

## Author index

- Akerlof, G., 204*n*  
 Anderson, R., 213*n*  
 Aoki, M., 234*n*  
 Arnott, R., 59*n*, 62*n*  
 Arrow, K., 9, 9*n*, 12*n*, 25*n*, 33*n*, 39*n*,  
 41, 67*n*, 94*n*, 156*n*, 194*n*, 202*n*, 233*n*,  
 290*n*  
 Atkinson, A., 171*n*  
 Auerbach, A., 171*n*  
 Aumann, R., 80*n*
- Bagwell, K., 109*n*, 111*n*  
 Balasko, Y., 94*n*, 95*n*  
 Barro, R., 108*n*, 109*n*, 153*n*  
 Bator, F., 90*n*  
 Baumol, W., 42*n*, 68*n*, 73*n*, 155  
 Beckmann, M., 58*n*  
 Bellman, R., 205*n*  
 Benassy, J., 153*n*  
 Berge, C., 19*n*  
 Berglas, E., 53*n*, 81*n*, 84*n*  
 Bergstrom, T., 20*n*, 111*n*  
 Berliant, M., 58*n*  
 Bernheim, B., 109*n*, 111*n*  
 Bewley, T., 81, 81*n*  
 Black, D., 16*n*, 17*n*  
 Bloom, H., 227*n*  
 Blume, L., 111*n*  
 Boiteaux, M., 252*n*, 277*n*  
 Bowen, H., 18*n*  
 Bradford, D., 4, 117*n*, 233*n*, 235*n*, 262*n*  
 Brown, C., 215*n*, 216*n*, 234*n*  
 Brueckner, J., 228*n*  
 Buchanan, J., 3, 25*n*, 47*n*, 79*n*, 114*n*,  
 183*n*  
 Burbidge, J., 107*n*
- Cass, D., 107*n*  
 Chenery, H., 28*n*  
 Chipman, J., 241*n*  
 Clark, P., 28*n*  
 Clarke, E., 269*n*  
 Coase, R., 24*n*, 68*n*  
 Courant, P., 118*n*  
 Crocker, T., 213*n*
- D'Asprement, C., 271*n*  
 Dasgupta, P., 87*n*, 88, 88*n*, 133*n*, 134*n*,  
 163*n*, 167*n*, 170*n*  
 Davis, O., 20*n*, 151*n*  
 deGroot, M., 20*n*  
 de la Valle Poussin, D., 233*n*  
 de Meza, D., 77*n*  
 Debreu, G., 25*n*, 41, 95*n*, 252*n*  
 Diamond, P., 5, 91*n*, 125*n*, 163*n*, 238*n*  
 Dierker, E., 95*n*  
 Diewert, W., 122*n*, 252*n*, 282*n*  
 Dixit, A., 136*n*, 153*n*, 278*n*  
 Dorfman, R., 27*n*  
 Dreze, J., 55*n*, 82*n*, 208*n*, 210*n*, 233*n*, 280*n*  
 Duffie, D., 102*n*  
 Dunford, N., 197*n*
- Ellickson, B., 224*n*  
 Enthoven, A., 156*n*  
 Epple, D., 83*n*
- Feldstein, M., 119*n*, 165*n*  
 Ferguson, J., 108*n*  
 Filimon, R., 83*n*  
 Fishburn, P., 103*n*  
 Flatters, F., 79*n*, 183*n*  
 Foley, D., 67*n*  
 Foster, E., 94*n*  
 Freeman, A., 219*n*  
 Friedman, M., 25*n*
- Galbraith, J., 25*n*  
 Geanakoplos, J., 211  
 George, H., 62*n*  
 Gerard-Varet, L., 271*n*  
 Gibbard, A., 17*n*  
 Goetz, C., 79*n*, 183*n*  
 Goldstein, G., 185*n*  
 Goode, R., 137*n*  
 Goodman, R., 20*n*  
 Gordon, R., 185*n*  
 Gould, J., 77*n*  
 Gramlich, E., 118*n*  
 Green, J., 12*n*, 269*n*, 270*n*, 271*n*  
 Greenberg, J., 83*n*

