

Note: Terms set in *italic* type are defined separately in this glossary.

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).

absolute advantage A situation in which a person or country can produce more of a particular product from a specific quantity of resources than some other person or country.

accounting profit The *total revenue* of a *firm* less its *explicit costs*; the profit (or net income) that appears on accounting statements and that is reported to the government for tax purposes.

acreage allotments A pre-1996 government program that limited the total number of acres to be used in producing (reduced amounts of) various food and fiber products and 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 high returns.

actual investment The amount that *firms* invest; equal to *planned investment* plus *unplanned investment* (which may be negative).

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 major costs. 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 United States.

agency shop A place of employment where the employer may hire either *labor union* members or nonmembers but where those employees who do not join the union must either pay 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 unit. Examples: the *prices* of all individual *goods* and *services* are combined into the *price level*, and 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* that would be demanded (purchased) at various *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* (*real gross domestic product*).

aggregate expenditures The total amount spent for *final goods* and *final 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*.

aggregate expenditures model The *macroeconomics* model developed by John Maynard Keynes that assumes completely *inflexible prices*, thereby forcing the economy to adjust toward an *equilibrium real domestic output* by a process in which *firms*, reacting to unexpected changes in *inventory* levels, adjust the volume of output until the *aggregate expenditures* made on *final goods* and *final services* just equal the amount of output being produced in the economy.

aggregate expenditures schedule A table of numbers showing the total amount spent on *final goods* and *final services* at different levels of *real gross domestic product* (*real GDP*).

aggregate supply A schedule or curve showing the total quantity of *goods* and *services* that would be supplied (produced) at various *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.

Alcoa case A 1945 case in which the courts ruled that the possession of monopoly power, no matter how reasonably that power had been used, was a violation of the antitrust laws; 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 each product 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.

anchoring The tendency people have to unconsciously base, or "anchor," the valuation of an item they are currently thinking about on recently considered but logically irrelevant information.

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 (of the dollar) An increase in the value of the dollar relative to the currency of another nation, so a dollar buys a larger amount of the foreign currency and thus of foreign goods.

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

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 under- or over-allocation 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 (APC) Fraction (or percentage) of *disposable income* that *households* spend on *consumer goods*; 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 all units of the product are sold at the same price.

average tax rate Total tax paid divided by total *taxable income* or some other base (such as total income) against which to compare the amount of tax paid. Expressed 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).

backflows The return of workers to the countries from which they originally emigrated.

balance of payments A summary of all the financial transactions that take place between the individuals, *firms*, and governmental units of one nation and those of all other nations during a year.

balance-of-payments deficit The net amount of *official reserves* (mainly foreign currencies) that a nation's treasury or central bank must sell to achieve balance between that nation's

capital and financial account and its *current account* (in its *balance of payments*).

balance-of-payments surplus The net amount of *official reserves* (mainly foreign currencies) that a nation's treasury or central bank must buy to achieve balance between that nation's *capital and financial account* and its *current account* (in its *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* in a 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, a bankruptcy judge can order the individual 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 direct exchange of one *good* or *service* for another good or service.

base year The year with which other years are compared when an 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.

behavioral economics The branch of economic theory that combines insights from economics, psychology, and biology to make more accurate predictions about human behavior than conventional *neoclassical economics*, which is hampered by its core assumptions that people are fundamentally *rational* and almost entirely self-interested. Behavioral economics can explain *framing effects*, *anchoring*, *mental accounting*, the *endowment effect*, *status quo bias*, *time inconsistency*, and *loss aversion*.

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 A relative measure of *nondiversifiable risk* that measures how the nondiversifiable risk of a given *asset* or *portfolio* compares with that of 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 Reserve System*; 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 specific dates in the future.

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-even output Any output at which a (competitive) *firm's* *total cost* and *total revenue* are equal; an output at which a firm has neither an *economic profit* nor an economic 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.

budget constraint The limit that the size of a consumer's income (and the *prices* that must be paid for *goods* and *services*) imposes on the ability of that consumer to obtain goods and services.

budget deficit The amount by which expenditures exceed 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 reduces its 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.

businesses Economic entities (*firms*) that purchase resources and provide *goods* and *services* to the economy.

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 the rights 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 called capital goods. One of the four *economic resources*.

capital and financial account The section of a nation's *international balance of payments* that records (1) debt forgiveness 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, or higher rates of *inflation*, or simply to realize greater returns on *financial investments*.

capital gain The gain realized when *securities* or properties or other assets 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 total available *capital* in a nation.

capital-using technology (Web chapter) An improvement in *technology* that requires the use of 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 properties 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 (or countries) 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 law of 1950 that amended the *Clayton Act* by prohibiting the acquisition of the assets of one *firm* by another firm when the effect would be less competition.

central bank A bank whose chief function is the control of the nation's *money supply*; in the United States, 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 movement of an entire *demand curve* or schedule such that the *quantity demanded* changes at every particular *price*; caused by a change in one or more of the *determinants of demand*.

change in quantity demanded A change in the *quantity demanded* along a fixed *demand curve* (or within a fixed demand schedule) as a result of a change in the *price* of the product.

change in quantity supplied A change in the *quantity supplied* along a fixed *supply curve* (or within a fixed supply schedule) as a result of a change in the product's *price*.

change in supply A movement of an entire *supply curve* or schedule such that the *quantity supplied* changes at every particular *price*; caused by a change in one or more of the *determinants of supply*.

Change to Win A loose federation of American unions that includes the Service Workers and Teamsters unions; the second largest union federation after the *AFL-CIO*.

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 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 are accompanied by reverse flows of money from firms to households and from households to firms.

Clayton Act The federal antitrust law of 1914 that strengthened the *Sherman Act* by making it illegal for *firms* to engage in certain specified practices including *tying contracts*, *interlocking directorates*, and certain forms of *price discrimination*.

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 among the affected parties.

cognitive biases Misperceptions or misunderstandings that cause *systematic errors*. Most result either (1) from *heuristics* that are prone to *systematic errors* or (2) because the brain is attempting to solve a type of problem (such as a calculus problem) for which it was not evolutionarily evolved and for which it has little innate capability.

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 that the second trader wishes to acquire is the same as that which the first trader desires to surrender.

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

collective-action problem The idea that getting a group to pursue a common, collective goal gets harder the larger the group's size. Larger groups are more costly to organize and their members more difficult to motivate because the larger the group, the smaller each member's share of the benefits if the group succeeds.

collective bargaining The negotiation of labor contracts between *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 presses management 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 and coordinate economic activities; *socialism*; communism. Compare with *market system*.

commercial bank A *firm* that engages in the business of banking (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 country 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 the nonmonetary differences between 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 effort and striving between two or more independent rivals to secure the business of one or more third parties by offering the best possible terms.

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 curve that

shows the total quantities collectively 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 an increase 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 not withdrawn.

concentration ratio The percentage of the total sales of an *industry* made by the four (or some other number) largest sellers in 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 two *firms* operating in separate industries or separate geographic areas so that neither firm is a supplier, customer, or competitor of the other; any merger that is neither a *horizontal merger* nor a *vertical merger*.

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

constant-cost industry An *industry* in which the entry and exit of *firms* have no effect on the *prices* firms in the industry must pay for resources and thus no effect on production costs.

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

constant returns to scale The situation when a firm's *average total cost* of producing a product remains unchanged in the *long run* as the firm varies the size of its *plant* (and, hence, its output).

consumer equilibrium In marginal utility theory, the combination of goods purchased that maximizes *total utility* by applying the *utility-maximizing rule*. In indifference curve analysis, the combination of goods purchased that maximizes *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 The 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; the triangular 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 table of numbers showing the amounts *households* plan to spend for *consumer goods* at different levels of *disposable income*.

contractionary fiscal policy A decrease in *government purchases* of *goods* and *services*, an increase in *net taxes*, or some combination of the two, for the purpose of decreasing *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 of macroeconomic instability.

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

copyright A legal protection provided to developers and publishers of books, computer software, videos, and musical compositions against the unauthorized copying of their works by others.

core inflation The underlying increases in the *price level* after volatile food and energy *prices* are removed.

