Microeconomics Terms *Italicized terms* within definitions are key terms

that are defined elsewhere in this 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 governmentcreated

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 assests 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 aboveequilibrium

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 27 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 transfer** a government payment

to an individual or a family.

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.

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 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.*

 **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*.

 **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** the relationship

among firms when their decisions significantly

affect one another’s profits;

characteristic of oligopolies.

 **internalize the externality** take into

account *external costs* and *external*

*benefits.*

 **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-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.*

 **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.

 **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-cost output** the quantity of

output at which the *average total cost*

is lowest—the bottom of the *U-shaped*

*average total cost curve.*

 **minimum wage** a legal floor on the

wage rate. The wage rate is the market

price of labor.

 **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.*

 **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.*

 **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* (dropping the minus sign).

 **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 pricetaking

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** 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 highincome

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 licenseholder,

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 highincome

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.