Glossary

absolute advantage The advantage that one region is said to have over another in the production of some commodity when an equal quantity of resources can produce more of that commodity in the first region than in the second.

absolute price The price of a good or a service expressed in monetary units; also called a *money price*

absorption approach Analysis of the balance of payments based upon comparing domestic expenditure with domestic output.

accelerator theory of investment The theory that the level of investment depends on the rate of change of national income.

acceptance houses Financial institutions in London which accept, or guarantee, *bills of exchange* by stamping their own name on the back of the bill. Now more commonly called *merchant banks.*

accommodation Said to occur when the monetary authorities increase the money supply in response to a negative *aggregate supply shock.* It has the effect of offsetting the downward impact of the shock on real national income at the cost of a permanently higher price level.

actual consumption The consumption of the flow of services that are provided by the commodities that households buy.

actual expenditure See *realized expenditure.*

AD curve See *aggregate demand curve.*

ad valorem tariff A tariff levied as a percentage of the price of the product.

ad valorem tax A tax levied as a percentage of the value of some transaction.

adaptive expectations The expectation of a future variable, formed on the basis of an adjustment which is some proportion of the error in expectations made last period. The error is the difference between what was expected last period and what actually happened.

adjustable peg system A system with these two characteristics: (i) the exchange rate is pegged at a publicly announced par value; (ii) the exchange rate is adjusted from time to time in the face of fundamental disequilibria.

administered price A price that is set by the decisions of individual firms rather than by impersonal market forces.

advances Bank loans.

adverse selection The tendency for people most at risk to insure, while people least at risk do not, so that the insurers get an unrepresentative sample of clients within any one fee category.

agents Decision-makers, including consumers, workers, firms and government bodies.

aggregate demand (AD) The total desired purchases of all the nation's buyers of final output.

aggregate demand curve A curve that plots all combinations of the price level and national income that yield equilibrium in the goods and the asset markets — i.e. that yield *IS–LM* equilibrium.

aggregate demand shock A shift in the *aggregate demand curve* resulting from an autonomous change in exogenous expenditures or the money supply (or equivalently, a policy-induced change in interest rates).

aggregate desired expenditure (AE) The total amount of purchases of currently produced goods and services that all spending units in the economy wish to make.

aggregate production function The technical relationship which expresses the maximum national output that can be produced with each possible combination of capital, labour and other resource inputs. See also *production function.*

aggregate supply (AS) The total desired output of all the nation's producers.

aggregate supply curve A curve relating the economy's total desired output, Y, to the price level, P.

aggregate supply shock A shift in the *aggregate supply curve* resulting from an exogenous change in input prices or from technical change (exogenous or endogenous). Most common example is the oil price shocks of the 1970s.

allocative efficiency The situation occurring when resources cannot be reallocated to produce a different bundle of goods which will then allow someone to be made better off while no one is made worse off.

appreciation When a change in the free-market exchange rate raises the value of one currency.

arbitrage Trading activity based upon buying where a product is cheap and selling where it has a higher price (from the French word 'arbitrer': to referee or arbitrate). Arbitrage activity helps to bring prices closer in different segments of the market. The term 'arbitrageurs' (often shortened to arbs) has been erroneously applied in the United States to traders who attempted to profit from inside information or to *speculate.*

arc elasticity A measure of the average responsiveness of quantity to price over an interval of the demand curve. For analytical purposes it is usually defined by the formula

$$\eta = \frac{\Delta q/q}{\Delta p/p} .$$

An alternative formula often used where computations are involved is

$$\eta = \frac{(q_2 - q_1)/(q_2 + q_1)}{(p_2 - p_1)/(p_2 + p_1)} ,$$

where p_1 and q_1 are the original price and quantity and p_2 and q_2 are the new price and quantity. With negatively sloped demand curves, elasticity is a negative number. The above expressions are therefore sometimes multiplied by –1 to make measured elasticity positive. See also *point elasticity.*

asset disequilibrium See *portfolio disequilibrium.*

asset equilibrium See *portfolio equilibrium.*

asymmetric information A situation in which some economic agents have more information than others. The two most common examples in economics are: (i) in labour markets, where workers have less (or different) information about output markets than do firms (employers), and (ii) in the theory of the firm, where there is a separation of ownership (shareholders) from control (managers). In the latter case see also *principal–agent problem.*

Austrian school of economics A group of economists, originally led by Menger and Bohm-Bawerk in Vienna, which tried (but failed) to build a theory of the business cycle on the basis of microeconomic (market-clearing) principles.

autarky Situation existing when a country does no foreign trade.

automatic fiscal stabilizers Stablizers that arise because the value of some tax revenues and benefits changes with the level of economic activity. For example, income tax revenue rises as personal incomes rise, corporation tax revenue increases with company profits, and unemployment benefit falls as employment increases.

autonomous variable See *exogenous variable.*

average fixed cost (AFC) Total fixed costs divided by the number of units produced.

average product (AP) Total output divided by the number of units of the variable factor used in its production.

average propensity to consume (APC) Total consumption expenditure divided by total income, C/Y.

average propensity to import Total imports divided by total income, IM/Y.

average propensity to save (APS) Total saving divided by total income, S/Y.

average propensity to tax The total tax revenue divided by total national income, T/Y.

average revenue (AR) The total revenue divided by the number of units sold.

average total cost (ATC) The total cost of producing any given output divided by the number of units produced, i.e. the cost per unit.

average variable cost (AVC) Total variable cost divided by the number of units produced; also called *unit cost.*

balanced budget A situation in which current revenue is exactly equal to current expenditure.

balanced-budget multiplier Measures the change in income divided by the balanced-budget change in government expenditure that brought it about.

balance of payments accounts A summary record of a country's transactions that involve payment or receipts of foreign exchange.

balance of trade The difference between imports and exports.

bank notes Paper currency originally issued as a receipt for deposits of gold or silver. Later created by banks on a fractional reserve basis. Now almost universally issued by *central banks.*

barriers to entry Anything that prevents new firms from entering an industry that is earning profits.

barter The trading of goods directly for other goods.

base period See *base year.*

base rate The interest rate quoted by UK banks as the reference rate for much of their loan business. For example, a company may be given a loan at 'base plus 2%'. Base rate changes periodically when the monetary authorities signal that they wish money market rates in general to change. The equivalent term used by US banks is *prime rate.*

base year A year, or other point in time, chosen for comparison purposes in order to express or compute index numbers. Also called *base period.*

Basle Agreement An agreement reached in 1988 between the bank regulators of all the major countries. It established that banks would be monitored by their home bank regulator on the basis of their worldwide activities. It also introduced a minimum risk–asset ratio of 8 per cent. This means that banks have to hold £8 of capital for each £100 of private-sector loans.

BB line The locus of levels of the interest rate and real national income for which the desired current account balance of payment surplus (deficit) just equals the desired capital account deficit (surplus).

bill A tradable security, usually with an initial maturity of up to six months, which pays no explicit interest and so trades at a discount to its maturity value. See also *Treasury bills* and *bills of exchange.*

bills of exchange Written orders to pay a sum of money to another party at a future date, usually in exchange for the delivery of goods. Widely used in the finance of international trade because they enable exporters to receive finance (minus a discount) as soon as the goods are shipped while the importer does not pay until the goods have been received. Also known as commercial bills and trade bills. Bills of exchange that have been *accepted*, or guaranteed, by a good name in the City of London become *prime bank bills* and are eligible to be rediscounted via the discount market at the Bank of England.

black market A market in which goods are sold illegally at prices that violate the legal restrictions on prices.

bond In economic theory, any evidence of a debt carrying a legal obligation to pay interest and repay the principal at some stated future time.

boom Periods of high output and high employment.

break-even price The price at which a firm is just able to cover all of its costs, including the opportunity cost of capital.

Bretton Woods system The fixed exchange rate regime introduced after the Second World War. It broke down in the early 1970s when several major countries floated their exchange rates. (For the United Kingdom this happened in June 1972.) So called because it was the outcome of an agreement reached in July 1944 in a town called Bretton Woods, in the US state of New Hampshire.

broad money A money stock measure which includes interest-bearing savings deposits as well as current account deposits and cash. The standard measure of broad money today is M4. In the 1970s it would have been M3.

budget deficit The shortfall of current revenue below current expenditure, usually with reference to the government.

budget deficit function Function relating the government budget deficit, or the PSBR, to national income.

budget line Shows all those combinations of commodities that are just obtainable, given the household's income and the prices of commodities.

budget surplus The excess of current revenue over current expenditure, usually with reference to the government.

building societies Financial institutions which take savings deposits and make loans (mortgages) for house purchase. The recent trend has been for them to diversify and become more like banks. Originally they were clubs which would disband once all members had a house. Modern societies are 'permanent'. They are the British equivalent of US saving and loan institutions, also referred to as thrifts.

built-in stabilizer Anything that reduces the economy's cyclical fluctuations and that is activated without a conscious government decision. See also *automatic fiscal stabilizers.*

bundle Any collection. Specifically, in consumption theory, any collection of goods represented by a point on an indifference curve or a budget line is a 'bundle of goods'. Also called a *combination.*

business cycles Fluctuations in the general level of activity in an economy which affect many sectors at roughly the same time, though not necessarily to the same extent. In recent times, the period from the peak of one cycle to the peak of the next has varied in the range of five to ten years. Used to be known as trade cycles.

buyout When a group of investors buys up a controlling interest in a firm.

capacity The output that corresponds to the minimum short-run average total cost.

capital account Record of international transactions related to movement of long- and short-run capital.

capital consumption allowance An estimate of the amount by which the capital stock is depleted through its contribution to current production. Also called *depreciation.*

capital deepening Increasing the ratio of capital to labour.

