GLOSSARY

A

ability-to-pay principle the principle of tax fairness by which those with greater ability to pay a tax should pay more tax.

absolute advantage the advantage conferred on an individual or country in an activity if the individual or country can do it better than others. A country with an absolute advantage can produce more output per worker than other countries.

absolute value the value of a number without regard to a plus or minus sign.

accounting profit revenue minus explicit cost.

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.

adverse selection the case in which 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.

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

artificially scarce good a good that is excludable but nonrival in consumption.

autarky a situation in which a country does not trade with other countries.

average cost an alternative term for average total cost; the total cost divided by the quantity of output produced.

average fixed cost the fixed cost per unit of output.

average total cost total cost divided by quantity of output produced. Also referred to as average cost.

average variable cost the variable cost per unit of output.

B

backward-bending individual labor supply curve an individual labor supply curve that slopes upward at low to moderate wage rates and slopes downward at higher wage rates.

bar graph a graph that uses bars of varying heights or lengths to show the comparative sizes of different observations of a variable.

barrier to entry something that prevents other firms from entering an industry. Crucial in protecting the profits of a monopolist. There are five types of barriers to entry: control over scarce resources or inputs, increasing returns to scale, technological superiority, network externalities, and government-created barriers.

barter the direct exchange of goods or services for other goods or services without the use of money.

benefits principle the principle of tax fairness by which those who benefit from public spending should bear the burden of the tax that pays for that spending.

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.

bounded rationality a basis for decision making that leads to a choice that is close to but not exactly the one that leads to the best possible economic outcome; the "good enough" method of decision making.

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

break-even price the market price at which a firm earns zero profits.

budget constraint the limitation that the cost of a consumer's consumption bundle cannot exceed the consumer's income.

budget line all the consumption bundles available to a consumer who spends all of his or her income.

C

capital the total value of assets owned by an individual or firm—physical assets plus financial assets.

capital at risk funds that an insurer places at risk when providing insurance.

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

causal relationship the relationship between two variables in which the value taken by one variable directly influences or determines the value taken by the other variable.

circular-flow diagram a diagram that represents the transactions in an economy by two kinds of flows around a circle: flows of physical things such as goods or labor in one direction and flows of money to pay for these physical things in the opposite direction.

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.

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

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

common resource a resource that is nonexcludable and rival in consumption.

comparative advantage the advantage conferred on an individual or country in producing a good or service if the opportunity cost of producing the good or service is lower for that individual or country than for other producers.

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

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.

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.

constant marginal cost each additional unit costs the same to produce as the previous one.

constant returns to scale long-run average total cost is constant as output increases.

consumer surplus a term often used to refer both to individual consumer surplus and to total consumer surplus.

consumption bundle (of an individual) the collection of all the goods and services consumed by a given individual.

consumption possibilities the set of all consumption bundles that can be consumed given a consumer's income and prevailing prices.

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.

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

cost-benefit analysis an estimate of the costs and benefits of providing a good. When governments use cost-benefit analysis, they estimate the social costs and social benefits of providing a public good.

cross-price elasticity of demand a measure of the effect of the change in the price of one good on the quantity demanded of the other; it is equal to the percent change in the quantity demanded of one good divided by the percent change in the price of another good.

curve a line on a graph, which may be curved or straight, that depicts a relationship between two variables.

D

deadweight loss the loss in total surplus that occurs whenever an action or a policy reduces the quantity transacted below the efficient market equilibrium quantity.

decreasing marginal benefit each additional unit of an activity yields less benefit than the previous unit.

decreasing marginal cost each additional unit costs less to produce than the previous one.

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

deductible a sum specified in an insurance policy that the insured individual must pay before being compensated for a claim; deductibles reduce moral hazard.

demand curve a graphical representation of the demand schedule, showing the relationship between quantity demanded and price.

demand price the price of a given quantity at which consumers will demand that quantity.

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

dependent variable the determined variable in a causal relationship.

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.

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.

diversification reducing risk by investing in several different things, so that the possible losses are independent events.

domestic demand curve a demand curve that shows how the quantity of a good demanded by domestic consumers depends on the price of that good.

domestic supply curve a supply curve that shows how the quantity of a good supplied by domestic producers depends on the price of that good.