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 or companies to secure advantages in obtaining government contracts, avoiding government regulations, or obtaining inside knowledge about forthcoming policy changes.

cost-benefit analysis A comparison of the *marginal costs* of a project or program with the *marginal benefits* to decide whether or not to employ resources 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; often included in *collective bargaining* agreements between *firms* and *unions*. Cost-of-living adjustments are also guaranteed by law for *Social Security* benefits and certain other government *transfer payments*.

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*).

counter-cyclical payments (CCPs) Cash *subsidies* paid to farmers when market *prices* for certain crops drop below targeted prices. Payments are based on previous production and are 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 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 you do this, we will do that."

credit An accounting entry that either increases the value of an *asset* or reduces the value of a *liability* (by acting as a deduction from an amount already owed).

credit union A financial institution that provides many of the same services as a *commercial bank*, including checkable deposits, but only to members, who own the credit union and who share a common tie (such as being employees of the same *firm* or members of the same labor union).

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 positive coefficient 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 forced them 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 from severe recession.

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

cyclically adjusted budget The estimated annual budget deficit or surplus that would occur under existing tax rates and

government spending levels if the the economy were to operate at its *full-employment* level of GDP for a year; the *full-employment* budget deficit or surplus.

cyclical unemployment A type of *unemployment* caused by insufficient total spending (insufficient *aggregate demand*) and which typically begins in the *recession* phase of the *business cycle*.

deadweight loss (See *efficiency loss*.)

debit An accounting entry that either decreases the value of an *asset* or increases the value of a *liability* (by increasing the size of an amount already owed).

debt crisis An economic crisis in which government debt has risen so high that the government is unable to borrow any more money due to people losing faith in the government's ability to repay. Leads to either massive spending cuts or large tax increases, either of which will likely plunge the economy into a *recession*.

declining industry An *industry* whose total output is declining because negative *economic profits* lead many *firms* to exit the industry.

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 decreases their 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 later malpractice suits.

deflating The process of using a *price index* to decrease (deflate) a given year's *nominal gross domestic product* down to the smaller value of its *real gross domestic product*; only applicable if the given year's *price level* is higher than the price level that prevailed during the price index's *base year*. Compare with *inflating*.

deflation A decline in the general level of *prices* in an economy; a decline in an economy's *price level*.

demand A schedule or curve that shows the various amounts of a product that consumers are willing and able to purchase at each of a series of possible *prices* during a specified period of time.

demand curve A curve that illustrates the *demand* for a product by showing how each possible *price* (on the *vertical axis*) is associated with a specific *quantity demanded* (on the *horizontal axis*).

demand factor (in growth) The requirement that *aggregate demand* increase as fast as *potential output* if *economic growth* is to proceed as quickly as possible.

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 increases in *aggregate demand*.

demand schedule A table of numbers showing the amounts of a *good* or *service* buyers are willing and able to purchase at various *prices* over a specified period of time.

demand shocks Sudden, unexpected changes in demand.

demand-side market failures Underallocations of resources that occur when private demand curves understate consumers' full willingness to pay for a *good* or *service*.

demographers Scientists who study the characteristics of human populations.

demographic transition (Web chapter) The massive decline in birth rates that occurs once a developing country achieves higher standards of living because the perceived marginal cost of additional children begins to exceed the perceived marginal benefit.

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 foreign goods.

deregulation The removal of most or even all of the government regulation and laws designed to supervise an industry. Sometimes undertaken to combat *regulatory capture*.

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 demand curve.

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*. Also referred to as "demand shifters" because changes in the determinants of demand will cause the *demand curve* to shift either right or left.

determinants of supply Factors other than *price* that determine the quantities supplied of a *good* or *service*. Also referred to as "supply shifters" because changes in the determinants of supply will cause the *supply curve* to shift either right or left.

developing countries (Web chapter) 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, relatively 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 each patient's condition and needs.

dictator game A mutually anonymous behavioral economics game in which one person ("the dictator") unilaterally determines how to split an amount of money with the second player.

differentiated oligopoly An *oligopoly* in which *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 to the 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 trade-off 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* does not 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; a permanent transfer payment 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; a 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 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, or working 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 nonpreferred worker of the same ability.

diseconomies of scale The situation when a firm's *average total cost* of producing a product increases in the *long run* as the firm increases the size of its *plant* (and, hence, its output).

disinflation A reduction in the rate of *inflation*.

disposable income (DI) *Personal income* less personal taxes; income available for *personal consumption expenditures* and *personal saving*.

dissaving Spending for *consumer goods* 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 Development Agenda The latest, uncompleted (as of late 2013) sequence of trade negotiations by members of the *World Trade Organization*; named after Doha, Qatar, where the set of negotiations began. Also called the Doha Round.

dollar votes The "votes" that consumers cast for the production of preferred products when they purchase those products rather than the alternatives that were also available.

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

domestic output *Gross* (or net) *domestic product*; the total output of *final goods* and *final 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 for a player than any other alternative option regardless of what the player's opponent(s) may do.

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 a monopoly in the narrowly defined market for cellophane, it did not monopolize the more broadly defined market for flexible packaging materials. It was thus not guilty of violating the *Sherman Act*.

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

earmarks Narrow, specially designated spending authorizations placed in broad legislation by senators and representatives for the purpose of providing benefits to *firms* and organizations within their constituencies. Earmarked projects are exempt from competitive bidding and normal evaluation procedures.

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 attract the resource away from an alternative use; equal to the quantity of other products that cannot be produced when resources are instead used to make a particular 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 from one country to another to obtain economic gains such as better employment opportunities.

economic investment (See *investment*.)

economic law An *economic principle* that 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 with their actions.

economic policy A course of action intended to correct or avoid a problem.

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

economic profit The return flowing to those who provide the economy with the *economic resource* of *entrepreneurial ability*; 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 that are in fixed (*perfectly inelastic*) supply.

economic resources The *land*, *labor*, *capital*, and *entrepreneurial ability* that are used to produce *goods* and *services*; the *factors of 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 *market 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 The situation when a firm's *average total cost* of producing a product decreases in the *long run* as the firm increases the size of its *plant* (and, hence, its output).

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

efficiency factor (in growth) The capacity of an economy to achieve *allocative efficiency* and *productive efficiency* and thereby fulfill the potential for growth that the *supply factors (of growth)* make possible; the capacity of an economy to achieve *economic efficiency* and thereby reach the optimal point on its *production possibilities curve*.

efficiency gains from migration The increases in total worldwide output that take place if the additions to output from *immigration* in the destination nation exceed 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 *dead-weight 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 *dead-weight loss* of the tax.

efficiency wage An above-market (above-equilibrium) *wage* that minimizes wage costs per unit of output by encouraging greater effort or reducing turnover.

efficient allocation of resources That distribution of society's scarce *resources* that produces the socially optimal mix of output; *allocative efficiency*.

elastic demand Product or resource demand whose *price elasticity of demand* is greater than 1, so that any given percentage change in *price* leads to a larger percentage change in *quantity demanded*. As a result, quantity demanded is relatively sensitive to (elastic with respect to) price.

elasticity coefficient The number obtained when the percentage change in *quantity demanded* (or supplied) of a product or resource is divided by the percentage change in its *price*.

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 the quantity demanded of the *resource* divided by the percentage change in its *price*.

elastic supply Product or resource supply whose *price elasticity of supply* is greater than 1, so that the resulting percentage change in *quantity supplied* is greater than the percentage change in *price*. As a result, quantity supplied is relatively sensitive to (elastic with respect to) price.

Electronic Benefit Transfer (EBT) cards Debit cards used by the federal government to deliver food money to low-income recipients as part of the *Supplemental Nutrition Assistance Program (SNAP)*. The same cards are also used by some states to deliver the benefits issued by a variety of additional *public assistance programs*.

electronic payments Purchases made by transferring funds electronically. Examples include credit cards, debit cards, *Electronic Benefit Transfer (EBT) cards*, Fedwire transfers, automated clearinghouse transactions (ACHs), payments via the PayPal system, and payments made through stored-value cards.

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

employer mandate The requirement under the *Patient Protection and Affordable Care Act (PPACA)* of 2010 that firms with 50 or more employees pay for insurance policies for their employees or face a fine of \$2,000 per employee per year. Firms with fewer than 50 employees are exempt.

