**ability-to-pay principle** The idea that those who have greater *income* (or *wealth*) should pay a greater proportion of it as taxes than those who have less income (or wealth).

**acreage allotments** A pre-1996 government program that determined the total number of acres to be used in producing (reduced amounts of) various food and fiber productsand allocated these acres among individual farmers. These farmers had to limit their plantings to the allotted number of acres to obtain *price supports* for their crops.

**actively managed funds** *Mutual funds* that have portfolio managers who constantly buy and sell *assets* in an attempt to generate higher returns than some benchmark rate of return forsimilar *portfolios*.

**actual investment** The amount that *firms* invest; equal to *planned investment* plus *unplanned investment*.

**actual reserves** The funds that a bank has on deposit at the *Federal Reserve Bank* of its district (plus its *vault cash*).

**adverse selection problem** A problem arising when information known to one party to a contract or agreement is not known to the other party, causing the latter to incur majorcosts. Example: Individuals who have the poorest health are most likely to buy health insurance.

**advertising** A seller’s activities in communicating its message about its product to potential buyers.

**AFL-CIO** An acronym for the American Federation of Labor– Congress of Industrial Organizations; the largest federation of *labor unions* in the UnitedStates.

**agency shop** A place of employment where the employer may hire either *labor union* members or nonmembers but where those who do not join the union must eitherpay union dues or donate an equivalent amount of money to a charity.

**aggregate** A collection of specific economic units treated as if they were one. For example, all prices of individual goods and services are combined into a *price level,* or all units of output are aggregated into *gross domestic product*.

**aggregate demand** A schedule or curve that shows the total quantity of goods and services demanded (purchased) at different *price levels*.

**aggregate demand–aggregate supply (AD-AS) model** The macroeconomic model that uses *aggregate demand* and *aggregate supply* to determine and explain the *price level* and the real *domestic output*.

**aggregate expenditures** The total amount spent for final goods and services in an economy.

**aggregate expenditures–domestic output approach** Determination of the equilibrium *gross domestic product* by finding the real GDP at which *aggregate expenditures* equal *domestic output*.

**aggregateexpendituresschedule** Ascheduleorcurveshowing the total amount spent for final goods and services at different levels of *real GDP*.

**aggregate supply** A schedule or curve showing the total quantity of goods and services supplied (produced) at different *price levels*.

**aggregate supply shocks** Sudden, large changes in resource costs that shift an economy's aggregate supply curve.

**agribusiness** The portion of the agricultural and food product industries that is dominated by large corporations.

**Alcoacase** A1945caseinwhichthecourtsruledthatthepossession of monopoly power, no matter how reasonably that power had been used, was a violation of the antitrustlaws; temporarily overturned the *rule of reason* applied in the *U.S. Steel case*.

**allocative efficiency** The apportionment of resources among firms and industries to obtain the production of the products most wanted by society (consumers); the output of eachproduct at which its *marginal cost* and *price* or *marginal benefit* are equal, and at which the sum of *consumer surplus* and *producer surplus* is maximized.

**anticipated inflation** Increases in the price level *(inflation)* that occur at the expected rate.

**antitrust laws** Legislation (including the *Sherman Act* and *Clayton Act*) that prohibits anticompetitive business activities such as *price fixing, _bid rigging, monopolization, and* tying contracts_.

**antitrust policy** The use of the *antitrust laws* to promote *competition* and economic efficiency.

**appreciation(ofthedollar)** Anincreaseinthevalueofthedollar relative to the currency of another nation, so a dollar buys a larger amount of the foreign currency and thus of foreigngoods.

**arbitrage** The activity of selling one *asset* and buying an identical or nearly identical asset to benefit from temporary differences in prices or rates ofreturn; the practice that equalizes prices or returns on similar financial instruments and thus eliminates further opportunities for riskless financialgains.

**asset** Anything of monetary value owned by a firm or individual.

**asset demand for money** The amount of *money* people want to hold as a *store of value;* this amount varies inversely with the *interest rate*.

**asymmetric information** A situation where one party to a market transaction has much more information about a product or service than the other. The result may be an underoroverallocation of resources.

**average expected rate of return** The *probability weighted average* of an investment's possible future returns. **average fixed cost (AFC)** A firm's total *fixed cost* divided by output (the quantity of product produced).

**average product (AP)** The total output produced per unit of a *resource* employed (*total product* divided by the quantity of that employed resource).

**average propensity to consume** Fraction (or percentage) of *disposable income* that households plan to spend for consumer goods and services; consumption divided by*disposable income*.

**average propensity to save (APS)** Fraction (or percentage) of *disposable income _that households save;* saving *divided by* disposable income_.

**average revenue** Total revenue from the sale of a product divided by the quantity of the product sold (demanded); equal to the price at which the product is sold when allunits of the product are sold at the same price.

**average tax rate** Total tax paid divided by total (taxable) income, as a percentage.

**average total cost (ATC)** A firm's *total cost* divided by output (the quantity of product produced); equal to *average fixed cost* plus *average variable cost* .

**average variable cost (AVC)** A firm's total *variable cost* divided by output (the quantity of product produced).

**back flows** The return of workers to the countries from which they originally migrated.

**balance of payments** (See *international balance of payments*.)

**balance-of-payments deficit** The amount by which *in payments _from a nation'sstock of* official reserves *are required to balance that nation's* capital and financial account *with its* current account *(in its* balance of payments_).

**balance-of-payments surplus** The amount by which *outpayments* to a nation's stock of *official reserves* are required to balance that nation's *capital and financial account* with its *current account* (in its *international balance of payments*).

**balance on capital and financial account** The sum of the *capital account balance* and the *financial account balance*.

**balance on current account** The exports of goods and services of a nation less its imports of goods and services plus its *net investment income* and *net transfers* ina year.

**balance on goods and services** The exports of goods and services of a nation less its imports of goods and services in a year.

**balance sheet** A statement of the *assets, liabilities,* and *net worth* of a firm or individual at some given time.

**bank deposits** The deposits that individuals or firms have at banks (or thrifts) or that banks have at the *Federal Reserve Banks*.

**bankers' bank** A bank that accepts the deposits of and makes loans to *depository institutions; _in the United States, a* Federal Reserve Bank_.

**bank reserves** The deposits of commercial banks and thrifts at *Federal Reserve Banks _plus bank and thrift* vault cash_.

**bankrupt** A legal situation in which an individual or *firm* finds that it cannot make timely interest payments on money it has borrowed. In such cases, abankruptcy judge can order the indi- vidual or firm to liquidate (turn into cash) its assets in order to pay lenders at least some portion of the amount they are owed.

**barrier to entry** Anything that artificially prevents the entry of firms into an industry.

**barter** The exchange of one good or service for another good or service.

**baseyear** Theyearwithwhichotheryearsarecomparedwhenan index is constructed; for example, the base year for a *price index*.

**beaten paths** Migration routes taken previously by family, relatives, friends, and other migrants.

**benefits-received principle** The idea that those who receive the benefits of goods and services provided by government should pay the taxes required to finance them.

**beta** Arelativemeasureof*nondiversifiablerisk_thatmeasureshow the nondiversifiable risk of a given* asset *or* portfolio *compares with thatof the* market portfolio _(the portfolio that contains every asset available in the financial markets).

**bilateral monopoly** A market in which there is a single seller *(monopoly)* and a single buyer *(monopsony)*.

**Board of Governors** The seven-member group that supervises and controls the money and banking system of the United States; the Board of Governors of the Federal ReserveSystem; the Federal Reserve Board.

**bond** A financial device through which a borrower (a firm or government) is obligated to pay the principal and interest on a loan at a specific date in thefuture.

**brain drains** The exit or *emigration* of highly educated, highly skilled workers from a country.

**break-even income** The level of *disposable income* at which *households* plan to consume (spend) all their income and to save none of it.

**break-evenoutput** Anyoutputatwhicha(competitive)firm's *total cost* and *total revenue* are equal; an output at which a firm has neither an *economic profit* nor a loss, at which it earns only a *normal profit.*

**break-even point** An output at which a firm makes a *normal profit* (*total revenue* = *total cost*) but not an *economic profit*.

**British thermal unit (BTU)** The amount of energy required to raise the temperature of 1 pound of water by 1 degree Fahrenheit.

**budgetconstraint** Thelimitthatthesizeofaconsumer'sincome (and the prices that must be paid for goods and services) imposes on the ability of that consumer to obtain goodsand services.

**budget deficit** The amount by which the expenditures of the Federal government exceed its revenues in any year.

**budget line** A line that shows the different combinations of two products a consumer can purchase with a specific money income, given the products' prices.

**budget surplus** The amount by which the revenues of the Federal government exceed its expenditures in any year.

**built-in stabilizer** A mechanism that increases government's budget deficit (or reduces its surplus) during a recession and increases government's budget surplus (or reducesits deficit) during an expansion without any action by policymakers. The tax system is one such mechanism.

**Bureau of Economic Analysis (BEA)** An agency of the U.S. Department of Commerce that compiles the national income and product accounts.

**business cycle** Recurring increases and decreases in the level of economic activity over periods of years; consists of peak, recession, trough, and expansion phases.

**business firm** (See *firm*.)

**cap-and-trade program** A government strategy for reducing harmful emissions or discharges by placing a limit on their total amounts and then allowing firms to buy and sell therights to emit or discharge specific amounts within the total limits.

**capital** Human-made resources (buildings, machinery, and equipment) used to produce goods and services; goods that do not directly satisfy human wants; also calledcapital goods.

**capital and financial account** The section of a nation's *international balance of payments* that records (1) debtforgiveness by and to foreigners and (2) foreign purchases of assets in the United States and U.S. purchases of assets abroad.

**capital and financial account deficit** A negative balance on its *capital and financial account* in a country's *international balance of payments*.

**capital and financial account surplus** A positive balance on its *capital and financial account* in a country's *international balance of payments*.

**capital flight** (Web chapter) The transfer of savings from *developing countries* to *industrially advanced countries* to avoid government expropriation,taxation, higher rates of inflation, or simply to realize greater returns on *financial investments*.

**capital gain** The gain realized when securities or properties are sold for a price greater than the price paid for them.

**capital goods** (See *capital*.)

**capital-intensive goods** Products that require relatively large amounts of *capital* to produce.

**capitalism** An economic system in which property resources are privately owned and markets and prices are used to direct and coordinate economic activities.

**capital-saving technology** (Web chapter) An improvement in *technology* that permits a greater quantity of a product to be produced with a specific amount of *capital* (or permits the same amount of the product to be produced with a smaller amount of capital).

**capital stock** The totalavailable *capital* in a nation.

**capital-using technology** (Web chapter) An improvement in *technology* that requires the useof a greater amount of *capital* to produce a specific quantity of a product.

**capricious-universe view** (Web chapter) The view held by some people that fate and outside events, rather than hard work and enterprise, will determine their economic destinies.

**cardinal utility** Satisfaction (*utility*) that can be measured via cardinal numbers (1, 2, 3…), with all the mathematical proper-ties of those numbers such as addition, subtraction, multiplication, and division being applicable.

**cartel** A formal agreement among firms (or countries) in an industry to set the price of a product and establish the outputs of the individual firms (orcountries) or to divide the market for the product geographically.

**causation** A relationship in which the occurrence of one or more events brings about another event.

**CEA** (See *Council of Economic Advisers*.)

**cease-and-desist order** An order from a court or government agency to a corporation or individual to stop engaging in a specified practice.

**ceiling price** (See *price ceiling*.)

**Celler-Kefauver Act** The Federal act of 1950 that amended the *Clayton Act* by prohibiting the acquisition of the assets of one firm by another firm when the effectwould be less competition.

**central bank** A bank whose chief function is the control of the nation's *money supply;* in the UnitedStates, the Federal Reserve System.

**central economic planning** Government determination of the objectives of the economy and how resources will be directed to attain those goals.

***ceteris paribus* assumption** (See *other-things-equal assumption*.)

**change in demand** A change in the *quantity demanded _of a good or service at everyprice; a shift of the* demand curve _to the left or right.

**change in quantity demanded** A change in the amount of a product that consumers are willing and able to purchase because of a change in the product's price.

**change in quantity supplied** A change in the amount of a product that producers offer for sale because of a change in the product's price.

**change in supply** A change in the *quantity supplied* of a good or service at every price; a shift of the *supply curve* to the left or right.

**Change to Win** A loose federation of American unions that includes the Service Workers and Teamsters and has a total membership of 6million workers.

**checkable deposit** Any deposit in a *commercial bank* or *thrift institution* against which a check may be written.

**checkable-deposit multiplier** (See *monetary multiplier*.)

**check clearing** The process by which funds are transferred from the checking accounts of the writers of checks to the checking accounts of the recipients of the checks.

**checking account** A *checkable deposit* in a *commercial bank* or *thrift institution*.

**circular flow diagram** An illustration showing the flow of resources from *households* to *firms* and of products from firms to households. These flows areaccompanied by reverse flows of money from firms to households and from households to firms.

**Clayton Act** The Federal antitrust act of 1914that strengthened the *Sherman Act* by making it illegal for firms to engage in certain specified practices.

**climate-change problem** The problem of rising world temperatures that most climate experts believe are caused at least in

part by increased carbon dioxide and other greenhouse gases generated as by-products of human economic activities.

**closed economy** An economy that neither exports nor imports goods and services.

**closed shop** A place of employment where only workers who are already members of a labor union may be hired.

**Coase theorem** The idea, first stated by economist Ronald Coase, that some *externalities* can be resolved through private negotiations of the affected parties.

**coincidence of wants** A situation in which the good or service that one trader desires to obtain is the same as that which another trader desires to give up and an item thatthe second trader wishes to acquire is the same as that which the first trader desires to surrender.

**COLA** (See *cost-of-living adjustment*.)

**collective bargaining** The negotiation of labor contracts be- tween *labor unions* and *firms* or government entities.

**collective voice** The function a *labor union* performs for its members as a group when it communicates their problems and grievances to management and pressesmanagement for a satisfactory resolution.

**collusion** A situation in which firms act together and in agreement (collude) to fix prices, divide a market, or otherwise restrict competition.

**command system** A method of organizing an economy in which property resources are publicly owned and government uses *central economic planning* to direct andcoordinate economic activities; command economy; communism.

**commercialbank** Afirmthatengagesinthebusinessofbanking (accepts deposits, offers checking accounts, and makes loans).

**commercial banking system** All *commercial banks* and *thrift institutions* as a group.

**communism** (See *command system*.)

**comparative advantage** A situation in which a person or coun- try can produce a specific product at a lower opportunity cost than some other person or country; the basis for specialization and trade.

**compensating differences** Differences in the *wages* received by workers in different jobs to compensate for nonmonetary differences in the jobs.

**compensating wage differential** (See *compensating differences.*)

**compensation to employees** *Wages* and salaries plus wage and salary supplements paid by employers to workers.

**competition** The presence in a market of independent buyers and sellers competing with one another along with the freedom of buyers and sellers to enter and leave themarket.

**competitive industry's short-run supply curve** The horizontal summation of the short-run supply curves of the *firms* in a purely competitive industry (see *pure competition*); a curvethat shows the total quantities offered for sale at various prices by the firms in an industry in the short run.

**competitive labor market** A resource market in which a large number of (noncolluding) employers demand a particular type of labor supplied by a large number of nonunion workers.

**complementary goods** Products and services that are used together. When the price of one falls, the demand for the other increases (and conversely).

**complementary resources** Productive inputs that are used jointly with other inputs in the production process; resources for which a decrease in the price of one leads to anincrease in the demand for the other.

**compound interest** The accumulation of money that builds over time in an investment or interest-bearing account as new interest is earned on previous interest that is notwithdrawn.

**concentration ratio** The percentage of the total sales of an industry made by the four (or some other number) largest sellersin the industry.

**conflict diamonds** Diamonds that are mined and sold by combatants in war zones in Africa as a way to provide the currency needed to finance their military activities.

**conglomerate merger** The merger of a *firm* in one *industry* with a firm in another industry (with a firm that is not a supplier, customer, or competitor).

**conglomerates** Firms that produce goods and services in two or more separate industries.

**constant-cost industry** An industry in which expansion by the entry of new firms has no effect on the prices firms in the industry must pay for resources and thus no effect onproduction costs.

