Glossary

Italicized terms within definitions are key terms that are defined elsewhere in this glossary.

absolute advantage the advantage conferred by the ability to produce more of a good or service with a given amount of time and resources; not the same thing as *comparative advantage*. (p. 27)

accounting profit a business's revenue minus the *explicit cost* and depreciation. (p. 531)

actual investment spending the sum of *planned investment spending* and *unplanned inventory investment*. (p. 169)

***AD–AS* model** the basic model used to understand fluctuations in *aggregate output* and the *aggregate price level*. It uses the *aggregate demand curve* and the *aggregate supply curve* together to analyze the behavior of the *economy* in response to shocks or government policy. (p. 190)

administrative costs (of a tax) the *resources* used (which is a cost) by government to collect the tax, and by taxpayers to pay it, over and above the amount of the tax, as well as to evade it. (p. 508)

adverse selection occurs when an individual knows more about the way things are than other people do. Adverse selection problems can lead to market problems: private information leads buyers to expect hidden problems in items offered for sale, leading to low prices and the best items being kept off the market. (p. 783)

aggregate consumption function the relationship for the *economy* as a whole between aggregate current *disposable income* and aggregate *consumer spending*. (p. 164)

aggregate demand curve shows the relationship between the *aggregate price level* and the quantity of *aggregate output* demanded by *households, businesses*, the government, and the rest of the world. (p. 172)

aggregate output the economy's total production of *final goods and services* for a given time period, usually a year. *Real GDP* is the numerical measure of aggregate output typically used by economists. (pp. 12, 113)

aggregate price level a measure of the overall level of prices in the economy. (p. 142)

aggregate production function a hypothetical function that shows how productivity (*real GDP* per worker) depends on the quantities of *physical capital* per worker and *human capital* per worker as well as the state of technology. (p. 376)

aggregate spending the total spending on domestically produced *final goods and services;* the sum of *consumer spending* (*C*), *investment spending* (*I*), *government purchases of goods and services* (*G*), and *exports* minus *imports* ($X - IM$). (p. 106)

aggregate supply curve a graphical representation that shows the relationship between the *aggregate price level* and the total quantity of *aggregate output* supplied. (p. 179)

antitrust policy legislative and regulatory efforts undertaken by the government to prevent oligopolistic industries from becoming or behaving like *monopolies*. (p. 653)

appreciation a rise in the value of one currency in terms of other currencies. (p. 422)

artificially scarce good a good that is *excludable* but *nonrival in consumption*. (p. 751)

automatic stabilizers government spending and taxation rules that cause *fiscal policy* to be automatically expansionary when the *economy* contracts and automatically contractionary when the economy expands. Taxes that depend on *disposable income* are the most important example of automatic stabilizers. (p. 212)

autonomous change in aggregate spending an initial rise or fall in *aggregate spending* that is the cause, not the result, of a series of income and spending changes. (p. 160)

autonomous consumer spending the amount of money a *household* would spend if it had no *disposable income*. (p. 162)

average cost pricing occurs when regulators set a monopoly's price equal to its average cost to prevent the firm from incurring a loss. (p. 757)

average fixed cost the *fixed cost* per unit of output. (p. 553)

average total cost *total cost* divided by quantity of output produced. Also referred to as *average cost*. (p. 552)

average variable cost the *variable cost* per unit of output. (p. 553)

balance of payments accounts a summary of a country's transactions with other countries, including two main elements: the *balance of payments on the current account* and the *balance of payments on the financial account*. (p. 410)

balance of payments on the current account (current account) a country's *balance of payments on goods and services* plus net international transfer payments and factor income. (p. 412)

balance of payments on the financial account (financial account) the difference between a country's sales of assets to foreigners and its purchases of assets from foreigners during a given period. (p. 413)

balance of payments on goods and services the difference between the value of *exports* and the value of *imports* during a given period. (p. 412)

balance sheet effect the reduction in a firm's net worth from falling asset prices. (p. 258)

bank a *financial intermediary* that provides *liquid* assets in the form of *bank deposits* to lenders and uses those funds to finance the *illiquid* investments or *investment spending* needs of borrowers. (p. 229)

bank deposit a claim on a bank that obliges the bank to give the depositor his or her cash when demanded. (p. 229)

bank reserves currency held by *banks* in their vaults plus their deposits at the Federal Reserve. (p. 243)

bank run a phenomenon in which many of a *bank's* depositors try to withdraw their funds due to fears of a bank failure. (p. 246)

barrier to entry something that prevents other firms from entering an industry. Crucial in protecting the profits of a *monopolist*. There are four types of barriers to entry: control over scarce *resources* or *inputs*, increasing returns to scale, technological superiority, and government-created barriers such as *licenses*. (p. 571)

black market a market in which goods or services are bought and sold illegally, either because it is illegal to sell them at all or because the prices charged are legally prohibited by a *price ceiling*. (p. 81)

bond loan in the form of an IOU that pays interest. (p. 104)

brand name a name owned by a particular firm that distinguishes its products from those of other firms. (p. 672)

break-even price the market price at which a firm earns zero profits. (p. 592)

budget balance the difference between tax revenue and government spending. A positive budget balance is referred to as a *budget surplus;* a negative budget balance is referred to as a *budget deficit.* (p. 223)

budget constraint the cost of a consumer's *consumption bundle* cannot exceed the consumer's income. (p. 514)

budget deficit the difference between tax revenue and government spending when government spending exceeds tax revenue. (p. 223)

budget line all the *consumption bundles* available to a consumer who spends all of his or her income. (p. 514)

budget surplus the difference between tax revenue and government spending when tax revenue exceeds government spending. (p. 223)

business cycle the short-run alternation between economic downturns, known as *recessions,* and economic upturns, known as *expansions.* (p. 10)

capital manufactured goods used to make other goods and services. (p. 3)

capital inflow the net inflow of funds into a country; the difference between the total inflow of foreign funds to the home country and the total outflow of domestic funds to other countries. A positive net capital inflow represents funds borrowed from foreigners to finance domestic investment; a negative net capital inflow represents funds lent to foreigners to finance foreign investment. (p. 223)

cartel an agreement among several producers to obey output restrictions in order to increase their joint profits. (p. 639)

central bank an institution that oversees and regulates the banking system and controls the *monetary base.* (p. 253)

chain-linking the method of calculating changes in *real GDP* using the average between the growth rate calculated using an early base year and the growth rate calculated using a late base year. (p. 115)

change in demand a shift of the *demand curve,* which changes the quantity demanded at any given price. (p. 51)

change in supply a shift of the *supply curve,* which changes the quantity supplied at any given price. (p. 60)

checkable bank deposits *bank* accounts on which people can write checks. (p. 231)

classical model of the price level a model of the price level in which the real quantity of money is always at its long-run equilibrium level. This model ignores the distinction between the short run and the long run but is useful for analyzing the case of high inflation. (p. 322)

