Glossary

Absolute advantage: a country is the lowest-cost producer of that good.

Accelerator model of investment: firms guess future output and profits by extrapolating past output growth. Constant output growth leads to constant investment. It takes accelerating output growth to raise desired investment.

Adjustable peg: a fixed exchange rate, the value of which may occasionally be changed.

Adverse selection: the use of inside information to accept or reject a contract; hence, customers are not an average sample of the population.

Aggregate demand: the amount firms and households plan to spend at each level of income.

Aggregate price level: the average price of goods and services.

Aggregate supply schedule: the output firms wish to supply at each inflation rate.

Aggregate supply schedule in the classical model: is vertical at potential output. Equilibrium output is independent of inflation.

Aid: an international transfer payment from rich countries to poor countries.

Appreciation of the exchange rate: a rise in the international value of a currency.

Asset price bubble: a departure of the price from that justified by fundamental characteristics of the asset. Bubbles are self-fulfilling prophecies.

Automatic stabilizers: reduce the multiplier, damping the output response to demand shocks.

Average tax rate: is the fraction of total income paid in tax.

Balance of payments: a record of transactions between residents of one country and the rest of the world; the sum of its current account and capital account items.

Balanced budget multiplier: a rise in government spending plus an equal rise in taxes leads to higher output.

Bank reserves: the money available in the bank to meet possible withdrawals by depositors.

Barter economy: has no medium of exchange. Goods are swapped for other goods.

Behavioural law: a sensible theoretical relationship not rejected by evidence over a long period.

Benefits principle: people getting most benefit from public spending should pay most tax for it.

Bertrand model: each firm treats the price of other firms as given.

Beta: measures how much an asset's return moves with the return on the whole stock market.

Budget: spending and revenue plans.

Budget constraint: the different bundles that the consumer can afford.

Budget deficit: the excess of government spending over government receipts.

Budget share: of a good is its price times the quantity demanded, divided by total consumer spending.

Budget surplus (deficit): the excess (shortfall) of government spending over government revenue.

Buffer stock: aims to stabilize a commodity market by buying when the price is low and selling when the price is high.

Bundling: the joint supply of more than one product to reduce the need for price discrimination.

Business cycle: the short-term fluctuation of total output around its trend path.

Capital account: of the balance of payments records international purchases and sales of financial assets.

Capital adequacy ratio: a required minimum value of bank capital relative to its outstanding liabilities.

Capital controls: prohibit, restrict, or tax the flow of private capital across currencies.

Capital gain (loss): the rise (fall) in the asset price while it is held.

Capital-deepening: in a growing economy, raises capital per worker for all workers.

Capital-widening: in a growing economy, extends the existing capital per worker to new extra workers.

Cash: notes and coin, paying zero interest. The most liquid asset.

Cash flow: the net amount of money actually received during the period.

Central bank intervention (in the forex market): buying or sell pounds to support the fixed exchange rate.

Central bank: banker to the government and to the banks. It also conducts monetary policy.

Circular flow: how real resources and financial payments flow between firms and households.

Classical model: of macroeconomics assumes wages and prices are completely flexible.

Classical unemployment: arises when the wage is kept above its equilibrium level.

Closed shop: an agreement that a firm's workers must be members of a trade union.

Code for Fiscal Stability: commits the UK government to a medium-run objective of financing all current government spending out of current revenues; over this period, borrowing should be only to finance investment.

Collusion: an explicit or implicit agreement to avoid competition.

Command economy: central planning of what, how, and for whom goods are produced. Detailed instructions are then issued to households, firms, and workers.

Commercial banks: financial intermediaries licensed to make loans and issue deposits, including deposits against which cheques can be written.

Commitment: a voluntary arrangement to restrict future action.

Company: an organization legally allowed to produce and trade.

Comparative advantage: a country makes the good relatively more cheaply than it makes other goods, whether or not it has an absolute advantage.

Comparative static analysis: changes one of the 'other things equal' and examines the effect on equilibrium price and quantity.

Competition Commission: investigates whether a monopoly, or potential monopoly, acts against the public interest.

Competition policy: enhances efficiency by promoting or safeguarding competition.

Complements: a higher price for one good reduces the demand for *complements* to this good.

Conglomerate merger: union of two firms whose production activities are unrelated.

Constant returns to scale: long-run average costs are constant as output rises.

Consumer surplus: the excess of consumer benefits over spending.

Consumption function: aggregate consumption demand at each level of personal disposable income.

Contestable market: has free entry and free exit.

Convergence hypothesis: poor countries grow more quickly than average, but rich countries grow more slowly than average.

Convertible currency: the central bank will buy or sell as much of the currency as people wish to trade at the fixed exchange rate.

Corporate control: who controls the firm in different situations.

Corporate finance: how firms finance their activities.

Cost: what is spent on production during a period.

Cost of holding money: the interest sacrificed by not holding wealth in an asset paying more interest.

Cournot model: each firm treats the output of the other firm as given.

Cream-skimming: confines entry to profitable parts of the business, undermining scale economies elsewhere.

