programme); to build infrastructure; to influence total demand; to repay debt and pay interest.

Reasons for taxation: to raise revenue; to discourage consumption of demerit goods; to redistribute

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income; to protect domestic industries (tariffs); to influence total demand.

Classification of taxes:

- **Direct taxes** are taken directly from income or wealth: income tax, corporation (company profits) tax.
- **Indirect taxes** are on spending: sales tax, excise duties, customs duties (tariffs). In Pakistan, general sales tax provides a large share of federal revenue.
- **Progressive tax:** takes a larger proportion of income as income rises (Pakistan's income tax with higher rates on higher slabs).
- **Regressive tax:** takes a larger proportion of income from the poor than the rich (a sales tax on basic goods, because the poor spend a larger share of income).
- **Proportional tax:** takes the same proportion of income at all income levels.

Qualities of a good tax (canons of taxation): equitable (based on ability to pay), certain (clear to the taxpayer), convenient (easy to pay), economical (cheap to collect), flexible, and does not discourage work or enterprise.

Impact of taxation: on consumers (less disposable income, higher prices), on producers (higher costs, lower profits), on government revenue and on the economy (redistribution and changes in total demand).

Expansionary fiscal policy (higher spending or lower taxes) increases total demand, output and employment in a recession, but may increase inflation, worsen the current account and increase government debt. **Contractionary fiscal policy** (lower spending or higher taxes) reduces total demand, lowering inflation, but may increase unemployment.

Limitations: time lags; spending may be inefficient; tax evasion and a large informal economy limit how much revenue taxes raise (Pakistan has a narrow tax base); high debt repayments limit the ability to spend more.

4.4 Monetary policy

> **Monetary policy:** the use of interest rates, the money supply and the foreign exchange rate to influence the economy.
> **Money supply:** the total amount of money in the economy.

In Pakistan the State Bank of Pakistan's Monetary Policy Committee sets the **policy rate**, which influences the interest rates commercial banks charge and pay.

Contractionary (tight) monetary policy: raising interest rates. Effects: borrowing becomes more expensive and saving more rewarding, so household spending on credit and firms' investment fall; total demand falls; inflation is reduced. Possible costs: lower growth, higher unemployment, higher costs for firms and borrowers, and a stronger exchange rate that can hurt exporters.

Expansionary (loose) monetary policy: cutting interest rates or increasing the money supply. Effects: more borrowing, spending and investment; higher output and employment. Risk: inflation and more imports.

Limitations: time lags; if confidence is low, people may not borrow even at low rates; many people in Pakistan do not use banks, so interest rate changes affect them less directly.

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4.5 Supply-side policy

> **Supply-side policy:** measures designed to increase the productive capacity of the economy (to increase aggregate supply).

Examples:

- **Education and training:** improves the skills and productivity of labour (technical and vocational training).
- **Improving healthcare:** a healthier labour force is more productive.
- **Labour market reforms:** making it easier to hire workers, reducing unemployment benefits to increase incentives to work.
- **Lower direct taxes:** increase incentives to work and invest.
- **Deregulation:** removing unnecessary rules to encourage new firms and competition.
- **Privatisation:** transferring state-owned enterprises to the private sector to increase efficiency.
- **Improving incentives to invest and innovate:** tax allowances on investment, special economic zones.
- **Infrastructure:** roads, ports and power supply (for example the projects under the China-Pakistan Economic Corridor, CPEC).

Advantages: can raise long-run growth, reduce unemployment and inflation together, and improve international competitiveness. **Disadvantages:** long time lags; high cost to government; some measures (lower benefits, weaker job protection) can increase inequality.

4.6 Economic growth

> **Economic growth:** an increase in the real output (real GDP) of an economy over time.
> **Gross domestic product (GDP):** the total value of output produced in a country in a year.
> **Real GDP** is GDP adjusted for inflation; **nominal GDP** is measured at current prices.

GDP can be measured by the output method, the income method and the expenditure method. All three should give the same total.