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 recipient because the threat is not viewed as being believable; compare to *credible threat*.

endowment effect The tendency people have to place higher valuations on items they possess (are endowed with) than on identical items that they do not possess; perhaps caused by *loss aversion*.

entitlement programs Government programs such as *social insurance*, *Medicare*, and *Medicaid* that guarantee (entitle) particular levels of transfer payments or noncash benefits to all who fit the programs' criteria.

entrepreneurial ability The human resource that combines the other *economic resources* of *land*, *labor*, and *capital* to produce new products or make innovations in the production of existing products; provided by *entrepreneurs*.

entrepreneurs Individuals who provide *entrepreneurial ability* to *firms* by setting strategy, advancing innovations, and bearing the financial risk if their firms do poorly.

equality-efficiency trade-off The decrease in *economic efficiency* that may accompany a decrease in *income inequality*; the presumption that some income inequality is required 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 *final 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 a shortage nor a surplus, and there is no tendency for price to rise or fall.

equilibrium price level In the *aggregate demand–aggregate supply (AD–AS) model*, the *price level* at which *aggregate demand* equals *aggregate supply*; the price level at which the aggregate demand curve intersects the aggregate supply curve.

equilibrium quantity (1) The quantity at which the intentions of buyers and sellers in a particular market match at a particular *price* such that the *quantity demanded* and the *quantity supplied* are equal; (2) the profit-maximizing output of a *firm*.

equilibrium real domestic output The *gross domestic product* at which the total quantity of *final goods* and *final services* purchased (*aggregate expenditures*) is equal to the total quantity of *final goods* services produced (the real domestic output); the real domestic output at which the aggregate demand curve intersects the 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 by exporters; the price determined at the intersection of the export supply curve and the import demand curve.

euro The common *currency* unit used by 17 European nations (as of mid-2013) in the *eurozone*, which consists of Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

European Union (EU) An association of 28 European nations (as of mid-2013) that has eliminated tariffs and quotas among them, established common tariffs for imported goods from outside the member nations, eliminated barriers to the free movement of capital, and created other common economic policies.

eurozone The 17 nations (as of 2013) of the 28-member (as of 2013) *European Union* that use the *euro* as their common *currency*. The eurozone countries are Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

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

excess reserves The amount by which a *commercial bank's* or *thrift institution'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* with 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* with 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.

excludability The characteristic of a *private good*, for which the seller can keep nonbuyers from obtaining the good.

exclusive unionism The policy, pursued by many *craft unions*, in which a *union* first gets employers to agree to hire only union workers and then excludes many workers from joining the union so as to restrict the supply of labor and drive up wages. Compare with *inclusive unionism*. The policies typically 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* and *services* those resources produce; a *government purchase*.

exit mechanism The method of resolving workplace dissatisfaction by quitting one's job and searching for another.

expanding industry An *industry* whose total output is increasing because positive *economic profits* lead many *firms* to enter the industry.

expansion The 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 of increasing *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 (*R&D*); expressed as a percentage of the 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 of *R&D* expenditure, from an additional dollar spent on *R&D*.

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

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

explicit cost The monetary payment made by a *firm* to an outsider to obtain a *resource*.

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

export subsidy A government payment to a domestic producer to enable the *firm* 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 that accrues to someone other than the immediate buyers and sellers of the product being produced or consumed (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 numerical value printed or inscribed on coins or paper money.

factors of production The four *economic resources*: *land*, *labor*, *capital*, and *entrepreneurial ability*.

fairness A person's opinion as to whether a price, wage, or allocation is considered morally or ethically acceptable.

fair-return price For *natural monopolies* subject to rate (*price*) regulation, the price that would allow the regulated monopoly to earn a *normal profit*; a price equal to *average total cost*.

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 dominant *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 the deposit liabilities (up to \$250,000 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 that U.S. 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 within the *Federal Reserve System* that decides U.S. *monetary policy* and how it is executed through *open-market operations* (in which the Fed buys and sells U.S. government securities to adjust the *money supply*.)

Federal Reserve Banks The 12 banks chartered by the U.S. government that collectively act as the *central bank* of the United States. They set monetary policy and regulate the private banking system under the direction of the *Board of Governors* and the *Federal Open Market Committee*. Each of the 12 is a *quasi-public bank* and acts as a *banker's bank* in its designated geographic region.

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 the lending 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, to hold hearings on the complaints of such practices, and to issue *cease-and-desist orders* when firms are found to engage in such practices.

Federal Trade Commission Act The federal law 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.

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

final goods Goods that have been purchased for final use (rather than 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 the building 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*, *thrift institutions*, insurance companies, 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 full employment, price stability, and economic growth; 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.

fishery collapse A rapid decline in a *fishery's* population because its 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.

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* that is determined by the international demand for and supply of a nation's money and that is consequently free to rise or fall because it is not subject to *currency interventions*. Also referred to as a "floating exchange rate."

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 three types of agricultural subsidies: *direct payments*, *counter-cyclical payments*, and the *marketing loan program*.

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

foreign competition (See *import competition*.)

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

foreign exchange controls Restrictions that a government may impose over the quantity of foreign currency demanded by its citizens and *firms* and over the *rate of exchange* as a way to limit the nation's quantity of *outpayments* relative to its quantity of *inpayments* (in order 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; a currency market.

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

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

45° (degree) line The reference line in a two-dimensional graph that shows equality between the variable measured on the *horizontal axis* and the variable measured on the *vertical axis*. In the *aggregate expenditures model*, the line along which the value of output (measured horizontally) is equal to the value of *aggregate expenditures* (measured vertically).

forward commitment A policy statement by a *central bank* indicating that it will continue to pursue a *monetary policy* action until a certain date is reached or until some particular threshold has been reached (for instance, the unemployment rate falling below, say, seven percent).

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

fractional reserve banking system A system in which *commercial banks* and *thrift institutions* hold less than 100 percent of their checkable-deposit liabilities as reserves of *currency* held in bank vaults or as deposits at the *central bank*.

framing effects In *prospect theory*, changes in people's decision making caused by new information that alters the context, or "frame of reference," that they use to judge whether options are viewed as gains or losses relative to the *status quo*.

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 are qualified, 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 their products 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 forms of compensation other than *wages* that employees receive from their employers. Includes pensions, medical and dental insurance, paid vacation, and sick leave.

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 equal to the *full-employment rate of unemployment*; there exist *frictional unemployment* and *structural unemployment* but not *cyclical unemployment*; and *real GDP* equals *potential output*.

full-employment rate of unemployment The *unemployment rate* at which there is no *cyclical unemployment* of the *labor force*; equal to between 5 and 6 percent in the United States because some *frictional* and *structural unemployment* are 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); the division 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 *interest* earned on the amount is left to compound over time. (See *compound interest*.)

G8 nations A group of eight major nations (Canada, France, Germany, Italy, Japan, Russia, United Kingdom, and United States) whose leaders meet regularly to discuss common economic problems and ways in which they might coordinate economic policies.

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

game theory The study of how people behave in strategic situations in which individuals must take into account not only their own possible actions but also the possible reactions of others. Originally developed to analyze the best ways to play games like poker and chess.

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*.

General Agreement on Tariffs and Trade (GATT) The international agreement reached in 1947 in which 23 nations agreed to eliminate *import quotas*, negotiate reductions in *tariff* rates, and give each other equal and nondiscriminatory treatment. It now includes most nations and has become the *World Trade Organization*.

Gini ratio A numerical measure of the overall dispersion of income among *households*, families, or individuals; found graphically by dividing the area between the diagonal 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 fixed relationships between their stocks of gold and their money supplies, and allowed gold to be freely exported and imported.

good Merchandise; an article of trade; a manufactured item offered for sale to consumers.

government failure Inefficiencies in resource allocation caused by problems in the operation of the *public sector* (government). Specific examples include the *principal-agent problem*, the *special-interest effect*, the *collective-action problem*, *rent seeking*, and *political corruption*.

government purchases (G) Expenditures by government for *goods* and *services* that government consumes in providing public services as well as expenditures for publicly owned capital that

has a long lifetime; the expenditures of all governments in the economy for those *final goods* and *final services*.

government transfer payment Any disbursement of money by the government for which the government receives no currently produced *good* or *service* in return. Includes payments made by *public assistance programs* ("welfare") and *Social Security*.