Credible threat: one that, after the fact, is still optimal to carry out.

Cross-price elasticity of demand: for good *i* with respect to changes in the price of good *j*, is the percentage change in the quantity of good *i* demanded, divided by the corresponding percentage change in the price of good *j*.

Cross-section: at a point in time, the way an economic variable differs across different individuals or groups.

Crowding out: a stimulus to aggregate demand *crowds out* some private spending. Higher output induces a rise in interest rates that dampens the expansionary effect on demand.

Currency board: a unilateral commitment to peg the exchange rate by giving up monetary independence. The money supply changes only because of balance of payments surpluses or deficits.

Current account: of the balance of payments records international flows of goods, services, and transfer payments.

Data: things taken as given; hence, pieces of evidence about economic behaviour.

Deadweight burden: lost social surplus by producing the wrong output level.

Debt rescheduling: a new agreement with old creditors to pay them less per period but for a longer payback period.

Default: refusing to pay creditors at all.

Demand: the quantity that buyers wish to purchase at each conceivable price.

Demand curve: the relation between price and quantity demanded, other things equal.

Demand for money: is demand to *hold* real money balances. Rises with income, but falls with interest rates.

Demand management : use of monetary and fiscal policy to stabilize output near potential output.

Demand shock: a shift in aggregate demand.

Demand-deficient unemployment: occurs when output is below full capacity.

Demand-determined output: since markets trade the smaller of supply and demand, output is demand-determined when there is excess supply, and wages and prices have yet to adjust to restore long-run equilibrium. Output then depends only on aggregate demand.

Depletable resources: can be used only once.

Depreciation of capital: the loss in value of a capital good during the period, sometimes called capital consumption, the result of usage or obsolescence.

Depreciation of the exchange rate: a fall in the international value of a currency.

Derived demand: the demand for inputs reflects demand for a firm's output.

Devaluation (revaluation): a fall (rise) in the fixed exchange rate.

Diminishing marginal rate of substitution: tastes exhibit this when, to hold utility constant, diminishing quantities of one good must be sacrificed to get successive equal increases in the quantity of the other good.

Diminishing marginal utility: each extra unit consumed, holding constant consumption of other goods, adds successively less to total utility.

Direct taxes: taxes on income and wealth.

Discount rate (in a present value calculation): the interest rate used to calculate present values of future streams of benefits or costs.

Discouraged workers: pessimistic about finding a job, they leave the labour force.

Discretionary fiscal policy: decisions about tax rates and levels of government spending.

Discriminating monopoly: charges different prices to different people, thereby raising its marginal revenue curve.

Discrimination: the different treatment of people with the same characteristics.

Diseconomies of scale (**decreasing returns to scale**): long-run average costs rise as output rises.

Distortion (market failure): whenever society's marginal cost and marginal benefit diverge.

Dividends: regular payments of profit to shareholders.

Domestic price of foreign exchange: the quantity of domestic currency per unit of the foreign currency.

Dominant strategy: a player's best strategy *whatever* the strategies adopted by rivals.

Dumping: foreign producers sell at prices below their marginal production cost.

Econometrics: the use of mathematical statistics to quantify relationships in economic data.

Economic geography: recognition that locational externalities matter in production and consumption.

Economic growth: a rise in real income or real output.

Economic rent: the payment a factor receives in excess of the transfer earnings needed to induce it to supply its services in that use.

Economic sovereignty: the power of national governments to make decisions independently of those made by other governments.

Economics: the study of how society decides what, how, and for whom to produce.

Economies of scale (**increasing returns to scale**): long-run average costs fall as output rises.

Effective exchange rate: a country's average exchange rate against trading partners, calculated by weighting bilateral exchange rates by the importance of different partners in trade.

Efficiency wages: high wages that raise productivity through their incentive effect.

Efficient asset market: already incorporates existing information properly in asset prices.

Elastic demand: a price elasticity more negative than −1. Quantities sensitive to prices.

Endogenous growth: implies that the steady-state growth rate is affected by economic behaviour and economic policy.

Entry: when new firms join an industry.

E-product: can be digitally encoded then transmitted rapidly, accurately and cheaply.

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

Equilibrium unemployment (also **natural rate of unemployment**) is the unemployment rate when the labour market is in equilibrium

European Monetary System: a system of monetary and exchange rate co-operation in Western Europe during 1979–99.

Excess demand: when quantity demanded exceeds quantity supplied at the ruling price.

Excess supply: when quantity supplied exceeds quantity demanded at the ruling price.

Exchange rate: the price at which the two currencies exchange.

Exchange Rate Mechanism: part of the EMS. Each country fixed a nominal exchange rate against each other ERM participant. Collectively the group floated against the rest of the world.

Exchange rate regime: the policy rule describing how governments allow exchange rates to be determined.

Exit: when existing firms leave an industry.

Exogenous expectations: are not explained by the model, but simply taken as given.

Experience good or **service:** must be sampled before the user knows its value.

Export subsidies: government assistance to domestic firms that compete in foreign markets.

Export-led growth: stresses production and income growth through exports rather than the displacement of imports.