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

duopolist one of the two firms in a duopoly.

duopoly an oligopoly consisting of only two firms.

E

economic growth the growing ability of the economy to produce goods and services.

economic profit revenue minus the opportunity cost of resources used; usually less than the accounting profit.

economic signal any piece of information that helps people make better economic decisions.

economics the social science that studies the production, distribution, and consumption of goods and services.

economy a system for coordinating society's productive activities.

efficiency-wage model a model in which some employers pay an above-equilibrium wage as an incentive for better performance.

efficient description of a market or economy that takes all opportunities to make some people better off without making other people worse off.

efficient allocation of risk an allocation of risk in which those most willing to bear risk are those who end up bearing it.

elastic demand the case in which the price elasticity of demand is greater than 1.

emissions tax a tax that depends on the amount of pollution a firm produces.

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

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

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.

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

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.

equity fairness; everyone gets his or her fair share. Since people can disagree about what is "fair," equity is not as well defined a concept as efficiency.

European Union (EU) a customs union among 28 European nations.

excess capacity the failure to produce enough to minimize average total cost; characteristic of monopolistically competitive firms.

excise tax a tax on sales of a good or service.

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

expected utility the expected value of an individual's total utility given uncertainty about future outcomes.

expected value in reference to a random variable, the weighted average of all possible values, where the weights on each possible value correspond to the probability of that value occurring.

explicit cost a cost that requires an outlay of money.

exporting industries industries that produce goods and services that are sold abroad.

exports goods and services sold to other countries.

external benefit an uncompensated benefit that an individual or firm confers on others; also known as positive externality.

external cost an uncompensated cost that an individual or firm imposes on others; also known as negative externality.

externalities external benefits and external costs.

F

factor distribution of income the division of total income among labor, land, and capital.

factor intensity the difference in the ratio of factors used to produce a good in various industries. For example, oil refining is capital-intensive compared to auto seat production because oil refiners use a higher ratio of capital to labor than do producers of auto seats.

factor markets markets in which firms buy the resources they need to produce goods and services.

factors of production the resources used to produce goods and services. Labor and capital are examples of factors.

fair insurance policy an insurance policy for which the premium is equal to the expected value of the claim.

financial risk uncertainty about monetary outcomes.

firm an organization that produces goods and services for sale.

fixed cost a cost that does not depend on the quantity of output produced; the cost of a fixed input.

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

forecast a simple prediction of the future.

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

free trade trade that is unregulated by government tariffs or other artificial barriers; the levels of exports and imports occur naturally, as a result of supply and demand.

free-rider problem problem that results when individuals who have no incentive to pay for their own consumption of a good take a "free ride" on anyone who does pay; a problem with goods that are nonexcludable.

G

gains from trade gains achieved by dividing tasks and trading; in this way people can get more of what they want through trade than they could if they tried to be self-sufficient.

game theory the study of behavior in situations of interdependence. Used to explain the behavior of an oligopoly.

Giffen good the hypothetical inferior good for which the income effect outweighs the substitution effect and the demand curve slopes upward.

Gini coefficient a number that summarizes a country's level of income inequality based on how unequally income is distributed across quintiles.

globalization the phenomenon of growing economic linkages among countries.

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

H

Hecksher–Olin model a model of international trade in which a country has a comparative advantage in a good whose production is intensive in the factors that are abundantly available in that country.

horizontal axis the horizontal number line of a graph along which values of the x-variable are measured; also referred to as the x-axis.

horizontal intercept the point at which a curve hits the horizontal axis; it indicates the value of the x-variable when the value of the y-variable is zero.

household a person or a group of people that share their income.

human capital the improvement in labor created by education and knowledge that is embodied in the workforce.

hyperglobalization the phenomenon of extremely high levels of international trade.

I

imperfect competition a market structure in which no firm is a monopolist, but producers nonetheless have market power they can use to affect market prices.

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

implicit cost of capital the opportunity cost of the use of one's own capital—the income earned if the capital had been employed in its next best alternative use.

import quota a legal limit on the quantity of a good that can be imported.

import-competing industries industries that produce goods and services that are also imported.

imports goods and services purchased from other countries.

incentive anything that offers rewards to people who change their behavior.

incidence (of a tax) a measure of who really pays a tax.

income distribution the way in which total income is divided among the owners of the various factors of production.