Coase theorem the proposition that even in the presence of *externalities* an *economy* can always reach an *efficient* solution as long as *transaction costs* are sufficiently low. (p. 728)

collusion cooperation among producers to limit production and raise prices so as to raise one another's profits. (p. 639)

command economy industry is publicly owned and a central authority makes production and consumption decisions. (p. 2)

commercial bank a *bank* that accepts deposits and is covered by *deposit insurance.* (p. 257)

commodity-backed money a *medium of exchange* that has no intrinsic value whose ultimate value is guaranteed by a promise that it can be converted into valuable goods on demand. (p. 233)

commodity money a *medium of exchange* that is a good, normally gold or silver, that has intrinsic value in other uses. (p. 233)

common resource a *resource* that is *nonexcludable* and *rival in consumption.* (p. 749)

comparative advantage the advantage conferred if the *opportunity cost* of producing the good or service is lower for another producer. (p. 26)

compensating differentials wage differences across jobs that reflect the fact that some jobs are less pleasant or more dangerous than others. (p. 711)

competitive market a market in which there are many buyers and sellers of the same good or service, none of whom can influence the price at which the good or service is sold. (p. 48)

complements pairs of goods for which a rise in the price of one good leads to a decrease in the demand for the other good. (p. 53)

concentration ratios measure the percentage of industry sales accounted for by the "X" largest firms. (p. 573)

constant returns to scale long-run *average total cost* is constant as output increases. (p. 563)

consumer price index (CPI) a measure of the cost of a *market basket* intended to represent the consumption of a typical urban American family of four. It is the most commonly used measure of prices in the United States. (p. 144)

consumer spending *household* spending on goods and services from domestic and foreign *firms.* (p. 103)

consumer surplus a term often used to refer both to *individual consumer surplus* and to *total consumer surplus.* (p. 485)

consumption function an equation showing how an individual household's *consumer spending* varies with the household's current *disposable income.* (p. 162)

consumption possibilities the set of all consumption bundles that are affordable, given a consumer's income and prevailing prices. (p. 514)

contractionary fiscal policy *fiscal policy* that reduces aggregate demand by decreasing government purchases, increasing taxes, or decreasing transfers. (p. 205)

contractionary monetary policy *monetary policy* that, through the raising of the *interest rate,* reduces aggregate demand and therefore output. (p. 310)

convergence hypothesis a theory of economic growth that holds that international differences in *real GDP* per capita tend to narrow over time because countries with low *GDP per capita* generally have higher growth rates. (p. 383)

copyright the exclusive legal right of the creator of a literary or artistic work to profit from that work; like a *patent,* it is a temporary monopoly. (p. 572)

cost (of potential seller) the lowest price at which a seller is willing to sell a good. (p. 489)

cost-minimization rule hire factors so that the marginal product per dollar spent on each factor is the same; a firm uses this rule to determine the cost-minimizing combination of inputs. (p. 708)

cost-push inflation inflation that is caused by a significant increase in the price of an input with economy-wide importance. (p. 327)

crowding out the negative effect of *budget deficits* on private investment, which occurs because government borrowing drives up interest rates. (p. 281)

currency in circulation actual cash held by the public. (p. 231)

current account see *balance of payments on the current account.*

cyclical unemployment unemployment resulting from the business cycle; equivalently, the difference between the actual rate of *unemployment* and the *natural rate of unemployment.* (p. 130)

cyclically adjusted budget balance an estimate of what the *budget balance* would be if *real GDP* were exactly equal to *potential output.* (p. 298)

deadweight loss losses associated with quantities of *output* that are greater than or less than the efficient level, as can result from market intervention such as taxes, or from externalities such as pollution. (pp. 92, 506)

debt deflation the reduction in aggregate demand arising from the increase in the real burden of outstanding debt caused by *deflation;* occurs because borrowers, whose real debt rises as a result of deflation, are likely to cut spending sharply, and lenders, whose real assets are now more valuable, are less likely to increase spending. (p. 339)

debt–GDP ratio government debt as a percentage of GDP, frequently used as a measure of a government's ability to pay its debts. (p. 301)

decreasing returns to scale long-run *average total cost* increases as output increases (also known as *diseconomies of scale*). (p. 563)

deductible a sum specified in an insurance policy that the insured individuals must pay before being compensated for a claim; deductibles reduce *moral hazard.* (p. 785)

default when a borrower fails to make payments as specified by the bond contract. (p. 226)

deflation a fall in the overall level of prices. (p. 12)

demand curve a graphical representation of the *demand schedule,* showing the relationship between *quantity demanded* and price. (p. 49)

demand price the price of a given quantity at which consumers will demand that quantity. (p. 89)

demand-pull inflation inflation that is caused by an increase in *aggregate demand.* (p. 327)

demand schedule a list or table showing how much of a good or service consumers will want to buy at different prices. (p. 49)

demand shock any event that shifts the *aggregate demand curve.* A positive demand shock is associated with higher demand for *aggregate output* at any price level and shifts the curve to the right. A negative demand shock is associated with lower demand for aggregate output at any price level and shifts the curve to the left. (p. 191)

deposit insurance a guarantee that a *bank's* depositors will be paid even if the bank can't come up with the funds, up to a maximum amount per account. (p. 246)

depreciation of currency a fall in the value of one currency in terms of other currencies. (pp. 400, 422)

depression a very deep and prolonged downturn. (p. 10)

derived demand for a factor results from (or is derived from) the demand for the output being produced. (p. 681)

devaluation a reduction in the value of a currency that is set under a *fixed exchange rate regime.* (p. 438)

diminishing marginal rate of substitution the principle that the more of one good that is consumed in proportion to another, the less of the second good the consumer is willing to substitute for another unit of the first good. (p. 795)

diminishing returns to an input the effect observed when an increase in the quantity of an *input,* while holding the levels of all other inputs fixed, leads to a decline in the *marginal product* of that input. (p. 545)

diminishing returns to physical capital in an *aggregate production function* when the amount of *human capital* per worker and the state of technology are held fixed, each successive increase in the amount of *physical capital* per worker leads to a smaller increase in productivity. (p. 376)

discount rate the interest rate the Fed charges on loans to *banks.* (p. 263)

discount window an arrangement in which the Federal Reserve stands ready to lend money to *banks.* (p. 246)

discouraged workers nonworking people who are capable of working but have given up looking for a job due to the state of the job market. (p. 120)

discretionary fiscal policy *fiscal policy* that is the direct result of deliberate actions by policy makers rather than rules. (p. 212)

discretionary monetary policy the use of changes in the *interest rate* or the *money supply* to stabilize the *economy.* (p. 348)

diseconomies of scale long-run average total cost increases as output increases. (p. 562)

disinflation the process of bringing down *inflation* that has become embedded in expectations. (p. 139)

disposable income income plus *government transfers* minus taxes; the total amount of *household* income available to spend on consumption and saving. (p. 105)

diversification investment in several different assets with unrelated, or independent, risks, so that the possible losses are *independent events.* (p. 225)

dominant strategy in *game theory,* an action that is a player's best action regardless of the action taken by the other player. (p. 646)

duopolist one of the two firms in a *duopoly.* (p. 638)

duopoly an *oligopoly* consisting of only two firms. (p. 638)

economic aggregates economic measures that summarize data across different markets for goods, services, workers, and assets. (p. 5)

economic growth an increase in the maximum amount of goods and services an economy can produce. (p. 13)

economic profit a business's revenue minus the *opportunity cost of resources;* usually less than the *accounting profit.* (p. 532)

economics the study of scarcity and choice. (p. 2)

economies of scale long-run average total cost declines as output increases. (p. 562)

economy a system for coordinating a society's productive and consumptive activities. (p. 2)

efficiency wages wages that employers set above the *equilibrium* wage rate as an incentive for workers to deliver better performance. (p. 130)

efficiency-wage model a model in which some employers pay an above-equilibrium wage as an *incentive* for better performance. (p. 714)

efficient describes a market or *economy* that takes all opportunities to make some people better off without making other people worse off. (p. 17)

elastic demand the *price elasticity* of demand is greater than 1. (p. 467)

emissions tax a tax that depends on the amount of pollution a firm produces. (p. 732)

employed people currently holding a job in the economy, either full time or part time. (p. 119)

employment the total number of people currently employed for pay in the *economy,* either full-time or part-time. (p. 12)

entrepreneurship the efforts of entrepreneurs in organizing resources for production, taking risks to create new enterprises, and innovating to develop new products and production processes. (p. 3)

environmental standards rules established by a government to protect the environment by specifying actions by producers and consumers. (p. 731)

equilibrium an economic situation in which no individual would be better off doing something different. (p. 66)