The economic cycle (business cycle) has four stages: **boom** (high growth, low unemployment, rising inflation), **recession** (falling real GDP for at least two consecutive quarters, rising unemployment), **slump** (the lowest point), and **recovery** (output starts rising again). Diagram described: real GDP on the vertical axis against time, a wave around a rising trend line.

Causes of economic growth: increases in total demand (consumption, investment, government spending, net exports) in the short run; increases in the quantity and quality of factors of production in the long run (investment in capital, education, new technology, discovery of resources).

Causes of recession: fall in total demand (falls in confidence, higher interest rates, global recession reducing exports), or supply shocks such as floods or a rise in oil prices.

Consequences of growth. Benefits: higher incomes and living standards, more employment, more tax revenue for public services, less poverty. Costs: inflation if demand grows faster than capacity, pollution and depletion of resources, possible increase in inequality, current account deficits as imports

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rise.

Policies to promote growth: expansionary fiscal and monetary policy in the short run; supply-side policies in the long run.

4.7 Employment and unemployment

> **Unemployment:** the situation where people who are willing and able to work, and are actively seeking work, cannot find a job.
> **Unemployment rate** = number unemployed ÷ labour force × 100.
> **Labour force:** those in work plus those unemployed (people of working age who are economically active).

Changing patterns of employment: as economies develop, employment moves from the primary sector to the secondary and then the tertiary sector; more women join the labour force; part-time, self-employed and informal work changes. In Pakistan agriculture still employs a large share of workers, and the informal sector is very large.

Measurement: the **claimant count** counts those claiming unemployment benefits; the **labour force survey** uses an internationally agreed (ILO) definition and asks a sample of households. Pakistan's Bureau of Statistics uses a labour force survey; the claimant count is not suitable because there is no general unemployment benefit.

Types (causes) of unemployment:

- **Frictional:** people between jobs, briefly searching for new work.
- **Structural:** a long-term decline in an industry leaves workers whose skills or location do not match available jobs (for example, when handloom weaving declined with mechanisation). Includes **technological** unemployment.
- **Cyclical (demand-deficient):** caused by a fall in total demand during a recession.
- **Seasonal:** work that depends on the time of year (harvest labour, tourism in the northern areas).

Consequences of unemployment. For individuals: loss of income, loss of skills, stress and health problems. For the economy: lost output (the economy produces inside its PPC), lower tax revenue, higher government spending on support, possible crime and social problems, and emigration of workers.

Policies to reduce unemployment: expansionary fiscal and monetary policy for cyclical unemployment; training, education, relocation help and better job information for structural and frictional unemployment.

4.8 Inflation and deflation

> **Inflation:** a sustained rise in the general price level over time.
> **Deflation:** a sustained fall in the general price level over time.
> **Consumer prices index (CPI):** a weighted index of the prices of a basket of goods and services bought by a typical household, used to measure inflation.

Measuring with a CPI: a household survey identifies what typical households buy; a base year is chosen with index 100; prices of the basket are recorded regularly; each item is given a **weight**

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according to the share of spending on it; the weighted price changes are combined into the index. In Pakistan the Pakistan Bureau of Statistics publishes the CPI each month.

> **Worked example (weighted index).** A basket has two items. Food has weight 6 and its price index rises to 110. Transport has weight 4 and its index rises to 120.
> Weighted index = (6 × 110 + 4 × 120) ÷ (6 + 4) = (660 + 480) ÷ 10 = 114.
> Inflation since the base year = 114 – 100 = 14%.

Causes of inflation:

- **Demand-pull inflation:** total demand grows faster than the economy's ability to supply, often in a boom or when money supply grows quickly.
- **Cost-push inflation:** rising costs of production (wages, imported oil, electricity tariffs, a depreciating currency making imports dearer) push up prices. Pakistan's inflation has often been driven by higher energy and food prices and rupee depreciation.

