

# GLOSSARY

**ability-to-pay principle** the idea that taxes should be levied on a person according to how well that person can shoulder the burden

**absolute advantage** the comparison among producers of a good according to their productivity

**accounting profit** total revenue minus total explicit cost

**adverse selection** the tendency for the mix of unobserved attributes to become undesirable from the standpoint of an uninformed party

**agent** a person who is performing an act for another person, called the principal

**aggregate demand curve** a curve that shows the quantity of goods and services that households, firms and the government want to buy at each price level

**aggregate risk** risk that affects all economic actors at once

**aggregate supply curve** a curve that shows the quantity of goods and services that firms choose to produce and sell at each price level

**appreciation** an increase in the value of a currency as measured by the amount of foreign currency it can buy

**Arrow's impossibility theorem** a mathematical result showing that, under certain assumed conditions, there is no scheme for aggregating individual preferences into a valid set of social preferences

**automatic stabilizers** changes in fiscal policy that stimulate aggregate demand when the economy goes into a recession, without policymakers having to take any deliberate action

**average fixed cost** fixed costs divided by the quantity of output

**average revenue** total revenue divided by the quantity sold

**average tax rate** total taxes paid divided by total income

**average total cost** total cost divided by the quantity of output

**average variable cost** variable costs divided by the quantity of output

**balanced trade** a situation in which exports equal imports

**Bank of England** the central bank of the United Kingdom

**bank run** when a substantial number of depositors suspect that a bank may go bankrupt and withdraw their deposits

**benefits principle** the idea that people should pay taxes based on the benefits they receive from government services

**bond** a certificate of indebtedness

**budget constraint** the limit on the consumption bundles that a consumer can afford

**budget deficit** a shortfall of tax revenue from government spending

**budget surplus** an excess of tax revenue over government spending

**business cycle** fluctuations in economic activity, such as employment and production

**capital** the equipment and structures used to produce goods and services

**capital flight** a large and sudden reduction in the demand for assets located in a country

**cartel** a group of firms acting in unison

**catch-up effect** the property whereby countries that start off poor tend to grow more rapidly than countries that start off rich

**central bank** an institution designed to regulate the quantity of money in the economy

**circular-flow diagram** a visual model of the economy that shows how money and production inputs and outputs flow through markets among households and firms

**classical dichotomy** the theoretical separation of nominal and real variables

**closed economy** an economy that does not interact with other economies in the world

**Coase theorem** the proposition that if private parties can bargain without cost over the allocation of resources, they can solve the problem of externalities on their own

**collective bargaining** the process by which unions and firms agree on the terms of employment

**collusion** an agreement among firms in a market about quantities to produce or prices to charge

**commodity money** money that takes the form of a commodity with intrinsic value

**common currency area** a geographical area, possibly covering several countries, in which a common currency circulates as the medium of exchange

**common resources** goods that are rival but not excludable

**comparative advantage** the comparison among producers of a good according to their opportunity cost

**compensating differential** a difference in wages that arises to offset the non-monetary characteristics of different jobs

**competitive market** a market in which there are many buyers and many sellers so that each has a negligible impact on the market price

**complements** two goods for which an increase in the price of one leads to a decrease in the demand for the other

**compounding** the accumulation of a sum of money in, say, a bank account, where the interest earned remains in the account to earn additional interest in the future

**Condorcet paradox** the failure of majority rule to produce transitive preferences for society

**constant returns to scale** the property whereby long-run average total cost

stays the same as the quantity of output changes

**consumer price index (CPI)** a measure of the overall cost of the goods and services bought by a typical consumer

**consumer surplus** a buyer's willingness to pay minus the amount the buyer actually pays

**consumption** spending by households on goods and services, with the exception of purchases of new housing

**cost** the value of everything a seller must give up to produce a good

**cost–benefit analysis** a study that compares the costs and benefits to society of providing a public good

**cross-price elasticity of demand** a measure of how much the quantity demanded of one good responds to a change in the price of another good, computed as the percentage change in quantity demanded of the first good divided by the percentage change in the price of the second good

**crowding out** a decrease in investment that results from government borrowing

**crowding-out effect** the offset in aggregate demand that results when expansionary fiscal policy raises the interest rate and thereby reduces investment spending

**currency** the paper banknotes and coins in the hands of the public

**customs union** a group of countries that agree not to impose any restrictions at all on trade between their own economies, but to impose the same restrictions as one another on goods imported from countries outside the group.