equilibrium exchange rate the *exchange rate* at which the quantity of a currency demanded in the *foreign exchange market* is equal to the quantity supplied. (p. 423)

equilibrium price the price at which the market is in *equilibrium,* that is, the quantity of a good or service demanded equals the quantity of that good or service supplied; also referred to as the *market-clearing price.* (p. 66)

equilibrium quantity the quantity of a good or service bought and sold at the *equilibrium* (or *market-clearing*) *price.* (p. 66)

equilibrium value of the marginal product the additional value produced by the last unit of a factor employed in the *factor market* as a whole. (p. 712)

excess capacity when firms produce less than the output at which *average total cost* is minimized; characteristic of *monopolistically competitive* firms. (p. 665)

excess reserves a *bank's reserves* over and above the reserves required by law or regulation. (p. 249)

exchange market intervention government purchases or sales of currency in the *foreign exchange market.* (p. 432)

exchange rate the price at which currencies trade, determined by the *foreign exchange market.* (p. 421)

exchange rate regime a rule governing policy toward the *exchange rate.* (p. 431)

excise tax a tax on sales of a particular good or service. (p. 499)

excludable referring to a good, describes the case in which the supplier can prevent those who do not pay from consuming the good. (p. 743)

expansion period of economic upturn in which output and employment are rising; most economic numbers are following their normal upward trend; also referred to as a recovery. (p. 10)

expansionary fiscal policy *fiscal policy* that increases aggregate demand by increasing government purchases, decreasing taxes, or increasing transfers. (p. 205)

expansionary monetary policy *monetary policy* that, through the lowering of the *interest rate,* increases aggregate demand and therefore output. (p. 310)

explicit cost a cost that involves actually laying out money. (p. 530)

exports goods and services sold to other countries. (p. 105)

external benefit an uncompensated benefit that an individual or firm confers on others; also known as *positive externalities.* (p. 727)

external cost an uncompensated cost that an individual or firm imposes on others; also known as *negative externalities.* (p. 726)

externalities *external costs* and *external benefits.* (p. 727)

factor distribution of income the division of total income among labor, land, and capital. (p. 681)

factor markets where resources, especially capital and labor, are bought and sold. (p. 103)

federal funds market the financial market that allows *banks* that fall short of *reserve requirements* to borrow funds from banks with *excess reserves.* (p. 263)

federal funds rate the *interest rate* at which funds are borrowed and lent in the *federal funds market.* (p. 263)

fiat money a *medium of exchange* whose value derives entirely from its official status as a means of payment. (p. 234)

final goods and services goods and services sold to the final, or end, user. (p. 106)

financial account see *balance of payments on the financial account.*

financial asset a paper claim that entitles the buyer to future income from the seller. *Loans, stocks, bonds,* and *bank deposits* are types of financial assets. (p. 224)

financial intermediary an institution, such as a *mutual fund, pension fund, life insurance company,* or *bank,* that transforms the funds it gathers from many individuals into *financial assets.* (p. 227)

financial markets the banking, *stock,* and *bond* markets, which channel *private savings* and foreign lending into *investment spending, government borrowing,* and foreign borrowing. (p. 105)

financial risk uncertainty about future outcomes that involve financial losses and gains. (p. 225)

firm an organization that produces goods and services for sale. (p. 103)

fiscal policy the use of taxes, government transfers, or government purchases of goods and services to stabilize the economy. (p. 176)

fiscal year the time period used for much of government accounting, running from October 1 to September 30. Fiscal years are labeled by the calendar year in which they end. (p. 300)

Fisher effect the principle by which an increase in expected future *inflation* drives up the nominal *interest rate,* leaving the expected real interest rate unchanged. (p. 283)

fixed cost cost that does not depend on the quantity of output produced. It is the cost of the fixed input. (p. 548)

fixed exchange rate an *exchange rate regime* in which the government keeps the *exchange rate* against some other currency at or near a particular target. (p. 431)

fixed input an *input* whose quantity is fixed for a period of time and cannot be varied (for example, land). (p. 542)

floating exchange rate an *exchange rate regime* in which the government lets the *exchange rate* go wherever the market takes it. (p. 431)

foreign exchange controls licensing systems that limit the right of individuals to buy foreign currency. (p. 433)

foreign exchange market the market in which currencies are traded. (p. 421)

foreign exchange reserves *stocks* of foreign currency that governments can use to buy their own currency on the *foreign exchange market.* (p. 432)

free entry and exit describes an industry that potential producers can easily enter or current producers can leave. (p. 570)

free-rider problem when individuals have no *incentive* to pay for their own consumption of a good, they will take a "free ride" on anyone who does pay; a problem that with goods that are *nonexcludable.* (p. 745)

frictional unemployment *unemployment* due to time workers spend in *job search.* (p. 127)

gains from trade An economic principle that states that by dividing tasks and trading, people can get more of what they want through *trade* than they could if they tried to be self-sufficient. (p. 23)

game theory the study of behavior in situations of *interdependence.* Used to explain the behavior of an *oligopoly.* (p. 644)

GDP deflator a price measure for a given year that is equal to 100 times the ratio of *nominal GDP* to *real GDP* in that year. (p. 146)

GDP per capita GDP divided by the size of the population; equivalent to the average GDP per person. (p. 115)

Gini coefficient a number summarizes a country's level of income inequality based on how unequally income is distributed across the quintiles. (p. 761)

government borrowing the amount of funds borrowed by the government in financial markets to buy goods and services. (p. 105)

government purchases of goods and services total purchases by federal, state, and local governments on goods and services. (p. 105)

government transfers payments by the government to individuals for which no good or service is provided in return. (p. 105)

gross domestic product (GDP) the total value of all *final goods and services* produced in the *economy* during a given period, usually a year. (p. 106)

growth accounting estimates the contribution of each of the major factors (physical and human capital, labor, and technology) in the *aggregate production function.* (p. 378)

Herfindahl–Hirschman Index, or **HHI** is the square of each firm's share of market sales summed over the industry. It gives a picture of the industry market structure. (p. 573)

household a person or a group of people who share income. (p. 103)

human capital the improvement in labor created by the education and knowledge embodied in the workforce. (pp. 373, 680)

illiquid describes an asset that cannot be quickly converted into cash without much loss of value. (p. 226)

implicit cost a cost that does not require the outlay of money; it is measured by the value, in dollar terms, of forgone benefits. (p. 530)

implicit cost of capital the *opportunity cost* of the capital used by a business; that is the income that could have been realized had the capital been used in the next best alternative way. (p. 532)

implicit liabilities spending promises made by governments that are effectively a debt despite the fact that they are not included in the usual debt statistics. In the United States, the largest implicit liabilities arise from Social Security and Medicare, which promise transfer payments to current and future retirees (Social Security) and to the elderly (Medicare). (p. 303)

imports goods and services purchased from other countries. (p. 105)

incentive anything that offers rewards to people who change their behavior. (p. 2)

income effect the change in the quantity of a good consumed that results from the change in a consumer's purchasing power due to the change in the price of the good. (p. 459)

income-elastic demand when the *income elasticity of demand* for a good is greater than 1. (p. 476)

income elasticity of demand the percent change in the quantity of a good demanded when a consumer's income changes divided by the percent change in the consumer's income. (p. 476)

income-inelastic demand when the *income elasticity of demand* for a good is positive but less than 1. (p. 476)

increasing returns to scale long-run *average total cost* declines as output increases (also referred to as *economies of scale*). (p. 562)

indifference curve a contour line showing all *consumption bundles* that yield the same amount of total utility for an individual. (p. 789)

indifference curve map a collection of *indifference curves* for a given individual that represents the individual's entire *utility function*; each curve corresponds to a different total *utility* level. (p. 789)

individual choice the decision by an individual of what to do, which necessarily involves a decision of what not to do. (p. 2)