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.

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.

income tax a tax on the income of an individual or family.

income-elastic demand the case in which the income elasticity of demand for a good is greater than 1.

income-inelastic demand the case in which the income elasticity of demand for a good is positive but less than 1.

increasing marginal cost each additional unit costs more to produce than the previous one.

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

independent events events for which the occurrence of one does not affect the likelihood of occurrence of any of the others.

independent variable the determining variable in a causal relationship.

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

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.

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

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.

individual demand curve a graphical representation of the relationship between quantity demanded and price for an individual consumer.

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

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.

individual supply curve a graphical representation of the relationship between quantity supplied and price for an individual producer.

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.

inefficient describes a market or economy in which there are missed opportunities: some people could be made better off without making other people worse off.

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.

inefficient allocation to consumers a form of inefficiency in which some people who want the good badly and are willing to pay a high price don't get it, and some 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.

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.

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.

inelastic demand the case in which the price elasticity of demand is less than 1.

inferior good a good for which a rise in income decreases the demand for the good.

in-kind benefit a benefit given in the form of goods or services.

input a good or service used to produce another good or service.

interaction (of choices) my choices affect your choices, and vice versa; a feature of most economic situations. The results of this interaction are often quite different from what the individuals intend.

interdependence a relationship among firms in which their decisions significantly affect one another's profits; characteristic of oligopolies.

internalize the externality take into account external costs and external benefits.

interest rate the price, calculated as a percentage of the amount borrowed, that a lender charges a borrower for the use of their savings for one year.

international trade agreements treaties by which countries agree to lower trade protections against one another.

invisible hand a phrase used by Adam Smith to refer to the way in which an individual's pursuit of self-interest can lead, without the individual intending it, to good results for society as a whole.

irrational describes a decision maker who chooses an option that leaves him or her worse off than choosing another available option.

L

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.

leisure the time available for purposes other than earning money to buy marketed goods.

license the right, conferred by the government or an owner, to supply a good.

linear relationship the relationship between two variables in which the slope is constant and therefore is depicted on a graph by a curve that is a straight line.

long run the time period in which all inputs can be varied.

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.

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.

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.

loss aversion oversensitivity to loss, leading to unwillingness to recognize a loss and move on.

lump-sum tax a tax that is the same for everyone, regardless of any actions people take.

M

macroeconomics the branch of economics that is concerned with the overall ups and downs in the economy.

marginal analysis the study of marginal decisions.

marginal benefit the additional benefit derived from producing one more unit of a good or service.

marginal benefit curve a graphical representation showing how the benefit from producing one more unit depends on the quantity that has already been produced.

marginal cost the additional cost incurred by producing one more unit of a good or service.

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

marginal decision a decision made at the "margin" of an activity to do a bit more or a bit less of that activity.

marginal product the additional quantity of output produced by using one more unit of a given input.

marginal productivity theory of income distribution the proposition that every factor of production is paid its equilibrium value of the marginal product.

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

marginal revenue the change in total revenue generated by an additional unit of output.

marginal revenue curve a graphical representation showing how marginal revenue varies as output varies.

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

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

marginal tax rate the percentage of an increase in income that is taxed away.

marginal utility the change in total utility generated by consuming one additional unit of a good or service.

marginal utility curve a graphical representation showing how marginal utility depends on the quantity of the good or service consumed.

marginal utility per dollar the additional utility gained from spending one more dollar on a good or service.

market economy an economy in which decisions about production and consumption are made by individual producers and consumers.

market failure the failure of a market to be efficient.

market power the ability of a producer to raise prices.

market share the fraction of the total industry output accounted for by a given producer's output.

market-clearing 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 equilibrium price.

markets for goods and services markets in which firms sell goods and services that they produce to households.

maximum the highest point on a nonlinear curve, where the slope changes from positive to negative.

mean household income the average income across all households.

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

median household income the income of the household lying at the exact middle of the income distribution.

mental accounting the habit of mentally assigning dollars to different accounts so that some dollars are worth more than others.

microeconomics the branch of economics that studies how people make decisions and how those decisions interact.