Exports: are made at home but sold abroad.

External balance: a zero current account-balance.

Externality: one person's production or consumption physically affects the production or consumption of others.

Extrapolative expectations: assume that the future is an extension of the recent past.

Extreme Keynesians: not only insist that markets fail to clear in the short run; they also believe that markets do not clear in the long run.

Fair gamble: on average yields zero monetary profit.

Fallacy of composition: what is true for one person may not be true for all, and vice versa.

Fan chart: shows not just the most likely future outcome, but the probability of different outcomes.

Federal fiscal system: centralized taxes and expenditure rules that apply in its constituent states or countries.

Final goods: are purchased by the end user.

Financial intermediary: specializes in bringing lenders and borrowers together.

Financial panic: a self-fulfilling prophecy. Believing a bank will be unable to pay, people rush to get their money out, which makes the bank go bankrupt.

Firm-specific skills: raise a worker's productivity only in that particular firm.

First-best allocation: is fully efficient. *First-best* removes all distortions.

Fiscal drag: the rise in real tax revenue when inflation raises nominal incomes, pushing people into higher tax brackets in a progressive income tax system.

Fiscal policy: government policy on spending and taxes.

Fiscal stance: the effect of fiscal policy on demand and output.

Fisher hypothesis: higher inflation leads to similarly higher nominal interest rates.

Fixed costs: total costs do not vary with output.

Fixed exchange rate: a government commitment to maintain a particular fixed exchange rate.

Fixed factor of production: an input that cannot be varied.

Flexible inflation targeting: commits a central bank to hit inflation targets in the medium run, but gives it some discretion about how quickly. This allows complete stabilization of demand shocks and partial stabilization of supply shocks.

Flight from cash: the collapse in the demand for real cash when high inflation and high nominal interest rates make it very costly to hold cash.

Floating exchange rate regime: the exchange rate finds its equilibrium level without central bank invervention using the forex reserves.

Flow: is the stream over a period of time.

Foreign direct investment (FDI): the purchase of foreign firms or the establishment of foreign subsidiaries.

Foreign exchange (forex) market: the market exchanging one national currency for another.

Foreign exchange reserves: foreign currency held by the domestic central bank.

Forward market: deals in contracts made today for delivery of goods at a specified future date at a price agreed to day.

Free markets: markets in which governments allow price adjustment to reconcile supply and demand.

Free-rider: a person unable to be excluded from consuming a good, who thus has no incentive to buy it.

Frictional unemployment: the irreducible minimum unemployment in a dynamic society.

Functional income distribution: the division of national income between different factors of production.

Game: a situation in which intelligent decisions are necessarily interdependent.

GDP at basic prices: domestic output exclusive of indirect taxes on goods and services. The former exceeds the latter by the amount of revenue raised in indirect taxes.

GDP at market prices: domestic output inclusive of indirect taxes on goods and services.

General skills: enhance productivity in many jobs and can be transferred to work in another firm.

Gilt-edged securities: government bonds. Gilt-edged because the government will not go bust and refuse to pay interest.

Globalization: the increasing integration of national markets previously segmented from one another.

GNP deflator: the ratio of nominal GNP to real GNP, expressed as an index.

Government solvency: the present value of the current and future tax revenue at least matches the present value of current and future spending plus any initial net debts.

Gradualist monetarists: believe that full employment is restored within a few years, so the main effect of higher money is simply higher prices.

Gross domestic product (GDP): the output made in the domestic economy, regardless of who owns the production inputs. Hence, the value of total output by residents of an economy.

Gross investment: the production of new capital goods or improvement of existing capital goods.

Gross national product (GNP): total income earned by domestic citizens regardless of the country in which their factor services were supplied. Equals GDP plus net asset income from abroad.

Growth rate: the percentage change per period (usually a year).

Headline inflation: actual inflation, the growth in the retail price index RPI.

Hedging: the use of forward markets to shift risk on to somebody else.

Horizontal equity: the identical treatment of identical people.

Horizontal *LM* schedule: the money supply is adjusted to keep interest rates constant

Horizontal merger: the union of two firms at the same production stage in the same industry.

Human capital: the stock of expertise accumulated by a worker to enhance future productivity.

Hyperinflation: a period of very high inflation.

Hysteresis: multiple long-run equilibria, so that the particular long-run equilibrium depends on the path an economy follows in the short run.

Imperfectly competitive firm: faces a down-sloping demand curve. Its output price reflects the quantity of goods it makes and sells.

Import substitution: the replacement of imports by domestic production under the protection of high tariffs or import quotas.

Import tariff: a tax on imports.

Imports: are made abroad but sold at home.

Impossible triad: fixed exchange rates, perfect capital mobility, and monetary sovereignty. All three cannot co-exist at the same time.

Incidence of a tax: who eventually bears the burden of it.

Income distribution: how total income is divided between different groups or individuals.

Income effect: of a price change is the adjustment of demand to the change in real income alone.

Income elasticity of demand: the percentage change in quantity demanded divided by the corresponding percentage change in income.