capital goods All those man-made aids to further production, such as tools, machinery and factories, which are used up in the process of making other goods and services rather than being consumed for their own sake.

capital inflow Arises when overseas residents buy assets in the domestic economy or domestic residents sell claims on foreign assets.

capital–labour ratio The ratio of the amount of capital to the amount of labour used to produce any given output.

capital markets Bond and equity markets in which companies and governments sell securities to finance their long-term needs.

capital outflow Arises when overseas residents sell assets in the domestic economy or domestic residents buy foreign assets.

capital–output ratio The number of units of capital required to produce each unit of output. Most commonly appears in macroeconomics in the *accelerator theory of investment.*

capital stock The total quantity of capital.

capital widening Increasing the quantity of capital without changing the proportions in which the factors are used.

cartel A group of firms that agree to act as if they were a single seller.

cash base See *high-powered money.*

central authorities See *government.*

central bank A bank that acts as banker to the commercial banking system and often to the government as well. In the modern world, usually a government-owned and -operated institution that controls the banking system and is the sole money-issuing authority.

centrally planned economy See *command economy.*

certificate of deposit (CD) A tradable IOU (debt instrument) issued by a bank in exchange for a deposit of money, repayable with interest at a specific date.

ceteris paribus Other things being equal, as when all but one independent variables are held constant so as to study the influence of the remaining independent variable on the dependent variables.

change in demand A *shift* in the whole demand curve, that is, a change in the amount that will be bought at *each* price.

change in the quantity demanded An increase or decrease in the specific quantity bought at a specified price, represented by a movement along a demand curve; sometimes called an *extension* (increase) or a *contraction* (decrease) in demand.

chaos theory Branch of mathematics in which nonlinear equation systems can generate data series which have no pattern detectable by traditional methods.

circular flow of income The flow of expenditures on output and factor services passing between domestic (as opposed to foreign) firms and domestic households.

classical dichotomy Concept in classical economics that monetary forces could influence the general price level but had no effect on real activity. Related to the concept of *neutrality of money.*

classical economics Usually refers to the body of thought on economics which had built up in the hundred years or so before the 1930s; often associated (probably incorrectly) with the notion that government policy cannot influence the level of economic activity. Contrasted with *Keynesian economics*, which attempted to break down the *classical dichotomy.*

clearing banks The UK name for *commercial banks* that were members of the London Clearing Banks Association, which organized the clearing of cheques for member banks.

clearing house A place where interbank debts are settled.

closed economy An economy that does not engage in international trade (autarky).

closed shop Firm in which only union members can be employed. Closed shops may be either 'pre-entry', where the worker must be a member of the union before being employed, or 'post-entry', where the worker must join the union on becoming employed.

collective consumption goods See *public goods.*

combination See *bundle.*

command economy An economy in which the decisions of the central authorities (as distinct from households and firms) exert the major influence over the allocation of resources and the distribution of income.

commercial banks Banks that take deposits from the general public and make loans. In the United States, commercial banking has been legally separated from *investment banking*, but in many other countries banks have both commercial and investment banking operations in the same entity, sometimes referred to as universal banking.

commercial bills See *bills of exchange.*

commercial paper Short-term interest-bearing debt instruments issued by companies.

commercial policy The government's policy towards international trade, investment, and related matters.

commodities In the world of commerce, a term that usually refers to basic goods, such as wheat and iron ore, which are produced by the primary sector of the economy. Sometimes also used by economists to refer to all goods and services. See also *products.*

common market An agreement among a group of countries to have free trade among themselves, a common set of barriers to trade with other countries, and free movement of labour and capital among themselves.

common property resource A resource that is owned by no one and may be used by anyone.

comparative advantage The ability of one nation (or region or individual) to produce a commodity at a lesser opportunity cost in terms of other products forgone than another nation.

comparative statics Short for *comparative-static equilibrium analysis*; studying the effect of some change by comparing the positions of static equilibrium before and after the change is introduced.

competition policy Policies designed to prohibit the acquisition and exercise of monopoly power by business firms. Also called *anti-monopoly policy.*

competitive devaluations When several countries devalue their currencies in an attempt to gain a competitive advantage over one another.

complements Two goods for which the quantity demanded of one is negatively related to the price of the other.

concentration ratio The fraction of total market sales (or some other measure of market occupancy) controlled by a specific member of the industry's largest firms, four-firm and eight-firm concentration ratios being most frequently used.

conglomerate merger When firms selling quite unrelated products merge; also called *lateral merger.*

constant returns Situation existing when a firm's output increases exactly as fast as its inputs increase.

consumer Anyone who consumes goods or services to satisfy his or her wants.

consumers' surplus The difference between the total value consumers place on all units consumed of a commodity and the payment they must make to purchase that amount of the commodity.

consumption The act of using goods and services to satisfy wants.

consumption expenditure The amount that individuals spend on purchasing goods and services for consumption.

consumption function The relationship between personal planned consumption expenditure and all of the forces that determine it.

contestable market A market is perfectly contestable if there are no sunk costs of entry or exit, so that potential entry may hold profits of existing firms to low levels — zero in the case of perfect contestability.

convertibles Usually refers to *bonds* that carry an option to convert the debt into the issuing company's *equity* at a specified price and within a specific period of time. The option to buy equity, if stripped from the bond and traded separately, is referred to as a *warrant*.

co-operative solution A situation in which existing firms co-operate to maximize their joint profits.

cost minimization An implication of profit maximization that the firm will choose the method that produces specific output at the lowest attainable cost.

creative destruction Schumpeter's theory that high profits and wages, earned by monopolistic or oligopolistic firms and unions, are the spur for others to invent cheaper or better substitute products and techniques that allow their suppliers to gain some of these profits.

credibility The extent to which actors in the private sector of the economy believe that the government will carry out the policy it promises in the future. It is important in policy analysis in macro models which assume *rational expectations*, since expectations of future policy action influence current behaviour.

cross-elasticity of demand The responsiveness of demand for one commodity to changes in the price of another commodity, defined as the percentage change in quantity demanded of one commodity divided by the percentage change in price of another commodity.

crowding-out effect The lowering of interest-sensitive expenditure because a rise in national income causes a rise in the interest rate. It explains the difference between the values of the interest-constant and the interest-sensitive multipliers.

current account Account recording all international transactions related to goods and services.

customs union A group of countries who agree to have free trade among themselves and a common set of barriers against imports from the rest of the world.

cyclical fluctuations Periodic (auto-correlated) oscillations of any economic time-series around its trend.

cyclical unemployment See *demand-deficient unemployment*.

cyclically adjusted deficit (CAD) An estimate of expenditures minus revenues, not as they actually are, but as they would be if potential national income had been achieved (i.e. if there were neither an inflationary nor a recessionary gap). Also called *full-employment deficit* and *high-employment deficit*.

cyclically balanced budget Budget that is balanced over the period of one cycle.

debt instruments Any written documents that record the terms of a debt, often providing legal proof of the conditions under which the principal and interest will be repaid.

decision lag The time it takes to assess a situation and decide what corrective action should be taken.

decreasing returns A situation in which output increases less than proportionately to inputs as the scale of production increases.

deficit The shortfall of current revenue below current expenditure.

deflation A decrease in the general price level.

degree of risk A measurement of the amount of risk associated with some action such as lending money or innovating. When the nature of the risk is known, the degree can be measured by the variance of the probability distribution describing the possible outcomes.

demand The entire relationship between the quantity of a commodity that buyers wish to purchase per period of time and the price of that commodity, other things being equal.

demand curve A graphical relation showing the quantity of some commodity that households would like to buy at each possible price.

demand-deficient unemployment Unemployment that occurs because aggregate desired expenditure is insufficient to purchase all of the output of a fully employed labour force. Also called *cyclical unemployment.*

demand deposit See *sight deposit.*

demand for money The amount of wealth everyone in the economy wishes to hold in the form of money balances.

demand function A functional relation between quantity demanded and all of the variables that influence it.

demand management Policies that seek to shift the aggregate demand curve by shifting either the *IS* curve (fiscal policy) or the *LM* curve (monetary policy).

demand schedule A numerical tabulation showing the quantities that are demanded at selected prices.

deposit accounts See *time deposits.*

deposit money Bank deposits on which cheques can be drawn.

depreciated Reduced value of a currency, resulting from a change in the free-market exchange rate.

depreciation (1) The loss in value of an asset over a period of time due to physical wear and tear and obsolescence. (2) A fall in the free-market value of domestic currency in terms of foreign currencies. See also *capital consumption allowance.*

depression A prolonged period of very low economic activity with very high unemployment and high excess capacity.

derived demand The demand for a factor of production that results from the demand for the products it is used to make.

desired expenditure See *planned expenditure.*

developed countries Usually refers to the rich industrial countries of North America, Western Europe, Japan and Australasia.

developing countries See *less developed countries.*

differentiated product A product that is produced in several varieties, or brands, all of which are sufficiently similar to distinguish them, as a group, from other products (e.g. cars).

diminishing marginal rate of substitution The hypothesis that the less of one commodity that is presently being consumed by a household, the less willing will the household be to give up a unit of that commodity to obtain an additional unit of a second commodity; its geometrical expression is the decreasing absolute slope of an indifference curve as one moves along it to the right.

direct investment See *foreign direct investment.*

direct taxes Taxes levied on persons that can vary with the status of the taxpayer.

dirty float See *managed float.*

discount houses Specialized financial institutions, which borrow money at call (i.e. repayable on demand), or at very short notice, from banks and other lending institutions. They use this money to purchase short-dated financial assets such as Treasury bills and bills of exchange.

discount market The sector of the London *money markets* in which the *discount houses* are active.

discount rate The difference between the current price of a bill and its maturity value expressed as an annualized interest rate.

discouraged worker Someone of working age who has withdrawn permanently from the labour force because of the poor prospects of employment.

discretion Policy made by judgmental methods rather than following rigid rules. Used especially in the context of the old debate between *monetarists* and *Keynesians* in which monetarists called for a monetary growth rule and Keynesians recommended policy discretion.

diseconomies of scale See *decreasing returns to scale.*

disembodied technical change Technical change that is the result of changes in the organization of production that are not embodied in specific capital goods, e.g. improved management techniques.

disequilibrium A state of imbalance between opposing forces so that there is a tendency to change.

disintermediation Process in which financial flows from savers to borrowers shift from passing through financial intermediaries (like banks and building societies) and instead are channelled through securities markets.

displacement effect Refers to the observed tendency of government expenditure to rise during war-time and to stay at a higher than pre-war level even after hostilities have long ceased.

disposable income The after-tax income that households have at their disposal to spend or to save.

distribution of income The division of national income among various groups. See also *size* and *functional distribution of income.*

dividends Profits that are paid out to shareholders.