individual consumer surplus the net gain to an individual buyer from the purchase of a good; equal to the difference between the buyer's *willingness to pay* and the price paid. (p. 485)

individual demand curve a graphical representation of the relationship between *quantity demanded* and price for an individual consumer. (p. 55)

individual labor supply curve a graphical representation showing how the quantity of labor supplied by an individual depends on that individual's wage rate. (p. 696)

individual producer surplus the net gain to an individual seller from selling a good; equal to the difference between the price received and the seller's *cost.* (p. 490)

individual supply curve a graphical representation of the relationship between *quantity supplied* and *price* for an individual producer. (p. 63)

industry supply curve a graphical representation that shows the relationship between the price of a good and the total output of the industry for that good. (p. 599)

inefficient allocation of sales among sellers a form of inefficiency in which sellers who would be willing to sell a good at the lowest price are not always those who actually manage to sell it; often the result of a *price floor.* (p. 84)

inefficient allocation to consumers a form of inefficiency in which people who want a good badly and are willing to pay a high price don't get it, and those who care relatively little about the good and are only willing to pay a low price do get it; often a result of a *price ceiling.* (p. 80)

inefficiently high quality a form of inefficiency in which sellers offer high-quality goods at a high price even though buyers would prefer a lower quality at a lower price; often the result of a *price floor.* (p. 85)

inefficiently low quality a form of inefficiency in which sellers offer low-quality goods at a low price even though buyers would prefer a higher quality at a higher price; often a result of a *price ceiling.* (p. 81)

inelastic demand when the *price elasticity of demand* is less than 1. (p. 467)

inferior good a good for which a rise in income decreases the demand for the good. (p. 54)

inflation a rise in the overall price level. (p. 12)

inflation rate the annual percent change in a price index—typically the *consumer price index.* The inflation rate is positive when the *aggregate price level* is rising (*inflation*) and negative when the aggregate price level is falling (*deflation*). (p. 135)

inflation targeting an approach to monetary policy that requires that the central bank try to keep the *inflation rate* near a predetermined target rate. (p. 312)

inflation tax the reduction in the value of money held by the public caused by *inflation.* (p. 325)

inflationary gap exists when *aggregate output* is above *potential output.* (p. 196)

infrastructure *physical capital,* such as roads, power lines, ports, information networks, and other parts of an *economy,* that provides the underpinnings, or foundation, for economic activity. (p. 389)

in-kind benefit a benefit given in the form of goods or services. (p. 768)

input a good or service used to produce another good or service. (p. 62)

interdependent the outcome (profit) of each firm depends on the actions of the other firms in the market. (p. 638)

interest rate the price, calculated as a percentage of the amount borrowed, charged by lenders to borrowers for the use of their savings for one year. (p. 222)

interest rate effect of a change in the aggregate price level the effect on *consumer spending* and *investment spending* caused by a change in the purchasing power of consumers' money holdings when the *aggregate price level* changes. A rise (fall) in the aggregate price level decreases (increases) the purchasing power of consumers' money holdings. In response, consumers try to increase (decrease) their money holdings, which drives up (down) interest rates, thereby decreasing (increasing) consumption and investment. (p. 174)

intermediate goods and services goods and services, bought from one *firm* by another firm, that are inputs for production of *final goods and services.* (p. 106)

internalize the externality when individuals take into account *external costs* and *external benefits.* (p. 728)

inventories stocks of goods and raw materials held to satisfy future sales. (pp. 105, 168)

inventory investment the value of the change in total *inventories* held in the *economy* during a given period. Unlike other types of *investment spending,* inventory investment can be negative, if inventories fall. (p. 168)

investment bank a *bank* that trades in *financial assets* and is not covered by *deposit insurance.* (p. 257)

investment spending spending on productive *physical capital,* such as machinery and construction of structures, and on changes to *inventories.* (p. 106)

job search when workers spend time looking for *employment.* (p. 127)

labor the effort of workers. (p. 3)

labor force the number of people who are either actively employed for pay or unemployed and actively looking for work; the sum of *employment* and *unemployment.* (pp. 12, 119)

labor force participation rate the percentage of the population age 16 or older that is in the *labor force.* (p. 119)

labor productivity (productivity) output per worker. (p. 372)

land all resources that come from nature, such as minerals, timber, and petroleum. (p. 3)

law of demand the principle that a higher price for a good or service, other things equal, leads people to demand a smaller quantity of that good or service. (p. 50)

law of supply other things being equal, the price and quantity supplied of a good are positively related. (p. 60)

leisure the time available for purposes other than earning money to buy marketed goods. (p. 696)

leverage the degree to which a financial institution is financing its investments with borrowed funds. (p. 258)

liability a requirement to pay income in the future. (p. 224)

license gives its owner the right to supply a good or service. (p. 88)

life insurance company a *financial intermediary* that sells policies guaranteeing a payment to a policyholder's beneficiaries when the policyholder dies. (p. 228)

liquid describes an asset that can be quickly converted into cash without much loss of value. (p. 226)

liquidity preference model of the interest rate a model of the market for money in which the interest rate is determined by the supply and demand for money. (p. 273)

liquidity trap a situation in which *monetary policy* is ineffective because *nominal interest rates* are up against the *zero bound.* (p. 339)

loan a lending agreement between an individual lender and an individual borrower. Loans are usually tailored to the individual borrower's needs and ability to pay but carry relatively high *transaction costs.* (p. 226)

loanable funds market a hypothetical market in which the demand for funds is generated by borrowers and the supply of funds is provided by lenders. The market equilibrium determines the quantity and price, or *interest rate,* of loanable funds. (p. 277)

loan-backed securities assets created by pooling individual *loans* and selling shares in that pool. (p. 227)

long run the time period in which all inputs can be varied. (p. 542)

long-run aggregate supply curve a graphical representation of the relationship between the *aggregate price level* and the quantity of *aggregate output* supplied if all prices, including *nominal wages,* were fully flexible. The long-run aggregate supply curve is vertical because the aggregate price level has no effect on aggregate output in the long run; in the long run, aggregate output is determined by the *economy's potential output.* (p. 184)

long-run average total cost curve a graphical representation showing the relationship between *output* and *average total cost* when *fixed cost* has been chosen to minimize average total cost for each level of output. (p. 561)

long-run industry supply curve a graphical representation that shows how *quantity supplied* responds to price once producers have had time to enter or exit the industry. (p. 603)

long-run macroeconomic equilibrium a situation in which the *short-run macroeconomic equilibrium* is also on the *long-run aggregate supply curve;* so *short-run equilibrium aggregate output* is equal to *potential output.* (p. 194)

long-run market equilibrium an economic balance in which, given sufficient time for producers to enter or exit an industry, the *quantity supplied* equals the *quantity demanded.* (p. 602)

long-run Phillips curve a graphical representation of the relationship between *unemployment* and *inflation* in the long run after expectations of inflation have had time to adjust to experience. (p. 336)

long-term interest rate the *interest rate* on *financial assets* that mature a number of years into the future. (p. 270)

long-term reputation allows an individual to assure others that he or she isn't concealing adverse private information. (p. 784)

lump-sum taxes taxes that don't depend on the taxpayer's income. (pp. 211, 508)

macroeconomic policy activism the use of *monetary policy* and *fiscal policy* to smooth out the business cycle. (p. 346)

macroeconomics the branch of *economics* that is concerned with the overall ups and downs in the *economy.* (p. 5)

marginal analysis the study of *marginal decisions.* (p. 3)

marginal cost curve a graphical representation showing how the cost of producing one more unit depends on the quantity that has already been produced. (p. 538)

marginal cost pricing occurs when regulators set a monopoly's price equal to its marginal cost to achieve efficiency. (p. 757)

marginal external benefit the addition to external benefits created by one more unit of the good. (p. 738)