Income expansion path: how the chosen bundle of goods varies with consumer income levels.

Incomes policy: the direct control of wages and other incomes.

Index number: data relative to a given base value.

Indifference curve: all consumption bundles with the same level of utility.

Indirect taxes: taxes on spending and output.

Industrial base: the existing producers available to provide locational externalities for industrial production.

Industrial policy: offsets externalities affecting production decisions by firms.

Inelastic demand: a price elasticity between −1 and 0. Quantities insensitive to prices.

Inferior good: demand falls when incomes rise. Has a negative income elasticity of demand.

Inflation accounting: fully inflation-adjusted definitions of costs, income, and profit.

Inflation illusion: people confuse nominal and real changes. People's welfare depends on real variables, not nominal variables.

Inflation rate: the annual rate of change of the average price of goods and services.

Inflation target: interest rates are adjusted to keep inflation within a narrow range.

Inflation tax: real revenue for the government since inflation reduces the real value of the cash, which is part of government debt.

Inflation-adjusted budget: uses real not nominal interest rates to calculate government spending on debt interest.

Information overload: arises when it is costly to process large amounts of available information. Screening devices are then very valuable.

Injection: is money that flows to firms without being recycled through households.

Innocent entry barrier: is one not deliberately erected by incumbent firms.

Innovation: incorporation of new knowledge into better production techniques.

Input (or **factor of production**): a good or service used to produce output.

Insiders: those with jobs, represented in wage bargaining.

Interest parity: expected exchange-rate changes offset the interest differential between domestic and foreign currency assets.

Interest rate spread: the excess of the loan interest rate over the deposit interest rate.

Intermediate goods: are partly finished goods that form inputs to a subsequent production process that then uses them up.

Intermediate target: a key indicator used to guide interest-rate decisions.

Internal balance: aggregate demand equals potential output.

International monetary system: provides a medium of exchange for international transactions.

International value of the domestic currency: the quantity of foreign currency per unit of the domestic currency.

Intra-industry trade: two-way trade in goods made by the same industry.

Invention: the discovery of new and better knowledge.

Inventories (stocks): goods held in stock by the firm for future production or sale.

Investment demand schedule: desired investment at each interest rate.

Investment demand: firms' desired additions to physical capital, including inventories.

Investment: the purchase of new capital goods by firms.

Invisible hand: the assertion that the individual pursuit of self-interest within free markets may allocate resources efficiently from society's viewpoint.

Involuntary unemployment: workers wanting to work at the going wage but unable to find jobs.

IOU money: a medium of exchange based on the debt of a private firm or individual.

***IS* schedule:** combinations of income and interest rates at which aggregate demand equals actual output.

Isoquant: minimum combinations of inputs to make a given output. Different points on an isoquant reflect different production techniques.

Labour force: all people in work or registered as looking for work.

Labour-augmenting technical progress: increases the effective labour supply.

Laffer curve: how much tax revenue is raised at each possible tax rate.

Land: the factor of production that nature supplies; usually treated as fixed in total quantity.

Law of comparative advantage: countries specialize in producing and exporting the goods that they produce at a lower *relative cost* than other countries.

Law of diminishing returns: holding constant all inputs but one, equal successive increases in the variable input steadily reduce its marginal product.

Leakage: from the circular flow is money no longer recycled from households to firms.

Lender of last resort: central bank loans to banks during a financial panic.

Less developed countries (LDCs): have low per capita incomes and output.

Life-cycle hypothesis: people make a lifetime consumption plan (including bequests to their children) that is just affordable out of lifetime income (plus any initial wealth inherited).

Limited liability: shareholders of a company cannot lose more than they have already invested in the business.

Liquidity: the cheapness, speed, and certainty with which asset values can be converted back into money.

***LM* schedule:** combinations of interest rates and income yielding money market equilibrium.

Locational externality: when one firm's costs are affected by its neighbouring firms, or one consumer's costs depend on neighbouring suppliers too.

Logrolling: a vote for another person's preferred outcome on one issue in exchange for their vote for your preferred outcome on another issue.

Long run: the period needed for complete adjustment to occur.

Long-run average cost: long-run total cost divided by the level of output *Q*.

Long-run equilibrium of an economy: simultaneous internal and external balance of the economy.

Long-run equilibrium: when the price equates the quantity demanded to the total quantity supplied by the number of firms in the industry when each firm is on its long-run supply curve and firms can freely enter or exit the industry.

Long-run marginal cost: the rise in long-run total cost if output rises permanently by one unit.

Long-run Phillips curve: is vertical at equilibrium unemployment. There is no trade-off in the long run.

Long-run supply curve: how price affects desired output; hence, the part of a firm's *LMC* curve above its *LAC* curve.

Long-run total cost: the minimum cost of producing each output level when the firm can adjust all inputs.

Luxury good: has an income elasticity above unity.

Maastricht criteria (for joining EMU): a country must already have achieved low inflation and sound fiscal policy.

Macroeconomic demand schedule (*MDS*): higher inflation induces lower output because central bank raises interest rates.

Macroeconomics: the study of the economy as a system, emphasizing interactions of different parts.