**constant opportunity cost** An *opportunity cost* that remains the same for each additional unit as a consumer (orsociety) shifts purchases (production) from one product to another along a straight-line *budget line* (*production possibilities curve*).

**constant returns to scale** Unchanging *average total cost* of producing a product as the firm expands the size of its plant (its output) in the *long run*.

**consumer equilibrium** In marginal utility theory, the combination of goods purchased based on *marginal utility* (MU) and *price* (P) that maximizes *total utility*; the combination for goods *X _and* Y *at which MU_x*/P*x* ␣ MU *y*/P*y*. In indifferencecurve analysis, the combination of goods purchased that maximize *total utility _by enabling the consumer to reach the highest* indifference curve, *given the consumer's* budget line *(or* budget constraint_).

**consumer goods** Products and services that satisfy human wants directly.

**Consumer Price Index (CPI)** An index that measures the prices of a fixed "market basket" of some 300 goods and services bought by a "typical" consumer.

**consumer sovereignty** Determination by consumers of the types and quantities of goods and services that will be produced with the scarce resources of the economy; consumers'direction of production through their *dollar votes*.

**consumer surplus** The difference between the maximum price a consumer is (or consumers are) willing to pay for an additional unit of a product and its market price; thetriangular area below the demand curve and above the market price.

**consumption of fixed capital** An estimate of the amount of *capital* worn out or used up (consumed) in producing the *gross domestic product;* also called depreciation.

**consumption schedule** A schedule showing the amounts *households* plan to spend for *consumer goods* at different levels of *disposable income*.

**contractionary fiscal policy** A decrease in *government purchases* for goods and services, an increase in *net taxes,* or some combination of the two, for the purpose ofdecreasing *aggregate demand* and thus controlling inflation.

**coordination failure** A situation in which people do not reach a mutually beneficial outcome because they lack some way to jointly coordinate their actions; a possible cause ofmacroeconomic instability.

**copayment** The percentage of (say, health care) costs that an insured individual pays while the insurer pays the remainder.

**copyright** A legalprotection provided to developers and publishers of books, computer software, videos, and musical compositions against the copying of their works byothers.

**corporate income tax** A tax levied on the net income (accounting profit) of corporations.

**corporation** A legal entity ("person") chartered by a state or the Federal government that is distinct and separate from the individuals who own it.

**correlation** A systematic and dependable association between two sets of data (two kinds of events); does not necessarily indicate causation.

**corruption** (Web chapter) The misuse of government power, with which one has been entrusted or assigned, to obtain private gain; includes payments from individuals orcompanies to secure advantages in obtaining government contracts, avoiding government regulations, or obtaining inside knowledge about forthcomingpolicy changes.

**cost-benefit analysis** A comparison of the *marginal costs* of a government project or program with the *marginal benefits* to decide whether or not to employresources in that project or program and to what extent.

**cost-of-living adjustment (COLA)** An automatic increase in the incomes (wages) of workers when inflation occurs; guaranteed by a collective bargaining contract between firms and workers.

**cost-push inflation** Increases in the price level (inflation) resulting from an increase in resource costs (for example, raw-material prices) and hence in *per-unit production costs;* inflation caused by reductions in *aggregate supply*.

**Council of Economic Advisers (CEA)** A group of three persons that advises and assists the president of the United States on economic matters (including the preparation of the annual *Economic Report of the President*).

**countercyclical payments (CCPs)** Cash *subsidies* paid to farmers when market prices for certain crops drop below targeted prices. Payments are based on previous production andare received regardless of the current crop grown.

**craft union** A labor union that limits its membership to workers with a particular skill (craft).

**creative destruction** The hypothesis that the creation of new products and production methods simultaneously destroys the market power of existing monopolies.

**credible threat** In *game theory,* a statement of harmful intent by one party that the other party views as believable; often issued in conditional terms of "if youdo this; we will do that."

**credit** An accounting item that increases the value of an asset (such as the foreign money owned by the residents of a nation).

**credit union** Anassociation of persons who have a common tie (such as being employees of the same firm or members of the same labor union) that sells shares to (acceptsdeposits from) its members and makes loans to them.

**cross elasticity of demand** The ratio of the percentage change in *quantity demanded* of one good to the percentage change in the price of some other good. A positivecoefficient indicates the two products are *substitute goods;* a negative coefficient indicates they are *complementary goods*.

**crowding model of occupational discrimination** A model of labor markets suggesting that *occupational discrimination* has kept many women and minorities out of high-paying occupations and forcedthem into a limited number of low-paying occupations.

**crowding-out effect** A rise in interest rates and a resulting decrease in*planned investment* caused by the Federal government's increased borrowing to finance budget deficits and refinance debt.

**currency** Coins and paper money.

**currency appreciation** (See *exchange-rate appreciation*.)

**currency depreciation** (See *exchange-rate depreciation*.)

**currency intervention** A government's buying and selling of its own currency or foreign currencies to alter international exchange rates.

**current account** The section in a nation's *international balance of payments* that records its exports and imports of goods and services, its net *investment income,* and its *net transfers*.

**cyclical asymmetry** The idea that *monetary policy* may be more successful in slowing expansions and controlling *inflation* than in extracting the economy fromsevere recession.

**cyclical deficit** A Federal *budget deficit* that is caused by a recession and the consequent decline in tax revenues.

**cyclical unemployment** A type of *unemployment* caused by insufficient total spending (or by insufficient *aggregate demand*).

**deadweight loss** (See *efficiency loss.*)

**debit** An accounting item that decreases the value of an asset

(such as the foreign money owned by the residents of a nation).

**declining industry** An industry in which *economic profits* arenegative (losses are incurred) and that will, therefore, decrease its output as firms leave it.

**decreasing-cost industry** An industry in which expansion through the entry of firms lowers the prices that firms in the industry must pay for resources and therefore decreasestheir production costs.

**deductible** The dollar sum of (for example, health care) costs that an insured individual must pay before the insurer begins to pay.

**defaults** Situations in which borrowers stop making loan payments or do not pay back loans that they took out and are now due.

**defensive medicine** The recommendation by physicians of more tests and procedures than are warranted medically or economically as a way of protecting themselves against latermalpractice suits.

**deflating** Finding the *real gross domestic product* by decreasing the dollar value of the GDP for a year inwhich prices were higher than in the *base year*.

**deflation** A decline in the economy's *price level*.

**demand** A schedule showing the amounts of a good or service that buyers (or a buyer) wish to purchase at various prices during some time period.

**demand curve** A curve illustrating *demand*.

**demand factor (in growth)** The increase in the level of *aggregate demand* that brings about the *economic growth* made possible by an increase in the productionpotential of the economy.

**demand management** The use of *fiscal policy* and *monetary policy* to increase or decrease *aggregate demand*.

**demand-pull inflation** Increases in the price level (inflation) resulting from an excess of demand over output at the existing price level, caused by an increase in *aggregate demand*.

**demand schedule** (See *demand*.)

**demographers** Scientists who study the characteristics of human populations.

**demographic transition** (Web chapter) The idea that population growth slows once a developing country achieves higher standards of living because the perceived marginal cost ofadditional children begins to exceed the perceived marginal benefit.

**demand shocks** Sudden, unexpected changes in demand.

**dependent variable** A variable that changes as a consequence of a change in some other (independent) variable; the "effect" or outcome.

**depository institutions** Firms that accept deposits of *money* from the public (businesses and persons);*commercial banks, savings and loan associations, mutual savings banks,* and *credit unions*.

**depreciation** (See *consumption of fixed capital*.)

**depreciation (of the dollar)** A decrease in the value of the dollar relative to another currency, so a dollar buys a smaller amount of the foreign currency and therefore of foreigngoods.

**derived demand** The demand for a resource that depends on the demand for the products it helps to produce.

**determinants of aggregate demand** Factors such as consumption spending, *investment,* government spending, and *net exports* that, if they change, shift the aggregate demandcurve.

**determinants of aggregate supply** Factors such as input prices, *productivity,* and the legal-institutional environment that,if they change, shift the aggregate supply curve.

**determinants of demand** Factors other than price that determine the quantities demanded of a good or service.

**determinants of supply** Factors other than price that determine the quantities supplied of a good or service.

**developing countries** Many countries of Africa, Asia, and Latin America that are characterized by lack of capital goods, use of nonadvanced technologies, low literacy rates,high unemployment, rapid population growth, and labor forces heavily committed to agriculture.

**diagnosis-related group (DRG) system** Payments to doctors and hospitals under *Medicare* based on which of hundreds of carefully detailed diagnostic categories best characterize the pa-tient's condition and needs.

**differentiated oligopoly** An *oligopoly* in which the firms produce a *differentiated product*.

**differentiated product** A product that differs physically or in some other way from the similar products produced by other firms; a product such that buyers are not indifferent tothe seller when the price charged by all sellers is the same.

**diffusion** (Web chapter) The spread of an *innovation* through its widespread imitation.

**dilemma of regulation** The tradeoff faced by a *regulatory agency* in setting the maximum legal price a monopolist may charge: The *socially optimal price* is below *average total cost* (and either bankrupts the *firm* or requires that it be subsidized), while the higher, *fair-return price* doesnot produce *allocative efficiency*.

**diminishing marginal returns** (See *law of diminishing returns.*)

**diminishing marginal utility** (See *law of diminishing marginal utility.* )

**direct foreign investment** (See *foreign direct investment.*)

**direct payments** Cash subsidies paid to farmers based on past production levels; unaffected by current crop prices and current production.

**direct relationship** The relationship between two variables that change in the same direction, for example, product price and quantity supplied; positive relationship.

**discount rate** The interest rate that the *Federal Reserve Banks* charge on the loans they make to *commercial banks* and *thrift institutions*.

**discouraged workers** Employees who have left the *labor force* because they have not been able to find employment.

**discretionary fiscal policy** Deliberate changes in taxes (tax rates) and government spending by Congress to promote full employment, price stability, and economic growth.

**discrimination** The practice of according individuals or groups inferior treatment in hiring, occupational access, education and training, promotion, wage rates, orworking conditions even though they have the same abilities, education, skills, and work experience as other workers.

**discrimination coefficient** A measure of the cost or disutility of prejudice; the monetary amount an employer is willing to pay to hire a preferred worker rather than a nonpreferredworker.

**diseconomies of scale** Increases in the *average total cost* of producing a product as the *firm* expands the size of its *plant* (its output) in the *long run*.

**disinflation** A reduction in the rate of *inflation*.

**disposableincome(DI)** *Personalincome_lesspersonaltaxes;income available for_personal consumption expenditures* and *personal saving*.

**dissaving** Spending for consumer goods and services in excess of *disposable income; _the amount by which* personal consumption expenditures _exceed disposable income.

**diversifiable risk** Investment *risk* that investors can reduce via *diversification;* also called idiosyncratic risk.

**diversification** The strategy of investing in a large number of investments in order to reduce the overall risk to an entire investment *portfolio*.

**dividends** Payments by a corporation of all or part of its profit to its stockholders (the corporate owners).

**division of labor** The separation of the work required to produce a product into a number of different tasks that are performed by different workers; *specialization* of workers.

**Doha Round** The latest, uncompleted (as of fall 2008) sequence of trade negotiations by members of the *World Trade Organization;* named after Doha, Qatar,where the set of negotiations began.

**dollar votes** The “votes” that consumers and entrepreneurs cast for the production of consumer and capital goods, respectively, when they purchase those goods inproduct and resource markets.

**domestic capital formation** The process of adding to a nation’s stock of *capital* by saving and investing part of its own domestic output.

**domestic output** *Gross* (or net) *domestic product;* the total output of final goods and services produced in the economy.

**domestic price** The price of a good or service within a country, determined by domestic demand and supply.

**dominant strategy** In *game theory*, an option that is better than any other alternative option regardless of what the other firm does.

**dumping** The sale of a product in a foreign country at prices either below cost or below the prices commonly charged at home.

**DuPont cellophane case** The antitrust case brought against DuPont in which the U.S. Supreme Court ruled (in 1956) that while DuPont had amonopoly in the narrowly defined market for cellophane, it did not monopolize the more broadly defined market for flexible packaging materials. It was thusnot guilty of violating the *Sherman Act*.

**durable good** A consumer good with an expected life (use) of 3 or more years.

**earmarks** Narrow, specially designated spending authorizations placed in broad legislation by Senators and representatives for the purpose of providing benefits tofirms and organizations within their constituencies without undergoing the usual evaluation process or competitive bidding.

**earned-income tax credit (EITC)** A refundable Federal tax credit for low-income working people designed to reduce poverty and encourage labor-force participation.

**earnings** The money income received by a worker; equal to the *wage* (rate) multiplied by the amount of time worked.

**economic concentration** A description or measure of the degree to which an industry is dominated by one or a handful of firms or is characterized by many firms. (See *concentration ratio*.)

**economic cost** A payment that must be made to obtain and retain the services of a *resource;* the income a firm must provide to a resource supplier to attractthe resource away from an alternative use; equal to the quantity of other products that cannot be produced when resources are instead used to make aparticular product.

**economic efficiency** The use of the minimum necessary resources to obtain the socially optimal amounts of goods and services; entails both *productive efficiency* and *allocative efficiency*.

**economic growth** (1) An outward shift in the *production possibilities curve* that results from an increase in resource supplies or quality or an improvement in *technology;* (2) an increase of real output *(gross domestic product)* or real output per capita.

**economic immigrants** International migrants who have moved to a country from another to obtain economic gains such as better employment opportunities.

**economic investment** (See *investment.*)

**economic law** An *economic principle* that has been tested and re- tested and has stood the test of time.

**economic model** A simplified picture of economic reality; an abstract generalization.

**economic perspective** A viewpoint that envisions individuals and institutions making rational decisions by comparing the marginal benefits and marginal costs associated withtheir actions.

**economicpolicy** Acourseofactionintendedtocorrectoravoid a problem.

**economic principle** A widely accepted generalization about the economic behavior of individuals or institutions.

**economic profit** The *total revenue* of a firm less its *economic costs* (which include both *explicit costs* and *implicit costs*); also called “pure profit” and “above-normal profit.”

**economic regulation** (See *industrial regulation* and *social regulation*.)

**economic rent** The price paid for the use of land and other natural resources, the supply of which is fixed *(perfectly inelastic)*.

**economic resources** The *land, labor, capital,* and *entrepreneurial ability* that are used in the production of goods and services; productive agents; factorsof production.

**economics** The social science concerned with how individuals, institutions, and society make optimal (best) choices under conditions of scarcity.

**economic system** A particular set of institutional arrangements and a coordinating mechanism for solving the economizing

problem; a method of organizing an economy, of which the *mar ket system* and the *command system* are the two general types.

**economic theory** A statement of a cause-effect relationship; when accepted by all or nearly all economists, an *economic principle*.

**economies of scale** Reductions in the *average total cost* of producing a product as the firm expands the size of plant (its output) in the *long run;* the economies of mass production.

**economizing problem** The choices necessitated because society’s economic wants for goods and services are unlimited but the resources available to satisfy these wants arelimited (scarce).

**efficiency factors (in growth)** The capacity of an economy to combine resources effectively to achieve growth of real output that the *supply factors* (of growth) make possible.

**efficiency gains from migration** Additions to output from *immigration* in the destination nation that exceeds the loss of output from *emigration* from the origin nation.

**efficiency loss** Reductions in combined consumer and producer surplus caused by an underallocation or overallocation of resources to the production of a good or service.Also called deadweight loss.

**efficiency loss of a tax** The loss of net benefits to society because a tax reduces the production and consumption of a taxed good below the level of *allocative efficiency*. Also called the deadweight loss of the tax.

**efficiency wage** A wage that minimizes wage costs per unit of output by encouraging greater effort or reducing turnover.

**efficientallocationofresources** Thatallocationofaneconomy's resources among the production of different products that leads to the maximum satisfaction of consumers' wants, thus producingthe socially optimal mix of output with society's scarce resources.

**elastic demand** Product or resource demand whose *price elasticity* is greater than 1. This means the resulting change in *quantity demanded* is greaterthan the percentage change in *price*.

**elasticity coefficient** The number obtained when the percentage change in *quantity demanded* (or supplied) is divided by the percentage change in the *price* ofthe commodity.