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 between them.

gross domestic product (GDP) The total market value of all *final goods* and *final services* produced annually within the boundaries of a nation.

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 time period.

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 or others who are insured.

health savings accounts (HSAs) Tax-free savings accounts into which people with high-deductible health insurance plans can place funds each year. Accumulated funds can be used to pay out-of-pocket medical expenses such as *deductibles* and *copayments*. Unused funds accumulate from year to year and can be used after retirement to supplement *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 individual *firms* in the industry.

heuristics The brain's low-energy mental shortcuts for making decisions. They are "fast and frugal" and work well in most situations but in other situations result in *systematic errors*.

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

horizontal axis The "left-right" or "west-east" measurement line on a 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.

households Economic entities (of one or more persons occupying a housing unit) that provide *resources* to the economy and use the *income* received to purchase *goods* and *services* that satisfy economic wants.

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

human capital investment Any expenditure to improve the education, skills, health, or mobility of workers; normally undertaken with an expectation of greater productivity and thus a positive 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 to determine whether or not it is true.

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 the originator's profit from *R&D* and *innovation*.

immediate market period The length of time during which the producers of a product are unable to change the quantity supplied in response to a change in price and in which there is a *perfectly inelastic supply*.

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

immigration The inflow of people into a country from another country. The immigrants may be either *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 the market; equal to what the resource could have earned in the best-paying 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 downsloping curve 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 the citizens, *firms*, or government of a nation.

incentive function 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 the inducement 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 plans*.

inclusive unionism The policy, pursued by *industrial unions*, in which a *union* attempts to include every worker in a given *industry* so as to be able to restrict the entire industry's labor supply and thereby raise wages. Compare with *exclusive unionism*.

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 *final 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's *price*.

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 of consumer 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. Caused by a change in one or more of the *determinants of demand*.

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. Caused by a change in one or more of the *determinants of supply*.

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* and therefore 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.

independent goods Products or *services* for which there is little or no relationship between the *price* of one and the *demand* for the other. When the price of one rises or falls, the demand for the other tends to remain constant.

independent unions U.S. unions that are not affiliated with the AFL-CIO or *Change to Win*.

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

index funds *Mutual funds* whose *portfolios* exactly match a stock or bond index (a collection of *stocks* or *bonds* meant to capture the overall behavior of 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 (ITQs) Limits (quotas) set by a government or a fisheries commission on the total number or total weight of a species that an individual fisher can harvest during some particular time period; fishers can sell (transfer) the right to use all or part of their respective individual quotas to other fishers.

industrially advanced countries (Web chapter) 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 in specific *industries*. Differs from *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 *price elasticity of demand* is less than 1, so that any given percentage change in *price* leads to a smaller percentage change in *quantity demanded*. As a result, quantity demanded is relatively insensitive to (inelastic with respect to) price.

inelastic supply Product or resource supply for which the *price elasticity of supply* is less than 1, so that the resulting percentage

change in *quantity supplied* is smaller than the percentage change in *price*. As a result, quantity supplied is relatively insensitive to (inelastic with respect to) price.

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

inflating The process of using a *price index* to increase (inflate) a given year's *nominal gross domestic product* up to the larger value of its *real gross domestic product*; only applicable if the given year's *price level* is lower than the price level that prevailed during the price index's *base year*. Compare with *deflating*.

inflation A rise in the general level of *prices* in an economy; an increase in an economy's *price level*.

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

inflationary expenditure gap In the *aggregate-expenditures model*, the amount by which the *aggregate expenditures schedule* must shift downward to decrease the *nominal GDP* to its full-employment noninflationary 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 to achieve 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 the use of computers, Wi-Fi networks, wireless phones, and the Internet.

infrastructure The interconnected network of large-scale *capital goods* (such as roads, sewers, electrical grids, railways, ports, and the Internet) needed to operate a technologically advanced economy.

injection An addition of spending into the income-expenditure stream: any increment to *consumption*, *investment*, *government purchases*, or *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 or persons; 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. Also called a noncash transfer because ordinary *transfer payments* are transfers of *money* rather than goods and services.

innovation (Web chapter) The first commercially successful introduction of a new product, use of a new method of production, or creation of a new form of business organization.

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, as investment 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 may refuse to work cooperatively with previously unemployed workers ("outsiders") who offer to work for less than the current wage.

insurable risk An eventuality for which both the frequency and magnitude of potential losses can be estimated with considerable accuracy. Insurance companies are willing to sell insurance against such risks.

insurance exchanges Government-regulated markets for health insurance in which individuals seeking to purchase health insurance to comply with the *personal mandate* of the *Patient Protection and Affordable Care Act (PPACA)* of 2010 will be able to comparison shop among insurance policies approved by regulators. Each state will have its own exchange.

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

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

interest on reserves The payment by a *central bank* of *interest* on the deposits (*required reserves* plus *excess reserves*, if any) held by *commercial banks* at the central bank.

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* a *firm* must pay to obtain any particular 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 and real 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 (See *balance of payments*.)

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

international balance-of-payments surplus (See *balance-of-payments 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

balance of payments deficits and, until the early 1970s, manage the international system of pegged exchange rates agreed upon at the Bretton Woods conference. It now mainly makes loans to nations facing possible defaults on private and government loans.

international monetary reserves The foreign currencies and other assets such as gold that a nation can use to settle a *balance-of-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 A choice between the benefits obtainable in one time period and the benefits obtainable in a later time period; the comparisons that individuals and society must make between the reductions in current consumption that are necessary to fund current investments and the higher levels of future consumption that those current investments will produce.

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

invention (Web chapter) The conception of a new product or process combined with the first proof that it 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; a 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 at a *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 and acquisitions in addition to providing brokerage services and financial 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* and *capital goods*.

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

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

"invisible hand" The tendency of *competition* to cause individuals and *firms* to unintentionally but quite effectively promote the interests of society even when each individual or firm is only attempting to pursue its own interests.

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

kinked-demand curve A *demand curve* that has a flatter slope above the current *price* than below the current price. Applies to a *noncollusive oligopoly* firm if its rivals will match any price decrease but ignore any price increase.

labor Any mental or physical exertion on the part of a human being that is used in the production of a *good* or *service*. One of the four *economic resources*.

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 working-age 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 A hypothetical *economic system* in which the government's economic role is limited to protecting private property and establishing a legal environment appropriate to the operation of *markets* in which only mutually agreeable transactions would take place between buyers and sellers; sometimes referred to as "pure *capitalism*."

land In addition to the part of the earth's surface not covered by water, this term refers to any and all natural resources ("free gifts of nature") that are used to produce *goods* and *services*. Thus, it includes the oceans, sunshine, coal deposits, forests, the electromagnetic spectrum, and *fisheries*. Note that land is one of the four *economic resources*.

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

land reform (Web chapter) Policy changes aimed at creating a more efficient distribution of land ownership in developing countries. Can involve everything from government purchasing large land estates and dividing the land into smaller farms to consolidating tiny plots of land into larger, 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 in price.

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 the good 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 resource will 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 price decrease.

leader countries As it relates to *economic growth*, countries that develop and use the most 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 that reduces 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* that a *firm* must employ in order to produce a particular output at the lowest total cost; the combination at which the ratio of the *marginal product* of a resource to its *marginal resource cost* (to its *price* if the resource is employed in a competitive market) 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 Any form of *currency* that by law must be accepted by creditors (lenders) for the settlement of a financial debt; a nation's official currency is legal tender within its own borders.

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

limited liability rule A law that limits the potential losses that an investor in a *corporation* may suffer to the amount that she paid for her shares in the corporation. Encourages *financial investment* by limiting risk.

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

liquidity trap A situation in a severe *recession* in which the *central bank's* injection of additional reserves into the banking system has little or no additional positive impact on lending, borrowing, *investment*, or *aggregate demand*.

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*.

loan guarantees A type of investment *subsidy* in which the government agrees to guarantee (pay off) the money borrowed by a private company to fund investment projects if the private company itself fails to repay the loan.

lockout A negotiating tactic in which a *firm* forbids its unionized workers to return to work until a new *collective bargaining* agreement is signed; a means of imposing costs (lost wages) on union workers.

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, so that 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 a 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 economic losses in the *long run* and in which the total quantity demanded and supplied are equal; a price equal to the *marginal cost* and the minimum long-run *average total cost* of producing the product.

