# Index

## A

Absolute price, 32, 41 AC. See Average cost (AC) Accounting profit, 187 Admission fees, 460-461 Adverse selection, 300, 576 Affirmative action, 383 African-Americans, wage differentials of, 518 AIDS, as transaction costs example, 440-441 Air bags and the demand for reckless driving, 9-10 Airline industry, 341, 342-343, 377, 384 Akerlof, George, 300 Alcoa (Aluminum Company of America), 332 Altruism, 613-614 Amazon, 368-369 American Bar Association, 379 American Medical Association, 379 Animals as rational agents, 611–612 signaling of, 299 Ann Landers, 610 The Antitrust Paradox (Bork), 365 Antitrust policies, 361 APL. See Average product of labor (APL) Areeda, Phillip, 365 Arrow, Kenneth, 256 Art market, 18, 532-533, 536-537 Asset markets. See Technical analysis Assumptions, 199-204, 603-606 Asymmetric information, 297-309 Autarkic relative price, 262-263 Auto accidents, 439, 444 Auto industry, 18, 300, 376-377, 491 AVC. See Average variable cost (AVC) Average cost (AC), 143 curve shape, 145-146

definition of, 143 in long-run, 190–191 of natural monopolies, 328 and profit, 190 and returns to scale, 157–158 in short-run, 161–162 Average costs, computing, 143–144 Average product of labor (APL), 139, 164 Average total cost, 143 Average variable cost (AVC), 143 Axelrod, Robert, 372

#### В

Banerjee, Ajeyo, 360 Barnes and Noble, 180, 368-369 Baseball reserve clause, 434-435 Basket of outcomes, 564 characterizing, 565-566 Battle of the sexes, 403–405, 408 - 409Becker, Gary S., 17, 18, 614 Benefits, external, 417 Benham, Lee, 380 Bentham, Jeremy, 279 Bertrand model, 387, 389 Best Buy, 365-366 Bils, Mark, 101 Black persons, wage differentials of, 517-518 Black-Scholes Option Pricing Model, 606 Blue laws, 380-381 Blue-ribbon commission, 284, 285 Bonds, 525-531 definition of, 526 denominated in dollars, 529-530 Book value, 254 Break-even price, 192-195, 200-201, 212 and average cost, 195-196 changes in, 195

Bribes, 332, 431 Brick theory of value, 254 Brotherhood for the Respect, Elevation, and Advancement of Dishwashers, 171, 208 Brown Shoe v. the United States, 361 Budget line, 53-59 basket equation, 54-55 change of income, 81-82, 504-506 change of price, 85 compensated, 506 consumers choice, 56-59, 541 consumer equation, 69 definition of, 54 Edgeworth box economy, 257-259 and income changes, 81-82 for labor, 504-506 and price changes, 85-86 and production possibility curves, 261-262 and risk, 566-571 standards of living, 59-61 Bumblebees and property rights, 466 Busboy, tipping of, 208-209 Business practices, regulation of, 380-381

## С

Call options, 604–606 Capital. *See also* Factors of production (or inputs) definition of, 142 demand for, 552–553 human, 514–515, 519 Capital asset pricing model, 586 Cardinal utility theory, 77–78 Car market, 17, 19, 375, 489 Carpenter, as example of efficiency, 36–37

Cartel breakdown of, 369-377 collusion of, 357, 369-370 definition of, 369 and discrimination, 517 government enforcement of, 376 Cash vs. credit payment decision, 533-534 Causes from effects, 17 Celebrity endorsements, economic explanation for, 606-607 Cement market, 14-15 Change in cost, 183 Changes in demand, 3-5 Chartists. See Technical analysts Cheung, Steven, 432-433 Chicken, game of, 413 Clarke tax, 472 Clayton Act (1914), 361 Clean air example, 468–469 Coase, Ronald, 424 Coase theorem. See also Transaction costs definition of, 427 example of, 428-429 external benefits, 432 income effects, 433-435 in marketplace, 429-432 and property rights, 433-435 nature conservancy, 431-432 Pigou tax reconsideration, 431 The Reserve Clause in Baseball, 434-435 smoking ban example, 430-431 Coca-Cola, 317 Coffee, excise tax on, 12-13 College education, outlaw of, 297-298 Collusion, 357, 369-370 Common law, 443, 446-448 Common property aquarium example, 459-463 definition of, 460 fishery example, 465-466 as nonexcludable good, 467-468 and optimal activity levels, 465-466 problems with, 465-466

Comparative advantage, 31, 41 definition of, 36 differing abilities, 40 electrician example, 36-37 Compensated budget line, 506 Compensated demand curve, 99, 105, 225 Compensated indifference curve, 92 Compensating differential, 515 Competitive, 171 Competitive equilibrium definition of, 259 in Edgeworth box economy, 257-259 in long-run, 193–195 model of, 209-211 Pareto-optimality of, 256, 260-261, 265 in short-run, 185 Competitive firm vs. competitive industry, 182 description of, 171-180 exit decision, 210–211 long-run, 186, 211-212 vs. monopoly, 318 produces, 211 revenue, 173 short-run supply curve, 179, 211 shifts in the long-run, 210 shifts in the short-run, 210 shutdown decision, 178 supply curve, 175–176 total and marginal revenue, 173 upward-sloping supply curves, 179 Competitive industry, 211 applications of, 198-199, 204-209 and Coase theorem, 430 vs. competitive firm, 182 competitive model of, 209-211 definition of, 180 in long-run, 186-189, 202, 203, 210 vs. monopoly, 323 profits in, 494 relaxing the assumptions, 199-204 in short-run, 180-185