**cyclical unemployment** the deviation of unemployment from its natural rate

**deadweight loss** the fall in total surplus that results from a market distortion, such as a tax

**demand curve** a graph of the relationship between the price of a good and the quantity demanded

**demand deposits** balances in bank accounts that depositors can access on demand by using a debit card or writing a cheque

**demand schedule** a table that shows the relationship between the price of a good and the quantity demanded

**depreciation** a decrease in the value of a currency as measured by the amount of foreign currency it can buy

**depression** a severe recession

**diminishing marginal product** the property whereby the marginal product of an input declines as the quantity of the input increases

**diminishing returns** the property whereby the benefit from an extra unit of an input declines as the quantity of the input increases

**direct tax** a tax that is levied directly on a person's income

**discount rate** the interest rate at which the Federal Reserve lends on a short-term basis to the UK banking sector

**discrimination** the offering of different opportunities to similar individuals who differ only by race, ethnic group, sex, age or other personal characteristics

**diseconomies of scale** the property whereby long-run average total cost rises as the quantity of output increases

**diversification** the reduction of risk achieved by replacing a single risk with a large number of smaller unrelated risks

**dominant strategy** a strategy that is best for a player in a game regardless of the strategies chosen by the other players

**economic profit** total revenue minus total cost, including both explicit and implicit costs

**economics** the study of how society manages its scarce resources

**economies of scale** the property whereby long-run average total cost falls as the quantity of output increases

**efficiency** the property of society getting the most it can from its scarce resources

**efficiency wages** above-equilibrium wages paid by firms in order to increase worker productivity

**efficient markets hypothesis** the theory that asset prices reflect all

publicly available information about the value of an asset

**efficient scale** the quantity of output that minimizes average total cost

**elasticity** a measure of the responsiveness of quantity demanded or quantity supplied to one of its determinants

**equilibrium** a situation in which the price has reached the level where quantity supplied equals quantity demanded

**equilibrium price** the price that balances quantity supplied and quantity demanded

**equilibrium quantity** the quantity supplied and the quantity demanded at the equilibrium price

**equity** the property of distributing economic prosperity fairly among the members of society

**European Central Bank (ECB)** the overall central bank of the 12 countries comprising the European Monetary Union

**European Economic and Monetary Union (EMU)** the European currency union that has adopted the euro as its common currency

**European Union** a family of democratic European countries, committed to working together for peace and prosperity

**Eurosystem** the system made up of the ECB plus the national central banks of each of the 12 countries comprising the European Monetary Union

**excludability** the property of a good whereby a person can be prevented from using it

**explicit costs** input costs that require an outlay of money by the firm

**exports** goods and services that are produced domestically and sold abroad

**externality** the uncompensated impact of one person's actions on the well-being of a bystander

**factors of production** the inputs used to produce goods and services

**Federal Reserve (Fed)** the central bank of the United States

**fiat money** money without intrinsic value that is used as money because of government decree

**finance** the field of economics that studies how people make decisions regarding the allocation of resources over time and the handling of risk

**financial intermediaries** financial institutions through which savers can indirectly provide funds to borrowers

**financial markets** financial institutions through which savers can directly provide funds to borrowers

**financial system** the group of institutions in the economy that help to match one person's saving with another person's investment

**fiscal federalism** a fiscal system for a group of countries involving a common fiscal budget and a system of taxes and fiscal transfers across countries

**Fisher effect** the one-for-one adjustment of the nominal interest rate to the inflation rate

**fixed costs** costs that do not vary with the quantity of output produced

**fractional-reserve banking** a banking system in which banks hold only a fraction of deposits as reserves

**free rider** a person who receives the benefit of a good but avoids paying for it

**frictional unemployment** unemployment that results because it takes time for workers to search for the jobs that best suit their tastes and skills

**fundamental analysis** the study of a company's accounting statements and future prospects in order to determine its value

**future value** the amount of money in the future that an amount of money today will yield, given prevailing interest rates

**game theory** the study of how people behave in strategic situations

**GDP deflator** a measure of the price level calculated as the ratio of nominal GDP to real GDP times 100

**Giffen good** a good for which an increase in the price raises the quantity demanded

**government purchases** spending on goods and services by local, state and national governments

**gross domestic product (GDP)** the market value of all final goods and services produced within a country in a given period of time