Divisia index Invented by French mathematician François Divisia, its modern application is an index of the money supply which gives variable weights to included assets, depending upon the interest rate paid on each asset. Traditional monetary aggregates attach a weight of unity to all included assets and zero to all excluded assets. The index may help to identify the transactions services of money as opposed to the savings services.

division of labour The breaking up of a production process into a series of repetitive tasks, each done by a different worker.

double counting In national income accounting, adding up the total outputs of all the sectors in the economy so that the value of intermediate goods is counted in the sector that produces them *and* every time they are purchased as an input by another sector.

dumping When a commodity is sold in a foreign country at prices below its domestic sale price for reasons not related to costs.

duopoly An industry containing exactly two firms.

dynamic differentials See *disequilibrium differentials.*

economic growth The positive trend in the nation's total output over the long term.

economic models A term used in several related ways: sometimes as a synonym for theory, sometimes for a specific quantification of a general theory, sometimes for the application of a general theory to a specific context, and sometimes for an illustrative abstraction designed to illustrate some point but not meant as a full theory on its own.

economic profits or losses The difference between the revenues received from the sale of output and the opportunity cost of the inputs used to make the output. Negative economic profits are economic losses. Also called *pure profits* or *pure losses,* or simple *profits* or *losses.*

economic rent An excess that a factor is paid above what is needed to keep it in its present use.

economies of scale See *increasing returns.*

economies of scope Economies achieved by a firm that is large enough to engage efficiently in multi-product production and associated large-scale distribution, advertising, and purchasing.

economy Any specified collection of interrelated marketed and non-marketed productive activities.

ECU The European Currency Unit. Invented in 1979 with the establishment of the *EMS*, it is valued as a weighted basket of *EMS* member-currencies.

effective exchange rate An index number of the value of a country's currency relative to a weighted basket of other currencies. Whereas an *exchange rate* measures the rate of exchange of a currency for one other currency, changes in the effective exchange rate indicate movements in a single currency's value against other currencies in general.

effective tariff rate The tax charged on any imported commodity expressed as a percentage of the value added by the exporting industry.

efficiency wage A wage rate above the market-clearing level which enables employers to attract and keep the best workers as well as providing employees with an incentive to perform (i.e. not get sacked). It helps to explain why wage rates do not adjust to clear labour markets.

elastic Describes the situation where the percentage change in quantity is greater than the percentage change in price (elasticity greater than one).

elasticities approach Analysis of the balance of payments based upon the *price elasticities of demand* for imports and exports.

elasticity of demand See *price elasticity of demand.*

elasticity of supply See *price elasticity of supply.*

embodied technical change A technical change that is the result of changes in the form of particular capital goods.

employed Status of those persons working for others and paid a wage or a salary.

EMS The European Monetary System, established in 1979 to limit the fluctuations between member-countries' exchange rates.

endogenous variable A variable that is explained within a theory; also called an *induced variable.*

entrepreneur One who innovates, i.e. one who takes risks by introducing both new products and new ways of making old products.

entry barrier Any natural barrier to the entry of new firms into an industry, such as a large minimum efficient scale for firms, or any firm-created barrier, such as a patent.

envelope Any curve that encloses, by being tangent to, a series of other curves. In particular, the *envelope cost curve* is the *LRAC* curve, which encloses the *SRAC* curves by being tangent to each without cutting any of them.

equation of exchange $MV = PT$, where M is the money stock, V is the velocity of circulation, P is the average price of transactions, and T is the number of transactions. As usually defined, it is an identity which says that the value of money spent is equal to the value of goods and services sold. However, with additional assumptions it provides a basis for the *quantity theory of money.*

equilibrium A state of balance between opposing forces so that there is no tendency to change.

equilibrium differentials Differentials in the prices of factors that persist in equilibrium without generating forces to eliminate them.

equilibrium employment (unemployment) The level of employment (unemployment) achieved when national income is at its potential level. Traditionally referred to as full employment, equilibrium unemployment (*frictional* plus *structural*) is made up of total unemployment minus *cyclical unemployment*.

equilibrium price The price at which quantity demanded equals quantity supplied.

equilibrium quantity The amount that is bought and sold at the equilibrium price.

equities Certificates indicating part ownership of a joint stock company.

ERM The Exchange Rate Mechanism of the *EMS*.

EU The European Union, formerly known as the European Community (EC).

eurobonds Typically, dollar-denominated bonds issued outside the United States; in general, any bonds issued in the international capital markets outside the country whose currency is involved. Very important financial instruments in *globalized* financial markets.

eurodollar market A market in wholesale bank deposits and loans which grew rapidly in the 1960s and 1970s. The bulk of the business was denominated in dollars and it was done outside the control of US banking regulations.

***ex ante* expenditure** See *planned expenditure*.

***ex post* expenditure** See *realized expenditure*.

excess capacity theorem Theorem stating that each firm in a monopolistically competitive industry is producing its output at an average cost that is higher than it could achieve by producing its capacity output.

excess demand The amount by which quantity demanded exceeds quantity supplied at some price; negative excess supply.

excess supply The amount by which quantity supplied exceeds quantity demanded at some price; negative excess demand.

exchange rate The rate at which two national currencies exchange for each other. Often expressed as the amount of domestic currency needed to buy one unit of foreign currency.

execution lag The time it takes to initiate corrective policies and for their full influence to be felt.

exhaustive expenditures Government purchases of currently produced goods and services; also called *government direct expenditures*.

exogenous variable A variable that influences other variables within a theory but is itself determined by factors outside the theory; also called an autonomous variable.

expectations-augmented Phillips curve See *short-run Phillips curve*.

expected value The most likely outcome if a procedure is repeated over and over again; the mean of the probability distribution expressing the possible outcomes.

expenditure See *planned expenditure*.

explicit collusion When firms explicitly agree to co-operate rather than compete. See also *tacit collusion*.

external balance When the value of the balance of payments is equal to some target level.

external economies Economies of scale that arise from sources outside of the firm.

externalities Costs of a transaction that are incurred by members of the society, or benefits that are received by them, but not considered by the parties to the transaction.

extrapolative expectations Expectation formation based upon the assumption that a past trend will continue into the future. The simplest form of extrapolation would be to assume that next period's value of a variable is expected to be the same as this period's.

factor markets Markets where factor services are bought and sold.

factor services The services of factors of production.

factors of production Resources used to produce goods and services; frequently divided into the basic categories of land, labour, and capital. Sometimes entrepreneurship is distinguished as a fourth factor; sometimes it is included in the category of labour.

fiat money Inconvertible paper money that is issued by government order (or fiat).

final products The outputs of the economy after eliminating all double counting.

financial capital The funds used to finance a firm, including both equity capital and debt (also called *money capital*).

financial innovation Occurs when new products are introduced in the financial system, or when existing suppliers behave in new ways. Changes are often a complex interaction of (i) regulatory changes, (ii) changing technology, and (iii) competitive pressures.

financial intermediaries Financial institutions that stand between those who deposit money and those who borrow it.

fine-tuning The attempt to maintain national income at, or near, its full-employment level by means of frequent changes in fiscal and/or monetary policy.

firm The unit that employs factors of production to produce commodities that it sells to other firms, to households, or to the government.

fiscal policy Attempts to influence the aggregate demand curve by altering government expenditures and/or government revenues, thus shifting the *IS* curve.

fixed capital formation See *fixed investment.*

fixed cost A cost that does not change with output. Also called *overhead cost, unavoidable cost.*

fixed exchange rate Exchange rate that is held within a narrow band around some pre-announced par value by intervention of the country's central bank in the foreign exchange market.

fixed factors Inputs whose amount available in the short run is fixed.

fixed investment Investment in plant and equipment.

floating exchange rate Exchange rate that is left free to be determined on the foreign exchange market by the forces of demand and supply.

floating interest rate One that moves continuously in line with current market conditions.

floating rate note (FRN) A bond on which the interest rate changes periodically in line with market interest rates. On a normal, or 'straight', bond the coupon interest rate is fixed for the full maturity of the bond.

foreign direct investment (FDI) Non-resident investment in the form of a takeover or capital investment in a domestic branch, plant, or subsidiary corporation in which the investor has voting control. See also *portfolio investment.*

foreign exchange Foreign currencies and claims to them in such forms as bank deposits, cheques and promissory notes payable in the currency.

foreign exchange market The market where foreign exchange is traded — at a price that is expressed by the exchange rate.

free-market economy An economy in which the decisions of individuals and firms (as distinct from the central authorities) exert the major influence over the allocation of resources.

free rider problem The problem that arises because people have a self-interest in not revealing the strength of their own preferences for a public good in the hope that others will pay for it.

free trade An absence of any form of government interference with the free flow of international trade.

free-trade area An agreement among two or more countries to abolish tariffs on all, or most, of the trade among themselves, while each remains free to set its own tariffs against other countries.

frictional unemployment Unemployment that is associated with the normal turnover of labour.

full-capacity output The highest output at which minimum costs can be obtained.

full-cost pricing Refers to the situation where, instead of equating marginal revenue with marginal cost, firms set prices equal to average cost at normal-capacity output, plus a conventional mark-up.

full-employment output See *potential output.*

function Loosely, an expression of a relationship between two or more variables. Precisely, Y is a function of the variables $X_1, \ldots, X_n$ if, for every set of values of the variables $X_1, \ldots, X_n$, there is associated a unique value of the variable Y.

functional distribution of income The distribution of income among major factors of production.

gains from trade Advantages realized as a result of specialization made possible by trade.