Complements, 104 Complements in production, Composite-good convention, 53 definition of, 53 Concrete pouring industry, 375 Conrad, Joseph, 470 Consequentialist moral theories, 275. See also Normative criterion Constant-cost industry, 190, 201 firm's exit decision, 210-211 long-run supply, 191 Constant returns to scale, 157 Consumer behavior. See also Budget line; Indifference curves cardinal utility theory, 77–79 change in income, 81-85, 105 change in opportunities, 105 change in price, 85 consumers choice, 56–59, 539 - 543income and substitution effects of price increase, 90-99 income elasticity of demand, 100 - 102introduction to, 45 optimum, 56, 79 preferences, 45 tastes, 45-53 Consumer's surplus calculation of, 242, 243 definition of, 228 efficiency criterion, 234-241 entry fees, 346-347, 349 introductory concepts, 224 - 226in market, 231-233 price ceilings, 244-247, 326-327 subsidies, 242-244, 324 tariff, 247-248 Consumption, current. See Current consumption Consumption goods (or outputs), 502, 515 Contestable market, 385-387 Contract curve, 259

#### INDEX

Contributory negligence, 444 Copycat game, 405, 407 Corner solution, 58 Corporate stocks, 532, 581–582 Corn, cost of feed, 15–16 Cost and benefit analysis, for firm behavior, 116-121, 125-130 Cost curves competitive firm, 176–177, 186, 187 competitive industry, 185 constant-cost industries, 191, 193-198 decreasing-cost industries, 203 - 204factor-price effect, 201, 202 firm's total, 141-143 increasing-cost industry, 201 - 202long-run production, 154-157 marginal, constructing firm's, 144 - 145monopoly, 329 and producer's surplus, 233 shapes of, 145–146 short-run vs. long-run, 163-164 variable, 141-144 Costs. See also Cost curves; Transaction costs calculating, 35 competitive industry in the short run, 185 in competitive market, 254 computing average, 143-144 definition of, 35 and efficiency, 35-36 and equimarginal principle, 152 - 153external, 417-424 long-run average, 155–157 long-run production, 147-159 minimization, 151-153, 189 of misallocation, 288-294 opportunity, 35 of producing (firm), 164 short-run production, 137-146 Coupon bonds, 528

Coupons (manufacturer) as price discrimination example, 340 Cournot equilibrium, 411 Cournot model, 387–389 Cowen, Tyler, 278, 280, 281 Creative response, 382-383 Credit vs. cash payment decision, 533-534 Criminal penalties, 445-446 Cross elasticities, 104-105 Cross elasticity of demand, 101 hamburger chain example, 104 - 105soda example, 104 Crusoe, Robinson, 261–265 Current consumption. See also Interest rates and capital investment, 552-555 demand for, 542-543, 551 equilibrium determination, 544-552 vs. future consumption, 539-542

## D

Dairy industry, 375 Dam, as example of punitive damages, 445-446 Daguerre, Louis, 331 Deadweight loss allocation decisions, 290 concept of, 238-241 definition of, 237 military draft example, 292-293, 294 price ceiling, 244, 245, 246, 327 robbery, 250–252 subsidies, 242, 243, 245 tariff, 249, 250 Decreasing-cost industry, 203–204 and equilibrium, 204 Decreasing returns to scale, 157 - 158Default risk, 530–531, 551–552 Dell, 340 vertical integration example, 361-363

Demand. See also Equilibrium for capital, 552–553 changes in, 3-7, 185, 197-198 and competitive equilibrium, 259 - 260for competitive industry's product, 182, 185, 197-198 for current consumption, 542-543, 551 definition of, 2 effect of sales tax, 6-7 fall in, 4 for firm long run factors of production, 483-490 for firm short run factors of production, 477-483 income elasticity of, 100–102 in increasing/decreasing-cost industry, 205 for industry factors of production, 490–492 and kidney transplants, 17-18 law of, 1 and marginal value, 224-226 market, 7, 509-514, 543 for murder, 8–9 price elasticity of, 102–103, 319 - 320for quality, 101-102vs. quantity demanded, 1–2 for reckless driving, 9–10 rise in, 5 uncertain, 589-595 Demand curve, 2–3 compensated vs. uncompensated, 99, 225 competitive industry, 211 competitive vs. noncompetitive firm, 172 constructing the, 89 and consumers' surplus, 232 current consumption, 542-543 definition of, 2 diamond and water example, 253 vs. Engel curve, 88-89 elasticity of, 319 firm factors of production, 477, 479, 482, 483-484, 488, 489-491 high price elasticity, 102–103

income and substitution effects, generally, 95 and indifference curves, 85 industry factors of production, 490-492 inferior goods, 96-97 for market, 7 monopolistic competition, 390-391 normal goods, 96 price changes, 88-90 price ceilings, 326-327 and revenue, 122-124, 131-132 shape of, 7-10, 90 shifting, 4 slope downward, 2, 23 wheat example, 172 world economy, 264-265 DeMeyer, Frank, 434-435 Denominated in dollars, 529-530 Derived demand, 484 Diamond-water paradox, 252-253 Differences in ability, 41 Discount (bond), 527 Discrimination, 517-519 Disneyland, 345, 347, 465, 466 Dissipation of rents, 460-466 Diversify, 568 Dividends, 531 Doctor/confectioner, as example of externalities, 425-427, 441-442 Domestic industries and tariffs, 248 - 250Dominant strategy, 402-403 Dorfman, Robert, 284, 286 Dress for success, 299 Drug (pharmaceutical) industry, 376, 379 Dry cleaners, price discrimination example, 344 Dupuit, Jules, 342 Durable commodities, 532-533