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

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 that implies fully flexible *prices*.

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 axis and the cumulated percentage of income is measured along the vertical axis.

loss aversion In *prospect theory*, the property of most people's preferences that the pain generated by losses feels substantially more intense than the pleasure generated by gains.

lump-sum tax A tax that collects a constant amount (the tax revenue of government 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 commercial banks and *thrift institutions*.

M2 A more broadly defined *money supply*, equal to *M1* 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 performance and behavior of the economy as a whole. Focuses on *economic growth*, the *business cycle*, *interest rates*, *inflation*, and the behavior of major economic *aggregates* such as the household, business, and government sectors.

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) by governments 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 (MB) 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 the short 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 to the 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 revenue product* (its marginal contribution to the revenue of the *firm* using the unit).

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 in disposable 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 disposable income.

marginal rate of substitution (MRS) The rate at which a consumer is willing to substitute one good for another (from a given combination 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.

marginal resource cost (MRC) The amount by which the total cost of employing a *resource* increases when a *firm* employs

1 additional unit of the resource (the quantity of all other resources employed remaining constant); equal to the change in the *total cost* of the resource divided by the change in the quantity of the resource employed.

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 by the change in the quantity of the product sold.

marginal-revenue–marginal-cost approach A method that compares the *marginal revenue* and *marginal cost* of each additional unit of output in order to determine the output level that maximizes a firm's *profit* (or minimizes the firm's loss if making a profit is not possible).

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 remaining constant); 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* divided by 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 *firms* determine how *resources* are allocated; an economy that uses a *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 or underallocation of resources to the production of a particular *good* or *service* because of *externalities* or informational problems or because markets do not provide desired *public goods*.

market for externality rights A *market* in which *firms* can buy and sell pollution permits (which must be obtained by any firm that wishes to discharge pollutants into the environment). The *equilibrium price* determined in the market imposes a cost that discourages pollution and the imposition of *negative externalities* on third parties.

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

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

market structure The characteristics of an *industry* that define the likely behavior and performance of its *firms*. The primary characteristics are the number of firms in the industry, whether they are selling a *differentiated product*, the ease of entry, and how much control firms have over output prices. The most commonly discussed market structures are *pure competition*, *monopolistic competition*, *oligopoly*, *pure monopoly*, and *monopsony*.

market system (1) An *economic system* in which individuals own most *economic resources* and in which *markets* and *prices* serve as the dominant coordinating mechanism used to allocate those resources; *capitalism*. Compare with *command system*. (2) All the product and resource markets of a *market economy* and the relationships among them.

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 provides for (1) compulsory hospital insurance for senior citizens, (2) low-cost voluntary insurance to help older Americans pay physicians' fees, and (3) subsidized insurance to buy prescription drugs. Financed by *payroll taxes*.

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 the out-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 and *services* without engaging in *barter*.

mental accounting The tendency people have to create separate "mental boxes" (or "accounts") in which they deal with particular financial transactions in isolation rather than dealing with them as part of an overall decision-making process that would consider how to best allocate their limited budgets across all possible options by using the *utility-maximizing rule*.

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 their price reductions; named after the cost associated with printing new menus at restaurants.

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

microeconomics The part of economics concerned with (1) decision making by individual units such as a *household*, a *firm*, or an *industry* and (2) individual markets, specific *goods* and *services*, and product and resource *prices*.

microfinance (Web chapter) The provision of small loans and other financial services to low-income *entrepreneurs* and small-business owners in *developing countries*.

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 to maintain its *monopoly* in operating systems for personal computers; as a remedy the company was prohibited from engaging in a set of specific anticompetitive business practices.

midpoint formula A method for calculating *price elasticity of demand* or *price elasticity of supply* that averages the starting and ending *prices* and quantities when computing percentages.

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

minimum wage The lowest *wage* that employers may legally pay for an hour of work.

mixed economy (See *market system*.)

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 the *price level* is fluctuations in the *money supply*; espoused by advocates of a *monetary rule*.

monetary multiplier The multiple of its *excess reserves* by which the banking system can expand *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-level stability*, *full employment*, and *economic growth*.

monetary rule (1) A set of guidelines to be followed by a *central bank* that wishes to adjust monetary policy over time to achieve goals such as promoting *economic growth*, encouraging *full employment*, and maintaining a stable *price level*. (2) The guidelines for conducting monetary policy suggested by *monetarism*. As traditionally formulated, the *money supply* should be expanded each year at the same annual rate as the potential rate of growth of *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) Interest-bearing accounts offered by *commercial banks* and *thrift institutions* that invest deposited funds into a variety of short-term *securities*. Depositors may write checks against their balances, but there are minimum-balance requirements as well as limits on the frequency of check writing and withdrawals.

money market mutual funds (MMMFs) *Mutual funds* that invest in short-term *securities*. Depositors can write checks in minimum amounts or more against their accounts.

money supply A nation's supply of *currency* plus *assets* with very high levels of *liquidity*. Different definitions of the money supply include different categories of highly liquid assets. *M1* uses a more restrictive definition; *M2*, a more broad definition.

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

monopoly A *market structure* in which there is only a single seller of a *good*, *service*, or *resource*. In antitrust law, a dominant *firm* that accounts for a very high percentage of total sales within a particular market.

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 are insured against losses may make riskier loans and investments.

mortgage-backed securities *Bonds* that represent claims to all or part of the monthly mortgage payments from the pools of mortgage loans made by lenders to borrowers to help them purchase residential property.

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 interest rates and falling home *prices*.

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 competitive labor 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 *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 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 purchases*, 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 of individual investors; includes both index funds as well as actively managed funds. Fund returns (profits or losses) pass through to each fund's investors.*

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 its rivals to react to the change.

myopia Refers to the difficulty human beings have with conceptualizing the more distant future. Leads to decisions that overly favor present and near-term options at the expense of more distant future possibilities.

Nash equilibrium In *game theory*, an outcome from which neither of two rival firms wishes to deviate; the outcome, once achieved, is stable and therefore lasting.

national bank In the United States, a commercial bank authorized to operate by the federal government.

National Credit Union Administration (NCUA) The federally chartered agency that insures credit union deposit liabilities (up to \$250,000 per account).

national health insurance A program in which a nation's government provides a basic package of health care to all citizens at no direct charge or at a low cost-sharing level. Financing is out of general tax revenues.

national income Total income earned by resource suppliers for their contributions 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 a country's economy as well as other related variables.

National Labor Relations Act (NLRA) The basic labor-relations law in the United States. Defines the legal rights of unions and management and identifies unfair union and management labor practices; established the National Labor Relations Board. Often referred to as the Wagner Act, after the legislation's sponsor, New York Senator Robert F. Wagner.

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 industry's product at a lower average total cost than would be possible if more than one firm produced the product.

natural rate of unemployment (NRU) The full-employment rate of unemployment; the unemployment rate occurring when there is no cyclical unemployment and the economy is achieving its

potential output; the unemployment rate at which actual inflation equals expected inflation.

near-money Financial assets that are not themselves a medium of exchange but that have extremely high liquidity and thus can be readily converted into money. Includes noncheckable savings accounts, time deposits, and short-term U.S. government securities plus savings bonds.

negative externality A cost imposed without compensation on third parties by the production or consumption of sellers or buyers. Example: A manufacturer dumps toxic chemicals into a river, killing fish prized 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 origin country 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's gains.

neoclassical economics The dominant and conventional branch of economic theory that attempts to predict human behavior by building economic models based on simplifying assumptions about people's motives and capabilities. These include that people are fundamentally rational; motivated almost entirely by self-interest; good at math; and unaffected by heuristics, time inconsistency, and self-control problems.

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

net domestic product (NDP) 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 output available 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 by the 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 payments received 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 total assets; 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 will return to and stabilize 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 output level.

NLRB (See *National Labor Relations Board*.)

nominal gross domestic product (GDP) GDP measured in terms of the price level at the time of measurement; GDP not adjusted 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 industry's product or the output that each firm will produce.

noncompeting groups Collections of workers who do not compete with each other for employment because the skill and training of the workers in one group are substantially 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 three years.

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

nonexhaustive expenditure An expenditure by government that does not result directly in the use 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 to purchase financial assets such as stocks and bonds or to purchase secondhand

capital goods; any financial investment. By contrast, investment is spending for the production of new 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 to consumers.