308 **Author index**

- Grossman, H., 153*n*  
 Grossman, S., 198*n*, 204*n*, 210*n*  
 Groves, T., 269*n*
- Hahn, F., 33*n*, 35*n*, 94*n*  
 Hall, R., 193*n*  
 Hamilton, B., 118*n*, 175*n*, 186*n*, 188*n*  
 Harberger, A., 14*n*, 146*n*, 147*n*, 149*n*, 253*n*  
 Harsanyi, J., 10*n*, 11, 12  
 Hart, O., 102*n*, 210*n*  
 Hartwick, J., 62*n*  
 Hausman, J., 265*n*  
 Heal, G., 234*n*  
 Heller, W., 12*n*  
 Helpman, E., 139*n*  
 Henderson, V., 79*n*, 82*n*, 183*n*  
 Henning, J., 213*n*, 219*n*  
 Hicks, J., 37*n*, 238*n*, 240*n*  
 Hildenbrandt, W., 262*n*  
 Hinich, M., 20*n*  
 Hochman, O., 45*n*, 227*n*  
 Hotelling, H., 252*n*  
 Howard, R., 205*n*  
 Hurwicz, L., 88*n*, 238*n*
- Intriligator, M., 12*n*, 33*n*, 46*n*, 282*n*
- Jorgensen, D., 265*n*
- Kahneman, D., 103*n*  
 Kaldor, N., 240*n*  
 Kanemoto, Y., 61*n*, 215*n*, 216*n*  
 Karlin, B., 29*n*  
 King, M., 99*n*, 195*n*  
 Koopmans, T., 27*n*  
 Kornai, J., 25*n*, 28*n*  
 Kotlikoff, L., 195*n*  
 Kramer, G., 16*n*, 20*n*  
 Kreps, D., 102*n*  
 Kurz, M., 33*n*, 290*n*
- Ladd, H., 227*n*  
 Laffont, J.-J., 269*n*, 270*n*, 271*n*  
 Lancaster, K., 146*n*  
 Lange, O., 34*n*, 281*n*  
 Lau, L., 265*n*  
 Ledyard, J., 269*n*  
 Leland, H., 204*n*  
 Leontief, W., 28*n*  
 Lerner, A., 149*n*, 281*n*  
 Lesourne, J., 146*n*  
 Lind, R., 194*n*, 213*n*  
 Lindahl, E., 67*n*  
 Lintner, J., 200*n*  
 Lipsey, R., 146*n*  
 Little, I., 163*n*
- Machina, M., 103*n*  
 Makowski, L., 210*n*  
 Maler, K., 262*n*  
 Malinvaud, E., 28*n*, 153*n*, 200*n*, 233*n*, 285*n*  
 March, J., 155  
 Marglin, S., 163*n*  
 Maskin, E., 88, 88*n*  
 McFadden, D., 238*n*, 265*n*  
 McGuire, M., 53*n*, 80*n*  
 McLure, C., 115*n*, 186*n*  
 Meiszkowski, P., 79*n*, 175*n*, 183*n*, 186*n*, 188*n*  
 Mirrlees, J., 5, 57*n*, 59*n*, 91*n*, 125*n*, 129*n*, 163*n*, 278*n*  
 Mitra, T., 107*n*  
 Modigliani, F., 208*n*  
 Mohring, H., 277*n*  
 Moore, J., 241*n*  
 Morgenstern, O., 14  
 Mossin, J., 200*n*  
 Mueller, D., 8*n*  
 Mullet, G., 219*n*  
 Musgrave, R., 42*n*
- Nakamura, R., 215*n*, 216*n*  
 Nash, J., 40, 40*n*  
 Negishi, T., 151*n*  
 Nelson, J., 55*n*, 280*n*  
 Nozick, R., 10*n*
- Oates, W., 4, 42*n*, 68*n*, 73*n*, 115*n*, 117*n*, 175*n*, 227*n*  
 Otani, Y., 71*n*
- Panzar, J., 281*n*  
 Pauly, M., 80*n*, 185*n*, 227*n*  
 Pencavel, J., 139*n*  
 Pigou, A., 51*n*, 70*n*, 90*n*, 170*n*  
 Pines, D., 53*n*  
 Polemarchakis, H., 211  
 Polinsky, A., 213*n*, 219*n*, 227*n*, 266*n*  
 Portney, P., 228*n*  
 Pratt, J., 14*n*, 202*n*
- Rabushka, A., 193*n*  
 Radner, R., 39*n*, 102*n*, 203*n*  
 Raiffa, H., 103*n*  
 Ramsey, F., 123*n*  
 Rawls, J., 10*n*, 12  
 Ricardo, D., 109*n*  
 Richter, M., 83*n*  
 Ridker, R., 213*n*, 219*n*  
 Roberts, D., 88, 94*n*  
 Romer, T., 20*n*, 83*n*  
 Rosen, S., 213*n*, 215*n*, 216*n*