marginal external cost the increase in external costs created by one more unit of a good. (p. 739)

marginal factor cost of labor (MFCL) the additional cost of hiring an additional worker. The marginal factor cost of land and the marginal factor cost of capital are equivalent concepts. (p. 700)

marginal private benefit the marginal benefit that accrues to consumers of a good, not including any external benefits. (p. 738)

marginal private cost the marginal cost of producing a good, not including any external costs. (p. 739)

marginal product the additional quantity of output produced by using one more unit of that *input.* (p. 543)

marginal productivity theory of income distribution every *factor of production* is paid its *equilibrium value of the marginal product.* (p. 692)

marginal propensity to consume (*MPC*) the increase in *consumer spending* when income rises by $1. Because consumers normally spend part but not all of an additional dollar of disposable income, *MPC* is between 0 and 1. (p. 159)

marginal propensity to save (*MPS*) the increase in household savings when disposable income rises by $1. (p. 159)

marginal rate of substitution (*MRS*) the ratio of the *marginal utility* of one good to the marginal utility of another. (p. 794)

marginal revenue the change in *total revenue* generated by an additional unit of output. (p. 537)

marginal revenue curve a graphical representation showing how *marginal revenue* varies as output varies. (p. 538)

marginal revenue product of labor (MRPL) equals the marginal product of labor times the marginal revenue received from selling the additional output. The marginal revenue product of land and the marginal revenue product of capital are equivalent concepts. (p. 700)

marginal social benefit of a good or activity the *marginal benefit* that accrues to consumers plus the marginal *external benefit.* (p. 738)

marginal social benefit of pollution the additional gain to society as a whole from an additional unit of pollution. (p. 724)

marginal social cost of a good or activity the *marginal cost* of production plus the marginal *external cost.* (p. 739)

marginal social cost of pollution the additional cost imposed on society as a whole by an additional unit of pollution. (p. 724)

marginal utility the change in total *utility* generated by consuming one additional unit of a good or service. (p. 513)

marginal utility curve a graphical representation showing how *marginal utility* depends on the quantity of a good or service consumed. (p. 513)

marginal utility per dollar the additional *utility* from spending one more dollar on a good or service. (p. 518)

marginally attached workers nonworking individuals who say they would like a job and have looked for work in the recent past but are not currently looking for work. (p. 120)

market basket a hypothetical consumption bundle of consumer purchases of goods and services, used to measure changes in overall price level. (p. 142)

market economy an *economy* in which decisions of individual producers and consumers largely determine what, how, and for whom to produce, with little government involvement in the decisions. (p. 2)

market share the fraction of the total industry output accounted for by a firm's output. (p. 569)

mean household income the average income across all households. (p. 765)

means-tested program a program in which benefits are available only to individuals or families whose incomes fall below a certain level. (p. 768)

median household income the income of the household lying in the middle of the *income distribution.* (p. 765)

medium of exchange an asset that individuals acquire for the purpose of trading for goods and services rather than for their own consumption. (p. 232)

menu cost the real cost of changing a listed price. (p. 137)

merchandise trade balance (trade balance) the difference between a country's exports and imports of goods alone—not including services. (p. 412)

microeconomics the branch of *economics* that studies how people make decisions and how those decisions interact. (p. 5)

midpoint method a technique for calculating the percent change in which changes in a variable are compared with the average, or midpoint, of the starting and final values. (p. 462)

minimum-cost output the quantity of output at which *average total cost* is lowest—the bottom of the U-*shaped average total cost curve.* (p. 555)

minimum wage a legal floor on the wage rate. The wage rate is the market price of labor. (p. 82)

model a simplified representation of a real situation that is used to better understand real-life situations. (p. 14)

monetarism a theory of *business cycles,* associated primarily with Milton Friedman, that asserts that GDP will grow steadily if the *money supply* grows steadily. (p. 348)

monetary aggregate an overall measure of the *money supply.* The most common monetary aggregates in the United States are M1, which includes *currency in circulation,* traveler's checks, and *checkable bank deposits,* and M2, which includes M1 as well as *near-moneys.* (p. 234)

monetary base the sum of *currency in circulation* and *bank reserves.* (p. 249)

monetary neutrality the concept that changes in the *money supply* have no real effects on the *economy* in the long run and only result in a proportional change in the price level. (p. 317)

monetary policy the central bank's use of changes in the quantity of money or the interest rate to stabilize the economy (p. 177)

monetary policy rule a formula that determines the *central bank's* actions. (p. 349)

money any asset that can easily be used to purchase goods and services. (p. 231)

money demand curve a graphical representation of the negative relationship between the quantity of money demanded and the interest rate. The money demand curve slopes downward because, other things equal, a higher interest rate increases the *opportunity cost* of holding money. (p. 270)

money multiplier the ratio of the *money supply* to the *monetary base;* indicates the total number of dollars created in the banking system by each $1 addition to the monetary base. (p. 250)

money supply the total value of *financial assets* in the *economy* that are considered *money.* (p. 231)

money supply curve a graphical representation of the relationship between the quantity of money supplied by the Federal Reserve and the *interest rate.* (p. 273)

monopolist a firm that is the only producer of a good that has no close substitutes. (p. 571)

monopolistic competition a market structure in which there are many competing firms in an industry, each firm sells a differentiated product, and there is *free entry into and exit* from the industry in the *long run.* (p. 575)

monopoly an industry controlled by a *monopolist.* (p. 571)

monopsonist a single buyer in a market. (p. 701)

monopsony a market in which there is only one buyer. (p. 701)

moral hazard the situation that can exist when an individual knows more about his or her own actions than other people do. This leads to a distortion of incentives to take care or to exert effort when someone else bears the costs of the lack of care or effort. (p. 785)

movement along the demand curve a change in the *quantity demanded* of a good that results from a change in the price of that good. (p. 51)

movement along the supply curve a change in the *quantity supplied* of a good that results from a change in the price of that good. (p. 60)

multiplier the ratio of total change in *real GDP* caused by an *autonomous change in aggregate spending* to the size of that autonomous change. (p. 160)

mutual fund a *financial intermediary* that creates a stock portfolio by buying and holding shares in companies and then selling shares of this portfolio to individual investors. (p. 228)

Nash equilibrium in *game theory,* the *equilibrium* that results when all players choose the action that maximizes their *payoffs* given the actions of other players, ignoring the effect of that action on the *payoffs* of other players; also known as *noncooperative equilibrium.* (p. 646)

national income and product accounts an accounting of *consumer spending,* sales of producers, business *investment spending,* and other flows of money between different sectors of the *economy;* also referred to as *national accounts.* Calculated by the Bureau of Economic Analysis. (p. 102)

national savings the sum of *private savings* and the government's *budget balance;* the total amount of savings generated within the *economy.* (p. 223)

natural monopoly a *monopoly* that exists when *increasing returns to scale* provide a large cost advantage to having all output produced by a single firm. (p. 571)

natural rate hypothesis the hypothesis that the unemployment rate is stable in the long run at a particular natural rate. According to this hypothesis, attempts to lower the unemployment rate below the natural rate of unemployment will cause an ever-rising inflation rate. (p. 350)

natural rate of unemployment the unemployment rate that arises from the effects of frictional plus structural unemployment. (p. 130)

near-money a *financial asset* that can't be directly used as a *medium of exchange* but can be readily converted into cash or *checkable bank deposits.* (p. 235)

negative income tax a government program that supplements the income of low-income working families. (p. 769)

net exports the difference between the value of *exports* and the value of *imports.* A positive value for net exports indicates that a country is a net exporter of goods and services; a negative value indicates that a country is a net importer of goods and services. (p. 108)

net present value the *present value* of current and future benefits minus the present value of current and future costs. (p. 240)

network externality when the value of a good to an individual is greater when more people also use the good. (p. 739)