#### E

Ebay, 212 Eckard, Woodrow, 360 Econometrics, 8 Economic analysis economic explanations, 606-611 rationality assumption, 603-606 scope of, 611-615 stages of, 599-602 value of, 602-603 Economic dynamics, 602 Economic incidence, 22–23 Economic profit, 187 Economics consumer's choice, 57–58 wide scope, 10 Economies of scope, 332 Edgeworth box economy, 257-260, 265, 280, 602. See also Fairness Education, 515, 517 Effect of excise tax, 20-23 Effect of sales tax, 19-20 Effective price ceiling, 244 Efficiency antitrust policies, 361 common law, 448-449 and costs, 37-38 increasing-cost industry supply decisions, 201-203 Efficiency criterion, 223, 234-241, 265, 275, 276-277 definition of, 234 desirability judgment, 275-276 Efficiency loss. See Deadweight loss allocation decisions Efficiency wages, 304-305 definition of, 305 Efficient markets. See also Technical analysis definition of, 308 for financial securities, 308-309 theory of, 310 Efficient portfolio, 585 Efficient set, 584-585 Egyptian bread example, 378 Ehrlich, Isaac, 9 Elasticities, 100–105 and monopoly power, 104-105 Elasticity, 7 Elasticity of demand, 100-102, 319-320 Elasticity of supply, 180 Electrician, as example of efficiency, 36 Electric power industry, 382 Elias, Julio, 17-18

Empire Gas, 363-364 Employment and industry demand, 490-492 and inflation, 306-307 in long run, 483–489 in short run, 477-483 Endowment current consumption market, 539, 546 definition of, 539 and risk, 566-567, 569, 570, 571 Endowment point, 546 definition of, 257 Energy resources, 284 Engel curve, 84-85, 88-89, 105 Entrepreneurial ability, 492 Entry fees, 345-348, 349 Envy-free, 279 Envy-free allocation, 279. See also Fairness Epstein, Richard, 448 Equilibrium, 204. See also Competitive equilibrium; Nash equilibrium capital quantity, 553 common mistakes, 18–19 and current consumption, 543-552 as economic analysis stage, 601 effect of sales tax, 19-20 effect on pork chops, 15-17 game theory, 411-413 general equilibrium analysis, 256-265 labor market, 509-514 market for cement, 13-15 nature of, 18-19 price, 17-19 taxation effects, 19-23 Equilibrium, changes in, 195 demand, 197-198 fixed cost, 195-196 variable costs, 196-197 Equilibrium, in competition. See also Equilibrium, changes in cost minimization, 194-195 zero-profit condition, 193-194 Equilibrium condition, 601 Equilibrium interest rate, 546 Equilibrium point, 13-15, 24 Equimarginal principle, 115, 116, 120-121, 131, 185, 224, 601 Method II, 126-127

Ex ante (preference), 565 Excise tax, 12-13, 24, 239 *vs.* sales tax, 21–23 Executive compensation, 305-306 Exhaustible resources, 538-539 Exit decision, 178, 186-188 Exogenous variable, 601 Expansion path, 154 Expected return, 581–583, 584-585 Expected value, 565, 566 Ex post (preference), 565 Externalities or external costs and benefits, 417-420, 432-433. *See also* Coase theorem; Common property measuring, 418 Pigou subsidy, 432 welfare analysis, 418-420 Exxon Valdez, 445, 513 Eyeglass market, 380

#### F

FAA. See Federal Aviation Administration (FAA) Fabian socialism, 294-295 The Fable of the Bees, 432-433 Face value (bond), 527 Factor-price effect, 201, 202 Factors of production (or inputs). See also Capital; Labor firm long-run demand for, 483-490 firm short-run demand for, 477 - 483and income distribution, 492-496 industry demand for, 490-492 rent, 294-297 Fairness, 279-280 Fair odds, 568, 570, 576-578 Fair trade, 366-369 Fall in demand, 4 Fall in supply, 11 Farming, as example of firm behavior, 116-120 Favorable odds, 573-575 FC. See Fixed cost (FC)

FDA. See Food and Drug Administration (FDA) Federal Aviation Administration (FAA), 377 Federal Trade Commission (FTC), 375, 384 FICA tax, 64 deductions, 64 wage taxes, 64 Financial markets, 308-310, 532-533, 581-589, 604-606. See also Market conditions analysis; Stock market crashes (2008) Firm, 115. See also Competitive firm behavior, 115-131. See also Production cost and benefit analysis, 116-121 fixed cost, 127, 131 in the marketplace, 121-130 risk neutrality, 573-575 First-degree price discrimination, 334-335 Fishery, 465. See also Common property Fixed cost (FC), 124, 164 change in total cost curve, 127 competitive firm, 193, 196 competitive industry, 182 in constant-cost industry, 195 and firm behavior, 124 Fixed fees, 119 Floyd the barber break-even price example, 192 - 193constant-cost industry, 190 Food and Drug Administration (FDA), 378, 379 Foreign trade, production and consumption, 263 Free agency, 434–435 Free riders, 442, 469 Free delivery, examples of price discrimination, 341–342 Friedland, Claire, 382 FTC. See Federal Trade Commission (FTC) Fully internalize the externality, 431 Fuji, 411-413