Managed float: central banks intervene in the forex market to smooth out fluctuations and nudge the exchange rate in the desired direction.

Marginal cost: the rise in total cost when output rises by 1 unit.

Marginal firm: in an industry just breaks even.

Marginal product of labour: the extra total output when an extra worker is added, with other input quantities unaltered.

Marginal product: of a variable factor is the extra output from an extra unit of that input, holding constant all other inputs.

Marginal propensity to consume: the fraction of each extra pound of disposable income that households wish to consume.

Marginal propensity to import: the fraction of each extra pound of national income that domestic residents wish to spend on extra imports.

Marginal propensity to save: the fraction of each extra unit of income that households wish to save.

Marginal rate of substitution: of one good for another is the quantity of the second good consumer must sacrifice to get another unit of the first good, without changing total utility.

Marginal revenue: the rise in total revenue when output rises by 1 unit.

Marginal revenue product of labour: the extra revenue from selling the extra goods that an extra unit of labour input allows, recognizing that output prices will fall as a result.

Marginal tax rate: the fraction of each extra pound of income paid in tax.

Marginal utility: of a good is the extra total utility from consuming 1 more unit of that good, for given consumption of other goods.

Marginal value product of capital: the extra value of the firm's output by using another unit of capital services, all other inputs being held fixed.

Marginal value product of labour: the extra revenue from selling the output made by an extra worker when output prices are given.

Market: reconciliation of quantity decisions of buyers and sellers through price adjustment.

Market demand curve: the sum of the demand curves of all individuals in that market.

Market structure: how cost and demand conditions affect the number of firms and extent of competition.

Median voter: the person in the middle on an issue.

Medium of exchange: something accepted as payment only to be subsequently reused to pay for something else.

Menu costs of inflation: physical resources needed for adjustments to keep real things constant when inflation occurs.

Merger: the voluntary union of two firms that think they will do better together.

Merit goods (bads): things society thinks everyone should have (not have) regardless of whether an individual wants them.

Microeconomics: a detailed treatment of individual decisions about particular commodities.

Minimum efficient scale (MES): the lowest output at which the *LAC* curve reaches its minimum.

Mismatch: occurs if the skills that firms demand differ from the skills the labour force possesses.

Mixed economy: one in which the government and private sector jointly solve economic problems.

Model (or theory): a set of assumptions from which behaviour is deduced; a deliberate simplification of reality.

Moderate Keynesians: believe that the economy will eventually return to full employment, but that wage and price adjustment is fairly sluggish so the process could take many years.

Monetary base (or stock of high-powered money): the quantity of cash in private circulation plus the quantity held by the banking system.

Monetary instrument: the variable over which the central bank makes day-to-day choices.

Monetary policy accommodation: a change in monetary policy to make it easier for the economy to adjust to a supply shock.

Monetary policy rule: how interest rates systematically respond to changes in other economic variables.

Monetary sovereignty: undermined by perfect capital mobility. If interest rates are set to maintain the pegged exchange rate, they cannot be set independently to influence the domestic economy. Floating exchange rates let the government use interest rates for domestic purposes, provided it accepts the exchange rate markets then determine.

Monetary target: adjusting interest rates to keep the nominal money stock on a specified path.

Monetary union: a commitment to permanently fixed exchange rates, an integrated financial market, and a single central bank setting the single interest rate for the union.

Money: any generally accepted means of payment for delivery of goods or settlement of debts. It is the medium of exchange.

Money illusion: exists if people confuse nominal and real variables.

Money market equilibrium: when the quantity of real balances demanded and supplied are equal.

Money multiplier: the ratio of the money stock to the monetary base.

Money supply: the value of the stock of the medium of exchange in circulation. Narrowest measure M0 is largely cash in circulation outside banks. Broadly measured M4 also includes deposits at banks and building societies.

Monopolist: the only seller or potential seller in the industry.

Monopolist's output: chosen to equate marginal cost and marginal revenue.

Monopolistic competition: an industry with many sellers of products that are close substitutes for one another. Each firm has only a limited ability to affect its output price.

Monopoly power: the excess of price over marginal cost is a measure of monopoly power.

Monopsony power: with an upward-sloping factor supply curve, a firm must offer a higher factor price to attract more factors. The marginal cost of the input exceeds the factor price, since the firm bids up the price paid on inputs already employed.

Moral hazard: the use of inside information to exploit the other party to a contract.

Motives for holding money: *transactions motive* arises because payments and receipts are not synchronized; *precautionary motive* because of benefits of having money available to meet contingencies that we can't yet foresee; *asset motive* for holding money is to diversify a risky portfolio.

Multinationals: firms operating in many countries simultaneously.

Multiplier: the ratio of the change in equilibrium output to the change in autonomous spending that caused the change.

Nash equilibrium: each player chooses the best strategy, given the strategies being followed by other players.

National debt: the stock of outstanding government debt.

National income: an economy's net national product, subtracting depreciation from GNP at basic prices.

Nationalization: acquisition of private companies by the public sector.