new classical macroeconomics an approach to the *business cycle* that returns to the classical view that shifts in the *aggregate demand curve* affect only the *aggregate price level,* not *aggregate output.* (p. 351)

new Keynesian economics theory that argues that market imperfections can lead to price stickiness for the economy as a whole. (p. 352)

nominal GDP the value of all *final goods and services* produced in the *economy* during a given year, calculated using the prices current in the year in which the output is produced. (p. 114)

nominal interest rate the *interest rate* actually paid for a loan, not adjusted for inflation. (p. 138)

nominal wage the dollar amount of any given wage paid. (p. 180)

nonaccelerating inflation rate of unemployment (NAIRU) the *unemployment* rate at which, other things equal, *inflation* does not change over time. (p. 336)

noncooperative behavior actions by firms that ignore the effects of those actions on the profits of other firms. (p. 640)

nonexcludable referring to a good, describes the case in which the supplier cannot prevent those who do not pay from consuming the good. (p. 743)

nonprice competition competition in areas other than price to increase sales, such as new product features and advertising; especially engaged in by firms that have a tacit understanding not to compete on price. (p. 656)

nonrival consumption referring to a good, describes the case in which the same unit can be consumed by more than one person at the same time. (p. 744)

normal good a good for which a rise in income increases the demand for that good—the "normal" case. (p. 53)

normal profit an economic profit equal to zero. It is an economic profit just high enough to keep a firm engaged in its current activity. (p. 534)

normative economics the branch of economic analysis that makes prescriptions about the way the *economy* should work. (p. 6)

oligopolist a firm in an industry with only a small number of producers. (p. 573)

oligopoly an industry with only a small number of producers. (p. 573)

open-market operation a purchase or sale of U.S. Treasury bills by the Federal Reserve, undertaken to change the *monetary base,* which in turn changes the *money supply.* (p. 264)

opportunity cost the real cost of an item: what you must give up in order to get it. (p. 3)

optimal consumption bundle the *consumption bundle* that maximizes the consumer's total *utility* given his or her *budget constraint.* (p. 515)

optimal consumption rule when a consumer maximizes *utility,* the *marginal utility per dollar* spent must be the same for all goods and services in the *consumption bundle.* (p. 520)

optimal output rule profit is maximized by producing the quantity of output at which the *marginal revenue* of the last unit produced is equal to its *marginal cost.* (p. 537)

ordinary goods in a consumer's *utility function,* those for which additional units of one good are required to compensate for fewer units of another, and vice versa; and for which the consumer experiences a *diminishing marginal rate of substitution* when substituting one good in place of another. (p. 795)

other things equal assumption in the development of a model, the assumption that all relevant factors except the one under study remain unchanged. (p. 14)

output the quality of goods and services produced. (p. 12)

output gap the percentage difference between actual *aggregate output* and *potential output.* (p. 196)

overuse the depletion of a *common resource* that occurs when individuals ignore the fact that their use depletes the amount of the resource remaining for others. (p. 749)

patent a temporary monopoly given by the government to an inventor for the use or sale of an invention. (p. 572)

payoff in *game theory,* the reward received by a player in a game (for example, the profit earned by an *oligopolist*). (p. 644)

payoff matrix in *game theory,* a diagram that shows how the *payoffs* to each of the participants in a two-player game depend on the actions of both; a tool in analyzing *interdependence.* (p. 644)

pension fund a type of *mutual fund* that holds assets in order to provide retirement income to its members. (p. 228)

perfectly competitive industry an industry in which all producers are price-takers. (p. 569)

perfectly competitive market a market in which all market participants are price-takers. (p. 568)

perfectly elastic demand the case in which any price increase will cause the *quantity demanded* to drop to zero; the *demand curve* is a horizontal line. (p. 467)

perfectly elastic supply the case in which even a tiny increase or reduction in the price will lead to very large changes in the *quantity supplied,* so that the *price elasticity of supply* is infinite; the perfectly elastic *supply curve* is a horizontal line. (p. 479)

perfectly inelastic demand the case in which the *quantity demanded* does not respond at all to changes in the price; the *demand curve* is a vertical line. (p. 466)

perfectly inelastic supply the case in which the *price elasticity of supply* is zero, so that changes in the price of the good have no effect on the *quantity supplied;* the perfectly inelastic *supply curve* is a vertical line. (p. 478)

perfect price discrimination a situation in which a monopolist charges each consumer his or her willingness to pay—the maximum that the consumer is willing to pay. (p. 627)

physical asset a claim on a tangible object that gives the owner the right to dispose of the object as he or she wishes. (p. 224)

physical capital human-made goods such as buildings and machines used to produce other goods and services. (pp. 373, 680)

Pigouvian subsidy a payment designed to encourage activities that yield *external benefits.* (p. 738)

Pigouvian taxes taxes designed to reduce *external costs.* (p. 734)

planned investment spending the *investment spending* that *firms* intend to undertake during a given period. Planned investment spending may differ from actual investment spending due to *unplanned inventory investment.* (p. 166)

political business cycle a *business cycle* that results from the use of macroeconomic policy to serve political ends. (p. 351)

positive economics the branch of economic analysis that describes the way the *economy* actually works. (p. 6)

potential output the level of *real GDP* the *economy* would produce if all prices, including *nominal wages,* were fully flexible. (p. 185)

poverty rate the percentage of the population with incomes below the *poverty threshold.* (p. 761)

poverty threshold the annual income below which a family is officially considered poor. (p. 761)

present value the amount of money needed at the present time to produce, at the prevailing *interest rate,* a given amount of money at a specified future time. (p. 239)

price ceiling the maximum price sellers are allowed to charge for a good or service; a form of *price control.* (p. 77)

price controls legal restrictions on how high or low a market price may go. (p. 77)

price discrimination charging different prices to different consumers for the same good. (p. 624)

price floor the minimum price buyers are required to pay for a good or service; a form of *price control.* (p. 77)

price index a measure of the cost of purchasing a given *market basket* in a given year, where that cost is normalized so that it is equal to 100 in the selected base year; a measure of overall price level. (p. 143)

price elasticity of demand the ratio of the percent change in the *quantity demanded* to the percent change in the price as we move along the *demand curve* (dropping the minus sign). (p. 460)

price elasticity of supply a measure of the responsiveness of the quantity of a good supplied to the price of that good; the ratio of the percent change in the *quantity supplied* to the percent change in the price as we move along the *supply curve.* (p. 477)

price leadership a pattern of behavior in which one firm sets its price and other firms in the industry follow. (p. 656)

price regulation a limitation on the price that a *monopolist* is allowed to charge. (p. 619)

price stability when the aggregate price level is changing only slowly. (p. 13)

price-taking consumer a consumer whose actions have no effect on the market price of the good or service he or she buys. (p. 568)

price-taking firm a firm whose actions have no effect on the market price of the good or service it sells. (p. 568)

price-taking firm's optimal output rule the profit of a price-taking firm is maximized by producing the quantity of output at which the market price is equal to the *marginal cost* of the last unit produced. (p. 585)

price war a collapse of prices when *tacit collusion* breaks down. (p. 654)

principle of diminishing marginal utility the proposition that each successive unit of a good or service consumed adds less to total *utility* than does the previous unit. (p. 513)

principle of marginal analysis the proposition that the *optimal quantity* is the quantity at which *marginal benefit* is equal to *marginal cost.* (p. 537)

prisoners' dilemma a game based on two premises: (1) Each player has an incentive to choose an action that benefits itself at the other player's expense; and (2) When both players act in this way, both are worse off than if they had acted cooperatively. (p. 645)

private good a good that is both *excludable* and *rival in consumption.* (p. 743)

private information information that some people have that others do not. (p. 782)

private savings *disposable income* minus *consumer spending;* disposable income that is not spent on consumption but rather goes into *financial markets.* (p. 105)