**elasticity formula** (See *price elasticity of demand*.)

**elasticity of resource demand** A measure of the responsiveness of firms to a change in the price of a particular *resource* they employ or use; the percentage change in thequantity of the resource demanded divided by the percentage change in its price.

**elastic supply** Product or resource supply whose price elasticity is greater than 1. This means the resulting change in quantity supplied is greater than the percentagechange in price.

**electronic payments** Purchases made by transferring funds electronically. Examples: Fedwire transfers, automated clearinghouse transactions (ACHs), payments via the PayPalsystem, and payments made through stored-value cards.

**emigration** The exit (outflow) of residents from a country to reside in foreign countries.

**employment rate** The percentage of the *labor force* employed at any time.

**empty threat** In *game theory,* a statement of harmful intent that is easily dismissed by the second party because the threat is not viewed as being believable;compare to *credible threat*.

**entitlement programs** Government programs such as *social insurance, food stamps, Medicare,* and *Medicaid* that guarantee particular levels of transferpayments or noncash benefits to all who fit the programs' criteria.

**entrepreneurial ability** The human resource that combines the other resources to produce a product, makes nonroutine decisions, innovates, and bears risks.

**equality-efficiency trade-off** The decrease in *economic efficiency* that may accompany a decrease in *income inequality;* the presumption that some income inequality isrequired to achieve economic efficiency.

**equation of exchange** $MV = PQ$, in which $M$ is the supply of money, $V$ is the *velocity* of money, $P$ is the *price level,* and $Q$ is the physical volume of *final goods and services* produced.

**equilibrium GDP** (See *equilibrium real domestic output*.)

**equilibrium position** In the indifference curve model, the combination of two goods at which a consumer maximizes his or her *utility* (reaches the highest attainable *indifference curve*), given a limited amount to spend (a *budget constraint*).

**equilibrium price** The *price* in a competitive market at which the *quantity demanded* and the *quantity supplied* are equal, there is neither ashortage nor a surplus, and there is no tendency for price to rise or fall.

**equilibrium price level** The price level at which the aggregate demand curve intersects the aggregate supply curve.

**equilibrium quantity** (1) The quantity demanded and supplied at the equilibrium price in a competitive market; (2) the profitmaximizing output of a firm.

**equilibrium real domestic output** The *gross domestic product* at which the total quantity of final goods and services purchased *(aggregate expenditures)* is equal to thetotal quantity of final goods and services produced (the real domestic output); the real domestic output at which the aggregate demand curve intersectsthe aggregate supply curve.

**equilibrium real output** (See *equilibrium real domestic output*)

**equilibrium world price** The price of an internationally traded product that equates the quantity of the product demanded by importers with the quantity of the product supplied byexporters; the price determined at the intersection of the export supply curve and the import demand curve.

**euro** The common currency unit used by 15 European nations (as of 2008) in the Euro zone, which consists of Austria, Belgium, Cyprus, Finland, France, Germany,Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovenia, and Spain.

**European Union (EU)** An association of 27 European nations (as of 2008) that has eliminated tariffs and quotas among them, established common tariffs for imported goods fromoutside the member nations, eliminated barriers to the free movement of capital, and created other common economic policies.

**excess capacity** Plant resources that are underused when imperfectly competitive firms produce less output than that associated with achieving minimum average totalcost.

**excess reserves** The amount by which a bank's or thrift's *actual reserves* exceed its *required reserves;* actual reserves minus required reserves.

**exchange controls** (See *foreign exchange controls*.)

**exchange rate** The *rate of exchange* of one nation's currency for another nation's currency.

**exchange-rate appreciation** An increase in the value of a nation's currency in foreign exchange markets; an increase in the *rate of exchange* for foreign currencies.

**exchange-rate depreciation** A decrease in the value of a nation's currency in foreign exchange markets; a decrease in the *rate of exchange* for foreign currencies.

**exchange-rate determinant** Any factor other than the *rate of exchange* that determines a currency's demand and supply in the *foreign exchange market*.

**excise tax** A tax levied on the production of a specific product or on the quantity of the product purchased.

**exclusive unionism** The practice of a *labor union* of restricting the supply of skilled union labor to increase the wages received by union members; the policiestypically employed by a *craft union*.

**exhaustive expenditure** An expenditure by government resulting directly in the employment of *economic resources* and in the absorption by government of the goods andservices those resources produce; a *government purchase*.

**exit mechanism** The process of leaving a job and searching for another one as a means of improving one's working conditions.

**expanding industry** An industry whose firms earn *economic profits* and for which an increase in output occurs as new firms enter the industry.

**expansion** A phase of the *business cycle* in which *real GDP*, *income*, and employment rise.

**expansionary fiscal policy** An increase in *government purchases* of goods and services, a decrease in *net taxes,* or some combination of the two for the purpose ofincreasing *aggregate demand* and expanding real output.

**expansionary monetary policy** Federal Reserve system actions to increase the *money supply*, lower *interest rates, _and expand* real GDP_; an easy money policy.

**expectations** The anticipations of consumers, firms, and others about future economic conditions.

**expected rate of return** The increase in profit a firm anticipates it will obtain by purchasing capital (or engaging in research and development); expressed as a percentage ofthe total cost of the investment (or R&D) activity.

**expected-rate-of return curve** (Web chapter) As it relates to research and development (*R&D*), a curve showing the anticipated gain in *profit*, as a percentage ofR&D expenditure, from an additional dollar spent on R&D.

**expenditures approach** The method that adds all expenditures made for *final goods and services* to measure the *gross domestic product*.

**expenditures-output approach** (See *aggregate expenditures– domestic output approach*.)

**explicit cost** The monetary payment a *firm* must make to an outsider to obtain a *resource*.

**exports** Goods and services produced in a nation and sold to buyers in other nations.

**export subsidies** Government payments to domestic producers to enable them to reduce the *price* of a good or service to foreign buyers.

**export supply curve** An upward-sloping curve that shows the amount of a product that domestic firms will export at each *world price* that is above the *domestic price*.

**export transaction** A sale of a good or service that increases the amount of foreign currency flowing to a nation’s citizens, firms, and government.

**external benefit** (See *positive externality*.)

**external cost** (See *negative externality*.)

**external debt** Private or public debt owed to foreign citizens, firms, and institutions.

**externality** A cost or benefit from production or consumption, accruing without compensation to someone other than the buyers and sellers of the product (see *negative externality* and *positive externality*) .

**external public debt** The portion of the public debt owed to foreign citizens, firms, and institutions.

**extraction cost** All costs associated with extracting a natural resource and readying it for sale.

**face value** The dollar or cents value placed on a U.S. coin or piece of paper money.

**fair-trade movement** The efforts by groups in high-income nations to get growers of agricultural crops in low-income nations to adhere to certain wage and workplace standardsin exchange for their goods being promoted as "fair-trade goods" to consumers in the high-income nations, and the efforts by the groups to convince thoseconsumers to buy these goods instead of otherwise close substitutes.

**factors of production** *Economic resources: land, capital, labor,* and *entrepreneurial ability*.

**fair-return price** The price of a product that enables its producer to obtain a *normal profit* and that is equal to the *average total cost* of producing it.

**fallacy of composition** The false notion that what is true for the individual (or part) is necessarily true for the group (or whole).

**farm commodities** Agricultural products such as grains, milk, cattle, fruits, and vegetables that are usually sold to processors, who use the products as inputs in creating *food products*.

**fast-second strategy** (Web chapter) An approach by a domi- nant firm in which it allows other firms in its industry to bear the risk of innovation and then quickly becomes the second firm to

offer any successful new product or adopt any improved production process.

**FDIC** (See *Federal Deposit Insurance Corporation*.)

**Federal Deposit Insurance Corporation (FDIC)** The federally chartered corporation that insures deposit liabilities (up to $100,000 per account) of *commercial banks* and *thrift institutions* (excluding *credit unions,* whose deposits are insured by the *National Credit Union Administration*).

**Federal funds rate** The interest rate banks and other depository institutions charge one another on overnight loans made out of their *excess reserves*.

**Federal government** The government of the United States, as distinct from the state and local governments.

**Federal Open Market Committee (FOMC)** The 12-member group that determines the purchase and sale policies of the *Federal Reserve Banks* in the market for U.S. government securities.

**Federal Reserve Banks** The 12 banks chartered by the U.S. government to control the *money supply* and perform other functions. (See *central bank, quasi-public bank,* and *bankers' bank*.)

**Federal Reserve Note** Paper money issued by the *Federal Reserve Banks*.

**Federal Reserve System** The U.S. central bank, consisting of the *Board of Governors* of the Federal Reserve and the 12 *Federal Reserve Banks*, which controls thelending activity of the nation's banks and thrifts and thus the_ money supply; _commonly referred to as the "Fed."

**Federal Trade Commission (FTC)** The commission of five members established by the *Federal Trade Commission Act* of 1914 to investigate unfair competitive practices of firms, tohold hearings on the complaints of such practices, and to issue *cease-anddesist orders* when firms were found to engage in such practices.

**Federal Trade Commission Act** The Federal act of 1914 that established the *Federal Trade Commission*.

**fee for service** In the health care industry, payment to physicians for each visit made or procedure performed rather than payment as an annual salary.

**fiat money** Anything that is *money* because government has decreed it to be money.

**final goods and services** Goods and services that have been purchased for final use and not for resale or further processing or manufacturing.

**financial capital** (See *money capital*.)

**financial investment** The purchase of a financial asset (such as a *stock, bond,* or *mutual fund*) or real asset (such as a house, land, or factories) or thebuilding of such assets in the expectation of financial gain.

**financial services industry** The broad category of firms that provide financial products and services to help households and businesses earn *interest,* receive *dividends,* obtain *capital gains,* insure against losses, and plan for retirement. Includes *commercial banks, thrifts,* insurancecompanies, mutual fund companies, pension funds, investment banks, and securities firms.

**firm** An organization that employs resources to produce a good or service for profit and owns and operates one or more *plants*.

**first-mover advantage** In *game theory*, the benefit obtained by the party that moves first in a *sequential game.*

**fiscal policy** Changes in government spending and tax collections designed to achieve a full-employment and noninflationary domestic output; also called *discretionary fiscal policy*.

**fishery** A stock of fish or other marine animal that is composed of a distinct group, for example New England cod, Pacific tuna, or Alaskan crab.

**fisherycollapse** Arapiddeclineinafishery'spopulationbecause the fish are being harvested faster than they can reproduce.

**fixed cost** Any cost that in total does not change when the *firm* changes its output; the cost of *fixed resources*.

**fixed exchange rate** A *rate of exchange* that is set in some way and therefore prevented from rising or falling with changes in currency supply and demand.

**fixed resource** Any resource whose quantity cannot be changed by a firm in the *short run*.

**flexible exchange rate** A *rate of exchange* determined by the international demand for and supply of a nation's money; a rate free to rise or fall (to float).

**flexible prices** Product prices that freely move upward or downward when product demand or supply changes.

**floating exchange rate** (See *flexible exchange rate*.)

**follower countries** As it relates to *economic growth,* countries that adopt advanced technologies that previously were developed and used by *leader countries.* **Food, Conservation, and Energy Act of 2008** Farm legislation that continued and extended previous agricultural subsides of three basic kinds: *direct payments, countercyclical payments,* and *marketing loans*.

**food products** Processed agricultural commodities sold through grocery stores and restaurants. Examples: bread, meat, fish, chicken, pork, lettuce, peanut butter, andbreakfast cereal.

**food-stamp program** A program permitting low-income persons to purchase for less than their retail value, or to obtain without cost, coupons that can be exchanged for fooditems at retail stores.

**foreign competition** (See *import competition*.)

**foreign direct investment** Financial investments made to obtain a lasting ownership interest in firms operating outside the economy of the investor; may involve purchasing existingassets or building new production facilities.

**foreign exchange control** The control a government may exercise over the quantity of foreign currency demanded by its citizens and firms and over the *rates of exchange* inorder to limit its *outpayments* to its *inpayments* (to eliminate a *payments deficit*).

**foreign exchange market** A market in which the money (currency) of one nation can be used to purchase (can be exchanged for) the money of another nation; currency market.

**foreign exchange rate** (See *rate of exchange*.)

**foreign purchase effect** The inverse relationship between the *net exports* of an economy and its price level relative to foreign price levels.

**45° line** A line along which the value of *GDP* (measured horizontally) is equal to the value of *aggregate expenditures* (measured vertically).

**four-firm concentration ratio** The percentage of total industry sales accounted for by the top four firms in the industry.

**fractional reserve banking system** A *reserve requirement* that is less than 100 percent of the checkable-deposit liabilities of a *commercial bank* or *thrift institution*.

**freedom of choice** The freedom of owners of property resources to employ or dispose of them as they see fit, of workers to enter any line of work for which they arequalified, and of consumers to spend their incomes in a manner that they think is appropriate.

**freedom of enterprise** The freedom of *firms* to obtain economic resources, to use those resources to produce products of the firm's own choosing, and to sell theirproducts in markets of their choice.

**Freedom to Farm Act** A law passed in 1996 that revamped 60 years of U.S. farm policy by ending *price supports* and *acreage allotments* for wheat, corn, barley,oats, sorghum, rye, cotton, and rice.

**free-rider problem** The inability of potential providers of an economically desirable good or service to obtain payment from those who benefit, because of *nonexcludability*.

**free trade** The absence of artificial (government-imposed) barriers to trade among individuals and firms in different nations.

**frictional unemployment** A type of unemployment caused by workers voluntarily changing jobs and by temporary layoffs; unemployed workers between jobs.

**fringe benefits** The rewards other than *wages* that employees receive from their employers and that include pensions, medical and dental insurance, paid vacations,and sick leaves.

**full employment** (1) The use of all available resources to produce want-satisfying goods and services; (2) the situation in which the *unemployment rate* is equalto the *full-employment unemployment rate* and where *frictional* and *structural* unemployment occur but not *cyclical unemployment* (and the *real GDP* of the economy equals *potential output*).

**full-employment unemployment rate** The *unemployment rate* at which there is no *cyclical unemployment* of the *labor force;* equal to between 4 and 5 percent in theUnited States because some *frictional* and *structural unemployment* is unavoidable.

**functional distribution of income** The manner in which *national income* is divided among the functions performed to earn it (or the kinds of resources provided to earn it); thedivision of national income into wages and salaries, proprietors' income, corporate profits, interest, and rent.

**future value** The amount to which some current amount of money will grow if the interest earned on the amount is left to compound over time. (See *compound interest.*)

**gains from trade** The extra output that trading partners obtain through specialization of production and exchange of goods and services.

**game theory** A means of analyzing the business behavior of oligopolists that uses the theory of strategy associated with games such as chess and bridge.

**GDP** (See *gross domestic product.*)

**GDP gap** Actual *gross domestic product* minus potential output; may be either a positive amount (a *positive GDP gap*) or a negative amount (a *negative GDP gap*).

**GDP price index** A *price index* for all the goods and services that make up the *gross domestic product;* the price index used to adjust *nominal gross domestic product* to *real gross domestic product*.

**G8 nations** A group of eight major nations (Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and United States) whose leaders meet regularly to discusscommon economic problems and try to coordinate economic policies.

**General Agreement on Tariffs and Trade (GATT)** The international agreement reached in 1947 in which 23 nations agreed to give equal and nondiscriminatory treatment to one another, to reduce tariffrates by multinational negotiations, and to eliminate *import quotas*. It now includes most nations and has become the *World Trade Organization*.

**generalization** Statement of the nature of the relationship between two or more sets of facts.

**Gini ratio** A numerical measure of the overall dispersion of income among households, families, or individuals; found graphically by dividing the area between thediagonal line and the *Lorenz curve* by the entire area below the diagonal line.

**gold standard** A historical system of fixed exchange rates in which nations defined their currencies in terms of gold, maintained a fixed relationship between theirstocks of gold and their money supplies, and allowed gold to be freely exported and imported.

**government failure** Inefficiencies in resource allocation caused by problems in the operation of the public sector (government), specifically, rent-seeking pressure byspecial-interest groups, shortsighted political behavior, limited and bundled choices, and bureaucratic inefficiencies.

**government purchases (*G*)** Expenditures by government for goods and services that government consumes in providing public goods and for public capital that has a long lifetime; the expenditures of all governments in the economy for those *final goods and services*.