Natural monopoly: has falling average cost no matter how high its output rises. It undercuts all smaller competitors, and fears no entrant.

Natural rate of unemployment (also **equilibrium unemployment):** the level of unemployment in long-run equilibrium.

Necessity: has an income elasticity below unity.

Net investment: gross investment minus depreciation of the existing capital stock.

Net taxes: taxes minus transfers.

Net worth: *assets* the firm owns minus the *liabilities* it owes.

Network externality: an additional network member benefits those already on the network.

New classical macroeconomics: is based on the twin principles of rapid market clearing and rational expectations.

***N*-firm concentration ratio:** the market share of the largest *N* firms in the industry.

Nominal anchor: eventually determines the level of other nominal variables. Market forces determine real variables.

Nominal GNP: GNP at the prices prevailing when income was earned.

Nominal interest rate: how many actual pounds are earned by lending £1 for a year.

Nominal values: measured in the prices ruling at the time of measurement.

Non-tariff barrier: national regulations or practices that discriminate against foreign goods or workers.

Normal good: demand increases when incomes rise. Has a positive income elasticity of demand.

Normal profits: zero economic profits, allowing for all opportunity costs.

Normative economics: assessment of how well the economy works.

Oligopoly: an industry with few producers, each recognizing their interdependence.

Open economy macroeconomics: how an economy is affected by links with other countries through trade, the exchange rate, and capital flows.

Open economy: a country with important trade and financial links with other countries.

Open market operation: central bank purchases or sales of financial securities for cash in order to change the monetary base.

Opportunity cost of a good: the quantity of other goods sacrificed to get another unit of that good

Optimal currency area: a group of countries better off with a common currency than keeping separate national currencies.

Optimal tariff: when importing affects the world price, this tariff reduces imports to the level at which social marginal cost equals social marginal benefit.

Other things equal: a device for examining the relation between two variables, but remembering other variables also matter.

Output gap: the deviation of actual output from potential output.

Outsiders: those without jobs and not represented in wage bargaining.

Par value: the exchange rate that the government agrees to defend.

Paradox of thrift: a change in the amount households wish to save at each income leads to a change in equilibrium income, but no change in equilibrium saving, which must still equal planned investment.

Pareto-efficiency: for given tastes, resources, and technology, an allocation is efficient if there is no other feasible allocation that makes some people better off and nobody worse off.

Participation rate: the fraction of the population of working age who join the labour force.

Partnership: a business jointly owned by people sharing the profits and jointly responsible for any losses.

Patent: a temporary legal monopoly awarded to an inventor who registers the invention.

Peak load pricing: price discrimination to charge peak-time users extra because of the higher marginal cost of supplying them.

Per capita real GNP: real GNP divided by total population.

Percentage change: the actual change, divided by the original number, multiplied by 100.

Perfect capital mobility: a vast quantity of funds flow from one currency to another if the expected return on assets differs across currencies.

Perfect competition: a market in which both buyers and sellers believe that their own actions have no effect on the market price.

Permanent income hypothesis: consumption reflects long-run or permanent income.

Personal disposable income: income households get from firms, plus transfer payments from government, minus direct taxes paid to government. Hence, the net income households can spend or save.

Personal income distribution: the division of national income across individuals, regardless of the factor services from which income is earned.

Phillips curve: a trade-off between higher inflation rate and lower unemployment.

Physical capital: the stock of produced goods that are inputs to production of other goods and services; hence, buildings, plant and machinery.

Policy co-ordination: joint decisions when two interdependent countries have big cross-border spillovers.

Political business cycle: arises if politicians manipulate the economy for electoral advantage.

Political economy: the study of how governments make decisions.

Positive economics: objective or scientific explanations of how the economy works.

Potential output: output when all inputs are fully employed. It is long-run equilibrium output.

Present value: of a future £1 is the sum that, if lent today, would cumulate to £1 by that date.

Price controls: government rules setting price floors or ceilings.

Price elasticity of demand: the percentage change in the quantity demanded divided by the corresponding percentage change in price.

Price of an asset: the sum for which the asset can be bought, entitling the owner to the future stream of capital services from this asset.

Primary products: agricultural goods and minerals, whose output relies heavily on the input of land.

Principal–agent problem: difficulties of a principal or owner in monitoring an agent to whom decisions have been delegated.

Principle of targeting: the most efficient way to attain a given objective is to use a policy influencing that activity directly.

Private good: if consumed by one person, cannot be consumed by others.

Privatization: return of state enterprises to private ownership and control.

Producer surplus (profit): the excess of revenue over total costs.

Production efficiency: more output of a good is possible only by sacrificing output of other goods.

Production function: the set of all technically efficient techniques; hence, the maximum output obtainable from specified quantities of inputs, given the existing technical knowledge.

Production possibility frontier (PPF): for given resources and technology, the maximum amount of one good that can be made, holding constant the output of all other goods.

Profit: revenue minus cost.

Progressive taxes: reflect the principle of ability to pay; average tax rates rise with income levels.

Property rights: power of residual control, including the right to be compensated for externalities.