producer price index (PPI) a measure of the cost of a typical basket of goods and services purchased by producers. Because these commodity prices respond quickly to changes in demand, the PPI is often regarded as a leading indicator of changes in the *inflation rate.* (p. 145)

producer surplus a term often used to refer to either *individual producer surplus* or to *total producer surplus.* (p. 490)

product differentiation the attempt by firms to convince buyers that their products are different from those of other firms in the industry. If firms can so convince buyers, they can charge a higher price. (p. 655)

production possibilities curve illustrates the trade-offs facing an economy that produces only two goods; shows the maximum quantity of one good that can be produced for each possible quantity of the other good produced. (p. 16)

production function the relationship between the quantity of *inputs* a firm uses and the quantity of output it produces. (p. 542)

production possibilities curve shows the maximum quantity of one good that can be produced for each possible quantity of the other good produced. It illustrates the trade-offs facing an economy that produces only two goods. (p. 16)

product markets where goods and services are bought and sold. (p. 103)

progressive tax a tax that takes a larger share of the income of high-income taxpayers than of low-income taxpayers. (p. 499)

property rights the rights of owners of valuable items, whether *resources* or goods, to dispose of those items as they choose. (p. 3)

proportional tax a tax that is the same percentage of the *tax base* regardless of the taxpayer's income or wealth. (p. 499)

public debt government debt held by individuals and institutions outside the government. (p. 300)

public good a good that is both *nonexcludable* and *nonrival in consumption.* (p. 745)

public ownership when goods are supplied by the government or by a firm owned by the government to protect the interests of the consumer in response to *natural monopoly.* (p. 619)

purchasing power parity (between two countries' currencies) the nominal exchange rate at which a given basket of goods and services would cost the same amount in each country. (p. 427)

quantity control (quota) an upper limit, set by the government, on the quantity of some good that can be bought or sold; also referred to as a *quota.* (p. 88)

quantity demanded the actual amount of a good or service consumers are willing to buy at some specific price. (p. 49)

quantity supplied the actual amount of a good or service producers are willing to sell at some specific price. (p. 59)

Quantity Theory of Money a theory that emphasizes the positive relationship between the price level and the money supply. It relies on the equation ($M \times V = P \times Y$). (p. 349)

quota rent the earnings that accrue to the license-holder from ownership of the right to sell the good. (p. 91)

rate of return (of an investment project) the profit earned on an investment project expressed as a percentage of its cost. (p. 278)

rational expectations a theory of expectation formation that holds that individuals and *firms* make decisions optimally, using all available information. (p. 352)

real business cycle theory a theory of *business cycles* that asserts that fluctuations in the growth rate of *total factor productivity* cause the business cycle. (p. 352)

real exchange rate the *exchange rate* adjusted for international differences in *aggregate price levels.* (p. 425)

real GDP the total value of all *final goods and services* produced in the *economy* during a given year, calculated using the prices of a selected base year. (p. 114)

real income income divided by the price level. (p. 135)

real interest rate the *nominal interest rate* minus the *inflation rate.* (p. 138)

real wage the wage rate divided by the price level. (p. 135)

recession a period of economic downturn when output and unemployment are falling; also referred to as a contraction. (p. 10)

recessionary gap exists when *aggregate output* is below *potential output.* (p. 195)

regressive tax a tax that takes a smaller share of the income of high-income taxpayers than of low-income taxpayers. (p. 499)

relative price the ratio of the price of one good to the price of another. (p. 797)

relative price rule at the *optimal consumption bundle,* the *marginal rate of substitution* of one good in place of another equal to their relative price. (p. 798)

rental rate the cost, explicit or implicit, of using a unit of either land or capital for a given period of time. (p. 691)

required reserve ratio the smallest fraction of deposits that the Federal Reserve allows banks to hold. (p. 244)

research and development (R & D) spending to create and implement new technologies. (p. 388)

reserve ratio the fraction of *bank deposits* that a *bank* holds as reserves. In the United States, the minimum required reserve ratio is set by the Federal Reserve. (p. 244)

reserve requirements rules set by the Federal Reserve that set the minimum *reserve ratio* for banks. For *checkable bank deposits* in the United States, the minimum reserve ratio is set at 10%. (p. 246)

resource anything, such as land, labor, and capital, that can be used to produce something else; includes natural resources (from the physical environment) and human resources (labor, skill, intelligence). (p. 3)

revaluation an increase in the value of a currency that is set under a *fixed exchange rate regime.* (p. 438)

rival in consumption referring to a good, describes the case in which one unit cannot be consumed by more than one person at the same time. (p. 743)

Rule of 70 a mathematical formula that states that the time it takes *real GDP* per capita, or any other variable that grows gradually over time, to double is approximately 70 divided by that variable's annual growth rate. (p. 371)

savings and loans (thrifts) deposit-taking *banks,* usually specialized in issuing home loans. (p. 257)

savings–investment spending identity an accounting fact that states that savings and *investment spending* are always equal for the *economy* as a whole. (p. 222)

scarce in short supply; a *resource* is scarce when there is not enough of the resource available to satisfy all the various ways a society wants to use it. (p. 3)

screening using observable information about people to make inferences about their *private information;* a way to reduce *adverse selection.* (p. 783)

securitization the pooling of loans and mortgages made by a financial institution and the sale of shares in such a pool to other investors. (p. 259)

self-correcting refers to the fact that in the long run, shocks to *aggregate demand* affect *aggregate output* in the short run, but not the long run. (p. 196)

shoe-leather costs (of inflation) the increased costs of transactions caused by *inflation.* (p. 137)

shortage the insufficiency of a good or service that occurs when the *quantity demanded* exceeds the *quantity supplied;* shortages occur when the price is below the *equilibrium price.* (p. 68)

short run the time period in which at least one *input* is fixed. (p. 542)

short-run aggregate supply curve a graphical representation of the relationship between the *aggregate price* level and the quantity of *aggregate output* supplied that exists in the short run, the time period when many production costs can be taken as fixed. The short-run aggregate supply curve has a positive slope because a rise in the aggregate price level leads to a rise in profits, and therefore output, when production costs are fixed. (p. 181)

short-run equilibrium aggregate output the quantity of *aggregate output* produced in *short-run macroeconomic equilibrium.* (p. 190)

short-run equilibrium aggregate price level the *aggregate price level* in *short-run macroeconomic equilibrium.* (p. 190)

short-run individual supply curve a graphical representation that shows how an individual producer's profit-maximizing output quantity depends on the market price, taking *fixed cost* as given. (p. 594)

short-run industry supply curve a graphical representation that shows how the *quantity supplied* by an industry depends on the market price, given a fixed number of producers. (p. 600)

short-run macroeconomic equilibrium the point at which the quantity of *aggregate output* supplied is equal to the *quantity demanded.* (p. 190)

short-run market equilibrium an economic balance that results when the *quantity supplied* equals the *quantity demanded,* taking the number of producers as given. (p. 601)

short-run Phillips curve a graphical representation of the negative short-run relationship between the unemployment rate and the *inflation rate.* (p. 331)

short-term interest rate the *interest rate* on *financial assets* that mature within less than a year. (p. 269)

shut-down price the price at which a firm ceases production in the short run because the price has fallen below the minimum average variable *cost.* (p. 593)

signaling taking some action to establish credibility despite possessing *private information;* a way to reduce *adverse selection.* (p. 784)

single-price monopolist a *monopolist* that offers its product to all consumers at the same price. (p. 624)

social insurance government programs—like Social Security, Medicare, unemployment insurance, and food stamps—intended to protect families against economic hardship. (p. 204)

socially optimal quantity of pollution the quantity of pollution that society would choose if all the costs and benefits of pollution were fully accounted for. (p. 725)

specialization a situation in which different people each engage in the different task that he or she is good at performing. (p. 23)