**horizontal equity** the idea that taxpayers with similar abilities to pay taxes should pay the same amount

**human capital** the accumulation of investments in people, such as education and on-the-job training

**idiosyncratic risk** risk that affects only a single economic actor

**implicit costs** input costs that do not require an outlay of money by the firm

**import quota** a limit on the quantity of a good that can be produced abroad and sold domestically

**imports** goods and services that are produced abroad and sold domestically

**income effect** the change in consumption that results when a price change moves the consumer to a higher or lower indifference curve

**income elasticity of demand** a measure of how much the quantity demanded of a good responds to a change in consumers' income, computed as the percentage change in quantity demanded divided by the percentage change in income

**indexation** the automatic correction of a money amount for the effects of inflation by law or contract

**indifference curve** a curve that shows consumption bundles that give the consumer the same level of satisfaction

**indirect tax** a tax that is levied on goods and services bought

**inferior good** a good for which, other things equal, an increase in income leads to a decrease in demand

**inflation** an increase in the overall level of prices in the economy

**inflation rate** the percentage change in the price index from the preceding period

**inflation tax** the revenue the government raises by creating money

**informationally efficient** reflecting all available information in a rational way

**in-kind transfers** transfers to the poor given in the form of goods and services rather than cash

**internalizing an externality** altering incentives so that people take account of the external effects of their actions

**investment** spending on capital equipment, inventories and structures, including household purchases of new housing

**investment fund** an institution that sells shares to the public and uses the proceeds to buy a portfolio of stocks and bonds

**job search** the process by which workers find appropriate jobs given their tastes and skills

**labour force** the total number of workers, including both the employed and the unemployed

**labour force participation rate** the percentage of the adult population that is in the labour force

**law of demand** the claim that, other things equal, the quantity demanded of a good falls when the price of the good rises

**law of supply** the claim that, other things equal, the quantity supplied of a good rises when the price of the good rises

**law of supply and demand** the claim that the price of any good adjusts to bring the quantity supplied and the quantity demanded for that good into balance

**liberalism** the political philosophy according to which the government should choose policies deemed to be just, as evaluated by an impartial observer behind a 'veil of ignorance'

**libertarianism** the political philosophy according to which the government should punish crimes and enforce voluntary agreements but not redistribute income

**life cycle** the regular pattern of income variation over a person's life

**liquidity** the ease with which an asset can be converted into the economy's medium of exchange

**lump-sum tax** a tax that is the same amount for every person

**macroeconomics** the study of economy-wide phenomena, including inflation, unemployment and economic growth

**marginal changes** small incremental adjustments to a plan of action

**marginal cost** the increase in total cost that arises from an extra unit of production

**marginal product** the increase in output that arises from an additional unit of input

**marginal product of labour** the increase in the amount of output from an additional unit of labour

**marginal rate of substitution** the rate at which a consumer is willing to trade one good for another

**marginal revenue** the change in total revenue from an additional unit sold

**marginal tax rate** the extra taxes paid on an additional unit of income

**market** a group of buyers and sellers of a particular good or service

**market economy** an economy that allocates resources through the decentralized decisions of many firms and households as they interact in markets for goods and services

**market failure** a situation in which a market left on its own fails to allocate resources efficiently

**market for loanable funds** the market in which those who want to save supply funds and those who want to borrow to invest demand funds

**market power** the ability of a single economic agent (or small group of agents) to have a substantial influence on market prices

**maximin criterion** the claim that the government should aim to maximize the well-being of the worst-off person in society

**median voter theorem** a mathematical result showing that if voters are choosing a point along a line and each voter wants the point closest to his most preferred point, then majority rule will

pick the most preferred point of the median voter

**medium of exchange** an item that buyers give to sellers when they want to purchase goods and services

**menu costs** the costs of changing prices

**microeconomics** the study of how households and firms make decisions and how they interact in markets

**model of aggregate demand and aggregate supply** the model that most economists use to explain short-run fluctuations in economic activity around its long-run trend

**monetary neutrality** the proposition that changes in the money supply do not affect real variables

**monetary policy** the set of actions taken by the central bank in order to affect the money supply

**money** the set of assets in an economy that people regularly use to buy goods and services from other people

**money market** the market in which the commercial banks lend money to one another on a short-term basis

**money multiplier** the amount of money the banking system generates with each unit of reserves

**money supply** the quantity of money available in the economy

**monopolistic competition** a market structure in which many firms sell products that are similar but not identical

**monopoly** a firm that is the sole seller of a product without close substitutes

**moral hazard** the tendency of a person who is imperfectly monitored to engage in dishonest or otherwise undesirable behaviour

**multiplier effect** the additional shifts in aggregate demand that result when expansionary fiscal policy increases income and thereby increases consumer spending