GDP See *gross domestic product.*

GDP gap See *output gap.*

general price level The average level of the prices of all goods and services produced in the economy; usually just called the *price level.*

Giffen good A good with a positively sloped demand curve.

gilt-edged securities UK government bonds; so called because they are considered to carry lower risk than private-sector debt.

given period Any particular period that is being compared with a base period.

globalization The process by which most economies around the world have become more interdependent. The term is applied especially to the increased integration of financial markets that has occurred over the last three decades as a result of reducing regulatory barriers to international financial flows.

GNP See *gross national product.*

GNP gap See *output gap.*

gold exchange standard A monetary system in which US currency was directly convertible into gold, and other countries' currencies were indirectly convertible into the gold-backed US dollar at a fixed rate.

gold standard Currency standard whereby a country's money is convertible into gold.

Goodhart's law The view that many statistical relations (particularly those established by monetarists) cannot be used for policy purposes because they do not depend on causal relations and are, therefore, unstable.

goods Tangible production, such as cars or shoes.

goods markets Markets where goods and services are bought and sold.

government In economics, all public agencies, government bodies and other organizations belonging to, or owing their existence to, the government; sometimes (more accurately) called the *central authorities.*

government direct expenditures See *exhaustive expenditures.*

government failure Where the government achieves less than the benefits it could achieve through perfectly efficient action.

Gresham's law Bad money (i.e. money whose intrinsic value is less than its face value) drives good money (i.e. money whose intrinsic value exceeds its face value) out of circulation.

gross domestic product (GDP) The value of total output actually produced in the whole economy over some period, usually a year (although quarterly data are also available).

gross investment The total value of all investment goods produced in the economy during a stated period of time.

gross national product (GNP) Income earned by UK residents in return for contributions to current production, whether production is located at home or abroad. Equal to GDP plus net property income from abroad.

gross return on capital The market value of output minus all non-capital costs, divided into depreciation, pure return, risk premium, and pure profit.

gross tuning Use of monetary and fiscal policy to attempt to correct only large deviations from potential national income. It is contrasted with *fine tuning*, which aims to adjust aggregate demand frequently in order to keep national income close to its potential level at all times.

high-employment deficit An estimate of expenditures minus tax revenues, not as they actually are, but as they would be if potential national income had been achieved (i.e. if there were neither an inflationary nor a recessionary gap). Also called *full-employment* or *cyclically adjusted deficit*.

high-employment national income (output) See *potential national income*.

high-powered money The monetary magnitude that is under the direct control of the central bank. It is composed of cash in the hands of the public, bank reserves of currency, and clearing balances held by the commercial banks with the Bank of England.

hog cycles A term used to characterize cycles of over- and under-production because of time lags in the production process. For example, high prices for pork today lead many farmers to start breeding pigs; when the pigs mature there will be an increased supply of pork which will drive down its price; so fewer farmers will breed pigs and the price will later rise again, starting the cycle over again.

homogeneous product A product is homogeneous when, in the eyes of purchasers, every unit is identical to every other unit.

horizontal merger Union or merger of firms at the same stage of production.

household All the people who live under one roof and who take, or are subject to others taking for them, joint financial decisions.

human capital The capitalized value of productive investments in persons. Usually refers to value derived from expenditures on education, training, and health improvements.

hyperinflation Episodes of very rapid inflation.

hysteresis The lagging of effects behind their causes. In economics, the term has come to relate to persistence or irreversibility of effects. An example is the difficulty of returning the long-term unemployed to work because their skills have deteriorated. It also implies path dependency, which means that the ultimate equilibrium is not independent of how the economy gets there (i.e. it is not unique).

identification problem The problem of how to estimate both demand and supply curves from observed market data on prices and quantities actually traded.

immobile capital Applies to financial capital which is not free to move from one country to another, usually because of government regulations.

import quota A maximum amount of some product that may be imported each year.

import substitutions A policy of producing goods domestically that were previously imported.

imputed costs The costs of using factors of production already owned by the firm, measured by the earnings they could have received in their best alternative employment.

incidence In tax theory, where the burden of a tax finally falls.

income-consumption line On an indifference-curve diagram, a line showing how consumption bundles change as income changes, with prices held constant.

income effect The effect on quantity demanded of a change in real income, relative prices held constant.

income-elastic Describes the situation where the percentage change in quantity demanded exceeds the percentage change in income.

income elasticity of demand The responsiveness of quantity demanded to a change in income.

income-inelastic Describes the situation where the percentage change in quantity demanded is smaller than the percentage change in income.

incomes policies A wide range of policies running from the government's setting of voluntary guidelines for wage and price increases, through consultation on wage and price norms between unions, management, and government, to compulsory controls on wages, prices, and profits.

increasing returns A situation in which output increases more than in proportion to inputs as the scale of a firm's production increases. A firm in this situation, with fixed factor prices, is a decreasing-cost firm.

incremental ratio When Y is a function of X, the incremental ratio is the change in Y divided by the change in X that brought it about, $\Delta Y/\Delta X$. The limit of this ratio as ΔX approaches zero is the derivative of Y with respect to X, dY/dX.

index of retail prices See *retail price index.*

indexation When a contract, for wages, pensions or repayment of debt, is specified in real terms. Any specified money payment would be increased to compensate for actual inflation. More generally, the term applies to any contingent contract tied to an index number.

indicators Variables that policy-makers monitor for the information they yield about the state of the economy.

indifference curve A curve showing all combinations of commodities that yield equal satisfaction to the household.

indifference map A set of indifference curves.

indirect tax A tax levied on a thing, and paid by an individual by virtue of his or her association with that thing.

individualism The belief that individuals are the best judges of their own interests.

induced Anything that is determined from within a theory; the opposite of autonomous or exogenous, also called *endogenous.*

induced expenditure Any expenditure flow that is related to national income (or to any other variable explained by the theory).

induced variable See *endogenous variable.*

industrial unions All workers in a given industry belonging to a single union, whatever their trade.

industry A group of firms that sell a well-defined product or closely related set of products.

inelastic Describes the situation where the percentage change in quantity is less than the percentage change in price (elasticity is less than one).

infant industry argument The argument that new domestic industries with potential economies of scale need to be protected from competition from established low-cost foreign producers so that they can grow large enough to achieve costs as low as those of foreign producers.

inferior good A commodity with a negative income elasticity; its demand diminishes when income increases.

inflation An increase in the general price level.

inflation-adjusted budget surplus (deficit) The *budget surplus (deficit)* when the *inflation tax* is incorporated.

inflation tax The implicit revenue to the government which accrues from the fall in real value of its outstanding debt resulting from inflation.

inflationary gap A negative output gap, i.e. actual national income exceeds potential national income.

inflationary shock Any autonomous shift in aggregate demand or aggregate supply which causes the price level to rise.

infrastructure The basic facilities (especially transportation and communications systems) on which the commerce of a community depends.

injection Income received, either by domestic firms or domestic households, that does not arise from the spending of the other group.

inputs The materials and factor services used in the process of production.

inside assets Assets that are the liability of other agents in the same sector or economy so that they net out for the sector or economy as a whole.

insider–outsider models Any analysis of labour markets which gives more influence over market outcomes to those in employment (usually via trade union representation) than to the unemployed.

instruments The variables that policy-makers can control directly. (In econometrics, instruments are proxy variables used in regression equations because of their desirable statistical properties — usually independence from the equation error.)

interest The amount paid each year on a loan, usually expressed as a percentage (e.g. 5 per cent) or as a ratio (e.g. 0.05) of the principal of the loan.

intermediate products All goods and services used as inputs into a further stage of production.

internal balance When real national income is at its target level.

internal economies Economies of scale that arise from sources within the firm.

internalizing an externality Doing something that makes an externality enter into the firm's own calculations of its private costs and benefits.

invention The discovery of something new, such as a new production technique or a new product.

inventories See *stocks*.

investment The act of producing goods that are not for immediate consumption.

investment banks US term for banks that specialize in corporate finance, especially trading and underwriting securities. UK terminology for the same type of institution is *merchant bank*.

investment demand function A negative relationship between the quantity of investment per period and the interest rate, holding other things constant. It used to be more commonly called the *marginal efficiency of investment*.

investment expenditure Expenditure on capital goods.

investment goods Goods produced not for present consumption, i.e. capital goods, inventories, and residential housing.

invisibles Services, i.e. those things that we cannot see, such as insurance and freight haulage and tourist expenditures.

involuntary unemployment Unemployment that occurs when a person is willing to accept a job at the going wage rate, but cannot find such a job.