stabilization policy the use of government policy to reduce the severity of *recessions* and to rein in excessively strong *expansions.* There are two main tools of stabilization policy: *monetary policy* and *fiscal policy.* (p. 199)

stagflation the combination of *inflation* and falling *aggregate output.* (p. 193)

standardized product output of different producers regarded by consumers as the same good; also referred to as a *commodity.* (p. 569)

sticky wages *nominal wages* that are slow to fall even in the face of high *unemployment* and slow to rise even in the face of labor shortages. (p. 180)

stock a share in the ownership of a company held by a shareholder. (p. 104)

store of value an asset that is a means of holding purchasing power over time. (p. 232)

strategic behavior actions taken by a firm that attempt to influence the future behavior of other firms. (p. 647)

structural unemployment *unemployment* that results when there are more people seeking jobs in a labor market than there are jobs available at the current wage rate. (p. 128)

subprime lending lending to home buyers who don't meet the usual criteria for borrowing. (p. 259)

substitutes pairs of goods for which a rise in the price of one of the goods leads to an increase in the demand for the other good. (p. 53)

substitution effect the change in the quantity of a good demanded as the consumer substitutes the good that has become relatively cheaper for the good that has become relatively more expensive. (p. 458)

sunk cost a cost that has already been incurred and is nonrecoverable. (p. 563)

supply and demand model a model of how a *competitive market* works. (p. 48)

supply curve a graphical representation of the *supply schedule,* showing the relationship between *quantity supplied* and price. (p. 59)

supply price the price of a given quantity at which producers will supply that quantity. (p. 90)

supply schedule a list or table showing how much of a good or service producers will supply at different prices. (p. 59)

supply shock an event that shifts the *short-run aggregate supply curve.* A negative supply shock raises production costs and reduces the *quantity supplied* at any *aggregate price level,* shifting the curve leftward. A positive supply shock decreases production costs and increases the quantity supplied at any aggregate price level, shifting the curve rightward. (p. 192)

surplus the excess of a good or service that occurs when the *quantity supplied* exceeds the *quantity demanded;* surpluses occur when the price is above the *equilibrium price.* (p. 68)

sustainable describes continued *long-run economic growth* in the face of the limited supply of natural resources and the impact of growth on the environment. (p. 391)

T-account a simple tool that summarizes a business's financial position by showing, in a single table, the business's assets and liabilities, with assets on the left and liabilities on the right. (p. 243)

tacit collusion cooperation among producers, without a formal agreement, to limit production and raise prices so as to raise one anothers' profits. (p. 649)

tangency condition on a graph of a consumer's *budget line* and available *indifference curves* of available *consumption bundles,* the point at which an indifference curve and the budget line just touch. When the indifference curves have the typical convex shape, this point determines the *optimal consumption bundle.* (p. 796)

target federal funds rate the Federal Reserve's desired level for the *federal funds rate.* The Federal Reserve adjusts the *money supply* through the purchase and sale of Treasury bills until the actual rate equals the desired rate. (p. 307)

tax incidence the distribution of the tax burden. (p. 502)

Taylor rule for monetary policy a rule for setting the *federal funds rate* that takes into account both the *inflation rate* and the *output gap.* (p. 311)

technology the technical means for the production of goods and services. (pp. 21, 373)

technology spillover an *external benefit* that results when knowledge spreads among individuals and firms. (p. 738)

time allocation the decision about how many hours to spend on different activities, which leads to a decision about how much labor to supply. (p. 695)

tit for tat in *game theory,* a strategy that involves playing cooperatively at first, then doing whatever the other player did in the previous period. (p. 647)

total consumer surplus the sum of the *individual consumer surpluses* of all the buyers of a good in a market. (p. 485)

total cost the sum of the *fixed cost* and the *variable cost* of producing a quantity of output. (p. 548)

total cost curve a graphical representation of the *total cost,* showing how total cost depends on the quantity of output. (p. 549)

total factor productivity the amount of output that can be produced with a given amount of factor inputs. (p. 379)

total producer surplus the sum of the *individual producer surpluses* of all the sellers of a good in a market. (p. 490)

total product curve a graphical representation of the *production function,* showing how the quantity of output depends on the quantity of the *variable input* for a given quantity of the *fixed input.* (p. 543)

total revenue the total value of sales of a good or service (the price of the good or service multiplied by the quantity sold). (p. 468)

total surplus the total net gain to consumers and producers from trading in a market; the sum of the *consumer surplus* and the *producer surplus.* (p. 495)

tradable emissions permits *licenses* to emit limited quantities of pollutants that can be bought and sold by polluters. (p. 734)

trade when individuals provide goods and services to others and receive goods and services in return. (p. 23)

trade-off when you give up something in order to have something else. (p. 16)

transaction costs the expenses of negotiating and executing a deal. (p. 225)

underemployed people who work part time because they cannot find full-time jobs. (p. 120)

unemployed people who are actively looking for work but are not currently employed. (p. 119)

unemployment the total number of people who are actively looking for work but aren't currently employed. (p. 12)

unemployment rate the percentage of the total number of people in the *labor force* who are unemployed, calculated as *unemployment/(unemployment + employment).* (pp. 12, 119)

unions organizations of workers that try to raise wages and improve working conditions for their members by bargaining collectively. (p. 713)

unit-elastic the price elasticity of demand is exactly 1. (p. 467)

unit of account a measure used to set prices and make economic calculations. (p. 233)

unit-of-account costs (of inflation) costs arising from the way *inflation* makes money a less reliable unit of measurement. (p. 137)

unplanned inventory investment unplanned changes in inventories, which occur when actual sales are more or less than businesses expected; sales in excess of expectations result in negative unplanned inventory investment. (p. 169)

U-shaped average total cost curve a distinctive graphical representation of the relationship between output and *average total cost;* the average total cost curve at first falls when output is low and then rises as output increases. (p. 553)

util a unit of utility. (p. 512)

utility (of a consumer) a measure of the satisfaction derived from consumption of goods and services. (p. 511)

value added (of a producer) the value of a producer's sales minus the value of input purchases. (p. 107)

value of the marginal product the value of the additional output generated by employing one more unit of a given factor, such as labor. (p. 684)

value of the marginal product curve a graphical representation showing how the *value of the marginal product* of a factor depends on the quantity of the factor employed. (p. 684)

variable cost a cost that depends on the quantity of output produced; the cost of the *variable input.* (p. 548)

variable input an *input* whose quantity the firm can vary at any time (for example, labor). (p. 542)

velocity of money the ratio of *nominal GDP* to the *money supply.* (p. 349)

vicious cycle of deleveraging describes the sequence of events that takes place when a *firm's* asset sales to cover losses produce negative *balance sheet effects* on other firms and force creditors to call in their *loans,* forcing sales of more assets and causing further declines in asset prices. (p. 258)

wasted resources a form of inefficiency in which people expend money, effort, and time to cope with the shortages caused by a *price ceiling.* (p. 80)

wealth (of a *household*) the value of accumulated savings. (p. 224)

wealth effect of a change in the aggregate price level the effect on *consumer spending* caused by the change in the purchasing power of consumers' assets when the *aggregate price level* changes. A rise in the aggregate price level decreases the purchasing power of consumers' assets, so they decrease their consumption; a fall in the aggregate price level increases the purchasing power of consumers' assets, so they increase their consumption. (p. 174)

wedge the difference between the *demand price* of the quantity transacted and the *supply price* of the quantity transacted for a good when the supply of the good is legally restricted. Often created by a *quota* or a tax. (p. 91)

willingness to pay the maximum price a consumer is prepared to pay for a good. (p. 483)

zero bound the lower bound of zero on the *nominal interest rate.* (p. 339)

zero-profit equilibrium an economic balance in which each firm makes zero profit at its profit-maximizing quantity. (p. 661)