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.

minimum the lowest point on a nonlinear curve, where the slope changes from negative to positive.

minimum wage a legal floor on the wage rate. The wage rate is the market price of labor.

minimum-cost output the quantity of output at which the average total cost is lowest—the bottom of the U-shaped average total cost curve.

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

monopolist a firm that is the only producer of a good that has no close substitutes.

monopolistic competition a market structure in which there are many competing producers in an industry, each producer sells a differentiated product, and there is free entry and exit into and from the industry in the long run.

monopoly an industry controlled by a monopolist.

monopsonist a firm that is the sole buyer in a market.

monopsony a market in which there is only one buyer but many sellers.

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 expend effort when someone else bears the costs of the lack of care or effort.

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.

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.

N

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.

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.

negative externalities external costs.

negative income tax a government program that supplements the income of low-income working families.

negative relationship a relationship between two variables in which an increase in the value of one variable is associated with a decrease in the value of the other variable. It is illustrated by a curve that slopes downward from left to right.

network externality the increase in the value of a good or service to an individual is greater when a large number of others own or use the same good or service.

noncooperative behavior actions by firms that ignore the effects of those actions on the profits of other firms.

noncooperative 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 Nash equilibrium.

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

nonlinear curve a curve in which the slope is not the same between every pair of points.

nonlinear relationship the relationship between two variables in which the slope is not constant and therefore is depicted on a graph by a curve that is not a straight line.

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.

nonrival in 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.

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

normative economics the branch of economic analysis that makes prescriptions about the way the economy should work.

North American Free Trade Agreement (NAFTA) a trade agreement among the United States, Canada, and Mexico.

O

offshore outsourcing the practice in which businesses hire people in another country to perform various tasks.

oligopolist a firm in an industry with only a small number of producers.

oligopoly an industry with only a small number of producers.

omitted variable an unobserved variable that, through its influence on other variables, creates the erroneous appearance of a direct causal relationship among those variables.

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

optimal consumption bundle the consumption bundle that maximizes a consumer's total utility given that consumer's budget constraint.

optimal output rule the principle that 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.

optimal quantity the quantity that generates the highest possible total net gain.

optimal time allocation rule the principle that an individual should allocate time so that the marginal utility gained from the income earned from an additional hour worked is equal to the marginal utility of an additional hour of leisure.

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.

origin the point where the axes of a two-variable graph meet.

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

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

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

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

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.

payroll tax a tax on the earnings an employer pays to an employee.

perfect complements goods a consumer wants to consume in the same ratio, regardless of their relative price.

perfect price discrimination the price discrimination that results when a monopolist charges each consumer the maximum that the consumer is willing to pay.

perfect substitutes goods for which the indifference curves are straight lines; the marginal rate of substitution of one good in place of another good is constant, regardless of how much of each an individual consumes.

perfectly competitive industry an industry in which all producers are price-takers.

perfectly competitive market a market in which all participants are price-takers.

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.

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.

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.

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.

physical capital manufactured productive resources, such as buildings and machines; often referred to simply as "capital."

pie chart a circular graph that shows how some total is divided among its components, usually expressed in percentages.

Pigouvian subsidy a payment designed to encourage activities that yield external benefits.

Pigouvian taxes taxes designed to reduce external costs.

pooling a strong form of diversification in which an investor takes a small share of the risk in many independent events, so the payoff has very little total overall risk.

positive economics the branch of economic analysis that describes the way the economy actually works.

positive externalities external benefits.

positive feedback put simply, success breeds success, failure breeds failure; the effect is seen with goods that are subject to network externalities.

positive relationship a relationship between two variables in which an increase in the value of one variable is associated with an increase in the value of the other variable. It is illustrated by a curve that slopes upward from left to right.

positively correlated describes a relationship between events such that each event is more likely to occur if the other event also occurs.

poverty program a government program designed to aid the poor.

poverty rate the percentage of the population with incomes below the poverty threshold.

poverty threshold the annual income below which a family is officially considered poor.

premium a payment to an insurance company in return for the promise to pay a claim in certain states of the world.

present value (of X) the amount of money needed today in order to receive X at a future date given the interest rate.

price ceiling a maximum price sellers are allowed to charge for a good or service; a form of price control.

price controls legal restrictions on how high or low a market price may go.

price discrimination charging different prices to different consumers for the same good.