Public good: if consumed by one person, a good that must be consumed by everyone in exactly the same quantity.

Purchasing power of money: an index of the quantity of goods that can be bought for £1.

Purchasing power parity (PPP): the path of the nominal exchange rate that would maintain a constant real exchange rate. Nominal exchange rate changes offset inflation differentials between countries.

Pure inflation: prices of goods and inputs rise at the same rate.

Quantity theory of money: changes in nominal money lead to equivalent changes in the price level (and money wages), but have no effect on output and employment.

Quotas: restrictions on the maximum quantity of imports.

Rational expectations: people guess the future correctly on average.

Reaction function: how optimal actions by one player vary with the assumed actions of the other pIayer. Nash equilibrium is thus where the two reaction functions intersect.

Real business cycle theories: cycles are fluctuations in potential output itself.

Real exchange rate: the relative price of goods from different countries when measured in a common currency.

Real GNP (or real GDP): measures GNP(or GDP) at constant prices, adjusting for inflation, to indicate quantities of goods that can be bought.

Real interest rate: the return on a loan, adjusted for inflation, to show as the extra quantity of goods earned by postponing consumption.

Real money supply: the nominal money supply M divided by the price level P.

Real values: adjust *nominal values* for changes in the price level.

Regressive taxes: average tax rates that fall with higher income levels.

Regulatory capture: the regulator gradually comes to identify with the interests of the firm it regulates, becoming its champion not its watchdog.

Renewable resources: can be used again if not overexploited.

Rental rate for capital: the cost of using capital services.

Replacement rate: the level of benefits relative to wages in work.

Required rental on capital: just covers the opportunity cost of owning the asset.

Required reserve ratio: a minimum ratio of cash reserves to deposits that banks are required to hold.

Research and development (R&D): the process by which projects are made commercially viable.

Reserve ratio: the ratio of reserves to deposits.

Resource allocation: a complete description of who does what and who gets what.

Restrictive Practices Court: examines, and usually outlaws, agreements between UK firms such as collusive pricing behaviour.

Retained earnings: the part of after-tax profits ploughed back into the business.

Revenue: what the firm earns from sales during a period.

Ricardian equivalence: irrelevant when a government finances a given spending programme. Tax cuts today do not affect private spending if, in present value terms, future taxes rise to match.

Risk-averse: person refuses a fair gamble.

Risk-lover: bets even if the odds are unfavourable.

Risk-neutral: person cares only about average monetary profit.

Risk-pooling (diversification): aggregates independent or negatively correlated risks to make the aggregate more certain.

Risk-sharing: reduces individual stakes to make risk aversion less important.

Saving: current income minus current spending.

Saving function: desired saving at each income level.

Scarce resource: a resource for which demand at a zero price would exceed available supply.

Scatter diagrams: pairs of values simultaneously observed for two different variables.

Screening: learning inside information by observing differences in behaviour.

Second-best: the most efficient outcome conditional on being unable to remove some distortions.

Seigniorage: real revenue for the government through its ability to print money.

Shoe-leather costs of inflation: the extra time and effort in transacting when we economize on holding real money.

Short run: the period before complete adjustment is possible.

Short run average total cost (*SATC*): short-run total cost (*STC*) divided by output.

Short-run average fixed cost (*SAFC*): short-run fixed cost (*SFC*) divided by output.

Short-run average variable cost (*SAVC*): short-run variable cost (*SVC*) divided by output.

Short-run equilibrium: when the price equates the total quantity demanded to the total quantity supplied by the given number of firms in the industry when each firm is on its short-run supply curve.

Short-run equilibrium output: the output at which aggregate demand equals output produced, when prices and wages are fixed.

Short-run marginal cost: the extra cost of making an extra unit of output in the short-run while some inputs remain fixed.

Short-run output decision: supply the output at which $MR = SMC$, provided price covers short-run average variable cost at that output. If not, the firm supplies zero.

Short-run Phillips curve: higher unemployment is associated with lower inflation. The height of the short-run Phillips curve reflects expected inflation.

Short-run supply curve: how price affects desired output; hence the part of a competitive firm's *SMC* curve above its *SAVC* curve.

Shutdown price: the price below which the firm cuts its losses by making no output.

Sight deposits: money in sight deposits can be withdrawn 'on sight' without prior notice.

Signalling: an action that reveals inside information.

Single market: a market not segmented by national regulations, taxes, or informal practices.

Social cost of monopoly: failure to maximize consumer plus producer surplus.

Sole trader: a business owned by an individual.

Solow residual: the part of output growth not explained by the growth of measured inputs.

Speculation: the purchase of an asset for subsequent resale, in the belief that the total return – interest plus capital gain – exceeds the total return on other assets.

Speculative attack: a large capital outflow, which may force a change in policy.

Speculator: a person who temporarily holds an asset in the hope of making a capital gain.

Spot market: deals in contracts for immediate delivery and payment.

Stabilization policy: government action to keep output close to potential output.

Stackelberg model: a firm with a first-mover advantage can deduce how its actions induce rivals subsequently to behave.