**government transfer payment** The disbursement of money (or goods and services) by government for which government receives no currently produced good or service in return.

**grievance procedure** The method used by a *labor union* and a *firm* to settle disputes that arise during the life of the collective bargaining agreement betweenthem.

**gross domestic product (GDP)** The total market value of all *final goods and services* produced annually within the boundaries of the United States, whether by U.S.- orforeign-supplied resources.

**gross private domestic investment ($I_g$)** Expenditures for newly produced *capital goods* (such as machinery, equipment, tools, and buildings) and for additions to inventories.

**growth accounting** The bookkeeping of the supply-side elements such as productivity and labor inputs that contribute to changes in *real GDP* over some specific timeperiod.

**guiding function of prices** The ability of price changes to bring about changes in the quantities of products and resources demanded and supplied.

**H1-B provision** A provision of the U.S. immigration law that allows the annual entry of 65,000 high-skilled workers in “specialty occupations” such as science, R&D,and computer programming to work legally and continuously in the United States for six years.

**health maintenance organizations (HMOs)** Health care providers that contract with employers, insurance companies, labor unions, or government units to provide health care for their workers orothers who are insured.

**health savings accounts (HSAs)** Accounts into which people with high-deductible health insurance plans can place tax-free funds each year and then draw on these funds to pay out-of-pocket medical expenses such as *deductibles* and *copayments*. Unused funds accumulate from year to year and later can be used tosupplement *Medicare*.

**Herfindahl index** A measure of the concentration and competitiveness of an industry; calculated as the sum of the squared percentage market shares of the individualfirms in the industry.

**homogeneous oligopoly** An *oligopoly* in which the firms produce a *standardized product*.

**horizontal axis** The “left-right” or “west-east” measurement line on graph or grid.

**horizontal merger** The merger into a single *firm* of two firms producing the same product and selling it in the same geographic market.

**household** An economic unit (of one or more persons) that provides the economy with resources and uses the income received to purchase goods and services thatsatisfy economic wants.

**human capital** The knowledge and skills that make a person productive.

**human capital investment** Any expenditure undertaken to improve the education, skills, health, or mobility of workers, with an expectation of greater productivity and thus apositive return on the investment.

**hyperinflation** A very rapid rise in the price level; an extremely high rate of inflation.

**hypothesis** A tentative explanation of cause and effect that requires testing.

**illegal immigrants** People who have entered a country unlawfully to reside there; also called unauthorized immigrants.

**IMF** (See *International Monetary Fund.*)

**imitation problem** (Web chapter) The potential for a firm’s rivals to produce a close variation of (imitate) a firm’s new product or process, greatly reducing theoriginator’s profit from *R&D* and *innovation*.

**immediate short-run aggregate supply curve** An aggregate supply curve for which real output, but not the price level, changes when the aggregate demand curves shifts; a horizontal aggregate supplycurve that implies an inflexible price level.

**immigration** The inflow of people into a country from another country. The immigrants may beeither *legal immigrants* or *illegal immigrants.*

**immobility** The inability or unwillingness of a worker to move from one geographic area or occupation to another or from a lower-paying job to a higher-paying job.

**imperfect competition** All market structures except *pure competition;* includes *monopoly, monopolistic competition,* and *oligopoly*.

**implicit cost** The monetary income a *firm _sacrifices when it uses a resource it owns rather than supplying the resource in themarket; equal to what the resource could have earned in the bestpaying alternative employment; includes a* normal profit_.

**import competition** The competition that domestic firms encounter from the products and services of foreign producers.

**import demand curve** A downslopingcurve showing the amount of a product that an economy will import at each *world price* below the *domestic price*.

**import quota** A limit imposed by a nation on the quantity (or total value) of a good that may be imported during some period of time.

**imports** Spending by individuals, *firms,* and governments for goods and services produced in foreign nations.

**import transaction** The purchase of a good or service that decreases the amount of foreign money held by citizens, firms, and governments of a nation.

**incentive function of price** The inducement that an increase in the price of a commodity gives to sellers to make more of it available (and conversely for a decrease in price), and theinducement that an increase in price offers to buyers to purchase smaller quantities (and conversely for a decrease in price).

**incentive pay plan** A compensation structure that ties worker pay directly to performance. Such plans include piece rates, bonuses, *stock options,* commissions, and *profit sharing*.

**inclusive unionism** The practice of a labor union of including as members all workers employed in an industry.

**income** A flow of dollars (or purchasing power) per unit of time derived from the use of human or property resources.

**income approach** The method that adds all the income generated by the production of *final goods and services* to measure the *gross domestic product*.

**income effect** A change in the quantity demanded of a product that results from the change in *real income (purchasing power)* caused by a change in the product'sprice.

**income elasticity of demand** The ratio of the percentage change in the *quantity demanded* of a good to a percentage change in consumer income; measures the responsiveness ofconsumer purchases to income changes.

**income inequality** The unequal distribution of an economy's total income among households or families.

**income-maintenance system** A group of government programs designed to eliminate poverty and reduce inequality in the distribution of income.

**income mobility** The extent to which income receivers move from one part of the income distribution to another over some period of time.

**increase in demand** An increase in the *quantity demanded* of a good or service at every price; a shift of the *demand curve* to the right.

**increase in supply** An increase in the *quantity supplied* of a good or service at every price; a shift of the *supply curve* to the right.

**increasing-cost industry** An *industry* in which expansion through the entry of new firms raises the prices *firms* in the industry must pay for resources andtherefore increases their production costs.

**increasing marginal returns** An increase in the *marginal product* of a resource as successive units of the resource are employed.

**increasing returns** An increase in a firm's output by a larger percentage than the percentage increase in its inputs.

**independentgoods** Productsorservicesforwhichthereislittle or no relationship between the price of one and the demand for the other. When the price of one rises or falls, thedemand for the other tends to remain constant.

**independent unions** U.S. unions that are not affiliated with the *AFL-CIO*.

**independent variable** The variable causing a change in some other (dependent) variable.

**index funds** *Mutual funds* that select stock or bond *portfolios* to exactly match a stock or bond index (a collection of stocks or bonds meant to capture the overall behaviorof a particular category of investments) such as the Standard & Poor's 500 Index or the Russell 3000 Index.

**indifference curve** A curve showing the different combinations of two products that yield the same satisfaction or *utility* to a consumer.

**indifference map** A set of *indifference curves,* each representing a different level of *utility,* that together show the preferences of a consumer.

**individual demand** The demand schedule or *demand curve* of a single buyer.

**individual supply** The supply schedule or *supply curve* of a single seller.

**individual transferable quotas** A limit by a government or a fisheries commission on the total number or total weight of a species that an individual fisher can harvest during someparticular time period; fishers holding the quota right can sell all or part of it to other fishers.

**industrially advanced countries** High-income countries such as the United States, Canada, Japan, and the nations of western Europe that have highly developed *market economies* based on large stocks of technologically advanced capital goods and skilled labor forces.

**industrial regulation** The older and more traditional type of regulation in which government is concerned with the prices charged and the services provided to the public inspecific industries, in contrast to *social regulation*.

**industrial union** A *labor union* that accepts as members all workers employed in a particular industry (or by a particular firm).

**industry** A group of (one or more) *firms* that produce identical or similar products.

**inelastic demand** Product or resource demand for which the *elasticity coefficient* for price is less than 1. This means the resulting percentage change in *quantity demanded* is less than the percentage change in *price*.

**inelastic supply** Product or resource supply for which the price elasticity coefficient is less than 1. The percentage change in *quantity supplied* is less than thepercentage change in *price*.

**inferior good** A good or service whose consumption declines as income rises, prices held constant.

**inflating** Determining *real gross domestic product* by increasing the dollar value of the *nominal gross domestic product* produced in a year in whichprices are lower than those in a *base year*.

**inflation** A rise in the general level of prices in an economy.

**inflationary expectations** The belief of workers, firms, and consumers about future rates of inflation.

**inflationary expenditure gap** The amount by which the *aggregate expenditures schedule* must shift downward to decrease the *nominal GDP* to its full-employmentnoninflationary level.

**inflation premium** The component of the *nominal interest rate* that reflects anticipated inflation.

**inflation targeting** The annual statement by a *central bank* of a goal for a specific range of inflation in a future year, coupled with monetary policy designed toachieve the goal.

**inflexible prices** Product prices that remain in place (at least for a while) even though supply or demand has changed; stuck prices or sticky prices.

**information technology** New and more efficient methods of delivering and receiving information through use of computers, fax machines, wireless phones, and the Internet.

**infrastructure** The capital goods usually provided by the *public sector* for the use of its citizens and firms (for example, highways, bridges, transit systems,wastewater treatment facilities, municipal water systems, and airports).

**injection** An addition of spending to the income-expenditure stream: *investment, government purchases,* and *net exports*.

**injunction** A court order directing a person or organization not to perform a certain act because the act would do irreparable damage to some other person orpersons; a restraining order.

**in-kind transfer** The distribution by government of goods and services to individuals for which the government receives no currently produced good or service in return; a *government transfer payment* made in goods or services rather than in money; also called a noncash transfer.

**innovation** The first commercially successful introduction of a new product, the use of a new method of production, or the creation of a new form of businessorganization.

**inpayments** The receipts of domestic or foreign money that individuals, firms, and governments of one nation obtain from the sale of goods and services abroad, asinvestment income and remittances, and from foreign purchases of domestic assets.

**insider-outsider theory** The hypothesis that nominal wages are inflexible downward because firms are aware that workers (“insiders”) who retain employment during recession mayrefuse to work cooperatively with previously unemployed workers (“outsiders”) who offer to work for less than the current wage.

**insurable risk** An event that would result in a loss but whose frequency of occurrence can be estimated with considerable accuracy. Insurance companies are willing tosell insurance against such losses.

**interest** The payment made for the use of money (of borrowed funds).

**interest income** Payments of income to those who supply the economy with *capital*.

**interest rate** The annual rate at which interest is paid; a percentage of the borrowed amount.

**interest-rate-cost-of-funds curve** (Web chapter) As it relates to research and development (*R&D*), a curve showing the_ interest rate _the firm must pay to obtain anyparticular amount of funds to finance R&D.

**interest-rate effect** The tendency for increases in the *price level* to increase the demand for money, raise interest rates, and, as a result, reduce total spending andreal output in the economy (and the reverse for price-level decreases).

**interindustry competition** The competition for sales between the products of one industry and the products of another industry.

**interlocking directorate** A situation where one or more members of the board of directors of a *corporation* are also on the board of directors of a competing corporation;illegal under the *Clayton Act*.

**intermediate goods** Products that are purchased for resale or further processing or manufacturing.

**internally held public debt** *Public debt* owed to citizens, firms, and institutions of the same nation that issued the debt.

**international balance of payments** A summary of all the transactions that took place between the individuals, firms, and government units of one nation and those of all other nationsduring a year.

**international balance-of-payments deficit** (See *balance-ofpayments deficit.*)

**international balance-of-payments surplus** (See *balance-ofpayments surplus.*)

**international gold standard** (See *gold standard.*)

**International Monetary Fund (IMF)** The international association of nations that was formed after the Second World War to make loans of foreign monies to nations with temporary *pay ments deficits* and, until the early 1970s, to administer the *adjustable pegs*. It now mainly makes loans to nations facing possible defaults on private andgovernment loans.

**international monetary reserves** The foreign currencies and other assets such as gold that a nation can use to settle a *balanceof-payments deficit*.

**international value of the dollar** The price that must be paid in foreign currency (money) to obtain one U.S. dollar.

**intertemporal choice** Choices between benefits obtainable in one time period and benefits achievable in a later time period; comparisons that individuals and society must makebetween the reductions in current consumption that are necessary to fund current investments and the higher levels of future consumption that those currentinvestments can produce.

**intrinsic value** The market value of the metal within a coin.

**invention** (Web chapter) The first discovery of a product or process through the use of imagination, ingenious thinking, and experimentation and the first proof thatit will work.

**inventories** Goods that have been produced but remain unsold.

**inverse relationship** The relationship between two variables that change in opposite directions, for example, product price and quantity demanded; negative relationship.

**inverted-U theory** (Web chapter) The idea that, other things equal, *R&D* expenditures as a percentage of sales rise with industry concentration, reach a peak ata four-firm *concentration ratio* of about 50 percent, and then fall as the ratio further increases.

**investment** In economics, spending for the production and accumulation of *capital* and additions to inventories. (For contrast, see *financial investment.*)

**investment banks** Firms that help corporations and government raise money by selling stocks and bonds; they also offer advisory services for corporate mergers andacquisitions in addition to providing brokerage services and advice.

**investment demand curve** A curve that shows the amounts of *investment* demanded by an economy at a series of *real interest rates*.

**investment goods** Same as *capital* or capital goods.

**investment in human capital** (See *human capital investment*.)

**investment schedule** A curve or schedule that shows the amounts firms plan to invest at various possible values of *real gross domestic product*.

**"invisible hand"** The tendency of firms and resource suppliers that seek to further their own self-interests in competitive markets to also promote the interests ofsociety.

**Joint Economic Committee (JEC)** Committee of senators and representatives that investigates economic problems of national interest.

**Keynesianism** The philosophical, ideological, and analytical views pertaining to *Keynesian economics*.

**kinked-demand curve** The demand curve for a noncollusive oligopolist, which is based on the assumption that rivals will match a price decrease and will ignore a price increase.

**labor** People's physical and mental talents and efforts that are used to help produce goods and services.

**labor force** Persons 16 years of age and older who are not in institutions and who are employed or are unemployed and seeking work.

**labor-force participation rate** The percentage of the workingage population that is actually in the *labor force*.

**labor-intensive goods** Products requiring relatively large amounts of *labor* to produce.

**labor productivity** Total output divided by the quantity of labor employed to produce it; the *average product* of labor or output per hour of work.

**labor union** A group of workers organized to advance the interests of the group (to increase wages, shorten the hours worked, improve working conditions, and so on).

**Laffer Curve** A curve relating government tax rates and tax revenues and on which a particular tax rate (between zero and 100 percent) maximizes tax revenues.

**laissez-faire capitalism** (See *capitalism*.)

**land** Natural resources ("free gifts of nature") used to produce goods and services.

**land-intensive goods** Products requiring relatively large amounts of *land* to produce.

**land reform** (Web chapter) A set of policies designed to create more efficient distribution of land ownership in developing countries; policies vary country to countryand can involve everything from government purchasing large land estates and dividing the land into smaller farms to consolidating tiny plots of land intolarger, more efficient private farms.

**law of demand** The principle that, other things equal, an increase in a product's price will reduce the quantity of it demanded, and conversely for a decrease inprice.

**law of diminishing marginal utility** The principle that as a consumer increases the consumption of a good or service, the *marginal utility* obtained from each additional unit of thegood or service decreases.

**law of diminishing returns** The principle that as successive increments of a variable resource are added to a fixed resource, the *marginal product* of the variable resourcewill eventually decrease.

**law of increasing opportunity costs** The principle that as the production of a good increases, the *opportunity cost* of producing an additional unit rises.

**law of supply** The principle that, other things equal, an increase in the price of a product will increase the quantity of it supplied, and conversely for a pricedecrease.

**leader countries** As it relates to *economic growth,* countries that develop and use advanced technologies, which then become available to *follower countries.*

**leakage** (1) A withdrawal of potential spending from the income-expenditures stream via *saving,* tax payments, or *imports;* (2) a withdrawal thatreduces the lending potential of the banking system.

**learning by doing** Achieving greater *productivity* and lower *average total cost* through gains in knowledge and skill that accompany repetition of a task;a source of *economies of scale*.

**least-cost combination of resources** The quantity of each resource a firm must employ in order to produce a particular output at the lowest total cost; the combination at which the ratioof the *marginal product* of a resource to its *marginal resource cost* (to its *price* if the resource is employed in a competitivemarket) is the same for the last dollar spent on each of the resources employed.

**legal cartel theory of regulation** The hypothesis that some industries seek regulation or want to maintain regulation so that they may form or maintain a legal *cartel*.

**legal immigrant** A person who lawfully enters a country for the purpose of residing there.

**legal tender** A legal designation of a nation's official currency (bills and coins). Payment of debts must be accepted in this monetary unit, but creditors can specifythe form of payment, for example, "cash only" or "check or credit card only."