Fundamental theorem of calculus, 226 Futures contract, 578 Futures market, 578–581 definition of, 578

## G

Gambling, 568-570, 573-574 Gains from trade, 37–38 Game matrix, 399-410 definition of, 399 mixed strategies, 407-408 for oligopoly, 411, 412 solution concepts, 405-407 strategies, 400-408 Game theory. See also Nash equilibrium definition of, 399 effectiveness of, 389 Pareto optima, 408–410 Prisoner's Dilemma, 369–373, 401-402, 410 sequential games, 411-413 Gas prices and monopoly power, 321-322 General average, 447 General equilibrium analysis, 256 George, Henry, 294 Giffen good, 87–88, 97–98, 105, 488 definition of, 87 Golden parachutes, 306 Good Samaritan rule, 448 Goods, 46 Government. See also Regulation as cartel enforcer, 377 debt, 534-535, 549-552 public good role, 469–471 as supplier, 198–199 Great American merger wave, 359-361 Grossman, Sanford, 310 Group, 7

## Η

Hall, Brian, 306 Harris, Sydney J., 536–537 Harvey, Paul, 611

Copyright 2010 Cengage Learning. All Rights Reserved. May not be copied, scanned, or duplicated, in whole or in part. Due to electronic rights, some third party content may be suppressed from the eBook and/or eChapter(s). Editorial review has deemed that any suppressed content does not materially affect the overall learning experience. Cengage Learning reserves the right to remove additional content at any time if subsequent rights restrictions require it.

Hayek, Friedrich A., 287–288, 308, 311 Head tax *vs.* wage tax, 65–66 Hicks, John, 276 Hidden and nonhidden assumptions, 237 Hoffer, George, 9 Holland, Russel, 445 Homothetic indifference curves, 549 Horizontal integration, 358–361 Houthakker, Hendrik, 63 Human capital, 514–515, 519

IBM, versioning example, 339 ICC. See Interstate Commerce Commission (ICC) Ice cream vendors and economics of location, 392 Ideal participant criterion, 278-279, 281 veil of ignorance criterion, comparison with, 278-279 Immigration restrictions, 516 Income changes in, 81-85, 105 marginal utility of, 78 nonlabor, 503, 504, 505, 510 and risk preference, 571-572 and uncertain demand, 592 - 595Income distribution, 492-496 Income effect of price increase and compensated demand curve, 99 definition of, 91 for inferior good, 96 for normal good, 96 price elasticity of demand, 102 - 103size of, 97 and substitution effects, 91, 97, 105 Income effect of wage increase, 505-506 Income effect of Coase theorem, 433-435

Income elasticity of demand, 100 formula for, 100 relationship between price elasticity, 103-104 Increasing-cost industry, 201-203 and equilibrium, 204 Increasing marginal cost, 126 Increasing returns to scale, 157 Indifference curves compensated, 93 composite-good convention, 53 consumers choice, 56-59 convex, 52 current consumption, 539-542, 545, 546-550 curvature, 52 definition of, 48 and demand curve, 89 differences in taste, 62-64 in Edgeworth box economy, 257, 258 eggs and root beer example, 45 - 48family of, 69 general equilibrium with production, 260 investor's choice, 585-586 for labor, 502-503 never cross, 48, 49, 53 price indices, 61–62 properties of, 53 relationships among, 48 and risk, 568, 569, 570, 571, 573, 575, 588 shape of, 58–59 slope of, 51 standards of living, 59-64 tastes (consumer), 62-64 Industry, competitive. See Competitive industry Inferior good, 83, 96 Inflation, 34, 306-307, 529 Information adverse selection, 300-302 and allocation decisions, 288-294 financial market analysis, 308-310 insurance issues, 300-301, 576-578

moral hazard, 302-303 and NASDAQ decline, 310 and prices, 283-286 principal-agent problems, 303-306 and public goods, 471 regulation of, 379-380 signaling, 297-299 taxation as elicitation tool, 471 unemployment theory, 306-308 Inputs (or factors of production). See Factors of production (or inputs) Insurance market, 300–301, 406, 576-578 Intelligent Woman's Guide to Socialism and Capitalism (Shaw), 297 Interest rates and bonds, 525-531 cash vs. credit payment decision, 533-534 comparison method, 531 and current consumption, 539, 542, 543, 544, 545-546 durable commodity valuation, 533 and exhaustible resources, 538-539 and government debt, 535, 549-552 vs. marginal product of capital, 553 Internalize (costs), 422, 427. See also Pigou (or Pigovian) tax International Salt Company, 375-376 International trade, 40 Internet, 137 price discrimination, 344 Interstate Commerce Commission (ICC), 377 Intertemporal substitution, 513-514 Investment, 582 Investors, 582 Invisible hand and Prisoner's Dilemma, 371 Invisible hand theorem, 223, 256-257, 260, 265

Isocost, 151 Iso-expected value line, 566, 568, 569 Isoquants, 147–148, 150, 159–161, 486 Ito calculus, 606 Ivy League schools as cartel, 370

#### J

Jokes, reasons for, 299

#### K

Kaldor, Nicholas, 276 Kaldor–Hicks potential compensation criterion, 276–277. See also Efficiency criterion Kefauver Amendments, 378–379 Kidneys, market for, 17–18 Kinsley, Michael, 18 Klenow, Pete, 101, 102 Kremer, Michael, 331 Knowledge, 287–288. See also Information Kodak, 411–413