**Nash equilibrium** a situation in which economic actors interacting with one another each choose their best strategy given the strategies that all the other actors have chosen

**national saving (saving)** the total income in the economy that remains after paying for consumption and government purchases

**natural monopoly** a monopoly that arises because a single firm can supply a good or service to an entire market at a smaller cost than could two or more firms

**natural-rate hypothesis** the claim that unemployment eventually returns to its normal, or natural, rate, regardless of the rate of inflation

**natural rate of unemployment** the normal rate of unemployment around which the unemployment rate fluctuates

**natural resources** the inputs into the production of goods and services that are provided by nature, such as land, rivers and mineral deposits

**negative income tax** a tax system that collects revenue from high-income households and gives transfers to low-income households

**net capital outflow** the purchase of foreign assets by domestic residents minus the purchase of domestic assets by foreigners

**net exports** the value of a nation's exports minus the value of its imports; also called the trade balance

**nominal exchange rate** the rate at which a person can trade the currency of one country for the currency of another

**nominal GDP** the production of goods and services valued at current prices

**nominal interest rate** the interest rate as usually reported without a correction for the effects of inflation

**nominal variables** variables measured in monetary units

**normal good** a good for which, other things equal, an increase in income leads to an increase in demand

**normative statements** claims that attempt to prescribe how the world should be

**oligopoly** a market structure in which only a few sellers offer similar or identical products

**open economy** an economy that interacts freely with other economies around the world

**open-market operations** the purchase and sale of non-monetary assets from and to the banking sector by the central bank

**opportunity cost** whatever must be given up to obtain some item

**optimum currency area** a group of countries for which it is optimal to adopt a common currency and form a currency union

**outright open-market operations** the outright sale or purchase of non-monetary assets to or from the banking sector by the central bank without a corresponding agreement to reverse the transaction at a later date

**perfect complements** two goods with right-angle indifference curves

**perfect substitutes** two goods with straight-line indifference curves

**permanent income** a person's normal income

**Phillips curve** a curve that shows the short-run trade-off between inflation and unemployment

**physical capital** the stock of equipment and structures that are used to produce goods and services

**Pigovian tax** a tax enacted to correct the effects of a negative externality

**positive statements** claims that attempt to describe the world as it is

**present value** the amount of money today that would be needed to produce, using prevailing interest rates, a given future amount of money

**price ceiling** a legal maximum on the price at which a good can be sold

**price discrimination** the business practice of selling the same good at different prices to different customers

**price elasticity of demand** a measure of how much the quantity demanded of a good responds to a change in the price of that good, computed as the percentage change in quantity demanded divided by the percentage change in price

**price elasticity of supply** a measure of how much the quantity supplied of a good responds to a change in the price of that good, computed as the percentage change in quantity supplied divided by the percentage change in price

**price floor** a legal minimum on the price at which a good can be sold

**principal** a person for whom another person, called the agent, is performing some act

**prisoners' dilemma** a particular 'game' between two captured prisoners that illustrates why cooperation is difficult to maintain even when it is mutually beneficial

**private goods** goods that are both excludable and rival

**private saving** the income that households have left after paying for taxes and consumption

**producer price index** a measure of the cost of a basket of goods and services bought by firms

**producer surplus** the amount a seller is paid for a good minus the seller's cost

**production function** the relationship between quantity of inputs used to make a good and the quantity of output of that good

**production possibilities frontier** a graph that shows the combinations of output that the economy can possibly produce given the available factors of production and the available production technology

**productivity** the quantity of goods and services produced from each hour of a worker's time

**profit** total revenue minus total cost

**progressive tax** a tax for which high-income taxpayers pay a larger fraction of their income than do low-income taxpayers

**proportional tax** a tax for which high-income and low-income taxpayers pay the same fraction of income

**public goods** goods that are neither excludable nor rival

**public saving** the tax revenue that the government has left after paying for its spending

**purchasing power parity** a theory of exchange rates whereby a unit of any given currency should be able to buy the same quantity of goods in all countries

**quantity demanded** the amount of a good that buyers are willing and able to purchase

**quantity equation** the equation  $M \times V = P \times Y$ , which relates the quantity of money, the velocity of money, and the dollar value of the economy's output of goods and services

**quantity supplied** the amount of a good that sellers are willing and able to sell

**quantity theory of money** a theory asserting that the quantity of money available determines the price level and that the growth rate in the quantity of money available determines the inflation rate