**lending potential of an individual commercial bank** The amount by which a single bank can safely increase the *money supply* by making new loans to (or buying securities from) the public; equal tothe bank's excess reserves.

**lending potential of the banking system** The amount by which the banking system can increase the *money supply* by making new loans to (or buying securities from) the public; equal to the *excess reserves* of the banking system multiplied by the *monetary multiplier*.

**liability** A debt with a monetary value; an amount owed by a firm or an individual.

**limited liability** Restriction of the maximum loss to a predetermined amount for the owners (stockholders) of a *corporation*. The maximum loss is the amount theypaid for their shares of stock.

**liquidity** The ease with which an asset can be converted quickly into cash with little or no loss of purchasing power. Money is said to be perfectly liquid, whereasother assets have a lesser degree of liquidity.

**loanable funds** *Money* available for lending and borrowing.

**loanable funds theory of interest** The concept that the supply of and demand for *loanable funds* determine the equilibrium rate of interest.

**lockout** An action by a firm that forbids workers to return to work until a new collective bargaining contract is signed; a means of imposing costs (lost wages) onunion workers in a collective bargaining dispute.

**logrolling** The trading of votes by legislators to secure favorable outcomes on decisions concerning the provision of *public goods* and *quasi-public goods*.

**long run** (1) In *microeconomics,* a period of time long enough to enable producers of a product to change the quantities of all the resources they employ;period in which all resources and costs are variable and no resources or costs are fixed. (2) In *macroeconomics,* a period sufficiently long for*nominal wages* and other input prices to change in response to a change in the nation's *price level*.

**long-run aggregate supply curve** The aggregate supply curve associated with a time period in which input prices (especially *nominal wages*) are fully responsive to changes in the *price level*.

**long-run competitive equilibrium** The price at which firms in *pure competition* neither obtain *economic profit* nor suffer losses in the *long run* and the totalquantity demanded and supplied are equal; a price equal to the *marginal cost* and the minimum longrun *average total cost* of producingthe product.

**long-run supply curve** As it applies to macroeconomics, a supply curve for which price, but not real output, changes when the demand curves shifts; a vertical supply curve thatimplies fully flexible prices.

**long-run supply** In *microeconomics,* a shedule or curve showing the prices at which a purely competitive industry will make various quantities of the productavailable in the *long run*.

**long-run vertical Phillips Curve** The *Phillips Curve* after all nominal wages have adjusted to changes in the rate of inflation; a line emanating straight upward at the economy's *natural rate of unemployment*.

**Lorenz curve** A curve showing the distribution of income in an economy. The cumulated percentage of families (income receivers) is measured along the horizontal axisand cumulated percentage of income is measured along the vertical axis.

**lump-sum tax** A tax that is a constant amount (the tax revenue ofgovernment is the same) at all levels of GDP.

**M1** The most narrowly defined *money supply,* equal to *currency* in the hands of the public and the *checkable deposits* of commercialbanks and thrift institutions.

**M2** A more broadly defined *money supply,* equal to *M_1 plus* noncheckable savings accounts *(including* money market deposit accounts*), small* time deposits *(deposits of less than $100,000), and individual* money market mutual fund _balances.

**macroeconomics** The part of economics concerned with the economy as a whole; with such major aggregates as the household, business, and government sectors; and withmeasures of the total economy.

**managed floating exchange rate** An *exchange rate* that is allowed to change (float) as a result of changes in currency supply and demand but at times is altered (managed) bygovernments via their buying and selling of particular currencies.

**managerial prerogatives** The decisions that a firm's management has the sole right to make; often enumerated in the labor contract (work agreement) between a *labor union* and a *firm*.

**marginal analysis** The comparison of marginal ("extra" or "additional") benefits and marginal costs, usually for decision making.

**marginal benefit** The extra (additional) benefit of consuming 1 more unit of some good or service; the change in total benefit when 1 more unit is consumed.

**marginal cost (MC)** The extra (additional) cost of producing 1 more unit of output; equal to the change in *total cost* divided by the change in output (and, in theshort run, to the change in total *variable cost* divided by the change in output).

**marginal cost-marginal benefit rule** As it applies to *cost-benefit analysis*, the tenet that a government project or program should be expanded to the point where the *marginal cost _and* marginal benefit _of additional expenditures are equal.

**marginal product (MP)** The additional output produced when 1 additional unit of a resource is employed (the quantity of all other resources employed remaining constant); equal tothe change in *total product* divided by the change in the quantity of a resource employed.

**marginal productivity theory of income distribution** The contention that the distribution of income is equitable when each unit of each resource receives a money payment equal to its marginal contributionto the firm's revenue (its *marginal revenue product*).

**marginal propensity to consume (MPC)** The fraction of any change in *disposable income* spent for *consumer goods;* equal to the change in consumption divided by the change indisposable income.

**marginal propensity to save (MPS)** The fraction of any change in *disposable income* that households save; equal to the change in *saving* divided by the change in disposableincome.

**marginal rate of substitution (MRS)** The rate at which a consumer is willing to substitute one good for another (from a givencombination of goods) and remain equally satisfied (have the same *total utility*); equal to the slope of a consumer's_ indifference curve _at each point on the curve.

**marginalresourcecost(MRC)** Theamountthetotalcostofemploying a *resource* increases when a firm employs 1 additional unit of the resource (the quantity of all other resourcesemployed remaining constant); equal to the change in the *total cost* of the resource divided by the change in the quantity of the resourceemployed.

**marginal revenue** The change in *total revenue* that results from the sale of 1 additional unit of a firm's product; equal to the change in total revenue divided bythe change in the quantity of the product sold.

**marginal-revenue–marginal-cost approach** A method of determining the total output where *economic profit* is a maximum (or losses are a minimum) by comparing the *marginal revenue* and the *marginal cost* of each additional unit of output.

**marginal revenue product (MRP)** The change in a firm's *total revenue* when it employs 1 additional unit of a resource (the quantity of all other resources employed remainingconstant); equal to the change in total revenue divided by the change in the quantity of the resource employed.

**marginal revenue productivity** *(See marginal revenue product.)*

**marginal tax rate** The tax rate paid on an additional dollar of income.

**marginal utility** The extra *utility* a consumer obtains from the consumption of 1 additional unit of a good or service; equal to the change in total utility dividedby the change in the quantity consumed.

**market** Any institution or mechanism that brings together buyers (demanders) and sellers (suppliers) of a particular good or service.

**market demand** (See *total demand*.)

**market economy** An economy in which the private decisions of consumers, resource suppliers, and firms determine how resources are allocated; the *market system*.

**market failure** The inability of a market to bring about the allocation of resources that best satisfies the wants of society; in particular, the overallocation orunderallocation of resources to the production of a particular good or service because of *externalities* or informational problems or becausemarkets do not provide desired *public goods*.

**market for externality rights** A market in which firms can buy rights to discharge pollutants. The price of such rights is determined by the demand for the right to dischargepollutants and a *perfectly inelastic supply* of such rights (the latter determined by the quantity of discharges that the environment canassimilate).

**market period** A period in which producers of a product are unable to change the quantity produced in response to a change in its price and in which there is a *perfectly inelastic supply*.

**marketportfolio** Theportfolioconsistingofeveryfinancialasset (including every *stock* and *bond*) traded in the financial markets. The market portfolio isused to calculate *beta* (a measure of the degree of riskiness) for specific stocks, bonds, and mutual funds.

**market system** All the product and resource markets of a *market economy* and the relationships among them; a method that allows the prices determined in thosemarkets to allocate the economy's scarce resources and to communicate and coordinate the decisions made by consumers, firms, and resource suppliers.

**marketing loan program** A Federal farm subsidy under which certain farmers can receive a loan (on a per-unit-of-output basis) from a government lender and then, depending on theprice of the crop, either pay back the loan with interest or keep the loan proceeds while forfeiting their harvested crop to the lender.

**median-voter model** The theory that under majority rule the median (middle) voter will be in the dominant position to determine the outcome of an election.

**Medicaid** A Federal program that helps finance the medical expenses of individuals covered by the *Supplemental Security Income (SSI)* and *Temporary Assistance for Needy Families ( TANF)* programs.

**Medicare** A Federal program that is financed by *payroll taxes* and provides for (1) compulsory hospital insurance for senior citizens, (2) low-cost voluntaryinsurance to help older Americans pay physicians' fees, and (3) subsidized insurance to buy prescription drugs.

**Medicare Part D** The portion of Medicare that enables enrollees to shop among private health insurance companies to buy highly subsidized insurance to help reduce theout-of-pocket expense of prescription drugs.

**medium of exchange** Any item sellers generally accept and buyers generally use to pay for a good or service; *money;* a convenient means of exchanging goods andservices without engaging in *barter*.

**menu costs** The reluctance of firms to cut prices during recessions (that they think will be short lived) because of the costs of altering and communicating theirprice reductions; named after the cost associated with printing new menus at restaurants.

**merger** The combination of two (or more) firmsinto a single firm.

**microeconomics** The part of economics concerned with decision making by individual units such as a *household*, a *firm*, or an_ industry _and withindividual markets, specific goods and services, and product and resource prices.

**Microsoft case** A 2002 antitrust case in which Microsoft was found guilty of violating the *Sherman Act* by engaging in a series of unlawful activities designed tomaintain its monopoly in operating systems for personal computers; as a remedy the company was prohibited from engaging in a set of specificanticompetitive business practices.

**midpoint formula** A method for calculating *price elasticity of demand* or *price elasticity of supply* that averages the two prices and two quantities asthe reference points for computing percentages.

**minimum efficient scale (MES)** The lowest level of output at which a firm can minimizelong-run *average total cost*.

**minimum wage** The lowest_ wage _that employers may legally pay for an hour of work.

**modern economic growth** The historically recent phenomenon in which nations for the first time have experienced sustained increases in *real GDP per capita.* **monetarism** The macroeconomic view that the main cause of changes in aggregate output and *price level* is fluctuations in the *money supply;* espousedby advocates of a *monetary rule*.

**monetary multiplier** The multiple of its *excess reserves _by which the banking system canexpand* checkable deposits *and thus the* money supply *by making new loans (or buying securities); equal to 1 divided by the* reserve requirement_.

**monetary policy** A central bank's changing of the *money supply* to influence interest rates and assist the economy in achieving price stability, full employment,and economic growth.

**monetary rule** The rule suggested by *monetarism*. As traditionally formulated, the rule says that the *money supply _should be expanded each year at the same annual rate as the potential rate of growth of the* real gross domestic product; *the supply of money should be increased steadily between 3 and 5 percent per year. (Also see* Taylor rule_.)

**money** Any item that is generally acceptable to sellers in exchange for goods and services.

**money capital** Money available to purchase *capital;* simply *money,* as defined by economists.

**money income** (See *nominal income*.)

**money market** The market in which the demand for and the supply of money determine the *interest rate* (or the level of interest rates) in the economy.

**money market deposit accounts (MMDAs)** Bankand thriftprovided interest-bearing accounts that contain a variety of short-term securities; such accounts have minimum balance requirements andlimits on the frequency of withdrawals.

**money market mutual funds (MMMFs)** Interest-bearing accounts offered by investment companies, which pool depositors' funds for the purchase of short-term securities. Depositors can writechecks in minimum amounts or more against their accounts.

**money supply** Narrowly defined, *M_1; more broadly defined,* M*2. (See* M1 *and* M2_)

**monopolistic competition** A market structure in which many firms sell a *differentiated product,* into which entry is relatively easy, in which the firm has some control overits product price, and in which there is considerable *nonprice competition*.

**monopoly** A market structure in which the number of sellers is so small that each seller is able to influence the total supply and the price of the good or service. (Also see *pure monopoly.*)

**monopsony** A market structure in which there is only a single buyer of a good, service, or resource.

**moral hazard problem** The possibility that individuals or institutions will change their behavior as the result of a contract or agreement. Example: A bank whose deposits areinsured against losses may make riskier loans and investments.

**mortgage debt crisis** The period beginning in late 2007 when thousands of homeowners defaulted on mortgage loans when they experienced a combination of higher mortgage interestrates and falling home prices.

**most-favored-nation (MFN) status** An agreement by the United States to allow some other nation's *exports* into the United States at the lowest tariff level levied by the UnitedStates. Now referred to as *normal-trade-relations status.*

**MR □**

**MC rule** The principle that a firm will maximize its profit (or minimize its losses) by producing the output at which *marginal revenue* and *marginal cost* are equal, provided product price is equal to or greater than *average variable cost*.

**MRP □**

**MRC rule** The principle that to maximize profit (or minimize losses), a firm should employ the quantity of a resource at which its *marginal revenue product* (MRP) is equal to its *marginal resource cost* (MRC), the latter being the wage rate in a purely competitivelabor market.

**multinational corporations** Firms that own production facilities in two or more countries and produce and sell their products globally.

**multiple counting** Wrongly including the value of *intermediate goods* in the *gross domestic product;* counting the same good or service more than once.

**multiplier** The ratio of a change in the equilibrium GDP to the change in *investment* or in any other component of *aggregate expenditures* or *aggregate demand;* the number by which a change in any such component must be multiplied to find the resulting change in the equilibrium GDP.

**multiplier effect** The effect on equilibrium GDP of a change in *aggregate expenditures* or *aggregate demand* (caused by a change in the *consumption schedule, investment,* government expenditures, or *net exports*).

**mutual funds** *Portfolios* of *stocks* and *bonds* selected and purchased by mutual fund companies, which finance the purchases by pooling money from thousands ofindividual fund investors; includes both *index funds* as well as *actively managed funds*. Fund returns (profits or losses) pass through tothe individual fund investors who invest in the funds.

**mutual interdependence** A situation in which a change in price strategy (or in some other strategy) by one firm will affect the sales and profits of another firm (or other firms).Any firm that makes such a change can expect the other rivals to react to the change.

**Nash equilibrium** In *game theory*, an outcome from which neither firm wants to deviate; the outcome that once achieved is stable and therefore lasting.

**national bank** A *commercial bank* authorized to operate by the U.S. government.

**National Credit Union Administration (NCUA)** The federally chartered agency that insures deposit liabilities (up to $100,000 per account) in *credit unions*.

**national health insurance (NHI)** A proposed program in which the Federal government would provide a basic package of health care to all citizens at no direct charge or at a low cost-sharing level. Financing would be out of general tax revenues.

**national income** Total income earned by resource suppliers for theircontributions to *gross domestic product* plus *taxes on production and imports*; the sum of wages and salaries, *rent, interest, profit, proprietors' income*, and such taxes.

**national income accounting** The techniques used to measure the overall production of the economy and other related variables for the nation as a whole.

**National Labor Relations Act (Wagner Act of 1935)** As amended, the basic labor-relations law in the United States; defines the legal rights of unions and management and identifies unfair union andmanagement labor practices; established the *National Labor Relations Board*.

**National Labor Relations Board (NLRB)** The board established by the *National Labor Relations Act* of 1935 to investigate unfair labor practices, issue *cease-and-desist orders,* and conduct elections among employees to determine if they wish to be represented by a *labor union*.

**natural monopoly** An industry in which *economies of scale* are so great that a single firm can produce the product at a lower average total cost than would bepossible if more than one firm produced the product.

**natural rate of unemployment (NRU)** The *full-employment unemployment rate;* the unemployment rate occurring when there is no cyclical unemployment and the economy is achieving itspotential output; the unemployment rate at which actual inflation equals expected inflation.

**near-money** Financial assets, the most important of which are *noncheckable savings accounts, time deposits,* and U.S. short-term securities and savingsbonds, which are not a medium of exchange but can be readily converted into money.

**negative externality** A cost imposed without compensation on third parties by the production or consumption of sellers or buyers. Example: A manufacturer dumps toxic chemicalsinto a river, killing the fish sought by sports fishers; an external cost or a spillover cost.

**negative GDP gap** A situation in which actual *gross domestic product* is less than *potential output.* Also known as a recessionary output gap.

**negative relationship** (See *inverse relationship*.)

**negative self-selection** As it relates to international *migration*, the idea that those who choose to move to another country have poorer wage opportunities in the origincountry than those with similar skills who choose not to *emigrate*.