Stagflation: high inflation and high unemployment, caused by an adverse supply shock.

Standard: a technical specification throughout a particular network or industry.

Steady-state path: along this path, real variables grow at the same rate; hence, key ratios of real variables are constant.

Sterilization: an open-market operation between domestic money and domestic bonds, to offset the change in domestic money supply that a balance of payments surplus or deficit otherwise induces. Does not work when there is perfect capital mobility, because offsetting capital flows then induced.

Stock: a quantity at a point in time.

Store of value: any asset whose value largely lasts into the next period.

Strategic alliance: a blend of co-operation and competition in which a group of suppliers provide a range of products that partly complement one another.

Strategic entry deterrence: behaviour by incumbent firms to make entry less likely.

Strategic move: influences the other person's choice, in a manner favourable to you, by affecting the other person's expectations of how you will behave.

Strategy: a game plan describing how a player acts, or moves, in each possible situation.

Structural adjustment: the pursuit of supply-side policies aimed at increasing potential output by increasing efficiency.

Structural budget: what the budget would be if output were at potential output.

Structural unemployment: reflects the mismatch of skills and job opportunities as the pattern of demand and supply changes.

Substitutes: a higher price for one good raises the demand for *substitutes* for this good.

Substitution effect: of a price change is the adjustment of demand to the relative price change alone.

Sunrise industries: the emerging new industries of the future.

Sunset industries: those of the past, now in long-term decline.

Supernormal profit: pure economic profit after measuring all economic costs properly.

Supply: the quantity of a good sellers wish to sell at each possible price.

Supply curve: the relation between price and quantity supplied, other things equal.

Supply shock: a *permanent supply shock* affects equilibrium unemployment and potential output. A *temporary supply shock* leaves these long-run values unaffected, but shifts the short-run Phillips curve and the short-run aggregate supply schedule for output.

Supply-side economics: the use of microeconomic incentives to raise aggregate supply.

Switching costs: changing supplier incurs extra costs.

Takeover bid: a firm offers to buy out shareholders of another firm even if the management of the latter opposes this.

Tangency equilibrium in monopolistic competition: in the long-run, each firm's demand curve just touches its *AC* curve at the output level at which *MC* equals *MR*. Each firm maximizes profits but just breaks even. There is no more entry or exit.

Tangible wealth: capital and land.

Tax incidence: the final tax burden, including all induced effects of a tax.

Tax wedge: the gap between the price paid by the buyer and the price received by the seller.

Taylor rule: central bank raises (lowers) interest rates if inflation and output are expected to be above (below) their target levels.

Technical efficiency: use of a production technique not dominated by another that makes the same output with fewer inputs.

Technical progress: a new technique allowing a given output to be made with fewer inputs than before.

Technique: a particular way to combine inputs to make output.

Technology: the list of all known techniques.

Time deposits: pay higher interest rates but require a period of notice before withdrawing money.

Time series: a sequence of measurements of the same variable at different points in time.

Tobin tax: a small tax on capital flow transactions.

Token money: a means of payment whose value as money greatly exceeds its cost of production or value in any other use.

Trade balance: the value of net exports.

Trade policy: affects international trade by taxes, subsidies, or quotas.

Trade surplus (deficit): net exports are positive (negative).

Trade union power: is measured by the ability of unions to co-ordinate lower job acceptances, thereby increasing wages but reducing employment.

Transfer: a payment, usually by government, for which nothing received in return.

Transfer earnings: of a factor in a particular use are the minimum payments needed to induce the input to work in that job.

Transfer in kind: the gift of a good or service.

Transfer payment: government subsidies such as social security, state pensions, and debt interest.

Transition economies: those adjusting from central planning to a market economy.

Transmission mechanism: of monetary policy is the channel through which it affects output and employment.

Trend path of output: the path of long-run output once short-term fluctuations are smoothed out.

Two-part tariff: a fixed charge to belong to a service, and a price per unit reflecting the marginal cost of usage.

Underlying inflation the growth of RPIX, which is the retail price index omitting the effect of mortgage interest rates on the cost of living.

Unemployment rate: the fraction of the labour force without a job but looking for work.

Unit of account: the unit in which prices are quoted and accounts kept.

Unit-elastic demand: a demand elasticity of exactly −1. Revenue unaffected by price.

Unsterilized intervention: uses forex reserves to offset payments imbalances, consequently changing the domestic money supply.

Value added: the increase in the value of goods as a result of the production process.

Variable costs: total costs change with output.

Variable factors: inputs that can be varied, even in the short run.

Versioning: the deliberate creation of different qualities to facilitate price discrimination.

Vertical equity: the different treatment of different people to reduce the consequences of innate differences.

Vertical merger: the union of two firms at different production stages in the same industry.

Voluntary unemployment: when, at the given level of wages, a worker wants to be in the labour force but does not yet wish to accept a job.

Wealth effect: the shift in the consumption function when household wealth changes.

Welfare economics: normative evaluation of how well the economy works.

Zero-growth proposal: because higher measured GNP imposes environmental costs, it is best to aim for zero growth of measured GNP.