Consequences of inflation: reduces purchasing power of money, especially for people on fixed incomes; savers lose if inflation is higher than the interest rate; borrowers gain because the real value of debt falls; uncertainty reduces investment; exports become less price competitive; menu costs (changing price lists) and shoe-leather costs (time spent looking for better deals). Mild, stable inflation can encourage firms by raising profits.

Causes of deflation: a fall in total demand (bad deflation) or improvements in supply and productivity that lower costs (good deflation).

Consequences of deflation: consumers delay purchases expecting lower prices, reducing demand and output; real value of debt rises; firms cut wages and jobs. Good deflation from productivity gains has fewer harmful effects.

Policies to control inflation: contractionary monetary policy (higher interest rates), contractionary fiscal policy (lower spending, higher taxes) for demand-pull inflation; supply-side policies to reduce costs for cost-push inflation.

5. Economic development

5.1 Living standards

Indicators of living standards:

- **Real GDP per head (per capita):** real GDP ÷ population. Higher values suggest a higher material standard of living. Limitations: ignores income distribution, the informal economy, unpaid work, the environment, leisure time and the quality of goods; comparing countries needs a common currency and should allow for differences in prices.
- **Human Development Index (HDI):** a composite measure published by the United Nations Development Programme combining **health** (life expectancy at birth), **education** (mean and expected years of schooling) and **income** (gross national income per head, adjusted for purchasing power). Values range from 0 to 1. Advantages: wider than income alone. Limitations: does not include inequality, political freedom, the environment or the quality of education and healthcare.

Comparisons should use several indicators, because two countries with similar GDP per head can

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have very different health and education outcomes.

5.2 Poverty

> **Absolute poverty:** a situation where people have insufficient income to meet their basic needs (food, clean water, shelter, clothing).
> **Relative poverty:** a situation where people's income is low compared with others in the same country (for example, below a set percentage of median income).

Causes of poverty: unemployment; low wages and low productivity; poor education and health; large family size; age, sickness or disability; inequality of land ownership; corruption and poor governance; natural disasters and conflict; high inflation that reduces real incomes.

Policies to reduce poverty and redistribute income: economic growth that creates jobs; improved education and healthcare; progressive taxation; cash transfers and social safety nets (the Benazir Income Support Programme gives cash support to low-income women); minimum wage; microfinance for small businesses; land reform; better infrastructure in rural areas.

5.3 Population

Factors affecting population growth:

- **Birth rate:** number of live births per 1,000 people per year. Influenced by income, education of women, access to family planning, religious and cultural attitudes, infant mortality and the cost of raising children.
- **Death rate:** number of deaths per 1,000 people per year. Influenced by healthcare, nutrition, clean water, sanitation and living conditions.
- **Net migration:** immigration minus emigration. Pakistan has large emigration of workers, many to the Gulf states and the UK.

Natural increase in population = birth rate – death rate. Pakistan has one of the highest population growth rates in Asia and a very young age structure.

Reasons for different rates of population growth: developing countries usually have higher birth rates (children seen as workers and as support in old age, less access to contraception, high infant mortality); developed countries have lower birth rates and ageing populations.

Effects of changes in population size and structure. A growing young population: larger future workforce and market, but more spending needed on schools, healthcare and job creation, and a high **dependency ratio** (more dependants per worker). An ageing population: more spending on pensions and healthcare, a smaller workforce, possible labour shortages. **Population pyramids** show age and gender structure: a wide base shows a high birth rate (typical of Pakistan); a narrower base and wider top show an ageing population.

> **Optimum population:** the size of population that maximises output (GDP) per head given the country's resources and technology.

5.4 Differences in economic development between countries

Countries differ in income, productivity, population growth, the size of the primary, secondary and tertiary sectors, saving and investment, education and healthcare.

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Causes of differences: differences in productivity (education, training, technology); size of the primary sector (developing countries depend more on low-value farming and raw materials); population growth (rapid growth can reduce income per head); saving and investment (low incomes leave little to save, which keeps investment low: a vicious cycle of poverty); quality of infrastructure; political stability and governance; access to foreign markets; debt burdens.