**negative-sum game** In *game theory*, a game in which the gains (□) and losses (□) add up to some amount less than zero; one party's losses exceed the other party'sgains.

**net benefits** The total benefits of some activity or policy less the total costs of that activity or policy.

**net domestic product** *Gross domestic product* less the part of the year's output that is needed to replace the *capital goods* worn out in producing the output; the nation's total outputavailable for consumption or additions to the *capital stock*.

**net exports ($X_n$)** *Exports* minus *imports*.

**net foreign factor income** Receipts of resource income from the rest of the world minus payments of resource income to the rest of the world.

**net investment income** The interest and dividend income received by the residents of a nation from residents of other nations less the interest and dividend payments made bythe residents of that nation to the residents of other nations.

**net private domestic investment** *Gross private domestic investment* less *consumption of fixed capital;* the addition to the nation's stock of *capital* during a year.

**net taxes** The taxes collected by government less *government transfer payments*.

**net transfers** The personal and government transfer payments made by one nation to residents of foreign nations less the personal and government transfer paymentsreceived from residents of foreign nations.

**network effects** Increases in the value of a product to each user, including existing users, as the total number of users rises.

**net worth** The total *assets* less the total *liabilities* of a firm or an individual; for a firm, the claims of the owners against the firm's totalassets; for an individual, his or her wealth.

**new classical economics** The theory that, although unanticipated price-level changes may create macroeconomic instability in the short run, the economy is stable at the full-employment level of domestic output in the long run because prices and wages adjust automatically to correct movements away from the full-employment, noninflationary output.

**NLRB** (See *National Labor Relations Board*.)

**nominal gross domestic product (GDP)** The *GDP* measured in terms of the price level at the time of measurement (unadjusted for *inflation*).

**nominal income** The number of dollars received by an individual or group for its resources during some period of time.

**nominal interest rate** The interest rate expressed in terms of annual amounts currently charged for interest and not adjusted for inflation.

**nominal wage** The amount of money received by a worker per unit of time (hour, day, etc.); money wage.

**noncash transfer** A *government transfer payment* in the form of goods and services rather than money, for example, food stamps, housing assistance, and job training;also called in-kind transfers.

**noncollusive oligopoly** An *oligopoly* in which the firms do not act together and in agreement to determine the price of the product and the output that each firm willproduce.

**noncompeting groups** Collections of workers in the economy who do not compete with each other for employment because the skill and training of the workers in one group aresubstantially different from those of the workers in other groups.

**nondiscretionary fiscal policy** (See *built-in stabilizer*.)

**nondiversifiable risk** Investment *risk _that investors are unable to reduce via _diversification;* also called systemic risk.

**nondurable good** A *consumer good* with an expected life (use) of less than 3 years.

**nonexcludability** The inability to keep nonpayers (free riders) from obtaining benefits from a certain good; a *public good* characteristic.

**nonexhaustive expenditure** An expenditure by government that does not result directly in the employment of economic resources or the production of goods and services; see *government transfer payment*.

**nonincome determinants of consumption and saving** All influences on consumption and saving other than the level of *GDP*.

**noninterest determinants of investment** All influences on the level of investment spending other than the *interest rate*.

**noninvestment transaction** An expenditure for stocks, bonds, or secondhand *capital goods*.

**nonmarket transactions** The value of the goods and services that are not included in the *gross domestic product* because they are not bought and sold.

**nonprice competition** Competition based on distinguishing one's product by means of *product differentiation* and then *advertising* the distinguished product toconsumers.

**nonproduction transaction** The purchase and sale of any item that is not a currently produced good or service.**nonrenewable natural resource** Things such as oil, natural gas, and metals, which are either in actual fixed supply or which renew so slowly as to be in virtual fixed supply when viewedfrom a human time perspective.

**nonrivalry** The idea that one person's benefit from a certain good does not reduce the benefit available to others; a *public good* characteristic.

**nontariff barriers (NTBs)** All barriers other than *protective tariffs* that nations erect to impede international trade, including *import quotas,* licensingrequirements, unreasonable productquality standards, unnecessary bureaucratic detail in customs procedures, and so on.

**normal good** A good or service whose consumption increases when income increases and falls when income decreases, price remaining constant.

**normal profit** The payment made by a firm to obtain and retain *entrepreneurial ability;* the minimum income entrepreneurial ability must receive to induce it toperform entrepreneurial functions for a firm.

**normal-trade-relation (NTR) status** A designation for countries that are allowed to export goods and services into the United States at the lowest tariff rates available to any othercountry allowed to export those goods to the United States; until recently called *most-favored-nation status*.

**normative economics** The part of economics involving value judgments about what the economy should be like; focused on which economic goals and policies should be implemented;policy economics.

**North American Free Trade Agreement (NAFTA)** A 1993 agreement establishing, over a 15-year period, a free-trade zone composed of Canada, Mexico, and the United States.

**occupation** A category of activities or tasks performed by a set of workers for pay, independent of employer or industry. Examples are managers, nurses, farmers, andcooks.

**occupational licensure** The laws of state or local governments that require that a worker satisfy certain specified requirements and obtain a license from a licensing board beforeengaging in a particular occupation.

**occupational segregation** The crowding of women or minorities into less desirable, lower-paying occupations.

**official reserves** Foreign currencies owned by the central bank of a nation.

**offshoring** The practice of shifting work previously done by American workers to workers located abroad.

**Okun's law** The generalization that any 1-percentage-point rise in the *unemployment rate* above the *full-employment unemployment rate* is associatedwith a rise in the negative *GDP gap* by 2 percent of *potential output* (potential GDP).

**oligopoly** A market structure in which a few firms sell either a *standardized* or *differentiated product,* into which entry is difficult, in whichthe firm has limited control over product price because of *mutual interdependence* (except when there is collu- sion among firms), and in which there is typically *nonprice competition*.

**one-time game** In *game theory*, a game in which the parties select their optimal strategies in a single time period without regard to possible interaction insubsequent time periods.

**OPEC** (See *Organization of Petroleum Exporting Countries*.)

**open economy** An economy that exports and imports goods and services.

**open-market operations** The buying and selling of U.S. gov- ernment securities by the *Federal Reserve Banks* for purposes of carrying out *monetary policy*.

**open shop** A place of employment in which the employer may hire nonunion workers and the workers need not become members of a *labor union*.

**opportunity cost** The amount of other products that must be forgone or sacrificed to produce a unit of a product.

**opportunity-cost ratio** An equivalencyshowing the number of units of two products that can be produced with the same resources; the cost 1 corn  3 olives shows that the resources requiredto produce 3 units of olives must be shifted to corn production to produce 1 unit of corn.

**optimal amount of R&D** (Web chapter) The level of *R&D* at which the *marginal benefit* and *marginal cost* of R&D expenditures are equal.

**optimal reduction of an externality** The reduction of a *negative externality* such as pollution to the level at which the *marginal benefit* and *marginal cost* ofreduction are equal.

**ordinal utility** Satisfaction that is measured by having consumers compare and rank products (or combinations of products) as to preference, without asking them tospecify the absolute amount of satisfaction provided by the product.

**Organization of Petroleum Exporting Countries (OPEC)** A cartel of 13 oil-producing countries (Algeria, Angola, Ecuador, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, Venezuela, and the UAE) that attempts to control the quantity and price of crude oil exported by its members and that accounts for a large percentage of the world's export ofoil.

**othe-all-things-equal assumption** The assumption that factors other than those being considered are held constant; *ceteris paribus* assumption.

**outpayments** The expenditures of domestic or foreign currency that the individuals, firms, and governments of one nation make to purchase goods and services, for remittances,to pay investment income, and for purchases of foreign assets.

**output effect** The situation in which an increase in the price of one input will increase a firm's production costs and reduce its level of output, thus reducing the demand for other inputs; conversely for a decrease in the price of the input.

**paper money** Pieces of paper used as a *medium of exchange;* in the United States, *Federal Reserve Notes*.

**paradox of voting** A situation where paired-choice voting by majority rule fails to provide a consistent ranking of society's preferences for *public goods* orservices.

**parity concept** The idea that year after year a specific output of a farm product should enable a farmer to acquire a constant amount of nonagricultural goods andservices.

**parity ratio** The ratio of the price received by farmers from the sale of an agricultural commodity to the prices of other goods paid by them; usually expressed as apercentage; used as a rationale for *price supports*.

**partnership** An unincorporated firm owned and operated by two or more persons.

**passively managed funds** *Mutual funds* whose *portfolios* are not regularly updated by a fund manager attempting to generate high returns. Rather, once an initial portfolio is selected,it is left unchanged so that investors receive whatever return that unchanging portfolio subsequently generates. *Index funds* are a type ofpassively managed fund.

**patent** An exclusive right given to inventors to produce and sell a new product or machine for 20 years from the time of patent application.

**payments deficit** (See *balance-of-payments deficit*.)

**payments surplus** (See *balance-of-payments surplus*.)

**payroll tax** A tax levied on employers of labor equal to a percentage of all or part of the wages and salaries paid by them and on employees equal to a percentage ofall or part of the wages and salaries received by them.

**□MC rule** The principle that a purely competitive firm will maximize its profit or minimize its loss by producing that output at which the *price* of the product is equal to *marginal cost,* provided that price is equal to or greater than *average variable cost* in the short run and equal to or greater than *average total cost* in the long run.

**peak** The point in a business cycle at which business activity has reached a temporary maximum; the economy is near or at full employment and the level of realoutput is at or very close to the economy’s capacity.

**per capita GDP** *Gross domestic product* (GDP) per person; the average GDP of a population.

**per capita income** A nation’s total income per person; the average income of a population.

**percentage rate of return** The percentage gain or loss, relative to the buying price, of an *economic investment* or *financial investment* over some period of time.

**perfectly elastic demand** Product or resource demand in which *quantity demanded* can be of any amount at a particular product *price;* graphs as a horizontal *demand curve*.

**perfectly elastic supply** Product or resource supply in which *quantity supplied* can be of any amount at a particular product or resource *price;* graphs as ahorizontal *supply curve*.

**perfectly inelastic demand** Product or resource demand in which *price* can be of any amount at a particular quantity of the

product or resource demanded; *quantity demanded* does not re- spond to a change in price; graphs as a vertical *demand curve*.

**perfectly inelastic supply** Product or resource supply in which *price* can be of any amount at a particular quantity of the product or resource demanded; *quantity supplied* does not respond to a change in price; graphs as a vertical *supply curve*.

**per se violations** Collusive actions, such as attempts by firms to fix prices or divide a market, that are violations of the *antitrust laws,* even if the actionsthemselves are unsuccessful.

**personal consumption expenditures** The expenditures of *households* for *durable* and *nondurable consumer goods* and *services*.

**personal distribution of income** The manner in which the economy's *personal* or *disposable income* is divided among different income classes or different households orfamilies.

**personal income (PI)** The earned and unearned income available to resource suppliers and others before the payment of personal taxes.

**personal income tax** A tax levied on the taxable income of individuals, households, and unincorporated firms.

**personal saving** The *personal income* of households less personal taxes and *personal consumption expenditures; disposable income* not spent for *consumer goods*.

**per-unit production cost** The average production cost of a particular level of output; total input cost divided by units of output.

**Phillips Curve** A curve showing the relationship between the *unemployment rate* (on the horizontal axis) and the annual rate of increase in the *price level* (on the vertical axis).

**planned investment** The amount that *firms* plan or intend to invest.

**plant** A physical establishment that performs one or more functions in the production, fabrication, and distribution of goods and services.

**"play or pay"** A means of expanding health insurance coverage by requiring that employers either provide insurance for their workers or pay a special *payroll tax* to finance insurance for noncovered workers.

**policyeconomics** The formulation of courses of action to bring about desired economic outcomes or to prevent undesired occurrences.

**political business cycle** The alleged tendency of Congress to destabilize the economy by reducing taxes and increasing government expenditures before elections and to raise taxesand lower expenditures after elections.

**portfolio** A specific collection of *stocks, bonds,* or other *financial investments* held by an individual or a *mutual fund*.

**positive economics** The analysis of facts or data to establish scientific generalizations about economic behavior.

**positive externality** A benefit obtained without compensation by third parties from the production or consumption of sellers or buyers. Example: A beekeeper benefits when aneighboring farmer plants clover. An *external benefit* or a spillover benefit.**positive GDP gap** A situation in which actual *gross domestic product* exceeds *potential output*. Also known as an inflationary output gap.

**positive relationship** (See *direct relationship*.)

**positive sum game** In *game theory*, a game in which the gains () and losses

(□) add up to more than zero; one party’s gains exceeds the other party’s losses.

***post hoc, ergo propter hoc*** **fallacy** The false belief that when one event precedes another, the first event must have caused the second event.

**potential competition** The new competitors that may be induced to enter an industry if firms now in that industry are receiving large *economic profits*.

**potential output** The real output *(GDP)* an economy can produce when it fully employs its available resources.

**poverty** A situation in which the basic needs of an individual or family exceed the means to satisfy them.

**poverty rate** The percentage of the population with incomes below the official poverty income levels that are established by the Federal government.

**preferred provider organization (PPO)** An arrangement in which doctors and hospitals agree to provide health care to insured individuals at rates negotiated with an insurer.

**present value** Today’s value of some amount of money that is to be received sometime in the future.

**price** The amount of money needed to buy a particular good, service, or resource.

**price ceiling** A legally established maximum price for a good or service.

**price discrimination** The selling of a product to different buyers at different prices when the price differences are not justified by differences in cost.

**price elasticity of demand** The ratio of the percentage change in *quantity demanded* of a product or resource to the percentage change in its *price;* a measure of the responsiveness of buyers to a change in the price of a product or resource.

**price elasticity of supply** The ratio of the percentage change in *quantity supplied* of a product or resource to the percentage change in its *price;* a measure of the responsiveness of producers to a change in the price of a product or resource.

**price fixing** The conspiring by two or more firms to set the price of their products; an illegal practice under the *Sherman Act*.

**price floor** A legally determined minimum price above the *equilibrium price*.

**price index** An index number that shows how the weighted-average price of a “market basket” of goods changes over time.

**price leadership** An informal method that firms in an *oligopoly* may employ to set the price of their product: One firm (the leader) is the first to announce achange in price, and the other firms (the followers) soon announce identical or similar changes.

**price level** The weighted average of the prices of all the final goods and services produced in an economy.

**price-level stability** A steadiness of the price level from one period to the next; zero or low annual inflation; also called "price stability."

**price-level surprises** Unanticipated changes in the price level.

**price maker** A seller (or buyer) that is able to affect the product or resource price by changing the amount it sells (or buys).

**price support** A minimum price that government allows sellers to receive for a good or service; a legally established or maintained minimum price.

**price taker** A seller (or buyer) that is unable to affect the price at which a product or resource sells by changing the amount it sells (or buys).

**price war** Successive and continued decreases in the prices charged by firms in an oligopolistic industry. Each firm lowers its price below rivals' prices, hoping toincrease its sales and revenues at its rivals' expense.

**prime interest rate** The benchmark *interest rate* that banks use as a reference point for a wide range of loans to businesses and individuals.

**principal-agent problem** A conflict of interest that occurs when agents (workers or managers) pursue their own objectives to the detriment of the principals' (stockholders') goals.

**principle of comparative advantage** The proposition that an individual, region, or nation will benefit if it specializes in producing goods for which its own *opportunity costs* arelower than the opportunity costs of a trading partner, and then exchanging some of the products in which it specializes for other desired products producedby others.

**private good** A good or service that is individually consumed and that can be profitably provided by privately owned firms because they can exclude nonpayers fromreceiving the benefits.

**private property** The right of private persons and firms to obtain, own, control, employ, dispose of, and bequeath *land, capital,* and other property.

**private sector** The *households* and business *firms* of the economy.

**probability weighted average** Each of the possible future rates of return from an investment multiplied by its respective probability (expressed as a decimal) of happening.

**process innovation** (Web chapter) The development and use of new or improved production or distribution methods.

**producer surplus** The difference between the actual price a producer receives (or producers receive) and the minimum acceptable price; the triangular area above the supplycurve and below the market price.

**product differentiation** A strategy in which one firm's product is distinguished from competing products by means of its design, related services, quality, location, or otherattributes (except price).