**Author index**

309

- Rosenthal, H., 20*n*  
 Ross, S., 200*n*  
 Rubinfeld, D., 118*n*, 227*n*
- Sadka, E., 139*n*  
 Samuelson, P., 3, 19*n*, 27*n*, 238*n*  
 Sandler, T., 56*n*  
 Sandmo, A., 136*n*  
 Savage, L., 103*n*  
 Schlaifer, R., 103*n*  
 Schwartz, J., 197*n*  
 Scitovsky, T., 240*n*  
 Scotchmer, S., 53*n*, 54*n*, 82*n*, 217*n*, 262*n*  
 Sen, A., 8*n*, 9*n*, 11*n*, 16*n*, 163*n*, 236*n*  
 Sharpe, W., 200*n*  
 Shavell, S., 213*n*, 219*n*, 266*n*  
 Shoven, J., 94*n*  
 Sicilian, J., 71*n*  
 Simon, H., 155  
 Solow, R., 27*n*, 107*n*  
 Sonnenschein, H., 94*n*  
 Sonstelie, J., 228*n*  
 Starrett, D., 59*n*, 60*n*, 62*n*, 71*n*, 74*n*, 79*n*,  
 107*n*, 146*n*, 175*n*, 185*n*, 195*n*, 202*n*,  
 218*n*, 224*n*, 277*n*, 287*n*, 288*n*  
 Stern, N., 171*n*, 278*n*  
 Stiglitz, J., 62*n*, 77*n*, 133*n*, 134*n*, 167*n*,  
 170*n*, 198*n*  
 Summers, L., 195*n*
- Taylor, A., 237*n*, 255*n*  
 Tideman, T., 269*n*
- Tiebout, C., 4, 53*n*, 77, 77*n*  
 Tirole, J., 108*n*  
 Toder, E., 175*n*, 186*n*  
 Tschirhart, J., 56*n*  
 Tullock, G., 269*n*  
 Tversky, A., 103*n*
- Uzawa, H., 238*n*
- Varian, H., 33*n*, 35*n*, 76*n*, 111*n*  
 Vickrey, W., 269*n*  
 von Neumann, J., 14
- Wagner, H., 233*n*  
 Warr, P., 167*n*  
 Weitzman, M., 77*n*  
 Westhoff, F., 224*n*  
 Wheaton, W., 190*n*  
 Whinston, A., 151*n*  
 White, M., 188*n*  
 Widder, D., 247*n*  
 Wildasin, D., 47*n*, 175*n*  
 Wildavsky, A., 114*n*  
 Wilde, J., 116*n*  
 Willig, R., 246, 254, 256*n*, 281*n*  
 Wilson, J., 82*n*  
 Wilson, R., 203*n*  
 Wooders, M., 47*n*, 49*n*, 53*n*, 54*n*, 80*n*
- Yinger, J., 227*n*
- Zodrow, G., 175*n*, 186*n*, 188*n*