IS curve The locus of combinations of the interest rate and the level of real national income for which desired aggregate expenditure equals actual national income. So called because, in a closed economy with no government, it also reflects the combinations of the interest rate and national income for which investment equals saving, $I = S$. In general, it reflects points for which injections equal withdrawals.

IS/LM model A diagrammatic representation of a model of aggregate demand determination based upon the locus of equilibrium points in the aggregate expenditure sector (IS) and the monetary sector (LM). It is incomplete as a model of national income determination because it does not include an aggregate supply curve.
iso-cost line A line showing all combinations of inputs that have the same total cost to the firm.
isoquant A curve showing all technologically efficient factor combinations for producing a specified output.
isoquant map A series of isoquants from the same production function, each isoquant relating to a specific level of output.

J-curve Pattern usually followed by the *balance of trade* after a devaluation of the domestic currency. Initially the trade balance deteriorates, and then, after a lag, it improves.
joint stock company A firm regarded in law as having an identity of its own. Its owners are not personally responsible for anything that is done in the name of the firm; called a *corporation* in North America.

Keynesian economics Economic theories based on *AE*, *IS*, *LM*, *AD*, and *AS* curves and assuming enough short-run price inflexibility that *AD* and *AS* shocks cause substantial deviations of real national income from its potential level.
Keynesian revolution Adoption of the idea that government could use monetary and fiscal policy to control aggregate demand and thereby influence the level of national income. For a while it was believed that Keynesian economics had found ways in which policy-makers could smooth business cycles and eliminate unemployment.
Kondratief cycles Long cycles in economic activity of around fifty years' duration. Sometimes referred to as long waves.

labour All productive human resources, mental and physical, both inherited and acquired.
labour force See *working population.*
labour force participation rate The percentage of the population of working age that is actually in the labour force (i.e., either working or seeking work).
labour productivity Total output divided by the labour used in producing it, i.e. output per unit of labour.
Laffer curve A curve relating total tax revenue to the tax rate.
land Those free gifts of nature, such as land, forests, minerals, etc., sometimes called natural resources.
lateral merger See *horizontal merger.*
law of diminishing returns Law stating that, if increasing quantities of a variable factor are applied to a given quantity of a fixed factor, the marginal product, and the average product, of the variable factor will eventually decrease.
leakages See *withdrawals.*
legal tender Currency that is recognized in law as the acceptable medium for payment of debts. Bank of England notes became legal tender in England and Wales in 1833.
less developed countries (LDCs) The lower-income countries of the world, most of which are in Asia, Africa and South and Central America. Also called *underdeveloped countries* and *developing countries.*
leveraged buyout (LBO) A buyout of a firm largely financed by borrowed money.
life-cycle theory A theory that relates the household's actual consumption to its expected lifetime income.

limited partnership A form of business organization in which the firm has two classes of owners: general partners, who take part in managing the firm and who are personally liable for all of the firm's actions and debts, and limited partners, who take no part in the management of the firm and who risk only the money that they have invested.

liquidity The ease with which an asset can be converted into money. Sometimes refers to money itself — *liquidity preference* used to be widely used in economics as an expression meaning *demand for money*.

liquidity preference The demand to hold wealth as money rather than as interest-earning assets. Also called the *demand for money*.

LM curve The locus of combinations of the interest rate and real national income for which money demand equals money supply. So called because it represents the points where *liquidity preference* equals the *money supply*.

logarithmic scale A scale in which equal proportional changes are shown as equal distances (for example, 1 inch may always represent doubling of a variable, whether from 3 to 6 or 50 to 100). Also called *log scale, ratio scale*.

long run A period of time in which all inputs may be varied, but the basic technology of production is unchanged.

long-run aggregate supply curve (LRAS) A curve that relates the price level to equilibrium real national income, after all input costs, including wage rates, have been fully adjusted to eliminate any excess demand or supply.

long-run average cost curve (LRAC) Curve showing the least-cost method of producing each level of output when all inputs can be varied. Also called long-run average total cost curve.

long-run industry supply curve (LRS) Curve showing the relation between equilibrium price and the output that all the firms in the industry will be willing to supply after all the desired entry or exit has occurred.

long-run Phillips curve (LRPC) The relation between national income and stable rates of inflation that neither accelerate nor decelerate.

long wave See *Kondratief cycles*.

Lorenz curve A graph showing the extent of departure from equality of income distribution.

Lucas aggregate supply curve An aggregate supply curve which is positively sloped for unexpected increases in the price level but vertical for anticipated increases in the price level. Also known as the *'surprise' aggregate supply curve*.

Lucas critique The proposition that forecasts and simulations using empirical macro models will be inaccurate when used to predict the effects of changes in policy. This is because the behaviour of agents will be different under different policy regimes.

M0 Currency held by the non-bank public plus bankers' deposits with the central bank. Also known as the monetary base, the cash base or *high-powered money*.

M1 A measure of the money stock which includes currency plus current account bank deposits. This measure is no longer reported by the Bank of England.

M2 Currency held by the public plus retail current and savings accounts in banks and building societies.

M3 Measure of *broad money* no longer used by UK authorities. It was equal to M1 plus all savings deposits in banks.

M4 Currency in circulation plus all deposits in banks and building societies.

macroeconomic policy Any measure directed at influencing such macroeconomic variables as the overall levels of employment, unemployment, national income and the price level.

macroeconomics The study of the determination of economic aggregates and averages, such as total output, total employment, the general price level, and the rate of economic growth.

managed float Intervention in the foreign exchange market by a country's central bank in pursuit of an unofficial exchange rate target, but not to maintain a publicly announced par value. Also called a *dirty float*.

marginal cost (MC) The increase in total cost resulting from raising the rate of production by one unit.

marginal cost pricing Method of pricing where price is set equal to marginal cost.

marginal efficiency of capital The rate at which the value of the stream of output of a marginal unit of capital must be discounted to make it equal to £1.

marginal efficiency of capital schedule A schedule that relates the marginal efficiency of each additional £1's worth of capital to the size of the capital stock.

marginal efficiency of investment The relation between desired investment and the rate of interest, assuming all other things are equal.

marginal physical product (MPP) See *marginal product.*

marginal product (MP) The change in total product resulting from using one more (or less) unit of the variable factor. Also called *marginal physical product.* Mathematically, the partial derivative of total product with respect to the variable factor.

marginal propensity not to spend The proportion of each additional £1 of income that is not passed on in spending, and instead leaks out of (i.e. is withdrawn from) the circular flow of income. Also called the *marginal propensity to withdraw* and the *marginal propensity to leak.*

marginal propensity to consume (MPC) The proportion of each new increment of income that is spent on consumption, $\Delta C/\Delta Y$.

marginal propensity to import The proportion of any new increment of income that is spent on imports, $\Delta M/\Delta Y$.

marginal propensity to leak See *marginal propensity not to spend.*

marginal propensity to save (MPS) The proportion of any new increment of income that is saved, $\Delta S/\Delta Y$.

marginal propensity to spend The ratio of any increment of induced expenditure to the increment in income that brought it about.

marginal propensity to tax The proportion of an increment in income that is taxed away by the government, $\Delta T/\Delta Y$.

marginal propensity to withdraw See *marginal propensity not to spend.*

marginal rate of substitution (MRS) The rate at which one factor is substituted for another with output held constant; graphically, the slope of the isoquant.

marginal rate of transformation The slope of the production possibility curve, indicating the rate of substitution of one good for another.

marginal revenue The change in total revenue resulting from a unit change in the sales per period of time. Mathematically, the derivative of total revenue with respect to quantity sold.

marginal revenue product The addition to a firm's revenue resulting from the sale of the output produced by an additional unit of the variable factor.

marginal utility The change in satisfaction resulting from consuming one unit more or one unit less of a commodity.

market An area over which buyers and sellers negotiate the exchange of a well-defined commodity.

market economy A society in which people specialize in productive activities and meet most of their material wants through exchanges voluntarily agreed upon by the contracting parties.

market failure Any market performance that is judged to be less good than the best possible performance.

market for corporate control An interpretation of conglomerate mergers, leveraged buyouts, and hostile takeovers as mechanisms that place the firm in the hands of those who are able to generate the greatest value of output.

market rate of interest The actual rate of interest that rules in the market.

market sector That portion of an economy in which producers must cover their costs by selling their output to consumers.

market structure The characteristics of a market that influence the behaviour and performance of firms that sell in the market. The four main market structures are perfect competition, monopolistic competition, oligopoly, and monopoly.