**random walk** the path of a variable whose changes are impossible to predict

**rational expectations** the theory according to which people optimally use all the information they have, including information about government policies, when forecasting the future

**real exchange rate** the rate at which a person can trade the goods and services of one country for the goods and services of another

**real GDP** the production of goods and services valued at constant prices

**real interest rate** the interest rate corrected for the effects of inflation

**real variables** variables measured in physical units

**recession** a period of declining real incomes and rising unemployment

**refinancing rate** the interest rate at which the European Central Bank lends on a short-term basis to the euro area banking sector

**regressive tax** a tax for which high-income taxpayers pay a smaller fraction of their income than do low-income taxpayers

**repo rate** the interest rate at which the Bank of England lends on a short-term basis to the UK banking sector

**repurchase agreement (repo)** the sale of a non-monetary asset together with an agreement to repurchase it at a set price at a specified future date

**reserve ratio** the fraction of deposits that banks hold as reserves

**reserve requirements** regulations on the minimum amount of reserves that banks must hold against deposits

**reserves** deposits that banks have received but have not loaned out

**risk averse** exhibiting a dislike of uncertainty

**rivalry** the property of a good whereby one person's use diminishes other people's use

**sacrifice ratio** the number of percentage points of annual output lost in the process of reducing inflation by 1 percentage point

**scarcity** the limited nature of society's resources

**screening** an action taken by an uninformed party to induce an informed party to reveal information

**shoeleather costs** the resources wasted when inflation encourages people to reduce their money holdings

**shortage** a situation in which quantity demanded is greater than quantity supplied

**signalling** an action taken by an informed party to reveal private information to an uninformed party

**Single European Market** a (still-not-complete) EU-wide market throughout which labour, capital, goods and services can move freely

**social security** government benefits that supplement the incomes of the needy

**stagflation** a period of falling output and rising prices

**stock** a claim to partial ownership in a firm

**store of value** an item that people can use to transfer purchasing power from the present to the future

**strike** the organized withdrawal of labour from a firm by a union

**structural unemployment** unemployment that results because the

number of jobs available in some labour markets is insufficient to provide a job for everyone who wants one

**substitutes** two goods for which an increase in the price of one leads to an increase in the demand for the other

**substitution effect** the change in consumption that results when a price change moves the consumer along a given indifference curve to a point with a new marginal rate of substitution

**sunk cost** a cost that has already been committed and cannot be recovered

**supply curve** a graph of the relationship between the price of a good and the quantity supplied

**supply schedule** a table that shows the relationship between the price of a good and the quantity supplied

**supply shock** an event that directly alters firms' costs and prices, shifting the economy's aggregate supply curve and thus the Phillips curve

**surplus** a situation in which quantity supplied is greater than quantity demanded

**tariff** a tax on goods produced abroad and sold domestically

**tax incidence** the manner in which the burden of a tax is shared among participants in a market

**technological knowledge** society's understanding of the best ways to produce goods and services

**theory of liquidity preference** Keynes's theory that the interest rate adjusts to bring money supply and money demand into balance

**total cost** the market value of the inputs a firm uses in production

**total revenue (for a firm)** the amount a firm receives for the sale of its output

**total revenue (in a market)** the amount paid by buyers and received by sellers of a good, computed as the price of the good times the quantity sold

**trade balance** the value of a nation's exports minus the value of its imports; also called net exports

**trade deficit** an excess of imports over exports

**trade policy** a government policy that directly influences the quantity of goods and services that a country imports or exports

**trade surplus** an excess of exports over imports

**Tragedy of the Commons** a parable that illustrates why common resources get used more than is desirable from the standpoint of society as a whole

**transaction costs** the costs that parties incur in the process of agreeing and following through on a bargain

**unemployment insurance** a government programme that partially protects workers' incomes when they become unemployed

**unemployment rate** the percentage of the labour force that is unemployed

**union** a worker association that bargains with employers over wages and working conditions

**unit of account** the yardstick people use to post prices and record debts

**utilitarianism** the political philosophy according to which the government should choose policies to maximize the total utility of everyone in society

**utility** a measure of happiness or satisfaction

**value of the marginal product** the marginal product of an input times the price of the output

**variable costs** costs that vary with the quantity of output produced

**velocity of money** the rate at which money changes hands

**vertical equity** the idea that taxpayers with a greater ability to pay taxes should pay larger amounts

**welfare economics** the study of how the allocation of resources affects economic well-being

**willingness to pay** the maximum amount that a buyer will pay for a good

**world price** the price of a good that prevails in the world market for that good