## Subject index

- accrual tax method, 137–40
  - see also* broadly based taxes
- activity analysis, 27
  - and hedonic price methods, 215–16
  - and shadow values, 214–15
  - and willingness to pay, 261
- ad valorem taxes, 136
  - and uniform transactions tax, 135
- “alternative” cost, 274
- Arrow–Debreu framework, 41, 101
- Arrow–Lind theorem, 200–1
- Arrow–Pratt measure of absolute risk aversion, 202
- Arrow securities, 39, 98, 102, 140–1, 199–200
  - “personalized” prices of, 197
- asset betas, 200
- Bellman principle of optimality, 205–6
- benefits principle, 104
  - and property tax, 229
- benefit–cost analysis
  - direct transfers in, 159
  - distributional benefits in, 158–60
  - first best calculus, 151
  - and large projects, 273–6
  - and marginal cost of government spending, 174
  - “multipliers” in, 159
  - pitfalls of, 158–60
  - quantity constraints in, 159
  - rules of, 158–60
  - “trickle down” effects in, 159
- bequests
  - and budget constraint, 96–8
  - and dynasty model, 141
  - and wealth taxation, 137
- Bowen model, 18–20, 21, 23–4
- broadly based taxes
  - and bequests, 141
  - and capital gains, 140–1
  - distributional issues, 141–2
  - and durable goods, 140
  - and human capital, 140
  - incentive problems in, 138–9
  - and insurance, 140
  - uniform transactions tax, 135
- as wealth taxes, 137–8
  - see also* wealth taxation
- capital-asset pricing model, 200
- capital markets
  - in intertemporal model, 96
  - and irrelevance of corporate finance, 98–100
  - see also* project betas
- capitalization
  - external, 219, 225–7
  - and fiscal externalities, 229
  - and hedonic price methods, 218–19
  - internal, 219–24
  - land value, 218, 222, 227, 228
  - tax, 227
- choice functions
  - individually person-by-person
    - monotonic, 87
  - in mechanism design, 86–8
- clubs
  - biases in public provision, 186–90
  - biases in size, 188–90
  - classical theory of, 47–52
  - congestible, 77–83
  - Cournot–Nash equilibrium, 186–7
  - decentralization of, 77–84 (*see also* Tiebout models)
  - diminishing returns to size, 58
  - economies of scale in size, 52, 55–8
  - efficient size, 48–50
  - “entrepreneurs” in, 176
  - heterogeneous (mixed), 52–5, 80
  - Nash, 179–81
  - segregated, 52–5, 77–80
  - spatial, 58–62, 83–4
  - utility maximizing, 48–50, 52, 77–83
  - see also* local public goods
- collective goods
  - common property, 73–7
  - efficient allocation of, 44–7
  - and externalities, 41–2, 44
  - in mixed economy model, 93–4