**product innovation** (Web chapter) The development and sale of a new or improved product (or service).

**production possibilities curve** A curve showing the different combinations of two goods or services that can be produced in a *full-employment, full-production* economy where the available supplies of resources and technology are fixed.

**productive efficiency** The production of a good in the least costly way; occurs when production takes place at the output at which *average total cost* is a minimum and *marginal product* per dollar's worth of input is the same for all inputs.

**productivity** A measure of average output or real output per unit of input. For example, the productivity of labor is determined by dividing real output by hours ofwork.

**productivity growth** The increase in *productivity* from one period to another.

**product market** A market in which products are sold by *firms* and bought by *households*.

**profit** The return to the resource *entrepreneurial ability* (see *normal profit*); *total revenue _minus* total cost *(see* economic profit_).

**profit-maximizing combination of resources** The quantity of each resource a firm must employ to maximize itsprofit or minimize its loss; the combination in which the *marginal revenue product _of each resource is equal to its* marginal resource cost *(to its* price _if the resource is employed in a competitive market).

**profit-sharing plan** Acompensation device through which workers receive part of their pay in the form of a share of their employer's profit (if any).

**progressive tax** A tax whose *average tax rate* increases as the taxpayer's income increases and decreases as the taxpayer's income decreases.

**property tax** A tax on the value of property (*capital, land, stocks* and *bonds,* and other *assets*) owned by *firms _and* households_.

**proportional tax** A tax whose_ average tax rate _remains constant as the taxpayer's income increases ordecreases.

**proprietor’s income** The net income of the owners of unincorporated firms (proprietorships and partnerships).

**protectivetariff** A_tariff_designedtoshielddomesticproducersof a good or service from the competition of foreign producers.

**public assistance programs** Governmentprograms that pay benefits to those who are unable to earn income (because of permanent disabilities or because they have very low income and dependentchildren); financed by general tax revenues and viewed as public charity (rather than earned rights).

**public choice theory** The economic analysis of government decision making, politics, and elections.

**public debt** The total amount owed by the Federal government to the owners of government securities; equal to the sum of past government *budget deficits* lessgovernment *budget surpluses*.

**public good** A good or service that is characterized by *nonrivalry _and* nonexcludability; _a good or service with these characteristics provided by government.

**public interest theory of regulation** The presumption that the purpose of the regulation of an *industry* is to protect the public (consumers) from abuse of the power possessed by *natural monopolies*.

**public investments** Government expenditures on public capital (such as roads, highways, bridges, mass-transitsystems, and elec- tric power facilities) and on *human capital* (such as education, training, and health).

**public sector** The part of the economy that contains all government entities; government.

**public utility** A firm that produces an essential good or service, has obtained from a government the right to be the sole supplier of the good or service in the area, andis regulated by that government to prevent the abuse of its monopoly power.

**purchasing power** The amount of goods and services that amonetary unit of income can buy.

**purchasing power parity** The idea that exchange rates between nations equate the purchasing power of various currencies. Exchange rates between any two nations adjust to reflectthe pricelevel differences between the countries.

**purecompetition** Amarketstructureinwhichaverylargenumber of firms sells a *standardized product,* into which entry is very easy, in which the individual seller hasno control over the product price, and in which there is no nonprice competition; a market characterized by a very large number of buyers and sellers.

**purely competitive labor market** A *resource market* in which many firms compete with one another in hiring a specific kind oflabor, numerous equally qualified workers supply that labor, and no one controls the market wage rate.

**pure monopoly** A market structure in which one firm sells a unique product, into which entry is blocked, in which the single firm has considerable control over productprice, and in which *nonprice competition* may or may not be found.

**pure profit** (See *economic profit*.)

**pure rate of interest** An essentially risk-free, long-term interest rate that is free of the influence of market imperfections.

**quantity demanded** The amount of a good or service that buyers (or a buyer) desire to purchase at a particular price during some period.

**quantity supplied** The amount of a good or service that producers (or a producer) offer to sell at a particular price during some period.

**quasi-public bank** A bank that is privately owned but governmentally (publicly) controlled; each of the U.S. *Federal Reserve Banks*.

**quasi-public good** A good or service to which excludability could apply but that has such a large *positive externality* that government sponsors its production toprevent an underallocation of resources.

**R&D** Research and development activities undertaken to bring about *technological advance*.

**rate of exchange** The price paid in one's own money to acquire 1 unit of a foreign currency; the rate at which the money of one nation is exchanged for the money of anothernation.

**rate of return** The gain in net revenue divided by the cost of an investment or an *R&D* expenditure; expressed as a percentage.

**rational behavior** Human behavior based on comparison of marginal costs and marginal benefits; behavior designed to maximize total utility.

**rational expectations theory** The hypothesis that firms and households expect monetary and fiscal policies to have certain effects on the economy and (in pursuit of their ownself-interests) take actions that make these policies ineffective.

**rationing function of prices** The ability of market forces in competitive markets to equalize *quantity demanded* and *quantity supplied* and to eliminate shortages andsurpluses via changes in prices.

**real-balances effect** The tendency for increases in the *price level* to lower the real value (or purchasing power) of financial assets with fixed money value and, as aresult, to reduce total spending and real output, and conversely for decreases in the price level.

**real-business-cycletheory** Atheorythat*businesscycles_resultfrom changes in technology and resource availability, which affect* productivity _and thus increase ordecrease long-run aggregate supply.

**real capital** (See *capital*.)

**real GDP** (See *real gross domestic product*.)

**real GDP per capita** *Inflation*-adjusted output per person; *real GDP*/population.

**real gross domestic product (GDP)** *Gross domestic product* adjusted for inflation; gross domestic product in a year divided by the GDP *price index* for that year, the index expressed as a decimal.

**real income** The amount of goods and services that can be purchased with *nominal income* during some period of time; nominal income adjusted for inflation.

**real interest rate** The interest rate expressed in dollars of constant value (adjusted for *inflation*) and equal to the *nominal interest rate* less the expected rate of inflation.

**real wage** The amount of goods and services a worker can purchase with his or her *nominal wage;* the purchasing power of the nominal wage.

**recession** A period of declining real GDP, accompanied by lower real income and higher unemployment.

**recessionary expenditure gap** The amount by which the *aggregate expenditures schedule* must shift upward to increase the real *GDP* to its full-employment,noninflationary level.

**Reciprocal Trade Agreements Act** A 1934 Federal law that authorized the president to negotiate up to 50 percent lower tariffs with foreign nations that agreed to reduce their tariffs onU.S. goods. (Such agreements incorporated the *most-favorednation* clause.)

**refinancing the public debt** Selling new government securities to owners of expiring securities or paying them money gained from the sale of new securities to others.

**regressive tax** A tax whose *average tax rate* decreases as the taxpayer's income increases and increases as the taxpayer's income decreases.

**regulatory agency** An agency, commission, or board established by the Federal government or a state government to control the prices charged and the services offered by a *natural monopoly*.

**remittances** Payments by *immigrants* to family members and others located in the origin countries of the immigrants.

**rental income** The payments (income) received by those who supply *land* to the economy.

**renewable natural resources** Things such as forests, water in reservoirs, and wildlife that are capable of growing back or building back up (renewing themselves) if they areharvested at moderate rates.

**rent-seekingbehavior** The actions by persons, firms, or unions to gain special benefits from government at the taxpayers' or someone else's expense.

**repeated game** In *game theory,* a game that is played again sometime after the previous game ends.

**replacement rate** The birthrate necessary to offset deaths in a country and therefore to keep the size of its population constant (without relying on immigration). Formost countries, the replacement rate is about 2.1 births per woman per lifetime.

**requiredreserves** Thefundsthatbanksandthriftsmustdeposit with the *Federal Reserve Bank* (or hold as *vault cash*) to meet the legal _ reserve requirement; _a fixed percentage of the bank's or thrift's checkable deposits.

**reserve ratio** The fraction of *checkable deposits* that a bank must hold as reserves in a *Federal Reserve Bank* or in its own bank vault; also called the *reserve requirement*.

**reserve requirement** The specified minimum percentage of its checkable deposits that a bank or thrift must keep on deposit at the Federal Reserve Bank in its district or holdas *vault cash*.

**resource** A natural, human, or manufactured item that helps produce goods and services; a productive agent orfactor of production.

**resource market** A market in which *households* sell and *firms* buy resources or the services of resources.

**restrictive monetary policy** Federal Reserve system actions to reduce the *money supply*, increase *interest rates, _and reduce* inflation_; a tight moneypolicy.

**revenue tariff** A *tariff* designed to produce income for the Federal government.

**right-to-work law** A state law (in about 22 states) that makes it illegal to require that a worker join a *labor union* in order to retain his or her job; laws thatmake *union shops* and *agency shops* illegal.

**risk** The uncertainty as to the actual future returns of a particular *financial investment* or *economic investment*.

**risk-free interest rate** The *interest rate* earned on short-term U.S. government bonds.

**risk premium** The *interest rate* above the *risk-free* interest rate that must be paid and received to compensate the lender or investor for *risk.*

**rule of reason** The rule stated and applied in the *U.S. Steel case* that only combinations and contracts unreasonably restraining trade are subject to actionsunder the antitrust laws and that size and possession of monopoly power are not illegal.

**rule of 70** A method for determining the number of years it will take for some measure to double, given its annual percentage increase. Example: To determine thenumber of years it will take for the *price level* to double, divide 70 by the annual rate of *inflation*.

**sales and excise taxes** (See *sales tax;* see *excise tax*.)

**sales tax** A tax levied on the cost (at retail) of a broad group of products.

**saving** Disposable income not spent for consumer goods; equal to *disposable income* minus *personal consumption expenditures*.

**savings** The accumulation of funds that results when people in an economy spend less (consume less) than their incomes during a given timeperiod.

**savings account** A deposit in a *commercial bank* or *thrift institution* on which interest payments are received; generally used for saving rather thandaily transactions; a component of the _M_2 money supply.

**savings and loan association (S&L)** A firm that accepts deposits primarily from small individual savers and lends primarily to individuals to finance purchases such as autos and homes; nownearly indistinguishable from a *commercial bank*.

**saving schedule** A schedule that shows the amounts *households* plan to save (plan not to spend for *consumer goods*), at different levels of *disposable income*.

**savings deposit** A deposit that is interest-bearing and that the depositor can normally withdraw at any time.

**savings institution** (See *thrift institution.*)

**Say's law** The largely discredited macroeconomic generaliza- tion that the production of goods and services (supply) creates an equal *demand* for those goods and services.

**scarce resources** The limited quantities of *land, capital, labor,* and *entrepreneurial ability* that are never sufficient to satisfy people's virtuallyunlimited economic wants.

**scientific method** The procedure for the systematic pursuit of knowledge involving the observation of facts and the formulation and testing of hypotheses to obtain theories,principles, and laws.

**secular trend** A long-term tendency; a change in some variable over a very long period of years.

**Security Market Line (SML)** A line that shows the average expected rate of return of all financial investments at each level of *nondiversifiable risk*, the latter measuredby *beta*.

**self-interest** Thatwhicheachfirm,propertyowner,worker,and consumer believes is best for itself and seeks to obtain.

**seniority** The length of time a worker has been employed absolutely or relative to other workers; may be used to determine which workers will be laid off when thereis insufficient work for them all and who will be rehired when more work becomes available.

**self-selection** As it relates to international migration, the idea that those who choose to move tend to have greater motivation for economic gain or greater willingnessto sacrifice current consumption for future consumption than those with similar skills who choose to remain at home.

**separation of ownership and control** The fact that different groups of people own a *corporation* (the stockholders) and manage it (the directors and officers).

**sequential game** In *game theory,* a game in which the parties make their moves in turn, with one party making the first move, followed by the other party making thenext move, and so on.

**service** An (intangible) act or use for which a consumer, firm, or government is willing to pay.

**Sherman Act** The Federal antitrust act of 1890 that makes monopoly and conspiracies to restrain trade criminal offenses.

**shirking** Workers' neglectingor evading work to increase their *utility* or well-being.

**shocks** Sudden, unexpected changes in *demand* (or *aggregate demand* ) or supply (or *aggregate supply*).

**shortage** The amount by which the *quantity demanded* of a product exceeds the *quantity supplied* at a particular (belowequilibrium) price.

**short run** (1) In microeconomics, a period of time in which producers are able to change the quantities of some but not all of the resources they employ; a period inwhich some resources (usually plant) are fixed and some are variable. (2) In macroeconomics, a period in which nominal wages and other input prices donot change in response to a change in the price level.

**short-run aggregate supply curve** An aggregate supply curve relevant to a timeperiod in which input prices (particularly *nominal wages*) do not change in response to changes in the *price level*.

**short-run competitive equilibrium** The price at which the total quantity of a product supplied in the *short run* in a purely competitive industry equals the total quantity of theproduct demanded and that is equal to or greater than *average variable cost*.

**short-run supply curve** A supply curve that showsthe quantity of a product a firm in a purely competitive industry will offer to sell at various prices in the *short run; _the portion of thefirm's short-run marginal cost curve that lies above its* averagevariable-cost _curve.

**shutdown case** The circumstance in which a firm would experience a loss greater than its total *fixed cost* if it were to produce any output greater than zero;alternatively, a situation in which a firm would cease to operate when the *price* at which it can sell its product is less than its *average variable cost*.

**simple multiplier** The *multiplier* in any economy in which government collects no *net taxes,* there are no *imports,* and *investment* isindependent of the level of income; equal to 1 divided by the *marginal propensity to save*.

**simultaneous consumption** The same-time derivation of *utility* from some product by a large number of consumers.

**simultaneous game** In *game theory*, a game in which both parties choose their strategies and execute them at the same time.

**single-tax movement** The political efforts by followers of Henry George (1839-1897) to impose a single tax on the value of land and eliminate all other taxes.

**skill transferability** The ease to which people can shift their work talents from one job, region, or country to another job, region, or country.

**slope of a straight line** The ratio of the vertical change (the rise or fall) to the horizontal change (the run) between any two points on a line. The slope of an upward-slopingline is positive, reflecting a direct relationship between two variables; the slope of a downward-sloping line is negative, reflecting an inverse re-lationship between two variables.

**Smoot-Hawley Tariff Act** Legislation passed in 1930 that established very high tariffs. Its objective was to reduce imports and stimulate the domestic economy, but it resultedonly in retaliatory tariffs by other nations.

**social insurance programs** Programs that replace the earnings lost when people retire or are temporarily unemployed, that are financed by payroll taxes, and that are viewed as earnedrights (rather than charity).

**socially optimal price** The price of a product that results in the most efficient allocation of an economy's resources and that is equal to the *marginal cost* of theproduct.

**socialregulation** Regulationinwhichgovernmentisconcerned with the conditions under which goods and services are produced, their physical characteristics, and the impact oftheir production on society; in contrast to *industrial regulation*.

**Social Security** The social insurance program in the United States financed by Federal payroll taxes on employers and employees and designed to replace a portion of the earnings lost when workers become disabled, retire, or die.

**Social Security trust fund** A Federal fund that saves excessive Social Security tax revenues received in one year to meet Social Security benefit obligations that exceed SocialSecurity tax revenues in some subsequent year.

**sole proprietorship** An unincorporated *firm* owned and operated by one person.

**special-interest effect** Any result of government promotion of the interests (goals) of a small group at the expense of a much larger group.

**specialization** The use of the resources of an individual, a firm, a region, or a nation to concentrate production on one or a small number of goods and services.

**speculation** The activity of buying or selling with the motive of later reselling or rebuying for profit.

**SSI** (See *Supplemental Security Income*.)

**stagflation** Inflation accompanied by stagnation in the rate of growth of output and an increase in unemployment in the economy; simultaneous increases in the *inflation rate* and the *unemployment rate*.

**standardized budget** A comparison of the government expenditures and tax collections that would occur if the economy operated at *full employment* throughout theyear; the full-employment budget.

**standardized product** A product whose buyers are indifferent to the seller from whom they purchase it as long as the price charged by all sellers is the same; a product allunits of which are identical and thus are perfect substitutes for each other.

**Standard Oil case** A 1911 antitrust case in which StandardOil was found guilty of violating the *Sherman Act* by illegally monopolizing the petroleum industry. As a remedy the company was divided intoseveral competing firms.