Labor. See also Factors of production (or inputs) international differences, 509 market equilibrium, 509-514 product of, 139 supply of, 501-509 value theory, 253-254 Laboratory animals, as rational agents, 611-613 Landers, Ann, 610 Language of demand and supply curves, 13 Laspeyres price index, 62 Law and economic efficiency, 443-449 Law of demand, 1, 2, 10, 23 Law of large numbers, 565 Law of one price, 604

Law of supply, 10-11, 23 Lazear, Edward, 383, 608-609 The Least Bad Tax consumption taxes, 64 FICA tax, 64 income taxes, 64 property taxes, 64 head tax, 64 0% income tax, 64 Least painful tax, comparisons, 64 Leftward shift in supply, 19 Legal barriers to market entry, 332-333 Legal incidence, 22-23 Leisure, 501 Lerner index, 321 Less-efficient firms, 201-202 Lettuce market, 19-23 Liability, 439-441, 442 Liable, 422 Liebman, Jeffrey, 306 Lixator, 375-376 Location, economics of, 392 Long-run average cost (LRAC), 156 Long-run industry supply curve, 203, 205 Long-run marginal cost, 156 competitive firm, 186 Long-run production, 147-159 costs, 154-159 factors, 483-489 isoquants, 147-148 output maximization, 153 Long-run supply and profit, 188 Long-run supply curve, 190-192 changes in demand, 197-198 in the competitive industry, 193 haircuts and barbers, 195–197 Long-run supply curve, competition, 188-189. See also Constant-cost industry competitive industry, 190–192 construction, 190 definition, 189 "long-run marginal cost", 188 Long-run total cost (LRTC), 154-155, 160-161, 165 cost curves, returns to scale, 157-159

plant size example, 163–164 vs. short-run total cost, 161 Lopez, Jennifer, 295–296 LRAC. See Long-run average cost (LRAC) LRTC. See Long-run total cost (LRTC)

### Μ

Mabley, Jack, 18 Macintosh computer, 331 Macroeconomic, 305, 308 Majority rule, 233, 276 fundamental objection to, 276 Mandatory retirement, 608-609 Marginal benefit, 114-121 Marginal cost (MC) competitive firm, 175-176 competitive industry, 182, 183, 196 in competitive market, 254 definition of, 118 firms behavior, 118, 123, 127, 131 horizontal merger, 359, 360 vs. MLC, 490 monopolies, 319 and producers surplus, 243 short-run production, 144 - 145Marginal cost curve, 144–145, 358 U-shaped, 177 Marginal labor cost (MLC), 490 Marginal product of capital (MPK), 553 Marginal product of labor (MPL), 139, 164 Marginal rate of technical substitution (MRTS), 148 - 149Marginal rate of technical substitution of labor for capital, 149 equimarginal principle, 152 Marginal revenue competitive firm, 173 definition of, 122 and demand curve, 131 of monopolies, 318-320

and profit maximization, 123 as slope, 124 Marginal revenue product of labor (MRPL), 477-479 Marginal value, 48-52 definition of, 224 and demand, 224-226 desirable and undesirable trades, 48-50 and diamond-water paradox, 252-253 vs. marginal utility, 78 as a slope of indifference curve, 50 - 51Marginal utility, 78 Marginal value of X in terms of Y, 49 Market conditions analysis, 309 Market demand, 7, 509-514, 543 Market failure, 467 Market interest rate, 545 Market line, 588 Market portfolio, 588-589 Market power. See also Monopoly definition of, 317 mergers, 358-361 predatory pricing, 363-365 regulation, 377 resale price maintenance, 365-369 Markets and social gain, 231-232 Market supply for labor, 509-512 Marx, Karl, 250 Maturity date, 527 Maximin criterion, 278 MC. See Marginal cost (MC) McCloskey, Donald, 615 McGee, John, 364 McLaughlin, Kenneth, 304 Measure of surplus, 244 Medical specialties, government regulation of, 378 Medicare programs, 64 Merck, 376 Mergers, 358-361 Method I and II, process, 118-119 application of equimarginal principle, 121 Michaels, Robert, 341 Microeconomics, 32, 41 Microsoft antitrust violations, 171 as monopoly, 317

Military draft, 290-294 Millner, Edward, 9 Minimum wage, 380 Mining industry, 440 Misallocation, cost of, 288-294 Mixed strategy, 407-408 MLC. See Marginal labor cost (MLC) Monopolistic competition, 390–391 Monopoly. See also Market power; Price discrimination and cartel enforcement, 377 vs. competition, 323 contestable market and, 386 and cross elasticity of demand, 104 - 105definition of, 317 measuring power, 320-321 pricing under, 318-328 and public policy, 324-326 social welfare under, 323-324 sources of, 328-329 subsidized, 324-326 in two markets, 337-339 Monopoly power. See Market power Monopsonist, 490 Monopsony, 490-491 Moral hazard, 302-303, 576 More efficient, 36 Motel room tax, 207-208 MPK. See Marginal product of capital (MPK) MPL. See Marginal product of labor (MPL) MRPL. See Marginal revenue product of labor (MRPL) MRTS. See Marginal rate of technical substitution (MRTS) Murder, demand for, 8-9 Music download, Internet, 137