## Subject index

311

- nonexcludability of, 42–3
- nonrivalrousness of, 43–4
- partially rivalrous, 179
- Tiebout models of allocation, 77–83
- typology of, 42–4
  - see also* local public goods; public goods
- command economy, 26–31, 279
- common property, 73, 277
  - overutilization of, 73–5
  - and Pigovian taxes, 76
- compensated demand function, 239, 242, 254
- compensation principle
  - with compensation, 10, 240
  - without compensation, 240, 244
- compensating variation, 236–43, 249
- congestion
  - charges for, 62
  - and club choice, 187
  - and common property, 74–5
  - and fiscal federalism, 115
  - as nonexcludable public bad, 51
  - and public goods, 44
- consumer sovereignty, 8, 34, 103
- consumer surplus, 236
  - and compensating variation, 236–40
  - expected, 244–5
  - and large projects, 273
  - naive (uncompensated), 258–9, 272–3
- contingent futures markets, 39
- contingent securities, 39, 101–3
  - see also* Arrow securities
- corporate income tax, 127
  - depreciation, 127
  - “expensing,” 127
- Cournot–Nash equilibrium
  - and club choice, 186–7
- cross-price effects
  - and compensating variation, 238
  - and optimal commodity taxation, 131–3
  - and public pricing, 123
- deadweight loss, 151, 170, 246, 252–3
  - see also* second-order approximations
- Diamond–Mirrlees framework, 124–8
- duality theory in, 147
  - and shadow pricing, 168–72
  - and theory of second best, 146–51
  - welfare weights in, 147
  - see also* optimal commodity taxation
- “direct revelation mechanism,” 87
  - straightforward, 87
  - see also* planning mechanisms
- dominant strategy
  - definition, 86
  - and Nash behavior, 41
  - see also* planning mechanisms
- dominant strategy mechanisms, 85–6, 269–72
- Dreze nonconvexity
  - and local public goods, 189
- dual method (*see* Lagrangian method)
- dynamic efficiency/inefficiency, 107–8
- dynasty model, 97–8, 109–12
  - and broadly based commodity taxes, 141
  - and government budgeting, 105–9
  - irrelevancy of government debt in, 109
  - and “pay as you go” social security, 110
- econometric identification, 264–8
- efficient club size
  - classical, 48–51
  - spatial clubs, 59
- envelope theorem, 31–3, 122
  - and shadow pricing, 163
- “equal treatment” principle, 56, 60, 83
- Euler’s theorem, 76, 282
- event partitions of the state space, 203
- excess burden, 123, 172–4
  - and shadow pricing, 170–1
  - and the social rate of discount, 192–5
- expectations
  - commonly held, 103
  - rational, 204
- expected rate of return, 198
- expected surplus, 244–5
- expected utility, 11
  - and incomplete markets, 103
- extended families (*see* dynasty model)
- extended market procedures
  - for allocation of nonexcludable goods, 65–73
  - see also* Lindahl allocation method
- externalities
  - club-induced, 184
  - and collective goods, 41–2, 44
  - fiscal, 55
  - internalization of, 41–2, 66–7
  - and nonexcludable goods, 66
  - pecuniary, 135, 210–11
- felicity, 205
  - see also* utility functions
- first-order analysis, 13
  - and shadow prices, 146
  - and theory of second best, 145–6
- “fiscal bonus,” 183, 186
  - in Tiebout models, 79
  - see also* fiscal externalities

## 312 Subject index

- fiscal decentralization, 104–19  
*see also* fiscal federalism
- fiscal externalities, 55  
 and capitalization, 229  
 and local public goods, 181–4
- fiscal federalism, 115–19  
 and congestible public goods, 115  
 flypaper effect, 118  
 matching grants, 116–17  
 spillovers, 116–17
- flypaper effect (*see* fiscal federalism;  
 revenue sharing)
- “free rider” problem  
 in Lindahl scheme, 69  
 and local public goods, 77–83  
*see also* incentives
- futures markets  
 with certainty, 37  
 contingent, 39
- government capital account, 112–13  
 effective burden, 112–13  
 net public liability in, 112
- government current account budget  
 balancing, 114–15  
 coordination problems, 113–14  
 intergenerational transfers, 112  
 tax vs. debt finance, 105–9  
 unified, 105–9  
 and voting theory, 114–15
- government debt  
 burden of, 109–12  
 in dynasty model, 109  
 neutrality of, 111  
 in overlapping generations model, 110
- graduated resource tax (*see* nonlinear  
 taxes)
- Groves–Clarke mechanism, 268–71
- hedonic price methods  
 and activity analysis, 215–16  
 and capitalization, 218–19  
 failures of, 224  
 and similar agents, 217–18  
 and spanning procedure, 216
- Henry George theorem, 62, 83–4  
 “Hicksian” aggregate good, 19, 121, 195
- impossibility theorems, 9, 16
- incentives  
 and broadly based commodity taxation,  
 138  
 and Lindahl markets, 68  
 and market decentralization, 31, 34  
 and mechanism designs, 85–8  
 in Tiebout models, 77–8
- incentive compatibility (*see* planning  
 mechanisms)
- incidence  
 of commodity taxes, 134  
 of debt finance, 109–12  
 of profit tax, 127  
 of property tax, 118–19, 227–9  
 of saving tax, 193–5  
 “income averaging,” 142
- income compensation function, 238, 241,  
 242
- incomplete markets  
 in mixed economy model, 100–3  
 and risk premiums, 201–3  
 and sequential structure, 203–6
- independence from irrelevant alternatives,  
 88
- individual preferences  
 and choice functions, 8–15  
 separable, 96, 204  
 single peaked, 17, 88  
 and uncertainty, 11, 15 (*see also* expected  
 utility)  
 and weak axiom of revealed preference,  
 85  
*see also* utility functions
- intermediate goods taxation  
 and theory of second best, 151–6
- interpersonal comparisons, 11–15
- investment cycles, 287–91
- iterative processes  
 and club decentralization, 77–83  
 with increasing returns, 233  
 in the Lagrangian method, 28–33  
 and market mechanisms, 35–6  
 and Pigovian taxes, 70–1
- Keynesian public finance, 155
- labor–leisure margin, 156
- Lagrangian method, 28–33, 35  
 and Lindahl prices, 66  
 multipliers in, 28–31  
 and optimal commodity taxation, 129  
 and public pricing, 122–3  
 and shadow government, 163
- “layers” of government, 115–16 (*see also*  
 fiscal federalism)
- Lindahl allocation method, 67–73  
 comparison with Pigovian scheme, 70  
 compensation in, 68–9  
 and Groves–Clarke mechanism, 270  
 nonexcludable goods prices, 66–7  
 strategies in, 85
- Lindahl prices, 66–7  
 and monopsony power, 69  
 and personalized markets, 67–9