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.

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.

price floor a minimum price buyers are required to pay for a good or service; a form of price control.

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

price regulation a limitation on the price a monopolist is allowed to charge.

price war a collapse of prices when tacit collusion breaks down.

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

price-taking firm's optimal output rule the principle that 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.

price-taking producer a producer whose actions have no effect on the market price of the good or service it sells.

principle of diminishing marginal utility the proposition that each successive unit of a good or service consumed adds less to total utility than did the previous unit.

principle of "either–or" decision making the principle that, in a decision between two activities, the one with the positive economic profit should be chosen.

prisoner's 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) both players are then worse off than if they had acted cooperatively.

private good a good that is both excludable and rival in consumption.

private health insurance a program in which each member of a large pool of individuals pays a fixed amount to a private company that agrees to pay most of the medical expenses of the pool's members.

private information information that some people have, but others do not.

producer surplus a term often used to refer both to individual producer surplus and to total producer surplus.

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.

production function the relationship between the quantity of inputs a firm uses and the quantity of output it produces.

production possibility frontier a model that illustrates the trade-offs facing an economy that produces only two goods. It shows the maximum quantity of one good that can be produced for any given quantity produced of the other.

profit-maximizing principle of marginal analysis the proposition that in a profit-maximizing "how much" decision the optimal quantity is the largest quantity at which marginal benefit is greater than or equal to marginal cost.

profits tax a tax on the profits of a firm.

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

property rights the rights of owners of valuable items, whether resources or goods, to dispose of those items as they choose.

property tax a tax on the value of property, such as the value of a home.

proportional tax a tax that is the same percentage of the tax base regardless of the taxpayer's income or wealth.

protection an alternative term for trade protection; policies that limit imports.

public good a good that is both nonexcludable and nonrival in consumption.

public ownership the case in which 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.

Q

quantity control 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.

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

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

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 quantity control.

quota limit the total amount of a good under a quota or quantity control that can be legally transacted.

quota rent the difference between the demand price and the supply price at the quota limit; this difference, the earnings that accrue to the license-holder, is equal to the market price of the license when the license is traded.

R

random variable a variable with an uncertain future value.

rational describes a decision maker who chooses the available option that leads to the outcome he or she most prefers.

recession a downturn in the economy.

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

relative price the ratio of the price of one good to the price of another.

relative price rule at the optimal consumption bundle, the marginal rate of substitution of one good in place of another is equal to the relative price.

rental rate the cost, implicit or explicit, of using a unit of land or capital for a given period of time.

reputation a long-term standing in the public regard that serves to reassure others that private information is not being concealed; a valuable asset in the face of adverse selection.

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).

reverse causality the error committed when the true direction of causality between two variables is reversed, and the independent variable and the dependent variable are incorrectly identified.

Ricardian model of international trade a model that analyzes international trade under the assumption that opportunity costs are constant.

risk uncertainty about future outcomes.

risk-averse describes individuals who choose to reduce risk when that reduction leaves the expected value of their income or wealth unchanged.

risk-aversion the willingness to sacrifice some economic payoff in order to avoid a potential loss.

risk-neutral describes individuals who are completely insensitive to risk.

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.

S

sales tax a tax on the value of goods sold.

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.

scatter diagram a graph that shows points that correspond to actual observations of the *x*- and *y*-variables; a curve is usually fitted to the scatter of points to indicate the trend in the data.

screening using observable information about people to make inferences about their private information; a way to reduce adverse selection.

share a partial ownership of a company.

shift of the demand curve a change in the quantity demanded at any given price, represented graphically by the change of the original demand curve to a new position, denoted by a new demand curve.

shift of the supply curve a change in the quantity supplied of a good or service at any given price, represented graphically by the change of the original supply curve to a new position, denoted by a new supply curve.

short run the time period in which at least one input is fixed.

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.

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.