### Ν

NASDAQ, 310 Nash equilibrium battle of the sexes, 403–404 description of, 401, 601 *vs.* dominant strategies, 403

oligopoly, 411-413 vs. Pareto optima, 410 as solution concept, 405-407 National Collegiate Athletic Association (NCAA), 374 National Industrial Recovery Act of 1933, 376 Natural monopoly, 328-330 welfare economies of, 330 NCAA. See National Collegiate Athletic Association (NCAA) Negative externalities, 417 Negative profit, 493 Negligence, 443–444 99 cent pricing, 610 Nominal interest rate, 529 Nonconvex indifference curves, 59 Nonexcludable good, 467 Non-Giffen good, 87, 105 Nonlabor income, 503, 504, 505, 510 Nonrivalrous good, 467 Normal good definition of, 83 Normative criterion, 223, 233, 275 - 281efficiency, 275 fairness, 279-280 ideal participant, 278–279 Kaldor-Hicks Potential Compensation, 276–277 majority rule, 276 maximin, 278 optimal population, 280-281 other types of, 241 utilitarianism, 279 "veil of ignorance", 277-278

## Ο

Oasis stops, 332 Odlyzko, Andrew, 344 Oligopoly, 385–389, 411–413 On-the-job training, 516 Open economy, 262–264 Opportunities, 45 Opportunity cost, 35 Optimal population, 280–281. See also Normative criterion advantages, 280

Optimization, as economic analysis stage, 600 Optimum or optima (consumer) definition of, 57 Optimum point changes in income, 82-83 changes in price, 86-87 of competitive firm, 174 current consumption, 541-542 as economic analysis step, 600 for labor change, 503, 504 Options markets, 604-606 Orange growers and monopoly power, 321-322 Orange market, 1, 18, 34–35 Organ donation, 17 Output maximization (firms), 153-154 Outsourcing, 38-39

#### Ρ

Paasche price index, 62 Pareto criterion, 241 Pareto improvement, 408 Pareto optima, 408 Pareto-optimality, 256, 258-260, 279, 409-410 Pareto-optimal outcome, 297, 409 Pareto-preferred outcome, 409 Parfit, Derek, 280 Parrots, 18 Patents, 330-331 Payroll taxes. See Wage taxes Peltzman, Sam, 378–379 Perfectly competitive firm, 171. See also Competitive firm Perpetuities, 529 Pesticides, use of, 383 Peterman, John, 375-376 Pets.com, 180 Peterson, Steven, 9 Pfizer, 376 Photography, patent example, 331 Piaget, Jean, 610 Pie market example, 333–334, 336-337

Pigeons, suppliers of labor, 612–613 Pigou, A. C., 421 Pigou (or Pigovian) tax admission fee as, 460 vs. cap-and-trade, 423 vs. Coase theorem, 424, 429-430 in competitive industry, 430 description of, 420-422 and external benefits. 432-433 liability rules, 422 and property rights, 427 quantity restrictions, 422 real world model, 423-424 and social welfare, 431 working rules, 422 Pigs in a box, 399–400, 402–405, 410 Planned obsolescence, 535-536 Plant size, 482-483 Point of diminishing marginal returns, 140 Point of equilibrium, 13–15, 24 changes, 15-17 Polaroid, 345 Pollution, 468-469 Polygamy, 381-382 Popcorn at movie theater example, 347-348 Pork chops and equilibrium point, 15 - 17Portfolios, 582-589 Positive externalities, 417 Posner, Richard, 446 Potential Pareto criterion, 241 Predatory pricing, 363-365 Preferences, 45 Prescott, Edward, 509 Present value applications of, 531-539 as comparison standard, 531 of coupon bonds, 528 description of, 526-527 Price ceiling, 244–247, 326–327 Price discrimination conditions for, 340 counterexamples, 343-344 definition of, 334 elasticities, 339 examples of, 333-334, 336-337, 340-342, 344

predatory pricing as, 363-365 and social welfare, 348 two-part tariffs, 345-348 and welfare, 339 Price elasticity of demand, 102-105, 319-320 definition, 102 relationship between income elasticity, 103-104 Price indices and indifference curves, 61-62 Priceline.com, 342–343 Price(s), 31–35, 41 absolute vs. relative, 32 of bonds, 527 break-even, 192-193, 200-201, 212 changing, 33 changes in, 85-90 in Edgeworth box economy, 257 - 258income and substitution effects of increase, 90-99 informational role of, 283-297 law of one, 604 in open economy, 262-264 regulation of, 380 resale price maintenance, 365-368 retail vs. wholesale, 200 and shutdown decision, 178 in spot market, 578 to suppliers, 20 types of, 35 Price to demanders, 20 Price to suppliers, 20 Principal-agent problems, 303-306, 439 Prisoner's Dilemma, 370-377, 401-402, 410. See also Game theory Private goods, 470 Private marginal costs, 417 Productive fringe benefits, 304 Producer's surplus calculation of, 242 definition of, 229-230 distribution of, 494-496 efficiency criterion, 233–241 entry fees, 345-346