## Subject index

313

- linear commodity taxes, 125–8
  - and theory of second best, 151–6
  - see also* optimal commodity taxation
- local public goods, 50
  - direct spillovers, 177
  - and direct taxation, 176–84
  - and fiscal externalities, 181–4
  - and fiscal federalism, 116–19
  - and land value capitalization, 183
  - and Mirrlees problem, 179–81
  - and Nash clubs, 179–81
  - and theory of second best, 180
  - Tiebout models, 77–83
- local taxation
  - commodity, 184–6
  - direct, 176–84 (*see also* Tiebout taxes)
  - property, 118–19, 185
  - sales, 118–19, 185
- lump sum taxes and transfers
  - and broadly based taxes, 135–7
  - in Diamond–Mirrlees framework, 146
  - and Groves–Clarke mechanisms, 269
  - in Lindahl scheme, 68–9
  - and market decentralization, 36
  - and revenue sharing, 117–18
  - in static mixed economy model, 90
- macro-public finance, 153
- marginal congestion cost, 52
- marginal cost of government spending (*see* excess burden)
- marginal cost pricing, 51
  - optimal departures from, 120–4, 151
  - in peak load problem, 280–3
- marginal rivalry cost, 60
  - and pseudo land rent, 62
  - in Tiebout models, 79
- market decentralization, 25–39
  - in intertemporal context, 36–9
  - in peak load problem, 280–6
- market failure
  - and common property, 76
- market socialism, 34
- matching grants (*see* fiscal federalism)
- “maximin criterion,” 12
- mechanisms (*see* planning mechanisms)
- median voter model (*see* voting theory)
- Mirrlees problem
  - and local public goods allocation, 179–81, 188
  - in spatial clubs, 60–1
  - and unequal treatment, 57
- mixed economy model, 3
  - collective goods provision in, 93–4
  - intertemporal considerations, 95–100
  - and missing markets, 100–3
  - problems of equilibrium in, 94
  - static, 91
  - uncertainty in, 100–3
  - myopic rule, 290
- naive consumer surplus, 258–9, 273
- Nash behavior
  - definition of, 40
  - dominant strategy under, 41
- Nash clubs, 179–81, 184
- Nash equilibrium, 21–3, 88
  - and common property, 76
  - and local public goods, 176
  - and neutrality, 110–11
  - in planning mechanisms, 88–9
- natural monopoly, 236, 239, 250
- negative wealth tax, 142
- neutrality
  - of government debt, 111
  - of government transfers, 109–12
  - and revenue sharing, 118–19
- nonconvexities
  - and local public goods, 82
  - in Pigovian tax schemes, 70–1
- nonexcludability
  - common property, 73
  - definition, 43
  - extended market procedures, 65–73
  - see also* collective goods
- nonrivalrousness
  - and opportunity cost, 44
  - partial, 44
  - see also* collective goods; rivalry
- nonlinear taxes
  - graduated resources tax, 157–8
  - and theory of second best, 156–8
- opportunity cost
  - in benefit–cost calculus, 148, 206–82
  - and Lagrangian multipliers, 31
  - and quantity constraints, 153–6
  - for rivalrous goods, 43–52
- optimal commodity taxation, 124–41
  - with full discretion, 128–33
  - and “inverse elasticity” rule, 131–3
  - with limited discretion, 133–5
  - optimal tax rules, 130–3
  - profits tax in, 127
  - and Ramsey pricing rules, 131–3
  - and rate of discount, 191–2
  - sales taxation in, 125
  - and theory of second best, 146–51
  - and shadow pricing, 168–72
  - with uniform rates, 134, 135
  - welfare weights in, 129
  - see also* broadly based taxes