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, that are either in actual fixed supply or that renew so slowly as to be in virtual fixed supply when viewed from 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 characteristic of a public good.

nontariff barriers (NTBs) All barriers other than protective tariffs that nations erect to impede international trade, including import quotas, licensing requirements, unreasonable product-quality 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 that entrepreneurial ability must receive to induce entrepreneurs to provide their entrepreneurial ability to a firm; the level of accounting profit at which a firm generates an economic profit of zero after paying for entrepreneurial ability.

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) The 1993 treaty that established an international free-trade zone composed of Canada, Mexico, and the United States.

occupation A category of paid labor employment defined by its activities or tasks rather than by the particular employer or industry. Examples are managers, nurses, farmers, and cooks.

occupational licensing The laws of state or local governments that require that a worker satisfy certain specified requirements and obtain a license from a licensing board before engaging 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 domestic workers to workers located abroad.

Okun's law The generalization that any 1-percentage-point rise in the *unemployment rate* above the *full-employment rate of unemployment* is associated with 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 which the firm has limited control over product *price* because of *mutual interdependence* (except when there is collusion 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 in subsequent time periods.

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

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

open-market operations The purchases and sales of U.S. government *securities* that the *Federal Reserve System* undertakes in order to influence *interest rates* and the *money supply*; one method by which the *Federal Reserve* implements *monetary policy*.

open shop A place of employment in which the employer may hire nonunion workers and in which 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 equivalency showing the number of units of two products that can be produced with the same *resources*; the equivalency 1 corn \equiv 3 olives shows that the resources required to 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* of reduction 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 to specify the absolute amounts of satisfaction provided by the products.

Organization of Petroleum Exporting Countries (OPEC) A cartel of 12 oil-producing countries (Algeria, Angola, Ecuador, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, Venezuela, and the United Arab Emirates) 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 of oil.

other-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 possibility that when the *price* of the first of a pair of *substitute resources* falls, the *quantity demanded* of both resources will rise because the reduction in the price of the first resource so greatly reduces production costs that the volume of output created with the two resources increases by so much that the quantity demanded of the second resource increases even after accounting for the *substitution effect*. (See the second definition listed in the entry for *substitution effect*.)

P = 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.

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

paradox of thrift The seemingly self-contradictory but possibly true statement that increased *saving* may be both good and bad for the economy. It is always good in the long run when matched with increased *investment* spending, but may be bad in the short run if there is a *recession* because it reduces spending on *goods* and *services*. If the increased savings are not translated into increased investment, then the fall in consumption spending will not be made up for by an increase in investment. The overall result will be a decrease in output and employment. If the decline in *GDP* is severe enough, the attempt to save more will actually lead to less overall savings because the higher rate of saving will be applied to a smaller *national income*. Attempts by *households* to save more during a recession may simply worsen the recession and result in less saving.

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* or *public services*.

parity concept The idea that year after year the sale of a specific output of a farm product should enable a farmer to purchase a constant amount of nonagricultural *goods* and *services*.

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 a percentage; 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 of passively managed fund.

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

Patient Protection and Affordable Care Act (PPACA) A major health care law passed by the federal government in 2010. Major provisions include an individual health insurance mandate, a ban on insurers refusing to accept patients with preexisting conditions, and federal (rather than state) regulation of health insurance policies.

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 of all or part of the wages and salaries received by them.

peak The point in a *business cycle* at which business activity has reached a temporary maximum; the point at which an *expansion* ends and a *recession* begins. At the peak, the economy is near or at *full employment* and the level of real output 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 or resource *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 a horizontal *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 that is demanded; when the *quantity demanded* does not respond 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 that is demanded; when the *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 actions themselves are unsuccessful.

personal consumption expenditures (C) The expenditures of *households* for both durable and nondurable *consumer goods*.

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

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 mandate The requirement under the *Patient Protection and Affordable Care Act (PPACA)* of 2010 that all U.S. citizens and legal residents purchase health insurance unless they are already covered by employer-sponsored health insurance or government-sponsored health insurance (*Medicaid* or *Medicare*).

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*.

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

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

political corruption The unlawful misdirection of governmental resources or actions that occurs when government officials abuse their entrusted powers for personal gain. (Also see *corruption*.)

Ponzi scheme A financial fraud in which the returns paid to earlier investors come from contributions made by later investors (rather than from the *financial investment* that the perpetrator of the fraud claims to be making). Named after notorious fraudster Charles Ponzi.

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 a neighboring 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 expenditure* 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 exceed 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.

precommitments Actions taken ahead of time that make it difficult for the future self to avoid doing what the present self desires. See *time inconsistency* and *self-control problems*.

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*. Normally set at a price below the *equilibrium price*.

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 established minimum *price* for a *good*, or *service*. Normally set at a 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 relative to its price in a specific *base year*.

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 a change 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 *final 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 The term used to refer to *price floors* applied to *farm commodities*; the minimum *price* that the government allows farmers to receive for farm commodities like wheat or corn.

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, competitive, and continued decreases in the *prices* charged by *firms* in an oligopolistic *industry*. At each stage of the price war, one *firm* lowers its price below its rivals' price, hoping to increase its sales and revenues at its rivals' expense. The war ends when the price decreases cease.

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 (1) At a *firm*, a conflict of interest that occurs when agents (workers or managers) pursue their own objectives to the detriment of the principals' (stockholders') goals. (2) In *public choice theory*, a conflict of interest that arises when elected officials (who are the agents of the people) pursue policies that are in their own interests rather than policies that would be in the better interests of the public (the principals).

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* are lower than the opportunity costs of a trading partner, and then exchanging some of the products in which it specializes for other desired products produced by 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 from receiving 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 *supply curve* 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 other attributes (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 of work.

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 Usually refers to *economic profit* (*total revenue* minus both *explicit costs* and *implicit costs*) but may also refer to *accounting profit* (*total revenue* minus just *explicit costs*). If it refers to economic profit, then it is the return earned by the *resource* known as *entrepreneurial ability*.

profit-maximizing combination of resources The quantity of each *resource* a *firm* must employ to maximize its *profit* or minimize its loss; the combination of resource inputs at 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 A compensation device through which workers receive part of their pay in the form of a share of their employer's *profit* (if any).

progressive tax At the individual level, a *tax* whose *average tax rate* increases as the taxpayer's *income* increases. At the national level, a *tax* for which the *average tax rate* (= tax revenue/*GDP*) rises with *GDP*.

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

proportional tax At the individual level, a *tax* whose *average tax rate* remains constant as the taxpayer's *income* increases or decreases. At the national level, a *tax* for which the *average tax rate* (= tax revenue/*GDP*) remains constant as *GDP* rises or falls.

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

prospect theory A *behavioral economics* theory of preferences having three main features: (1) people evaluate options on the basis of whether they generate gains or losses relative to the *status quo*; (2) gains are subject to *diminishing marginal utility*, while losses are subject to *diminishing marginal disutility*; and (3) people are prone to *loss aversion*.

protective tariff A *tariff* designed to shield domestic producers of a *good* or *service* from the competition of foreign producers.

public assistance programs Government programs that pay benefits to those who are unable to earn *income* (because of permanent disabilities or because they have very low income and dependent children); 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* less government *budget surpluses*.

public good A *good* or *service* that is characterized by *nonrivalry* and *nonexcludability*. These characteristics typically imply that no private *firm* can break even when attempting to provide such products. As a result, they are often provided by governments, who pay for them using general *tax* revenues.

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-transit systems, and electric 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 an area, and is regulated by that government to prevent the abuse of its *monopoly* power.