689

introductory concepts, 224-227 market supply curve, 233 military draft, 290 price ceilings, 244, 245 vs. rental payment (wage), 492-493 robbery, 251 subsidies, 242-244, 324-326 tariffs, 247-252 Product curves, 138, 139-140 Product differentiation, 390 Production, 137, 260-265, 552. See also Long-run production; Short-run production Production function, 150 Production possibility curve, 261 Production process download music example, 137 isocost and cost minimization, 151-152 Productive asset, 531-532 Productivity, labor, 510-514, 516-517 Profit calculations, 186 and competitive firm in long-run, 186–189 in competitive industry, 493 and exit decision, 186 and factor payments, 492-494 and income distribution. 492-496 maximization of, 123, 126, 479 - 482and rationality assumption, 604 Progress and Poverty (George), 294 Property, common. See Common property Property rights bumblebee example, 466 Coase theorem, 426-429, 433 definition of, 424 and dissipation of rents, 461 incomplete, 441 lack of, 424, 441 Property taxes, 470 Public good, 467–472 Punitive damages, 445 Pure strategy, 408

#### Q

Quality, regulation of, 378–379 Quality, demand for, 101 Quantity demanded, 2 *vs.* demand, 1–2 Quantity, regulation of, 377 Quantity supplied, 10–13 Quarterback supply, 495–496 Quasi-rents, 496

### R

Railroad sparks example, 436-438 Rate-of-return regulation, 327-328 Rational expectations, 589-595 definition of, 592 Rationality assumption, 600, 603-606, 611 Rawls, John, 277-278 Real interest rate, 529 Reasonable man standard, 449 Reckless driving, demand for, 9 - 10Recording studio or artist, greed example, 322 Region of mutual advantage, 257 Regressive factor, 486-487 Regulation creative response to, 382-384 effects of, 382 examples of, 377-382 rate-of-return, 327-328 theories of, 384-385 Relations between short-run and long-run production, 159-164 Relative price, 32–34, 41, 259–260, 261, 526-529. See also Interest rates changes and inflation, 33-34 Rent, 294-297, 460-463. See also Producer's surplus factor shares and, 492-494 Rent control, 204 Representative agent, 544-549

Repugnant conclusion, 280 Resale price maintenance, 365-369 Resource monopolies, 332 Resources, exhaustible, 538-539 Respondeat superior doctrine, 447-448 Retail price vs. wholesale price, 200 Retirement, mandatory, 608-609 Returns, 581-584 Returns to scale, 157-159, 494 Revenue of competitive firm, 173 and demand, 130 description of, 122-124 factor share of, 492-494 of monopolies, 318-321, 324 and profit maximization, 126 Ricardian Equivalence theorem, 551 Ricardo, David, 40 Rise in demand, 5 Rise in supply, 11 Risk attitudes toward, 563-575 basket of outcomes setting, 564, 565 bond market, 529-530 futures market, 578-581 insurance market, 576-578 opportunities, 566-568 preferences, 568-573 societal, 575 stock market, 581-589 Risk-averse (person), 570–571, 574, 575, 586 Risk-free (asset), 530, 566, 587-588 Riskiness, 566 Risk-neutral (person), 568, 569, 572-573, 581 Risk-preferring (person), 571-572 Risk premium, 530 Risky assets, 581–589 Robbery, 250-252 Roberts, Paul C., 38 Robinson Crusoe, 261–262 Robinson-Patman Act, 365

Rock concerts, economic explanation for sell out, 609 Rockefeller, John D., 364 Rohm and Haas chemical company, 342 Romer, Paul, 494 Rotten Kid theorem, 614 Royal Head-Flipper Fable, 294–295, 309. See also Technical analysis

## S

Sale items, reasonable quantities of, 384 Sale pricing, economic explanation for, 610 Sales tax, 5-7, 19-20, 235-237 vs. excise tax, 20-21 Satisfied (demanders), 14 Scale effect of wage change, 485-488 Scattering, 614–615 Schumer, Charles, 38–39 Schwinn Bicycle Company, 366 Seagate, vertical integration example, 361-363 Second-degree price discrimination, 335 Securities and Exchange Commission (SEC), 382 Selfish gene, 613-614 Sequential games, 411-413 Shape of the demand curve, 7 - 10Sherman Act (1890), 361 Shopping carts, economic explanation for size of, 607-608 Short run, 180 Short-run production, 137-146 costs, 141-146 factors of, 477-483, 488-489 from isoquants to total cost, 159-160 labor products, 138-141 stages of, 140 Short-run production function, 138, 164 Short-run supply curve, 181

Short-run total cost (SRTC), 161 vs. long-run total cost, 161 plant size example, 163-164 Shutdown, 177 Sigma, Greek letter, 581 Signaling, 297–299, 515 Smith, Adam, 40, 253, 256, 369, 517 Smith, John Maynard, 399 Smoking ban in bars, 430-431 Social gain and allocation decisions, 290 college education, 297 definition of, 230 and invisible hand, 254-255 and markets, 231-232 and monopolies, 322, 324 monopolistic competition, 391 price ceiling, 244, 245 and property rights, 427, 428 public goods, 467-472 sales tax, 235-237, 238, 240 speculation, 579-581 subsidies, 242-244 tariffs, 247-252 from trade, 230-231 tragedy of the commons, 459-467 Social loss. See Deadweight loss allocation decisions Social marginal costs, 417 Social planning, 286–287 Social Security taxes, 23 Social Security fund, 64 Social status, 406-407 Solution concept, 405–408 Sony, 332 Speculation, 579–581 Speculative bubble, 310. See also Stock market crashes (2008)Speculator, 579 Splitting the check, 466 Spot market, 578 Spot price, 578 SRTC. See Short-run total cost (SRTC) Stackelberg equilibrium, 412 Standard deviation, 581-586 Standard Oil Company, 364