Marshall–Lerner condition Condition specifying that, for the balance of payments to improve as a result of a devaluation of the home currency, the sum of the elasticities of demand for imports and exports must exceed unity in absolute size.

maturity The length of time until the *redemption date* of a security such as a *bond*.

medium of exchange A commodity or token which is widely accepted in payment for goods and services.

medium term financial strategy (MTFS) The combined monetary and fiscal policy goals introduced by the Conservative government of Mrs Thatcher after 1979, with the aim of bringing down inflation and eliminating the budget deficit.

menu costs Costs associated with changing prices, such as the costs of reprinting catalogues or menus. These costs make it rational for producers to keep output prices fixed until input prices have changed significantly, or to respond only periodically.

mercantilism The doctrine that the gains from trade are a function of the balance of trade, in contrast with the classical theory, in which the gains from trade are a function of the volume of trade.

merchandise trade Trade in physical products.

merchant banks British name for *investment banks*. Usage arose because the banks involved started out as traders in commodities and then moved over to specialize in trade finance. Modern merchant banks are involved in a wide range of securities trading and corporate finance.

merger When two or more formerly independent firms unite. See *horizontal, vertical* and *conglomerate mergers*.

merit goods Goods, of which the government decides that more should be produced than people would choose to consume left to themselves.

microeconomics The study of the allocation of resources and the distribution of income as they are affected by the working of the price system and by the policies of the central authorities.

minimum efficient scale (MES) The smallest level of output at which long-run average cost is at a minimum; the smallest output required to achieve the economies of scale in production and/or distribution.

mismatch See *structural unemployment*.

mixed economy An economy in which some decisions about the allocation of resources are made by firms and households and some by the central authorities.

mobile capital Financial capital which is free to move to the market where expected returns are highest.

monetarism The doctrine that monetary magnitudes exert powerful influences in the economy, and that control of these magnitudes is a potent means of affecting the economy's macroeconomic behaviour.

monetary approach to the balance of payments Analysis linking the excess demand for money to the international payments balance or exchange rate change.

monetary base control Policy of controlling the money stock by means of fixing the stock of *high-powered money*; also known as the monetary base. Not used in the United Kingdom as a method of implementing monetary policy.

monetary equilibrium A situation in which there is no excess demand for or supply of money.

monetary policy Policy traditionally seen as working through the *LM* curve, shifting aggregate demand by altering the supplies of monetary aggregates, and regulating the terms and availability of credit.

monetary transmission mechanism The mechanism that turns a monetary shock into a real expenditure shock and thus links the monetary and the real side of the economy.

money Any generally accepted medium of exchange, i.e. anything that will be accepted in exchange for goods and services.

money demand function The function that determines the demand to hold money balances.

money income A household's income as measured in terms of some monetary unit.

money markets The markets in which banks, companies and the public sector finance or invest their short-term financial surpluses and deficits. It is contrasted with capital markets (bonds and equities), in which long-term financing is achieved.

money multiplier The ratio of the money stock to the monetary base (high-powered money).

money national product See *nominal national product.*

money price See *absolute price.*

money rate of interest The rate of interest as measured in monetary units.

money stock See *supply of money.*

money substitutes Things that serve as temporary media of exchange but are not stores of value, e.g. credit cards.

money supply See *supply of money.*

monopolist A single seller in any market.

monopolistic competition A market structure in which there are many sellers and freedom of entry but in which each firm sells a product somewhat differentiated from the others, giving it some control over its price.

monopoly A market structure that exists when an industry is in the hands of a single producer.

monopsonist A single purchaser in any market.

moral hazard Hazard that arises from people taking actions that increase social costs because they are insured against private loss.

most favoured nation An agreement between two countries according to which each will give the other's goods treatment that is at least as favourable as the most favourable treatment given to any other country's goods (where 'more favourable' means lower tariffs).

multinational enterprises (MNEs) See *transnational corporations.*

multiplier The ratio of the change in national income to the change in autonomous expenditure that brought it about.

multiplier accelerator theory The theory that business cycles are caused by the interaction of the multiplier and the accelerator.

NAIRU The amount of unemployment (all of it *frictional* and *structural*) that exists when national income is at its potential level and which, if maintained, will result in a stable rate of inflation.

Nash equilibrium In the case of firms, an equilibrium that results when each firm in an industry is currently doing the best that it can, given the current behaviour of the other firms in the industry.

national debt The debt of the central government.

national income In general, the value of the nation's total output, and the value of the income generated by the production of that output.

national product A generic term for the nation's total output which might be measured more specifically by *GNP* or *GDP*.

natural monopoly An industry whose market demand is sufficient to allow only one firm to produce at its minimum efficient scale.

natural rate of unemployment The level of unemployment in a competitive economy which corresponds to potential national income, and is associated with stable inflation. For most purposes it is equivalent to the *NAIRU*, but the latter applies to imperfectly competitive economies as well.

natural scale A scale in which equal absolute amounts are represented by equal distances.

near money Anything that fulfils the store-of-value function, and is readily convertible into a medium of exchange, but is *not* itself a medium of exchange.

negatively related Refers to the relationship where an increase in one variable is associated with a decrease in the other.

net domestic product *Gross domestic product* minus an allowance for *depreciation* (or *capital consumption*).

net exports Total exports minus total imports ($X - M$).

net investment Gross investment minus replacement investment, which is new capital that represent net additions to the capital stock.

net taxes Total tax receipts net of *transfer payments*.

neutrality of money Hypothesis that the level of real national income is independent of the level of the money stock.

New Classical theory A theory that assumes that the economy behaves as if it were perfectly competitive with all markets always clearing; where deviations from full employment can occur only if people make mistakes and, given rational expectations, these mistakes will not be systematic.

New Keynesian economics Recent research agenda which has focused on explaining why prices do not adjust to clear markets, especially the labour market. It differs from the traditional Keynesian approach in its concern for *equilibrium unemployment* as well as *cyclical unemployment*.

newly industrialized countries (NICs) Formerly underdeveloped countries that have become major industrial exporters in recent times. Sometimes called newly industrialized economies (NIEs).

nominal interest rate Actual interest rate in money terms. It is contrasted with the *real interest rate*, which is the nominal interest rate minus the inflation rate (or expected inflation rate).

nominal money supply The money supply measured in monetary units.

nominal national product Total output valued at current prices.

nominal rate of tariff The tax charged on any imported commodity, expressed as a percentage of the price of the commodity.

non-cooperative equilibrium An equilibrium reached when firms calculate their own best policy without considering competitors' reactions.

non-market sector That portion of an economy in which producers must cover their costs from some source other than sales revenue.

non-renewable or exhaustible resources Any productive resource that is available as a fixed stock that cannot be replaced once it is used, such as petroleum.

non-strategic Behaviour which does not take account of the reactions of others, as when a firm acts in *perfect* or *monopolistic competition.*

non-tariff barriers Devices other than tariffs that are designed to reduce the flow of imports.

non-tradables Goods and services that are produced and sold domestically but do not enter into international trade.

normal capacity output The level of output that the firm expects to maintain on average.

normal good A commodity whose demand increases when income increases.

normative Statements concerning what ought to be; they depend on our *value judgements.*

NX Symbol used in the macroeconomics sections of this book for net exports, which is exports minus imports.

OECD Organization for Economic Co-operation and Development. A Paris-based economics research institute and policy forum supported by the major industrial countries. For a list of members see fn. 1 on p. 812.

official financing Refers to items that represent international transactions involving the central bank of the country whose balance of payments is being recorded.

oligopoly An industry that contains only a few firms.

open economy An economy that engages in international trade.

open-market operations Sales or purchases of securities by the central bank aimed at influencing monetary conditions.

open shop A place of employment in which a union represents its members but does not have bargaining jurisdiction for all workers in the shop, and where membership of the union is not a condition of getting or keeping a job.

opportunity cost The cost of using resources for a certain purpose, measured by the benefit given up by not using them in their best alternative use.

output gap The difference between actual output and potential output ($Y^* - Y$); positive output gaps are called *recessionary gaps*; negative output gaps are called *inflationary gaps.*

outputs The goods and services that result from the process of production.

outside assets Assets held by a sector or economy which are the liabilities of agents in another sector or economy.

overshooting Occurs when the impact effect of a shock takes a variable beyond its ultimate equilibrium level. Most widely applied to the exchange rate. A characteristic of a wide class of exchange rate models under rational expectations is that when monetary policy is, say, tightened the exchange rate initially appreciates to a point from which it will depreciate towards its long-run equilibrium level.

parallel money market In the traditional London money market, banks lent short-term surpluses to the *discount houses.* The parallel money market arose when banks started to trade directly with each other. It is more widely known today as the inter-bank market.

Pareto efficiency See *Pareto optimality.*

Pareto optimality A situation in which it is impossible, by reallocating production or consumption activities, to make at least one person better off without making anyone worse off. Also called *Pareto efficiency.*

partisanship Influences on economic policy (or expected economic policy) coming from the differences in priority and constituency of political parties. It is an important component in some modern theories of the *political business cycle.*

partnership An enterprise with two or more joint owners, each of whom is personally responsible for all of the partnership's debts.

paternalism The belief that the individual is not the best judge of his or her own self-interest; someone else knows better.

path dependence Non-uniqueness of equilibrium resulting from the possibility that what happens in one period affects the stock of physical and human capital for a long time subsequently. Sometimes referred to as *hysteresis.*

per capita economic growth The growth of per capita national income (national income divided by the population).

per-unit tax See *specific tax.*

perfect capital mobility Arises when there are no artificial barriers to the movement of financial capital and investors regard domestic and foreign securities (riskless) as perfect substitutes.

perfect competition A market structure in which all firms in an industry are price-takers and in which there is freedom of entry into, and exit from, the industry.

permanent income The maximum amount that a person can consume per year into the indefinite future without reducing his or her wealth.

permanent income theory A theory that relates actual consumption to permanent income.

perpetuity A bond that pays a fixed sum of money each year for ever and has no redemption date; sometimes called a consol.

personal disposable income (PDI) The gross income of the personal sector less all direct taxes and national insurance contributions.

