

Contents

Foreword by Amartya Sen	<i>page</i> xi
Acknowledgments	xiv
Introduction	1
Overview	5
Part I. Welfarism	
Chapter 1. Egalitarianism versus utilitarianism	11
Overview	11
1.1 Egalitarianism	13
1.2 Classical utilitarianism	19
Exercises	24
Chapter 2. Social welfare orderings	30
Overview	30
2.1 Social welfare orderings and collective utility functions	33
2.2 Scale and zero independence	35
2.3 Independence of common utility pace	39
2.4 Separability	42
2.5 Reduction of inequality	45
2.6 Inequality indices	51
Exercises	56
Chapter 3. Axiomatic bargaining	61
Overview	61
3.1 Social choice functions	63
3.2 Nash's independence of irrelevant alternatives axiom	67
3.3 Issue monotonicity	69
3.4 Population monotonicity	71
3.5 Separability	75

viii **Contents**

3.6	Additivity	77
	Exercises	79

Part II. Cooperative games

Chapter 4.	Cost-sharing games and the core	87
	Overview	87
4.1	Stand-alone and subsidy-free principles	89
4.2	Balanced games	95
4.3	Pricing of a multi-output monopoly	98
4.4	NTU games	102
	Exercises	103
Chapter 5.	Values of cooperative games	107
	Overview	107
5.1	The Shapley value	109
5.2	Convex games	112
5.3	Characterizations of the Shapley value	116
5.4	The nucleolus	121
5.5	Core selections	129
5.6	Characterization of the nucleolus	132
	Exercises	136

Part III. Public decision mechanisms

Chapter 6.	Equal versus proportional sharing	145
	Overview	145
6.1	The surplus-sharing model	147
6.2	The cost-sharing model	148
6.3	The leveling tax and head tax	150
6.4	The Shapley value and nucleolus cost sharing	153
6.5	Decentralizability	157
6.6	Separability	159
	Exercises	162
Chapter 7.	Regulated monopoly	166
	Overview	166
7.1	Two production economies	169
7.2	The core of the public good economy	171
7.3	The core of the private good economy	174
7.4	Marginal pricing in the public good economy	179
7.5	Marginal pricing in the private good economy	181
7.6	Two welfare egalitarian core selections	184
7.7	Technological monotonicity	189
	Exercises	191

Contents

ix

Chapter 8. Strategyproof mechanisms	196
Overview	196
8.1 Noncooperative manipulations	197
8.2 Strategyproofness and the pivotal mechanism	201
8.3 Strategyproof cost sharing	205
8.4 The class of demand-revealing mechanisms	209
8.5 Characterizations of the pivotal mechanism	213
Exercises	217
 Part IV. Voting and social choice	
Chapter 9. Majority voting and scoring methods	225
Overview	225
9.1 Condorcet versus Borda	228
9.2 Equity and monotonicity properties	233
9.3 Reinforcement and participation	236
9.4 Sequential majority comparisons	240
Exercises	248
Chapter 10. Strategyproofness and core stability	256
Overview	256
10.1 The Gibbard–Satterthwaite theorem	258
10.2 Single-peaked preferences and Condorcet winners	263
10.3 Core stability	267
10.4 The minority principle	271
10.5 Strategic voting and implementation theory	276
Exercises	277
Chapter 11. Aggregation of preferences	283
Overview	283
11.1 Binary choice: the majority rule and other methods	285
11.2 Social welfare preorderings: dictators	288
11.3 Social welfare quasi orderings: oligarchies	291
11.4 Acyclic social welfare	293
11.5 Restricted domain: equivalence of AIIA and strategyproofness	298
11.6 Social welfare orderings on the single-peaked domain	300
11.7 Rationalizable choice functions	306
11.8 Condorcet’s aggregation method	310
Exercises	312
Bibliography	317
Author index	327
Subject index	330