6. International trade and globalisation

6.1 International specialisation

Countries specialise in producing the goods and services they can produce most efficiently, then trade. Reasons for specialisation include natural resources, climate, skills of the labour force, and accumulated capital. Pakistan specialises in textiles, garments, rice, leather goods, surgical instruments and sports goods.

Advantages of specialisation at national level: higher output and efficiency, economies of scale, wider consumer choice through trade, more export earnings. **Disadvantages:** dependence on a few products leaves the country vulnerable to falls in world demand or prices (Pakistan's heavy reliance on textiles); dependence on imports for essentials such as oil; structural unemployment if the industry declines.

6.2 Globalisation, free trade and protection

> **Globalisation:** the process by which the world's economies become increasingly integrated through trade, the movement of capital, labour and technology, and the spread of ideas and culture.

Causes: lower transport costs (container shipping), improvements in communication technology and the internet, trade liberalisation through the WTO and trade agreements, and the growth of multinational companies.

> **Multinational company (MNC):** a firm that has its headquarters in one country and produces or provides services in more than one country.

MNCs: advantages for the host country include jobs, investment, new technology and skills, tax revenue and exports. Disadvantages include profits sent back to the home country, competition that can close local firms, possible exploitation of workers and the environment, and the risk that the MNC leaves. Examples operating in Pakistan include multinational food, consumer goods and telecommunications companies.

Advantages of free trade: wider choice and lower prices for consumers; bigger markets allowing economies of scale; competition improving efficiency; access to raw materials and technology. **Disadvantages:** domestic firms may close; jobs may be lost in uncompetitive industries; dependence on other countries.

Methods of protection:

- **Tariffs:** taxes on imports, raising their price.
- **Import quotas:** limits on the quantity of a good that can be imported.

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- **Subsidies:** to domestic producers, lowering their costs so they can compete.
- **Embargoes:** a complete ban on trade in certain goods or with certain countries.
- **Other barriers:** strict product standards, complicated customs procedures.

Reasons for protection: protect **infant industries** until they can compete; protect strategic industries (food, defence); prevent **dumping** (selling exports below cost); protect jobs; reduce a current account deficit; raise tariff revenue. **Consequences:** higher prices and less choice for consumers; inefficiency in protected firms; possible **retaliation** by other countries, reducing exports.

6.3 Foreign exchange rates

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

In a **floating exchange rate** system the rate is set by the demand for and supply of the currency. Demand for rupees comes from foreigners buying Pakistani exports, overseas Pakistanis sending remittances, and foreign investors. Supply of rupees comes from Pakistanis buying imports, travelling abroad and investing abroad.

Causes of changes in a floating exchange rate: changes in demand for exports and imports; changes in interest rates (higher rates attract foreign savings, raising demand for the currency); changes in inflation (higher inflation makes exports less competitive); speculation; changes in remittances and foreign investment.

> **Appreciation:** a rise in the value of a currency in a floating system.
> **Depreciation:** a fall in the value of a currency in a floating system.
> **Revaluation** / **devaluation:** a rise / fall in the value of a currency in a fixed exchange rate system, decided by the government or central bank.

Fixed exchange rate: the government or central bank sets the rate and maintains it by buying and selling the currency using foreign exchange reserves. Pakistan's rupee is officially market-determined, with the State Bank able to intervene; it has been managed in different ways at different times.

Consequences of exchange rate changes. A **depreciation** makes exports cheaper in foreign currency and imports dearer in domestic currency. It can increase export volumes, reduce import volumes and improve the current account (if demand for exports and imports is price elastic), increase output and employment, but raise cost-push inflation because imported oil, machinery and raw materials cost more. An **appreciation** has the opposite effects: cheaper imports help reduce inflation, but exporters lose competitiveness.