Phillips curve Relates the percentage rate of change of money wages (measured at an annual rate) to the level of unemployment (measured as the percentage of the labour force unemployed).

planned expenditure What people intend to spend.

point elasticity Uses the derivative at a point on the demand curve $(\mathrm{d}q/\mathrm{d}p)/(p/q)$. (See also *arc elasticity.*)

policy invariance A proposition associated with the *New Classical School,* which states that systematic changes in monetary and fiscal policy cannot affect real national income. It implies that only unexpected changes in aggregate demand policy affect real national income. The conditions required for this to be true are not generally thought likely to hold.

political business cycles Cycles in the economy resulting from the political goals of incumbent (or potentially incumbent) politicians. The simplest form of this is the deliberate pre-election boom, though modern theories are more subtle.

poll tax A tax which takes the same lump sum from everyone.

portfolio balance See *portfolio equilibrium.*

portfolio disequilibrium Situation existing when wealth-holders have too much of some assets and too few of others in the current portfolios.

portfolio equilibrium Situation existing when wealth-holders have the desired proportion of assets in their current portfolios; also called *portfolio balance.*

portfolio investment Investment in bonds and other debt instruments that do not imply ownership, or in minority holdings of shares that do not establish legal control.

positive Refers to statements concerning what is, was or will be; they assert alleged facts about the universe in which we live.

positively related Refers to the relationship where an increase in one variable is associated with an increase in the other.

potential output (national income), Y^* The level of output at which there is a balance between inflationary and deflationary forces. It is also the level of output at which there is no *cyclical unemployment* (the economy is at the *NAIRU*) and the existing capital stock is being run at its normal rate of utilization.

precautionary balances The amount of money people wish to hold because of uncertainty about the exact timing of receipts and payments.

present value The value now of a sum to be received in the future. Also called *discounted present value.*

price-consumption line A line on an indifference curve diagram showing how consumption changes as the price of one commodity changes, *ceteris paribus.*

price controls Anything that influences prices by laws, rather than market forces.

price discrimination Situation arising when firms sell different units of their output at different prices for reasons not associated with differences in costs.

price elasticity of demand The percentage change in quantity demanded divided by the percentage change in price that brought it about; often called *elasticity of demand.*

price elasticity of supply The percentage change in quantity supplied divided by the percentage change in price that brought it about; often called *elasticity of supply.*

price index A statistical measure of the average percentage change in some group of prices over some base period.

price level See *general price level.*

price-makers Firms that administer their prices. See *administered price.*

price-specie-flow mechanism The automatic balance of payments adjustment mechanism under the *gold standard.* A balance of payments surplus leads to an inflow of gold which raises the domestic money supply, and this, in turn, raises domestic prices. Domestic residents accordingly switch to purchases of foreign goods, and the balance of payments surplus disappears (or turns into a deficit).

price system An economic system in which prices play a key role in determining the allocation of resources and the distribution of the national product.

price-taker A firm that can alter its rate of production and sales within any feasible range without having any effect on the price of the product it sells.

prime bank bills A *bill of exchange* which has been accepted (guaranteed) by a *merchant bank* which has a 'good name'. Such bills are eligible for being rediscounted with the Bank of England, via the *discount market.*

prime rate US terminology for *base rate.*

principal The amount of a loan, or the individual (or firm) who takes ownership of a transaction.

principal–agent problem The problem of resource allocation that arises because contracts that will induce agents to act in their principals' best interests are generally impossible to write or too costly to monitor.

principle of substitution The idea that methods of production will change if relative prices of inputs change, with relatively more of the cheaper input and relatively less of the more expensive input being used.

private cost The value of the best alternative use of the resources used in production as valued by the *producer.*

private sector That portion of an economy in which the organizations that produce goods and services are owned and operated by private units such as households and firms.

pro-cyclical Positively correlated with the *business cycle.*

producer Any unit that makes goods or services.

producers' surplus Total revenue minus total variable cost; the market value that the firm creates by producing goods, net of the value of the resources currently used to create these goods.

production The act of making goods and services.

production function A functional relation showing the maximum output that can be produced by each and every combination of inputs.

production possibility boundary A curve that shows the alternative combinations of commodities that can just be attained if all available productive resources are used; it is the boundary between attainable and unattainable output combinations.

productive efficiency Production of any output at the lowest attainable cost for that level of output.

productivity Output per unit of input employed.

products A general term referring to all goods and services. Sometimes also referred to as *commodities.*

profit (1) In ordinary usage, the difference between the value of outputs and the value of inputs. (2) In microeconomics, the difference between revenues received from the sale of goods and the value of inputs, which includes the opportunity cost of capital: also called *pure profits* or *economic profits.* (3) In macroeconomics, excluding interest on borrowed capital but not the return on owner's capital.

profit-maximizing output The level of output that maximizes a firm's profits. Sometimes also called the *optimal output.*

progressive tax A tax that takes a larger percentage of people's income the larger is their income.

progressivity The general term for the relation between income and the percentage of income paid in taxes.

proportional tax A tax that takes the same percentage of people's income whatever the level of their income.

protectionism Any departure from free trade designed to give some protection to domestic industries from foreign competition.

proxy An order from a stockholder that passes the right to vote to a nominee, usually an existing member of the board of a firm.

PSBR See *public sector borrowing requirement.*

public corporation A body set up to run a nationalized industry. It is owned by the state but is usually under the direction of a more or less independent, state-appointed board.

public goods Goods and services which, once produced, can be consumed by everyone in the society; also called *collective consumption goods.*

public sector That portion of an economy in which production is owned and operated by the government or by bodies created by it, such as nationalized industries.

public sector borrowing requirement (PSBR) The combined excess of expenditure over revenue of the central government, the local authorities, and public corporations, minus asset sales.

public-sector debt The outstanding debt of central government, local authorities, and public corporations.

purchasing power of money The amount of goods and services that can be purchased with a given amount of money.

purchasing power parity (PPP) exchange rate The exchange rate between two currencies that equates their purchasing powers and hence adjusts for relative inflation rates.

purchasing power parity theory The theory that the equilibrium exchange rate between two national currencies will be the one that equates their purchasing powers.

pure profit Any excess of a firm's revenue over all opportunity costs including those of capital; also called *economic profit.*

pure rate of interest See *pure return on capital.*
pure return on capital The amount that capital can earn in a riskless investment; also called the *pure rate of interest.*

quantity actually bought and sold The amount of a commodity that consumer and firms actually succeed in purchasing and selling.
quantity actually purchased See *quantity actually bought and sold.*
quantity demanded The amount of a commodity that households wish to purchase in some time-period.
quantity supplied The amount of a commodity that firms offer for sale in some time-period.
quantity theory of money Theory predicting that the price level and the quantity of money vary in exact proportion to each other — i.e. changing M by $X\%$ changes P by $X\%$.
quasi-rent Factor payments which are economic rent in the short run and transfer earnings in the long run.

ratio scale See *logarithmic scale.*
rational expectations The theory that people understand how the economy works and learn quickly from their mistakes, so that, while random errors may be made, systematic and persistent errors are not made.
reaction curve Curve showing one firm's profit-maximizing output for each given quantity sold by its competitor.
real business cycles An approach to the explanation of business cycles which uses dynamic equilibrium market-clearing models and relies upon productivity shocks as a trigger. In such models, all cycles are an optimal response to the real shock and there are no deviations from potential output: rather, it is the full equilibrium that fluctuates over time.
real capital Physical assets that constitute factories, machinery, and stocks of material and finished goods; also called *physical capital.*
real exchange rate An index of the relative prices of domestic and foreign goods.
real income The purchasing power of money income.
real money supply The money supply measured in purchasing-power units.
real national product Total output valued at base-year prices.
real product wage The proportion of the sale value of each unit that is accounted for by labour costs (including the pre-tax nominal wage rate, benefits, and the firm's national insurance contributions).
real rate of interest The money rate of interest minus the inflation rate, which expresses the real return on a loan.
real wage The money wage deflated by a price index to measure the wage's purchasing power.
realized expenditure What people actually succeed in spending.
reallocation of resources Some change in the uses to which the economy's resources are put.
recession A sustained drop in the level of economic activity.
recessionary gap A positive output gap, when actual national income falls short of potential national income.
redemption date The time at which the principal of a loan is to be repaid.
regressive tax A tax which takes a smaller percentage of people's incomes the larger their income is.
relative price Any price expressed as a ratio of another price.

renewable resources Productive resources that can be replaced as they are used up, as with physical capital; distinguished from non-renewable resources, which are available in a fixed stock that can be depleted but not replaced.

replacement investment Investment which replaces capital as it wears out. It is equal to *depreciation*, or *capital consumption*, but does not increase the capital stock.

replacement ratio Benefits received by those out of work as a proportion of the wage of those in employment.

resource allocation The allocation of the economy's scarce resources among alternative uses.

retail price index (RPI) An index of the general price level based upon the consumption pattern of typical consumers.

Ricardian equivalence (neutrality proposition) Proposition stating that, for a given path of real government spending, it makes no difference to private expenditures whether this spending is financed by taxes or borrowing (future taxes), since the present value of the tax liability is the same either way.

risk-averse Desirous of avoiding risks, persons will only play games that are sufficiently biased in their favour to overcome their aversion to risk; they will be unwilling to play mathematically fair games, let alone games that are biased against them.

risk-loving Describes people who are willing to play some games that are biased against them, the extent of the love of risk being measured by the degree of bias that they are willing to accept.

risk-neutral Indifferent about playing a mathematically fair game. Risk-neutral persons will willingly play a game that is biased in their favour, but will not play one that is biased against them.

risk premium The return on capital necessary to compensate owners of capital for the risk of loss of their capital.

rules Policy-making based upon a rigid formula.

satisficing Refers to firms that strive to achieve certain targets for their profits, but, having achieved them, will not strive to improve their profit position further.

saving Income received by households that they do not pass back to firms through consumption expenditure.

seigniorage The revenue that accrues to the issuer of money.

self-employed Those people who work for themselves.

sellers' preferences Allocation of commodity in excess demand by the decisions of sellers.

services Intangible production such as haircuts and medical services.

shares See *equities.*

shifting The passing of tax incidence from the person who initially pays it to someone else.

short-run The period of time over which the inputs of some factors cannot be varied.

short-run aggregate supply (SRAS) curve The total amount that will be produced and offered for sale at each price level on the assumption that all input prices are fixed.