State of the world, 563, 564 Stigler, George, 382 Stock market crashes (2008), 310. See also Efficient markets Grossman phenomena on, 310 prevention of future, 310 Stock option, 305 Stocks, corporate, 532, 581 Strict liability, 444, 448 Strong Coase theorem, 433 Subsidies, 242–244, 324–326 Substitutes, 104 Substitutes in production, 483 Substitution effect of a price increase combined with income effect, 90-91, 105 and compensated demand curve, 99 definition of, 90 for inferior good, 96–97 isolation of, 91 for normal good, 96 price elasticity of demand, 102 Substitution effect of wage change, 485-489, 505-506 Sunk cost, 128 definition of, 128 Supply, 10-13, 495-496, 501-509. *See also* Equilibrium definition of, 11 elasticity of, 180 excise tax, 12-13 fall in, 11 of kidneys, 17 leftward shift, 19 vs. quantity supplied, 11 rise in, 11 Supply curve competitive firm, 175-176, 179, 182-183 competitive industry, 181, 182, 185, 189–190, 193, 199, 209, 491 current consumption, 542-543, 548, 553–554 long-run and the competitive firm, 186–189 monopolies, 322 monopsonies, 491 producers surplus, 236, 496

shift of, 11 tariff, 247–252 uncertain demand, 589–592 for world economy, 264 Supply and demand shifts, 15

## Т

Tariffs, 247-252 Tastes (consumer), 62-64, 459, 463. See also Indifference curves Taxation. See also Pigou (or Pigovian) tax best way of, 64-66 *vs.* borrowing, 549–552 burden, 22–23 change in supply, 12-13 comparing two, 21–23 economic vs. legal incidence, 602 effect on equilibrium, 19–21 efficiency criterion, 233-241 excise, 12-13, 20 fairness of old taxes, 537-538 head tax, 64–65 home valuation puzzle, 470, 472 for information elicitation, 471 of motel rooms, 207-208 wage tax, 64 Tax policy, international, 509 TC. See Total cost (TC) and variable costs Technical analysis, 308–309 Technical analysts, 308 Technologically inefficient, 147-148 Telser, Lester, 368 Ternipsede, Harriette, 304 Theory of games. See Game theory Third-degree price discrimination, 336-344 Time preference and current consumption, 540-542 Tipping, 208–209 Tit-for-Tat strategy, 372-373 Torts, 443–446 Total cost (TC) and variable costs, 128 - 130

Total product (TP), 138, 164 Total revenue, 122 curve, 211 Total value, 224, 226-227 TP. See Total product (TP) Trade ability or taste, 40 consumer gains from, 224-233 desirable and undesirable, 48 - 50Edgeworth box economy, 257 - 259efficiency criterion, 223 electrician and carpenter, 36-37 example, apples and gasoline, 39 fair, 366-369 fundamental theorem of, 255-256 general equilibrium analysis of, 256-257 producer gains from, 229 reasons for, 39-40 social gains from, 230-231 without differences, 40 Traders, 300 Tragedy of the commons, 459-467 Transaction costs absence of, 427, 428, 432, 433 definition of, 424 reciprocal nature of, 438-439 sources of, 439 train spark example of, 436-438 Treasury bills, 527, 530, 535 Trucking industry, 377 Turner, Donald, 365 TWA, 304 Two-part tariffs, 345-348 Typhoon (Conrad), 470

#### U

UAW. See United Auto Workers (UAW) Uncertain demand, 589–592 Uncompensated demand curve. See Demand curve Unemployment theory, 306–308 Uninsurable risk, 578 United Auto Workers (UAW), 377 Unit isoquant, 148 Upward-sloping curve coffee, 11 U-shaped marginal cost curves, 177 Utah Pie v. Continental Baking Company, 365 Utilitarianism, 279 generalized proposals of, 279 Utility, 77, 279, 404 Utility function, 77–78

## V

Value, 224, 252-254, 565-566, 568. See also Marginal value; Present value Variable cost (VC), 125-127, 164 changes in, 128-130, 183 in constant-cost industry, 196-197 curve shape, 145-146 and firm behavior, 128-130 firm shutdown decision, 178 short-run production, 141-143 VC. See Variable cost (VC) Veil of ignorance criterion, 277-278 potential problems of, 277-278 Versioning, 342 Vertical integration, 358, 361–363

## W

Wage differentials, 514-517 Wage rate (of labor) change of, 484, 485-487, 504 - 506definition of, 141 and labor supply, 506-514 vs. producer's surplus, 495 and profit maximization, 479 Wages and salaries, 519 differences in, 514-517 Wage taxes, 64 FICA tax, 64 Wage tax vs. head tax, 65 Wal-Mart, 364, 376 Walras, Lèon, 256 Walrasian equilibrium, 601

Warren, Earl, 361 Weak Coase theorem, 433 Weighing costs and benefit, for firm behavior, 116–121 Welfare, 323 price discrimination and, 339 speculation and, 581 Welfare analysis, externality, 418–420 Welfare economics, 255–256. See also Social gain Welfare gain, 230. See Social gain Welfare loss. See Deadweight loss allocation decisions Wheat market, 171–172 Wholesale price vs. retail price, 200 Wilson, Joseph, 575 Women, wage differentials of, 519 Working hours, 510 Work week, averages, 509 World economy, 264 World relative price, 262, 263

#### Υ

Yakoboski, Paul, 304

### Ζ

Zero-profit condition competitive firm, 193, 494–495 monopolies, 328, 390