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

purchasing power parity The idea that if countries have *flexible exchange rates* (rather than *fixed exchange rates*), the exchange rates between national currencies will adjust to equate the purchasing power of various currencies. In particular, the exchange rate between any two national currencies will adjust to reflect the *price-level* differences between the two countries.

pure competition A *market structure* in which a very large number of *firms* sells a *standardized product*, into which entry is very easy, in which the individual seller has no 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 of *labor*, 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 product *price*, and in which *nonprice competition* may or may not be found.

pure profit (See *economic profit*.)

pure rate of interest The hypothetical *interest rate* that is completely *risk-free* and not subject to market imperfections; the hypothetical interest rate that would only compensate investors for *time preference*.

quantitative easing (QE) An *open-market operation* in which *bonds* are purchased by a *central bank* in order to increase the quantity of *excess reserves* held by *commercial banks* and thereby (hopefully) stimulate the economy by increasing the amount of lending undertaken by commercial banks; undertaken when interest rates are near zero and, consequently, it is not possible for the central bank to further stimulate the economy with lower interest rates due to the *zero lower bound problem*.

quantity demanded The amount of a *good* or *service* that buyers (or a buyer) are willing and able to purchase at a specific *price* during a specified period of time.

quantity supplied The amount of a *good* or *service* that producers (or a producer) are willing and able to make available for sale at a specific *price* during a specified period of time.

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 to prevent 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 another nation.

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

rational Behaviors and decisions that maximize a person's chances of achieving his or her goals. See *rational behavior*.

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

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 own self-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* and *surpluses* 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 a result, to reduce total spending and real output, and conversely for decreases in the *price level*.

real-business-cycle theory A theory that *business cycles* result from changes in *technology* and *resource* availability, which affect *productivity* and thus increase or decrease 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 *real GDP* to its full-employment, noninflationary level.

regressive tax At the individual level, a *tax* whose *average tax rate* decreases as the taxpayer's *income* increases. At the national level, a *tax* for which the *average tax rate* (= tax revenue/GDP) falls as *GDP* rises.

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* or *public utility*.

regulatory capture The situation that occurs when a governmental *regulatory agency* ends up being controlled by the industry that it is supposed to be regulating.

remittances Payments by *immigrants* to family members and others located in the immigrants' home countries.

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 are harvested at moderate rates.

rental income The payments received by those who supply *land* to the economy.

rent-seeking behavior 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 *total fertility rate* necessary to offset deaths in a country and thereby keep the size of its population

constant (without relying on immigration). For most countries, a total fertility rate of about 2.1 births per woman per lifetime.

required reserves The funds that each *commercial bank* and *thrift institution* must deposit with its local *Federal Reserve Bank* (or hold as *vault cash*) to meet the legal *reserve requirement*; a fixed percentage of each bank's or thrift's *checkable deposits*.

reserve ratio The fraction of *checkable deposits* that each *commercial bank* or *thrift institution* must hold as reserves at its local *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 each *commercial bank* or *thrift institution* must keep on deposit at the *Federal Reserve Bank* in its district or hold as *vault cash*.

resource A natural, human, or manufactured item that helps produce *goods* and *services*; a productive agent or factor of production; one of the four *economic resources*.

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 money policy.

revenue tariff A *tariff* designed to produce *income* for the federal government.

right-to-work law A state law (in 23 states) that makes it illegal to require that a worker join a *labor union* in order to retain his or her job; laws that make *union shops* and *agency shops* illegal.

risk The uncertainty as to the 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 a lender or investor for *risk*.

rivalry (1) The characteristic of a *private good*, the consumption of which by one party excludes other parties from obtaining the benefit; (2) the attempt by one *firm* to gain strategic advantage over another firm to enhance market share or *profit*.

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 actions under the antitrust laws and that size and possession of *monopoly* power are not by themselves illegal. Compare with *per se violation*.

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 the number 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*; saving is a flow. Compare with *savings*.

savings The accumulation of funds that results when people in an economy spend less (consume less) than their *incomes* during a given time period; savings are a stock. Compare with *saving*.

savings account A deposit in a *commercial bank* or *thrift institution* on which *interest* payments are received; generally used for *saving* rather than daily transactions; a component of the *M2 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; now nearly indistinguishable from a *commercial bank*.

saving schedule A table of numbers 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 generalization that the production (*supply*) of *goods* and *services* 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 virtually unlimited economic wants.

scarcity The limits placed on the amounts and types of *goods* and *services* available for consumption as the result of there being only limited *economic resources* from which to produce output; the fundamental economic constraint that creates *opportunity costs* and that necessitates the use of *marginal analysis* (*cost-benefit analysis*) to make optimal choices.

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.

securities *Stocks*, *bonds*, and other financial documents that attest to a financial obligation.

securitization The process of aggregating many individual financial debts, such as mortgages or student loans, into a pool and then issuing new *securities* (typically *bonds*) backed by the pool. The holders of the new securities are entitled to receive the debt payments made on the individual financial debts in the pool.

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 measured by *beta*.

self-control problems Refers to the difficulty people have in sticking with earlier plans and avoiding suboptimal decisions

when finally confronted with a particular decision-making situation. A manifestation of *time inconsistency* and potentially avoidable by using *precommitments*.

self-interest That which each *firm*, property owner, worker, and consumer believes is best for itself and seeks to obtain.

self-selection As it relates to international migration, the idea that those who choose to move to a new country tend to have greater motivation for economic gain or greater willingness to sacrifice current consumption for future consumption than those with similar skills who choose to remain at home.

seniority The length of time a worker has been employed absolutely or relative to the other workers at the same *firm*; may be used to determine which workers will be laid off (if there is insufficient work to employ all of the workers at the firm) as well as who will be the first to be rehired (if and when more work becomes available again at the firm).

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 the next 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 law of 1890 that makes *monopoly* and conspiracies to restrain trade criminal offenses.

shirking Workers' neglecting or 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 (below-equilibrium) *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 in which some resources (usually *plant*) are fixed and some are variable. (2) In *macroeconomics*, a period in which *nominal wages* and other input *prices* do not change in response to a change in the *price level*.

short-run aggregate supply curve An *aggregate supply* curve relevant to a time period 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 the product demanded and that is equal to or greater than *average variable cost*.

short-run supply curve A *supply curve* that shows the 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 the firm's short-run *marginal cost curve* that lies above its *average-variable-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* is independent 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 with 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 straight line. The slope of an upward-sloping line is positive, reflecting a direct relationship between two variables; the slope of a downward-sloping line is negative, reflecting an inverse relationship 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 resulted only 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 earned rights (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 the product.

social regulation Regulation in which government is concerned with the conditions under which *goods* and *services* are produced, their physical characteristics, and the impact of their production on society. Differs from *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 Social Security tax revenues in some subsequent year.

sole proprietorship An unincorporated *firm* owned and operated by one person.

special-interest effect Any political outcome in which a small group ("special interest") gains substantially at the expense of a

much larger number of persons who each individually suffers a small loss.

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 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 all units of which are identical and thus are perfect substitutes for each other.

Standard Oil case A 1911 antitrust case in which Standard Oil was found guilty of violating the *Sherman Act* by illegally monopolizing the petroleum *industry*. As a remedy the company was divided into several 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.

statistical discrimination The practice of judging an individual on the basis of the average characteristics of the group to which he or she belongs rather than on his or her own personal characteristics.

status quo The existing state of affairs; in *prospect theory*, the current situation from which gains and losses are calculated.

status quo bias The tendency most people have when making choices to select any option that is presented as the default (*status quo*) option. Explainable by *prospect theory* and *loss aversion*.

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 price subsequently 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.

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 locations where 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 a government, 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 the price 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 an increase 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 the good's own *price*; (2) the reduction in the *quantity demanded* of the second of a pair of *substitute resources* that occurs when the price of the first resource falls and causes *firms* that employ both resources to switch to using more of the first resource (whose price has fallen) and less of the second resource (whose price has remained the same).

sunk cost A cost that has been incurred and cannot be recovered.

Supplemental Nutrition Assistance Program (SNAP) A government program that provides food money to low-income recipients by depositing electronic money onto *Electronic Benefit Transfer (EBT) cards*. Formerly known as the food-stamp program.

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 for benefits under *Social Security* in the United States.

supply A schedule or curve that shows the various amounts of a product that producers are willing and able to make available for sale at each of a series of possible *prices* during a specified period of time.

supply curve A curve that illustrates the *supply* for a product by showing how each possible *price* (on the *vertical axis*) is associated with a specific *quantity supplied* (on the *horizontal axis*).

supply factors (in growth) The four determinants of an economy's physical ability to achieve *economic growth* by increasing *potential output* and shifting out the *production possibilities curve*. The four determinants are improvements in technology plus increases in the quantity and quality of natural resources, human resources, and the stock of capital goods.

supply schedule A table of numbers showing the amounts of a *good* or *service* producers are willing and able to make available for sale at each of a series of possible *prices* during a specified period of time.

supply shocks Sudden, unexpected changes in *aggregate supply*.

supply-side economics A view of *macroeconomics* that emphasizes the role of costs and *aggregate supply* in explaining *inflation*, *unemployment*, and *economic growth*.

supply-side market failures Overallocations of *resources* that occur when private supply curves understate the full cost of producing a *good* or *service*.