> **Worked example.** A Pakistani exporter sells a shirt for Rs 2,800. The exchange rate changes from US$1 = Rs 280 to US$1 = Rs 350.
> Before: dollar price = 2,800 ÷ 280 = $10.
> After: dollar price = 2,800 ÷ 350 = $8.
> The rupee has depreciated, so the shirt is cheaper for American buyers and demand for it is likely to rise.

Floating vs fixed. Floating: no need for large reserves, automatically adjusts to help correct a current account deficit, frees interest rates for domestic aims; but creates uncertainty for traders. Fixed:

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certainty for traders and investors, discipline against inflation; but needs large reserves to defend, and interest rates may have to be used to defend the rate.

6.4 Current account of the balance of payments

> **Balance of payments:** a record of all the financial transactions between one country and the rest of the world over a period of time.
> **Current account:** the part of the balance of payments that records trade in goods, trade in services, primary income and secondary income.

Components of the current account:

- **Trade in goods** (visible trade): exports minus imports of goods. Pakistan usually has a large deficit here because imports of oil, machinery and food oils exceed exports of textiles and rice.
- **Trade in services** (invisible trade): exports minus imports of services such as transport, tourism, insurance and IT services. Pakistan's IT and freelance service exports have been growing.
- **Primary income:** income from investments and employment abroad (profits, interest, dividends, wages) minus the same paid to foreigners.
- **Secondary income:** transfers such as workers' remittances, foreign aid and gifts. Remittances from overseas Pakistanis are a very large inflow and offset much of the goods deficit.

A **current account deficit** occurs when total outflows exceed inflows; a **surplus** when inflows exceed outflows.

Causes of a deficit: high domestic incomes increasing imports; low productivity and high costs making exports uncompetitive; an overvalued exchange rate; high inflation; dependence on imported energy; falls in world demand for exports. **Causes of a surplus** are the opposite.

Consequences of a deficit: outflow of foreign currency and falling reserves; pressure on the currency to depreciate; borrowing from abroad (Pakistan has repeatedly turned to the IMF); possible job losses in import-competing industries. A short-term deficit to import capital goods can support future growth.
Consequences of a surplus: more reserves and a stronger currency, but other countries may retaliate and inflation may rise.

Policies to achieve current account stability:

- **Fiscal policy:** higher taxes or lower spending reduce incomes and spending on imports.
- **Monetary policy:** higher interest rates reduce spending on imports, but may raise the exchange rate.
- **Exchange rate policy:** allowing or causing a depreciation makes exports cheaper and imports dearer.
- **Protectionist measures:** tariffs and quotas on imports.
- **Supply-side policies:** raise productivity and competitiveness of exports over the long run (training, technology, infrastructure, export zones).

> **Exam tip.** For a "discuss whether a depreciation will reduce a current account deficit" question, explain the mechanism (cheaper exports, dearer imports) and then evaluate: it depends on the

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price elasticity of demand for exports and imports, on whether domestic firms have spare capacity to raise exports, on whether imports are essentials like oil, and on the extra inflation caused by dearer imports.

Quick check

1. Define "opportunity cost" and use a production possibility curve to explain the opportunity cost of a government decision to build more hospitals. [4]
2. Identify the four factors of production and their rewards, and explain two reasons why the quality of labour in Pakistan could improve. [6]
3. The price of a brand of soft drink falls from Rs 120 to Rs 96 and weekly sales rise from 5,000 to 7,000 bottles. Calculate the price elasticity of demand and explain what happens to the firm's total revenue. [5]
4. Using a demand and supply diagram, explain the effect on the market for cooking oil of a rise in the world price of palm oil. [5]
5. Explain why street lighting would not be provided by a market economic system. [4]
6. Analyse the effect of a maximum price on rent set below the equilibrium price. [5]
7. Explain two functions of the State Bank of Pakistan. [4]
8. Explain three reasons why a surgeon earns more than a farm labourer. [6]
9. A firm has fixed costs of Rs 200,000. When it produces 4,000 units its variable costs are Rs 600,000 and it sells each unit for Rs 230. Calculate total cost, average total cost and profit. [4]
10. Explain two internal economies of scale a large textile firm could benefit from. [4]
11. Explain how an increase in the policy interest rate could reduce inflation. [5]
12. Discuss whether supply-side policies are the best way to reduce structural unemployment. [8]
13. Explain two reasons why GDP per head may not be a good measure of living standards. [4]
14. Explain why remittances help Pakistan's current account, and discuss whether a depreciation of the rupee will reduce a current account deficit. [8]
15. Explain two arguments for and one argument against protecting an infant industry with tariffs. [6]