**start-up (firm)** A new firm focused on creating and introducing a particular new product or employing a specific new production or distribution method.

**state bank** A *commercial bank* authorized by a state government to engage in the business of banking.

**static economy** A hypothetical economy in which the basic forces such as resource supplies, technological knowledge, and consumer tastes are constant and unchanging.

**statisticaldiscrimination** Thepracticeofjudginganindividual on the basis of the average characteristic of the group to which he or she belongs rather than on his or her own personalcharacteristics.

**sticky prices** (See *inflexible prices*.)

**stock (corporate)** An ownership share in a corporation.

**stock options** Contracts that enable executives or other key employees to buy shares of their employers' stock at fixed, lower prices even when the market pricesubsequently rises.

**store of value** An *asset* set aside for future use; one of the three functions of *money*.

**strategic behavior** Self-interested economic actions that take into account the expected reactions of others.

**strategic trade policy** The use of trade barriers to reduce the risk inherent in product development by domestic firms, particularly that involving advanced technology.

**strike** The withholding of labor services by an organized group of workers (a *labor union*).

**structural unemployment** Unemployment of workers whose skills are not demanded by employers, who lack sufficient skill to obtain employment, or who cannot easily move to locationswhere jobs are available.

**subprime mortgage loans** High-interest rate loans to home buyers with above-average credit risk.

**subsidy** A payment of funds (or goods and services) by a government, firm, or household for which it receives no good or service in return. When made by agovernment, it is a *government transfer payment*.

**substitute goods** Products or services that can be used in place of each other. When the price of one falls, the demand for the other product falls; conversely, when theprice of one product rises, the demand for the other product rises.

**substitute resources** Productive inputs that can be used instead of other inputs in the production process; resources for which an increase in the price of one leads to anincrease in the demand for the other.

**substitution effect** (1) A change in the quantity demanded of a *consumer good* that results from a change in its relative expensiveness caused by a change in theproduct's price; (2) the effect of a change in the price of a *resource* on the quantity of the resource employed by a firm, assuming no change inits output.

**sunk cost** A cost that has been incurred and cannot be recovered.

**Supplemental Security Income (SSI)** A federally financed and administered program that provides a uniform nationwide minimum income for the aged, blind, and disabled who do not qualify forbenefits under *Social Security* in the United States.

**supply** A schedule showing the amounts of a good or service that sellers (or a seller) will offer at various prices during some period.

**supply curve** A curve illustrating *supply*.

**supply factor (in growth)** An increase in the availability of a resource, an improvement in its quality, or an expansion of technological knowledge that makes it possible for aneconomy to produce a greater output of goods and services.

**supply schedule** (See *supply*.)

**supply shocks** Sudden, unexpected changes in *aggregate supply.*

**supply-side economics** A view of macroeconomics that emphasizes the role ofcosts and *aggregate supply* in explaining *inflation, unemployment,* and *economic growth*.

**surplus** The amount by which the *quantity supplied* of a product exceeds the *quantity demanded* at a specific (above-equilibrium) price.

**surplus payment** A payment to a resource that is not required to ensure its availability in the production process; for example, land rent.

**tacit understanding** An unspoken, unwritten agreement by an oligopolist to set prices and outputs that does not involve outright (or overt) *collusion. Price leadership* is a frequent example.

**TANF** (See *Temporary Assistance for Needy Families*.)

**tariff** A tax imposed by a nation on an imported good.

**taste-for-discrimination model** A theory that views discrimination as a preference for which an employer is willing to pay.

**tax** An involuntary payment of money (or goods and services) to a government by a *household* or *firm* for which the household or firm receivesno good or service directly in return.

**taxes on production and imports** A *national income accounting* category that includes such taxes as *sales*, *excise*, business property taxes, and_ tariffs _which firms treat as costs of producing a product and pass on (in whole or in part) to buyers by charging a higher price.

**tax incidence** The person or group that ends up paying a tax.

**tax subsidy** A grant in the form of reduced taxes through favor-

able tax treatment. For example, employer-paid health insurance is exempt from Federal income and payroll taxes.

**tax-transfer disincentives** Decreases in the incentives to work, save, invest, innovate, and take risks that result from high *marginal tax rates* and *transfer payments*.

**Taylor rule** A modern monetary rule proposed by economist John Taylor that would stipulate exactly how much the Federal Reserve should change real interest rates inresponse to divergences of real GDP from potential GDP and divergences of actual rates of inflation from a target rate of inflation.

**technological advance** New and better goods and services and new and better ways of producing or distributing them.

**technology** The body of knowledge and techniques that can be used to combine *economic resources* to produce goods and services.

**Temporary Assistance for Needy Families (TANF)** A stateadministered and partly federally funded program in the United States that provides financial aid to poor families; the basic welfare programfor low-income families in the United States; contains time limits and work requirements.

**term auction facility** The *monetary policy* procedure used by the Federal Reserve, in which commercial banks anonymously bid to obtain loans being made available by theFed as a way to expand reserves in the banking system.

**terms of trade** The rate at which units of one product can be exchanged for units of another product; the price of a good or service; the amount of one good or servicethat must be given up to obtain 1 unit of another good or service.

**theoretical economics** The process of deriving and applying economic theories and principles.

**theory of human capital** The generalization that *wage differentials* are the result of differences in the amount of *human capital investment* and that the incomesof lower-paid workers are raised by increasing the amount of such investment.

**thrift institution** A *savings and loan association, mutual savings bank,* or *credit union*.

**till money** (See *vault cash*.)

**time deposit** An interest-earning deposit in a *commercial bank* or *thrift institution* that the depositor can withdraw without penalty after the end ofa specified period.

**time preference** The human tendency for people, because of impatience, to prefer to spend and consume in the present rather than save and wait to spend and consume in thefuture; this inclination varies in strength among individuals.

**time-value of money** The idea that a specific amount of money is more valuable to a person the sooner it is received because the money can be placed in a financial account orinvestment and earn *compound interest* over time; the *opportunity cost* of receiving a sum of money later rather than earlier.

**token money** Bills or coins for which the amount printed on the *currency* bears no relationship to the value of the paper or metal embodied within it; forcurrency still circulating, money for which the face value exceeds the commodity value.**total allowable catch** A limit set by government or a fisheries commission on the total number of fish or tonnage of fish that fishers collectively can harvest during someparticular time period.

**total cost** The sum of *fixed cost* and *variable cost*.

**total demand** The demand schedule or the *demand curve* of all buyers of a good or service; also called market demand.

**total demand for money** The sum of the *transactions demand for money* and the *asset demand for money*.

**total fertility rate** The average total number of children that a woman is expected to have during her lifetime.

**totalproduct(TP)** Thetotaloutputofaparticulargoodorservice produced by a firm (or a group of firms or the entire economy).

**total revenue (TR)** The total number of dollars received by a firm (or firms) from the sale of a product; equal to the total expenditures for the product produced by the firm (or firms); equal to the quantity sold (demanded) multiplied by the price at which it is sold.

**total-revenue test** A test to determine elasticity of *demand* between any two prices: Demand is elastic if *total revenue* moves in the opposite directionfrom price; it is inelastic when it moves in the same direction as price; and it is of unitary elasticity when it does not change when price changes.

**total spending** The total amount that buyers of goods and services spend or plan to spend; also called *aggregate expenditures*.

**total supply** Thesupply schedule or the_ supply curve _of all sellers of a good or service; also called market supply.

**total utility** The total amount of satisfaction derived from the consumption of a single product or a combination of products.

**Trade Adjustment Assistance Act** A U.S. law passed in 2002 that provides cash assistance, education and training benefits, health caresubsidies, and wage subsidies (for persons age 50 or older) to workers displaced by imports or relocations of U.S. plants to other countries.

**trade balance** The export of goods (or goods and services) of a nation less its imports of goods (or goods and services).

**trade bloc** A group of nations that lower or abolish trade barriers among members. Examples include the *European Union* and the nations of the *North American Free Trade Agreement*.

**trade controls** *Tariffs, export subsidies, import quotas,* and other means a nation may employ to reduce *imports* and expand *exports*.

**trade deficit** The amount by which a nation's *imports _of goods (or goods and services) exceed its* exports _of goods (or goods and services).

**trademark** A legal protection that gives the originators of a product an exclusive right to use the brand name.

**trade-off** The sacrifice of some or all of one economic goal, good, or service to achieve some other goal, good, or service.

**trade surplus** The amountby which a nation's *exports* of goods (or goods and services) exceed its *imports* of goods (or goods and services).

**trading possibilities line** A line that shows the different combinations of two products that an economy is able to obtain (con- sume) when it specializes in the production of one product and trades (exports) it to obtain the other product.

**tragedy of the commons** The tendency for commonly owned *natural resources* to be overused, neglected, or degraded because their common ownership gives nobody an incentiveto maintain or improve them.

**transactions demand for money** The amount of money people want to hold for use as a *medium of exchange* (to make payments); varies directly with *nominal GDP*.

**transfer payment** A payment of *money* (or goods and services) by a government to a *household* or *firm* for which the payer receives no good orservice directly in return.

**trough** The point in a *business cycle* at which business activity has reached a temporary minimum; the point at which a *recession* has ended and anexpansion (recovery) begins.

**tying contract** A requirement imposed by a seller that a buyer purchase another (or other) of its products as a condition for buying a desired product; a practiceforbidden by the *Clayton Act*.

**unanticipated inflation** Increases in the price level (*inflation*) at a rate greater than expected.

**underemployment** A situation in which workers are employed in positions requiring less education and skill than they have.

**undistributed corporate profits** After-tax corporate profits not distributed as dividends to stockholders; corporate or business saving; also called retained earnings.

**unemployment** The failure to use all available *economic resources* to produce desired goods and services; the failure of the economy to fully employ its *labor force*.

**unemployment compensation** (See *unemployment insurance*).

**unemployment insurance** The social insurance program that in the United States is financed by state *payroll taxes* on employers and makes income available to workers whobecome unemployed and are unable to find jobs.

**unemployment rate** The percentage of the *labor force* unemployed at any time.

**unfulfilled expectations** Situations in which households and businesses were expecting one thing to happen but instead find that something else has happened; unrealizedanticipations or plans relating to future economic conditions and outcomes.

**uninsurable risk** An event that would result in a loss and whose occurrence is uncontrollable and unpredictable. Insurance companies are not willing to sell insuranceagainst such a loss.

**union** (See *labor union.*)

**unionization rate** The percentage of a particular population of workers that belongs to *labor unions;* alternatively, the percentage of the population of workers whomunions represent in *collective bargaining*.

**union shop** A place of employment where the employer may hire either *labor union* members or nonmembers but where nonmembers must become members within aspecified period of time or lose their jobs.

**unit elasticity** Demand or supply for which the *elasticity coefficient* is equal to 1; means that the percentage change in the quantity demanded or supplied isequal to the percentage change in price.

**unit labor cost** Labor cost per unit of output; total labor cost divided by total output; also equal to the *nominal wage* rate divided by the *average product* of labor.

**unit of account** A standard unit in which prices can be stated and the value of goods and services can be compared; one of the three functions of *money*.

**unlimited liability** Absence of any limits on the maximum amount that an individual (usually a business owner) may become legally required to pay.

**unlimited wants** The insatiable desire of consumers for goods and services that will give them satisfaction or *utility*.

**unplanned changes in inventories** Changes in inventories that firms did not anticipate; changes in inventories that occur because ofunexpected increases or decreases of aggregate spending (or of *aggregate expenditures*).

**unplanned investment** Actual investment less *planned investment;* increases or decreases in the *inventories* of firms resulting from production greater thansales.

**Uruguay Round** A 1995 trade agreement (fully implemented in 2005) that established the *World Trade Organization (WTO),* liberalized trade in goods and services,provided added protection to intellectual property (for example, *patents* and *copyrights*), and reduced farm subsidies.

**user cost** The *opportunity* cost of extracting and selling a nonrenewable resource today rather than waiting to extract and sell the resource in the future;the *present value* of the decline in future revenue that will occur because a nonrenewable resource is extracted and sold today rather than beingextracted and sold in the future.

**U.S. securities** U.S. Treasury bills, notes, and bonds used to finance *budget deficits*; thecomponents of the *public debt*.

**U.S. Steel case** The antitrust action brought by the Federal government against the U.S. Steel Corporation in which the courts ruled (in 1920) that only unreasonablerestraints of trade were illegal and that size and the possession of monopoly power were not violations of the antitrust laws.

**usury laws** State laws that specify the maximum legal interest rate at which loans can be made.

**utility** The want-satisfying power of a good or service; the satisfaction or pleasure a consumer obtains from the consumption of a good or service (or from theconsumption of a collection of goods and services).

**utility-maximizing rule** The principle that to obtain the greatest *utility,* the consumer should allocate *money income* so that the last dollar spent on each goodor service yields the same marginal utility.

**value added** The value of the product sold by a *firm* less the value of the products (materials) purchased and used by the firm to produce the product.

**value-added tax** A tax imposed on the difference between the value of the product sold by a firm and the value of the goods purchased from other firms to produce theproduct; used in several European countries.

**value judgment** Opinion of what is desirable or undesirable; belief regarding what ought or ought not to be (regarding what is right (or just) or wrong (or unjust)).

**value of money** The quantity of goods and services for which a unit of money (a dollar) can be exchanged; the purchasing power of a unit of money; the reciprocal of the *price index*.

**variable cost** A cost that in total increases when the firm increases its output and decreases when the firm reduces its output.

**VAT** (See *value-added tax*.)

**vault cash** The *currency* a bank has in its vault and cash drawers.

**velocity** The number of times per year that the average dollar in the *money supply* is spent for *final goods and services;* nominal GDP divided bythe money supply.

**venture capital** (Web chapter) That part of household saving used to finance high-risk business enterprises in exchange for shares of the profit if the enterprise succeeds.

**vertical axis** The “up-down” or “north-south” measurement line on a graph or grid.

**vertical integration** A group of *plants* engaged in different stages of the production of a final product and owned by a single *firm*.

**vertical intercept** The point at which a line meets the vertical axis of a graph.

**vertical merger** The merger of one or more *firms* engaged in different stages of the production of a final product.

**very long run** A period in which *technology* can change and in which *firms* can introduce new products.

**vicious circle of poverty** (Web chapter) A problem common in some *developing countries* in which their low *per capita incomes* are an obstacle to realizing the levelsof saving and investment needed to achieve rates of growth of output that exceed their rates of population growth.

**voice mechanism** Communication by workers through their union to resolve grievances with an employer.

**voluntary export restrictions (VER)** Voluntary limitations by countries or firms of their exports to a particular foreign nation to avoid enactment of formal trade barriers by that nation.

**wage** The price paid for the use or services of *labor* per unit of time (per hour, per day, and so on).

**wage differential** The difference between the *wage* received by one worker or group of workers and that received by another worker or group of workers.

**wage rate** (See *wage*.)

**wages** The income of those who supply the economy with *labor*.

**wealth** Anything that has value because it produces income or could produce income. Wealth is a stock; *income* is a flow. Assets less liabilities; networth.

**wealth effect** The tendency for people to increase their consumption spending when the value of their financial and real assets rises and to decrease theirconsumption spending when the value of those assets falls.

**welfare programs** (See *public assistance programs*.)

**Wheeler-Lea Act** The Federal act of 1938 that amended the *Federal Trade Commission Act* by prohibiting and giving the commission power to investigate unfair anddeceptive acts or practices of commerce (such as false and misleading advertising and the misrepresentation of products).

**"will to develop"** (Web chapter) The state of wanting *economic growth* strongly enough to change from old to new ways of doing things.

**World Bank** A bank that lends (and guarantees loans) to developing nations to assist them in increasing their *capital stock* and thus in achieving *economic growth.*

**world price** The international market price of a good or service, determined by world demand and supply.

**World Trade Organization (WTO)** An organization of 153 nations (as of fall 2008) that oversees the provisions of the current world trade agreement, resolves trade disputes stemming from it, and holds forumsfor further rounds of trade negotiations.

**WTO** (See *World Trade Organization*.)

**X-inefficiency** The production of output, whatever its level, at a higher average (and total) cost than is necessary for producing that level of output.

**zero-sum game** In *game theory*, a game in which the gains (□) and losses (□) add up to zero; one party's gain equals the other party's loss.