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

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.

shut-down price the price at which a firm ceases production in the short run because the market price has fallen below the minimum average variable cost.

signaling taking some action to establish credibility despite possessing private information; a way to reduce adverse selection.

single-payer system a health care system in which the government is the principal payer of medical bills funded through taxes.

single-price monopolist a monopolist that offers its product to all consumers at the same price.

slope a measure of how steep a line or curve is. The slope of a line is measured by "rise over run"—the change in the y-variable between two points on the line divided by the change in the x-variable between those same two points.

social insurance program a government program designed to provide protection against unpredictable financial distress.

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.

specialization the situation in which each person specializes in the task that he or she is good at performing.

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

state of the world a possible future event.

status quo bias the tendency to avoid making a decision.

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

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.

substitution effect the change in the quantity of a good consumed as the consumer substitutes other goods that are now relatively cheaper in place of the good that has become relatively more expensive.

sunk cost a cost that has already been incurred and is not recoverable.

supply and demand model a model of how a competitive market behaves.

supply curve a graphical representation of the supply schedule, showing the relationship between quantity supplied and price.

supply price the price of a given quantity at which producers will supply that quantity.

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

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.

T

tacit collusion cooperation among producers, without a formal agreement, to limit production and raise prices so as to raise one another's profits.

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.

tangent line a straight line that just touches a nonlinear curve at a particular point; the slope of the tangent line is equal to the slope of the nonlinear curve at that point.

tariff a tax levied on imports.

tax base the measure or value, such as income or property value, that determines how much tax an individual pays.

tax rate the amount of tax people are required to pay per unit of whatever is being taxed.

tax structure specifies how a tax depends on the tax base; usually expressed in percentage terms.

technology the technical means for producing goods and services.

technology spillover an external benefit that results when knowledge spreads among individuals and firms.

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

time allocation budget line an individual's possible trade-off between consumption of leisure and the income that allows consumption of marketed goods.

time-series graph a two-variable graph that has dates on the horizontal axis and values of a variable that occurred on those dates on the vertical axis.

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.

total consumer surplus the sum of the individual consumer surpluses of all the buyers of a good in a market.

total cost the sum of the fixed cost and the variable cost of producing a given quantity of output.

total cost curve a graphical representation of the total cost, showing how total cost depends on the quantity of output.

total producer surplus the sum of the individual producer surpluses of all the sellers of a good in a market.

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.

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

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

tradable emissions permits licenses to emit limited quantities of pollutants that can be bought and sold by polluters.

trade the practice, in a market economy, in which individuals provide goods and services to others and receive goods and services in return.

trade protection policies that limit imports.

trade-off a comparison of costs and benefits of doing something.

trade-off between equity and efficiency the dynamic whereby a well-designed tax system can be made more efficient only by making it less fair, and vice versa.

transaction costs the costs to individuals of making a deal.

truncated cut; in a truncated axis, some of the range of values are omitted, usually to save space.

U

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.

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

unit-elastic demand the case in which the price elasticity of demand is exactly 1.

util a unit of utility.

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

utility function (of an individual) the total utility generated by an individual's consumption bundle.

utility-maximizing principle of marginal analysis the principle that the marginal utility per dollar spent must be the same for all goods and services in the optimal consumption bundle.

V

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

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.

variable a quantity that can take on more than one value.

variable cost a cost that depends on the quantity of output produced; the cost of a variable input.

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

vertical axis the vertical number line of a graph along which values of the *y*-variable are measured; also referred to as the *y*-axis.

vertical intercept the point at which a curve hits the vertical axis; it shows the value of the *y*-variable when the value of the *x*-variable is zero.

W

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

wealth tax a tax on the wealth of an individual.

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 quantity control, or quota.

welfare state the collection of government programs designed to alleviate economic hardship.

willingness to pay the maximum price a consumer is prepared to pay for a good.

world price the price at which a good can be bought or sold abroad.

World Trade Organization (WTO) an international organization of member countries that oversees international trade agreements and rules on disputes between countries over those agreements.

X

***x*-axis** the horizontal number line of a graph along which values of the *x*-variable are measured; also referred to as the horizontal axis.

Y

***y*-axis** the vertical number line of a graph along which values of the *y*-variable are measured; also referred to as the vertical axis.

Z

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

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Note: Key terms appear in **boldface** type.

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