1. Opportunity cost is the best alternative forgone when a choice is made. Draw a PPC with hospitals (or healthcare) on one axis and another good, such as roads, on the other. If the economy is on the curve, all resources are fully used. Building more hospitals means moving along the curve, for example from point A to point B: more hospitals are produced but fewer roads. The roads given up are the opportunity cost of the extra hospitals. (If the economy were inside the curve, with unemployed resources, more hospitals could be built without giving up roads.)

2. Land earns rent, labour earns wages, capital earns interest, enterprise earns profit. Quality of labour could improve through (a) more and better education and vocational training, which raises skills so each worker produces more output per hour; (b) better healthcare and nutrition, which reduces sickness and absence and lets workers work more effectively. Other acceptable answers: on-the-job training by firms, better management.

3. Percentage change in price = (96 – 120) ÷ 120 × 100 = –20%. Percentage change in quantity = (7,000 – 5,000) ÷ 5,000 × 100 = +40%. PED = 40 ÷ –20 = –2. Demand is price elastic (greater

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than 1 ignoring the sign). Total revenue before = 120 × 5,000 = Rs 600,000. After = 96 × 7,000 = Rs 672,000. Revenue rises by Rs 72,000. This is expected because with elastic demand the percentage rise in quantity is bigger than the percentage fall in price.

4. Palm oil is a major raw material for cooking oil, and Pakistan imports much of it. A higher world price raises producers' costs of production. The supply curve of cooking oil shifts to the left. At the original price there is now excess demand, so the price rises until a new equilibrium is reached at a higher price and a lower quantity. Diagram: price on the vertical axis, quantity on the horizontal axis, D unchanged, S shifts left to S_1, equilibrium moves from P_1Q_1 to a higher P_2 and lower Q_2. Because cooking oil is a necessity with inelastic demand, the fall in quantity is relatively small and the rise in price is relatively large.

5. Street lighting is a public good. It is non-excludable: once a street light is on, people who have not paid cannot be stopped from benefiting. It is non-rival: one person using the light does not reduce the light available to others. Because people can benefit without paying (the free-rider problem), they will not choose to pay, so a private firm cannot earn revenue and will not supply it. The market therefore fails, and the government provides it, financed by taxation.

6. A maximum price on rent set below equilibrium makes housing cheaper for tenants who find a home. At the lower rent the quantity of rented housing demanded rises (extension of demand) and the quantity supplied falls (contraction of supply) because landlords earn less. Quantity demanded exceeds quantity supplied, so there is a shortage. Results: long waiting lists, landlords choosing tenants, possible illegal side payments (black market), and less maintenance of properties because landlords' income is lower. Diagram: horizontal line below the equilibrium price; the gap between demand and supply at that price is the shortage.

7. Any two, explained: (a) it issues the currency (banknotes and coins), which ensures people have trusted money; (b) it conducts monetary policy by setting the policy rate, which affects commercial bank interest rates and so spending and inflation; (c) it is the bankers' bank, holding commercial banks' reserves and lending to them as lender of last resort so the banking system stays stable; (d) it manages foreign exchange reserves and can intervene to influence the rupee's exchange rate; (e) it regulates commercial banks.

8. (a) Supply of labour: a surgeon needs many years of education and training, so few people are qualified and supply is low, while many people can do farm labour, so supply is high. (b) Productivity and demand: a surgeon's work is highly valued, so the demand for surgeons is high relative to supply. (c) Bargaining and sector: surgeons may belong to professional bodies with bargaining power, while farm labourers are often in the informal sector with little bargaining power and may be seasonally employed. Low supply with high demand gives a high equilibrium wage; high supply with lower demand gives a low wage.