### 314 Subject index

- overlapping generations model, 96–7, 109–12
  - and broadly based taxes, 141
- Pareto efficiency
  - of Bowen model, 19–20
  - frontier, 54
  - and dominant strategy mechanisms, 86
  - and market decentralization, 34
  - of mixed clubs, 53–5
  - and political decentralization, 24
  - of segregated clubs, 52–3
- Pareto principle
  - and benefits principle, 104
  - and compensation methods, 240–1
  - definition of, 10
  - and value judgments, 10
- path integrals, 237, 243
- “pay as you go” social security
  - in dynasty model, 110
- peak-load problem, 277–91
  - capital fund in, 282
  - and investment cycles, 287–91
  - peak load pricing, 280–3
- pecuniary externalities, 135, 210–11
- personalized prices (*see* Lindahl prices)
- Pigovian taxes
  - and common property, 76
  - comparison with Lindahl method, 70
  - definition of, 51
  - and matching grants, 116
  - nonconvexities and, 70–1
- planning mechanisms, 33
  - dominant strategy, 85–8
  - as “game forms,” 85
  - incentive compatible, 90
  - indirect, 91
  - strategies, 85
- political decentralization, 20–4
  - see also* fiscal federalism
- “pollution tickets,” 73
- Ponzi game, 97–8
  - and government debt, 106–8
- present value
  - computation, 38
  - of the firm, 99
  - prices, 37, 95
  - of projects, 192
- private goods
  - definition of, 44
  - and market decentralization, 33–6
- production possibility set, 29–30
- project
  - definition of, 145
  - opportunity cost of, 148, 153
  - “size” of, 146
- project betas, 200, 203, 210 (*see also* risk, premiums)
- public goods
  - Lindahl allocation method, 67–73
  - pure, 18–45
  - Samuelson form, 45
  - see also* collective goods
- public pricing
  - in club decentralization, 79–80, 83–4
  - first-best policy, 120
  - and increasing returns, 120–1
  - Ramsey pricing rules, 123
- Ramsey pricing rules, 123, 131
- realization tax method, 137–40
  - see also* broadly based taxes
- “rent maximization,” 229
  - see also* capitalization, land value
- returns to scale
  - and capacity production, 277, 279
  - in club size, 55–8
  - constant, 27 (*see also* Euler’s theorem)
  - increasing, 45
  - and iterative planning methods, 233
  - and marginal analysis, 234
  - and nonrivalrous inputs, 74
  - and optimal public pricing, 120–1
- revelation principle
  - and dominant strategy mechanisms, 86
- revenue sharing
  - flypaper effect, 118
  - general, 116–17
  - neutrality of, 118–19
  - unconditional, 117–19
  - see also* fiscal federalism
- Ricardian equivalence (*see* neutrality)
- rights to pollute, 73
- risk
  - Arrow–Pratt measure of absolute risk
    - aversion, 202
  - aversion, 14–15
  - fully insurable, 200
  - market sharing, 196
  - premiums, 198–203, 209, 210
  - “timeless,” 208, 209
- rivalry
  - congestion, 45–7, 51–2, 77–83, 84
  - “club,” 58
  - full, 44, 51
  - impersonal, 52
  - marginal cost, 60
  - nonmarket, 182
  - and the problem of the common, 75–7
  - service, 50–1, 84
  - see also* nonrivalrousness
- sales taxes, 125
- Samuelson allocation condition, 19, 47, 50, 51, 57, 60