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 exceeding the minimum payment necessary to ensure the availability of a *resource* in a production process; for example, land rent.

systematic errors Suboptimal choices that (1) are not *rational* because they do not maximize a person's chances of achieving his or her goals and (2) occur routinely, repeatedly, and predictably.

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 receives no good or service directly in return.

tax credit An accounting *credit* that reduces the amount of *taxes* owed to the government on a dollar-for-dollar basis. Some tax credits are refundable, meaning that if the amount of the tax credit exceeds the amount owed in taxes, the taxpayer will receive (be refunded) the difference in cash.

taxes on production and imports A *national income accounting* category that includes such taxes as *sales*, *excise*, business property taxes, and *tariffs* that *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 degree to which a *tax* falls on a particular person or group.

tax subsidy A grant in the form of reduced *taxes* through favorable *tax* treatment. For example, employer-paid health insurance is exempt from federal *income taxes* and *payroll taxes*.

Taylor rule A *monetary rule* proposed by economist John Taylor that would stipulate exactly how much the *Federal Reserve System* should change *real interest rates* in response to divergences of *real GDP* from potential GDP and divergences of actual rates of *inflation* from a target rate of inflation.

technological advance (Web chapter) (1) An improvement in the quality of existing products, the invention of entirely new products, or the creation of new or better ways of producing or distributing products. (2) Any improvement in the methods by which resources are combined such that the same quantity of

inputs can be made to yield a combination of outputs that is preferred to any combination of outputs that was previously possible.

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 state-administered and partly federally funded program in the United States that provides financial aid to poor families; the basic welfare program for low-income families in the United States; contains time limits and work requirements.

term auction facility A *monetary policy* procedure used by the *Federal Reserve System* during the 2008 financial crisis. *Commercial banks* anonymously bid to obtain loans being made available by the Fed 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 service that 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 *incomes* of 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 of a specified period.

time inconsistency The human tendency to systematically misjudge at the present time what will actually end up being desired at a future time.

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 the future; 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 or *investment* 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; for currency still circulating, *money* for which the face value exceeds the commodity value.

total allowable catch (TAC) The overall limit set by a government or a fisheries commission on the total number of fish or tonnage of fish that fishers collectively can harvest during some particular time period. Used to set the fishing limits for *individual transferable quotas (ITQs)*.

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 number of children per lifetime birthed by a nation's women.

total product (TP) The total output of a particular *good* or *service* 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*. Demand is elastic if *total revenue* moves in the opposite direction from a *price* change; it is inelastic when it moves in the same direction as a price change; 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 The *supply 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 care subsidies, 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 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 word, symbol, or phrase that serves to distinguish a product produced by a particular *firm* from products produced by rival firms. Most countries register and enforce trademarks so that the originator of a particular product is the only firm that may utilize its legally registered trademarks.

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 amount by 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

(consume) 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 incentive to 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* or *service* directly in return.

Troubled Asset Relief Program (TARP) A 2008 federal government program that authorized the U.S. Treasury to loan up to \$700 billion to critical financial institutions and other U.S. *firms* that were in extreme financial trouble and therefore at high risk of failure.

trough The point in a *business cycle* at which business activity has reached a temporary minimum; the point at which a *recession* ends and an *expansion* (recovery) begins. At the trough, the economy experiences substantial *unemployment* and *real GDP* is less than *potential output*.

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 practice forbidden by the *Clayton Act*.

ultimatum game A *behavioral economics* game in which a mutually anonymous pair of players interact to determine how an amount of money is to be split. The first player suggests a division. The second player either accepts that proposal (in which case the split is made accordingly) or rejects it (in which case neither player gets anything).

unanticipated inflation An increase of the *price level (inflation)* at a rate greater than expected.

underemployment (Web chapter) 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 who become 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; unrealized anticipations or plans relating to future economic conditions and outcomes.

unfunded liability A future government spending commitment (liability) for which the government has not legislated an offsetting revenue source.

uninsurable risk An eventuality for which the frequency or magnitude of potential losses is unpredictable or unknowable. Insurance companies are not willing to sell insurance against such risks.

unintended consequences Unexpected results of government policies. Can be good or bad, but normally refer to unexpected negative outcomes.

union (See *labor union*.)

unionization rate The percentage of a particular population of workers that belongs to *labor unions*; alternatively, the percentage of a population of workers that is represented by one union or another 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 a specified 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 *quantity supplied* is equal 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 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 of unexpected 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 than sales.

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 natural 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 natural

resource is extracted and sold today rather than being extracted and sold in the future.

U.S. government securities U.S. Treasury bills, notes, and *bonds* used to finance *budget deficits*; the components 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 unreasonable restraints of trade were illegal and that size and the possession of monopoly power were not by themselves 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 the consumption of a collection of *goods* and *services*).

utility-maximizing rule The principle that to obtain the greatest *total utility*, a consumer should allocate *money income* so that the last dollar spent on each *good* or *service* yields the same *marginal utility* (MU). For two goods X and Y, with prices P_x and P_y , total utility will be maximized by purchasing the amounts of X and Y such that $MU_x/P_x = MU_y/P_y$ for the last dollar spent on each good.

value added The value of a product sold by a *firm* less the value of the products (materials) purchased and used by the firm to produce that product.

value-added tax A *tax* imposed on the difference between the value of a product sold by a *firm* and the value of the goods purchased from other firms to produce that product; used in several European countries.

value judgment Opinion of what is desirable or undesirable; belief regarding what ought or ought not to be in terms of 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 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 on hand 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 *final services*; *nominal gross domestic product (GDP)* divided by the *money supply*.

venture capital (Web chapter) That part of household *saving* used to finance high-risk business enterprises in exchange for *stock* (and thus a share of any *profit* if the enterprises are successful).

vertical axis The “up-down” or “north-south” measurement line on a graph or grid.

vertical integration Any situation in which a group of *plants* that are each engaged in a different stage of the production of a particular *final good* are all 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 particular *final good*.

very long run (Web chapter) In microeconomics, a period of time long enough that *technology* can change and *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 levels of *savings* 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; undertaken to avoid the enactment of formal trade barriers by the foreign 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* that compensates for *labor*; *earnings*.

Wall Street Reform and Consumer Protection Act of 2010 The law that gave authority to the *Federal Reserve System* (the Fed) to regulate all large financial institutions, created an oversight council to look for growing risk to the financial system, established a process for the federal government to sell off the assets of large failing financial institutions, provided federal regulatory oversight of asset-backed *securities*, and created a financial consumer protection bureau within the Fed.

wealth Anything that has value because it produces *income* or could produce income. Wealth is a stock; income is a flow. Assets less liabilities; net worth.

wealth effect The tendency for people to increase their consumption spending when the value of their financial and real *assets* rises and to decrease their consumption spending when the value of those assets falls.

welfare programs (See *public assistance programs*.)

Wheeler-Lea Act The federal law of 1938 that amended the *Federal Trade Commission Act* by prohibiting unfair and deceptive acts or practices of commerce (such as false and misleading advertising and the misrepresentation of products).

will to develop (Web chapter) The mental state of wanting *economic growth* strongly enough to change from old to new ways of doing things.

World Bank (Web chapter) A bank that lends (and guarantees loans) to *developing countries* 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 159 nations (as of mid-2013) that oversees the provisions of the current world trade agreement, resolves trade disputes stemming from it, and holds forums for 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 interest rate policy (ZIRP) A *monetary policy* in which a *central bank* sets *nominal interest rates* at or near zero percent per year in order to stimulate the economy.

zero lower bound problem The constraint placed on the ability of a *central bank* to stimulate the economy through lower interest rates by the fact that *nominal interest rates* cannot be driven lower than zero (because if interest rates were negative, people would be unwilling to put their money into banks due to the fact that deposit balances would decrease over time due to the negative interest rate.)

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.