9. Total cost = fixed cost + variable cost = 200,000 + 600,000 = Rs 800,000. Average total cost = 800,000 ÷ 4,000 = Rs 200 per unit. Total revenue = 230 × 4,000 = Rs 920,000. Profit = 920,000 – 800,000 = Rs 120,000.

10. Any two, explained: (a) purchasing economies: buying cotton yarn and dyes in bulk earns discounts, so the cost per unit falls; (b) technical economies: the firm can afford large automated looms that produce much more output per worker, lowering average cost; (c) financial economies: banks see a large firm as less risky and lend at lower interest; (d) marketing economies: the cost of attending international trade fairs is spread over more output; (e) managerial economies: specialist managers for export sales and finance improve efficiency.

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11. When the State Bank raises the policy rate, commercial banks raise the interest rates on loans and deposits. Borrowing becomes more expensive, so households buy fewer goods on credit, such as motorcycles and appliances, and firms postpone investment. Saving becomes more attractive, so households spend less of their income. Those with existing variable-rate loans have higher repayments and less to spend. Total demand falls, so demand-pull pressure on prices is reduced. A higher interest rate may also attract foreign savings, strengthening the rupee and making imports cheaper, reducing cost-push inflation. Limitation: time lags, and if inflation is caused by rising world oil prices, a higher interest rate may do little.

12. Structural unemployment occurs when workers' skills or locations do not match available jobs, for example after an industry declines. Supply-side policies can help: training and education give workers new skills so they can move to growing industries, improving occupational mobility; help with relocation and better job information improves geographical mobility; incentives for firms to set up in areas with high unemployment create jobs where the workers are. However, supply-side policies have long time lags and cost the government a lot; older workers may find retraining difficult; training only helps if jobs exist, so if unemployment is partly cyclical, expansionary fiscal or monetary policy is also needed. Conclusion: supply-side policies are the most suitable policy for structural unemployment because they tackle its cause, but they work best combined with policies to keep total demand high, and their success depends on matching training to the skills employers actually need.

13. Any two, explained: (a) it is an average, so it hides inequality: a few very rich people can raise GDP per head while most people remain poor; (b) it ignores the informal economy and unpaid work, which are large in Pakistan, so real output is underestimated; (c) it ignores non-income aspects of living standards such as health, education, pollution and leisure time; (d) comparisons between countries need a common currency, and exchange rates may not reflect differences in what money can buy.

14. Remittances are money sent home by Pakistanis working abroad. They are recorded as inflows in secondary income on the current account, so they offset the large deficit on trade in goods. A depreciation of the rupee makes Pakistani exports cheaper in foreign currencies and imports more expensive in rupees. Export volumes may rise and import volumes may fall, reducing the deficit; remittances also buy more rupees, encouraging inflows through formal channels. However: (a) if demand for imports is price inelastic, as it is for oil and many raw materials, Pakistan pays more rupees for almost the same quantity, so the import bill may rise; (b) exporters need spare capacity and reliable energy to increase output; (c) dearer imported inputs raise exporters' costs and cause cost-push inflation, which can cancel out the price advantage; (d) effects may take time, so the deficit may first worsen before it improves. Conclusion: a depreciation is more likely to reduce the deficit if demand for exports and imports is price elastic and if it is combined with supply-side policies that increase export capacity.

15. For: (a) an infant industry has high average costs because it is small and has not yet gained economies of scale or experience; a tariff raises the price of imports so the new firms can survive until they grow and become competitive; (b) protection keeps jobs and develops new skills in the country, and diversifies the economy away from dependence on a few exports. Against: consumers pay higher prices and have less choice, and the protected firms may never become efficient because they face little competition; other countries may retaliate with tariffs on the country's exports.

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