## Subject index

315

- Samuelson pseudoprices, 148  
   welfare weighted, 173
- second best, theory of, 145–61  
   distributional terms, 147–9  
   and intermediate goods taxation, 151–6  
   and local public goods, 180  
   measures of market distortions, 149–51  
   and “monopoly” distortions, 150  
   and nonlinear taxes, 156–8  
   and quantity constraints, 151–6  
   and shadow pricing, 169
- second-order approximations, 247–54, 268
- sequential markets, 101, 195, 203–11
- shadow prices, 161–174  
   comparison with decomposition, 162  
   and consumer prices, 193  
   definition, 161  
   in detached context, 162–3  
   and marginal cost of government spending, 172–4  
   as opportunity cost, 161  
   and optimal commodity taxation, 168–72  
   in programming context, 163  
   in project context, 163–4  
   relative, 169  
   and second best, 164–7  
   and tax incidence, 193–4  
   and tradable goods, 167  
   and world prices, 167
- shadow values, identification of  
   and capitalization, 219–29  
   hedonic price methods, 215–19  
   with similar agents, 216–18  
   *see also* capitalization; hedonic price methods
- Slutsky conditions, 171
- Slutsky derivatives  
   compensated, 248  
   uncompensated, 248
- Slutsky substitution effects, 239
- Slutsky symmetry, 239
- social choice theory, 8–9
- social rate of discount, 191–2, 195
- social risk premium, 191, 206–7, 210
- spillovers  
   and club choice, 187
- spot markets, 37–8, 95, 96
- state variables, 205
- surplus (*see* consumer surplus)
- tax base  
   and broadly based taxes, 136  
   “tax exporting,” 188
- terms-of-trade effect, 182, 186, 229
- Tiebout models, 77–83, 265–6
- Tiebout segregation, 52–3, 265
- Tiebout tax, 80, 177–84
- “two-part tariff”  
   and collective good allocation, 55
- uncertainty  
   and incomplete markets, 101–3  
   intertemporal context, 38–9  
   and lotteries on income level, 14  
   and shadow pricing, 195–8  
   “state of the world” approach, 38, 100  
   unequal treatment of equals, 57, 180  
   *see also* Mirrlees problem
- unfunded liability, 106, 108, 114
- uniform commodity taxation (*see* broadly based taxes)
- utilitarianism, 11–14, 244, 249, 269
- utility functions (*see also* expected utility)  
   cardinality vs ordinality, 12  
   and marginal utility of income, 12, 15  
   von Neumann–Morgenstern, 14
- utility maximizing clubs, 48
- voting theory  
   “agenda setter” in, 17  
   “cyclic majorities” in, 16, 20, 24  
   and government budget coordination, 114–15  
   “logrolling” in, 22–4, 115  
   majority, 15–18, 20, 23  
   median voter, 19  
   with single-peaked preferences, 17  
   vote trading in, 22–3  
   “voting with one’s feet,” 77
- wealth taxation  
   accrual method, 137–40  
   double taxation under, 137  
   realization method, 137–40  
   *see also* broadly based taxes
- welfare economics  
   “new,” 9  
   “old,” 9
- welfare functions, 11, 13, 269
- welfare weights, 14, 129, 131–3  
   in Diamond–Mirrlees framework, 147
- welfare measure  
   opportunity cost form, 206–7
- zoning restrictions, 188