short-run equilibrium Generally, equilibrium subject to fixed factors or other things that cannot change over the time-period being considered.

short-run Phillips curve Any particular Phillips curve drawn for a given expected rate of inflation.

short-run supply curve A curve showing the relation of quantity supplied to price when one or more factor is fixed; under perfect competition it is the horizontal sum of marginal cost curves (above the level of average variable costs) of all firms in an industry.

shut-down price The price that is equal to a firm's average variable costs, below which it will produce no output.

sight deposit A deposit that can be transferred to others by means of a cheque and can be converted into cash on demand. Also called *demand deposit.*

simple multiplier Usually applies to the value of the *multiplier* in the aggregate expenditure system before any account is taken of the feedback from the monetary sector and from aggregate supply.

single proprietorship An enterprise with one owner who is personally responsible for everything that is done. More commonly called a *sole trader.*

size distribution of income A classification of income according to the amount of income received by each individual irrespective of the sources of that income.

slump A period of low output and low employment.

small open economy (SOE) An economy that is a price-taker for both its imports and its exports. It must buy and sell at the world price, irrespective of the quantities that it buys and sells.

social cost The value of the best alternative use of resources that are available to the whole society.

sole trader A non-incorporated business operated by a single owner. Modern UK terminology for a *single proprietorship.*

special drawing rights (SDRs) Financial liabilities of the IMF held in a special fund generated by contributions of member-countries. Members can use SDRs to maintain supplies of convertible currencies when these are needed to support foreign exchanges.

specialization of labour An organization of production in which individual workers specialize in the production of particular goods or services (and satisfy their wants by trading) rather than producing everything they consume (and satisfying their wants by being self-sufficient).

specific tariffs Tariffs that are so much on each unit of the imported product, independent of its price.

specific tax A tax expressed as so much per unit, independent of its price; also called a *per-unit tax.*

speculation Taking a financial position that will yield profits if prices move in a particular direction in future, but will yield losses if they move the other way.

speculative motive The motive that leads agents to hold money in reaction to the risks inherent in a fluctuating price of bonds. More generally, it refers to the asset motive, as opposed to the transactions motive, for holding money.

SRAS curve See *short-run aggregate supply curve.*

stabilization policy The attempt to reduce fluctuation in national income, employment, and the price level by stabilizing national income at its full-employment level, if possible.

stagflation The simultaneous occurrence of a recession (with its accompanying high unemployment) and inflation.

stock See *equities.*

stock variable A variable that does not have a time dimension. It is contrasted with a flow variable.

stockbuilding The process of building *stocks.*

stocks Accumulation of inputs and outputs held by firms to facilitate a smooth flow of production in spite of variations in delivery of inputs and sales of outputs. Sometimes called *inventories.*

stop–go policy Fluctuations caused by shortsightedly pursuing expansion to cure unemployment, then contraction to cure inflation.

strategic Behaviour which takes into account the reactions of others to one's own actions, as when the firm makes decisions in oligopolistic situations.

structural unemployment Unemployment that exists because of a mismatching between the characteristics of the unemployed and the characteristics of the available jobs in terms of region, occupation, or industry.

substitutes Two goods are substitutes if the quantity demanded of one is positively related to the price of the other.

substitution effect The change in quantity demanded of a good resulting from a change in the commodity's relative price, eliminating the effect of the price change on real income.

supply The whole relation between the quantity supplied of some commodity and its own price.

supply curve The graphical representation of the relation between the quantity of some commodity that producers wish to make and sell per period of time and the price of that commodity, *ceteris paribus*.

supply function A functional relation between the quantity supplied and all the variables that influence it.

supply of effort The total number of hours people in the labour force are willing to work; also called *supply of labour*.

supply of labour See *supply of effort*.

supply of money The total amount of money available in the entire economy; also called the *money supply* or the *money stock*.

supply schedule A numerical tabulation showing the quantity supplied at a number of alternative prices.

supply-side policies Policies that seek to shift either the short-run or the long-run aggregate supply curve.

supply shocks A shift in any aggregate supply curve caused by an exogenous change in input prices or technology.

surprise aggregate supply curve See *Lucas aggregate supply curve*.

takeover When one firm buys another firm.

targets The variables in the economy which the policy-makers wish to influence. Typical policy targets might be inflation, unemployment and real growth.

tariffs Taxes designed to raise the price of imported goods.

tax wedge The difference between what employers pay out for each employee and the amount of that money that ends up in the employees' pockets.

tender offer An offer to buy directly, for a limited period of time, some or all of the outstanding common stock of a corporation from its shareholders at a specified price per share, in an attempt to gain control of the corporation. Also called *takeover bid*.

term The amount of time between a bond's issue date and its redemption date.

terms of trade The ratio of the average price of a country's exports to the average price of its imports.

theory of games The theory that studies rational decision-making in situations in which one must anticipate the reactions of one's competitors to the moves one makes.

theory of income determination The theory explains the size of, and changes in, national income.

third-party effects See *externalities*.

time deposits An interest-earning bank deposit, legally subject to notice before withdrawal (the notice requirement is not normally enforced) and, until recently, not transferable by cheque.

time inconsistency Problem that arises in rational expectation models when policy-makers have an incentive to abandon their commitments at a later time. The existence of this incentive is generally understood by private-sector agents and it may influence their current behaviour.

total cost (TC) The total of all costs of producing a firm's output, usually divided into fixed and variable costs.

total final expenditure The total expenditure required to purchase all the goods and services that are produced domestically, when these are valued at market prices.

total fixed costs The total of a firm's costs that do not vary in the short run.

total product (TP) Total amount produced by a firm during some time period.

total revenue (TR) The total amount of money that the firm receives from the sale of its output.

total utility The total satisfaction derived from consuming some amount of a commodity.

total variable costs The total of those of the firm's costs that do vary in the short run.

tradables Goods and services that enter into international trade.

trade bills See *bills of exchange.*

trade creation Trade between the members of a customs union or free trade area where previously protected industries served their own home markets.

trade cycles See *business cycles.*

trade diversion The diversion of the source of a member-country's imports from outside sources to other union members as a result of the preferential removal of tariffs consequent on the formation of a customs union or a free trade area.

trade or craft union An organization of workers with a common set of skills, no matter where, or for whom, they work.

trade-weighted exchange rate The average of the exchange rates between a particular country's currency and those of each of its major trading partners, with each rate being weighted by the amount of trade with the country in question.

transactions demand for money The amount of money that people wish to hold in order to finance their transactions.

transfer earnings The amount that a factor must earn in its present use to prevent it from moving (i.e. transferring) to another use.

transfer payments Payments not made in return for any contribution to current output, such as unemployment benefits.

transmission mechanism See *monetary transmission mechanism.*

transnational corporations (TNCs) Firms that have operations in more than one country. Also called *multinational enterprises (MNEs).*

Treasury bill A promise to repay a stated amount at some specified date between 90 days and 1 year from the date of issue, issued by the Treasury at a discount to redemption value.

underdeveloped countries See *less developed countries.*

unemployment The percentage of the workforce out of work but seeking employment. In UK statistics, must also be registered and claiming benefit.

unit cost See *average variable cost.*

unity elasticity An elasticity with a numerical measure of one, indicating that the percentage change in quantity is equal to the percentage change in price (so that total expenditure remains constant).

utility The satisfaction that a household receives from consumption.

utils An imaginary measure of utility used in the exposition of marginal utility theory which assumes that utility is cardinally measurable.

validation Term used when the authorities sustain an ongoing inflation by increasing the money supply.

value added The value of a firm's output *minus* the value of the inputs that it purchases from other firms.

value of money See *purchasing power of money.*

variable Any well-defined item, such as the price of a commodity or its quantity, that can take on various specific values.

variable cost A cost that varies directly with changes in output. Also called *direct cost, avoidable cost.*

variable factors Inputs whose amount can be varied in the short run.

velocity of circulation The number of times an average unit of money is used in transactions within a specific period. Defined as the ratio of nominal national income to the money stock.

vertical merger Union or merger of firms at different stages of production.

very long run A period of time over which the technological possibilities open to a firm are subject to change.

vicious circle of poverty Describes the situation existing when a country has little capital per head, so is poor; because it is poor, it can devote few resources to creating new capital rather than to producing goods for consumption; because little new capital can be produced, capital per head remains low, and the country remains poor.

visibles Goods, i.e. things such as cars, pulpwood, aluminium, coffee and iron ore, that we can see when they cross international borders.

visible trade Trade in physical products. Same as *merchandise trade.*

voluntary export restriction (VER) Restriction whereby an exporting country agrees to limit the amount it sells to a second country.

voluntary unemployment Unemployment that occurs when there is a job available, but the unemployed person is not willing to accept it at the existing wage rate.

wage-cost-push inflation An increase in the price level due to increases in money wages that are not associated with excess demand for labour.

wage-price spiral The process set up by a sequence of wage-cost pushes that shifts the *SRAS* curve to the left and monetary accommodation that shifts the *AD* curve to the right.

Wagner's law Generally stated as saying that government activity will be an ever increasing proportion of the national product. However, the actual prediction was of a growing proportion of state activity during the development phase and a constant proportion for a mature economy.

warrant The option component of a convertible bond. When separated from the bond, it is a call option on a company's equity.

withdrawals Income received by either firms or households that is not passed on to the other group by buying goods or services from it. Also called *leakages.*

working population The total of the employed, the self-employed, and the unemployed, i.e. those who have a job plus those who are looking for work.

X-inefficiency Failure to use resources efficiently within the firm so that firms are producing above their relevant cost curves and the economy is inside its production possibility boundary.

yield curve A graph plotting the yield on securities against the term to maturity.