

---

# INTERMEDIATE PUBLIC ECONOMICS

Jean Hindriks and Gareth D. Myles

The MIT Press  
Cambridge, Massachusetts  
London, England

---

# Contents

Preface	xix
<b>I PUBLIC ECONOMICS AND ECONOMIC EFFICIENCY</b>	<b>1</b>
<b>1 An Introduction to Public Economics</b>	<b>3</b>
1.1 Public Economics	3
1.2 Methods	3
1.3 Analyzing Policy	5
1.4 Preview	6
1.5 Scope	8
Further Reading	9
Exercises	9
<b>2 Equilibrium and Efficiency</b>	<b>11</b>
2.1 Introduction	11
2.2 Economic Models	11
2.3 Competitive Economies	12
2.3.1 The Exchange Economy	13
2.3.2 Production and Exchange	20
2.4 Efficiency of Competition	24
2.4.1 Single Consumer	25
2.4.2 Pareto-Efficiency	30
2.4.3 Efficiency in an Exchange Economy	31
2.4.4 Extension to Production	35
2.5 Lump-Sum Taxation	38
2.6 Discussion of Assumptions	40
2.7 Summary	41
Further Reading	42
Exercises	42
<b>II GOVERNMENT</b>	<b>47</b>
<b>3 Public Sector Statistics</b>	<b>49</b>
3.1 Introduction	49
3.2 Historical Development	49

3.3	Composition of Expenditure	55
3.4	Revenue	61
3.5	Measuring the Government	67
3.6	Conclusions	69
	Further Reading	69
	Exercises	70
<b>4</b>	<b>Theories of the Public Sector</b>	<b>73</b>
4.1	Introduction	73
4.2	Justification for the Public Sector	73
4.2.1	The Minimal State	73
4.2.2	Market versus Government	75
4.2.3	Equity	76
4.2.4	Efficiency and Equity	77
4.3	Public Sector Growth	77
4.3.1	Development Models	78
4.3.2	Wagner's Law	79
4.3.3	Baumol's Law	80
4.3.4	A Political Model	81
4.3.5	Ratchet Effect	83
4.4	Excessive Government	84
4.4.1	Bureaucracy	84
4.4.2	Budget-Setting	87
4.4.3	Monopoly Power	88
4.4.4	Corruption	89
4.4.5	Government Agency	90
4.4.6	Cost Diffusion	92
4.5	Conclusions	93
	Further Reading	94
	Exercises	95

### **III DEPARTURES FROM EFFICIENCY 99**

<b>5</b>	<b>Public Goods</b>	<b>101</b>
5.1	Introduction	101
5.2	Definitions	102
5.3	Private Provision	103

5.4	Efficient Provision	108
5.5	Voting	110
5.6	Personalized Prices	113
5.7	Mechanism Design	117
5.7.1	Examples of Preference Revelation	117
5.7.2	Clarke-Groves Mechanism	120
5.7.3	Clarke Tax	122
5.7.4	Further Comments	123
5.8	More on Private Provision	124
5.8.1	Neutrality and Population Size	124
5.8.2	Experimental Evidence	128
5.8.3	Modifications	130
5.9	Fund-Raising Campaigns	132
5.9.1	The Contribution Campaign	133
5.9.2	The Subscription Campaign	135
5.10	Conclusions	136
	Further Reading	137
	Exercises	138
<b>6</b>	<b>Club Goods and Local Public Goods</b>	<b>143</b>
6.1	Introduction	143
6.2	Definitions	144
6.3	Single-Product Clubs	145
6.3.1	Fixed Utilization	146
6.3.2	Variable Utilization	148
6.3.3	Two-Part Tariff	149
6.4	Clubs and the Economy	151
6.4.1	Small Clubs	152
6.4.2	Large Clubs	153
6.4.3	Conclusion	160
6.5	Local Public Goods	160
6.6	The Tiebout Hypothesis	164
6.7	Empirical Tests	167
6.8	Conclusions	169
	Further Reading	169
	Exercises	170

<b>7 Externalities</b>	<b>175</b>
7.1 Introduction	175
7.2 Externalities Defined	176
7.3 Market Inefficiency	177
7.4 Externality Examples	180
7.4.1 River Pollution	180
7.4.2 Traffic Jams	181
7.4.3 Pecuniary Externality	182
7.4.4 The Rat Race Problem	184
7.4.5 The Tragedy of the Commons	185
7.4.6 Bandwagon Effect	187
7.5 Pigouvian Taxation	188
7.6 Licenses	191
7.7 Internalization	194
7.8 The Coase Theorem	195
7.9 Nonconvexity	199
7.10 Conclusions	201
Further Reading	202
Exercises	203
<b>8 Imperfect Competition</b>	<b>207</b>
8.1 Introduction	207
8.2 Concepts of Competition	208
8.3 Market Structure	209
8.3.1 Defining the Market	209
8.3.2 Measuring Competition	210
8.4 Welfare	212
8.4.1 Inefficiency	213
8.4.2 Incomplete Information	216
8.4.3 Measures of Welfare Loss	217
8.5 Tax Incidence	220
8.6 Specific and Ad valorem Taxation	227
8.7 Regulation of Monopoly	230
8.8 Regulation of Oligopoly	235
8.8.1 Detecting Collusion	235
8.8.2 Merger Policy	236
8.9 Unions and Taxation	238

8.10	Monopsony	239
8.11	Conclusions	241
	Further Reading	242
	Exercises	244
<b>9</b>	<b>Asymmetric Information</b>	<b>251</b>
9.1	Introduction	251
9.2	Hidden Knowledge and Hidden Action	254
9.3	Actions or Knowledge?	255
9.4	Market Unraveling	256
	9.4.1 Hazard Insurance	256
	9.4.2 Government Intervention	259
9.5	Screening	261
	9.5.1 Perfect Information Equilibrium	263
	9.5.2 Imperfect Information Equilibrium	264
	9.5.3 Government Intervention	268
9.6	Signaling	269
	9.6.1 Educational Signaling	270
	9.6.2 Implications	276
9.7	Moral Hazard (Hidden Action)	277
	9.7.1 Moral Hazard in Insurance	278
	9.7.2 Effort Observable	279
	9.7.3 Effort Unobservable	281
	9.7.4 Second-Best Contract	282
	9.7.5 Government Intervention	284
9.8	Public Provision of Health Care	285
	9.8.1 Efficiency	285
	9.8.2 Redistributive Politics	287
9.9	Evidence	289
9.10	Conclusions	291
	Further Reading	291
	Exercises	293
<b>IV</b>	<b>POLITICAL ECONOMY</b>	<b>299</b>
<b>10</b>	<b>Voting</b>	<b>301</b>
10.1	Introduction	301
10.2	Stability	301

10.3	Impossibility	303
10.4	Majority Rule	306
10.4.1	May's Theorem	306
10.4.2	Condorcet Winner	307
10.4.3	Median Voter Theorems	307
10.4.4	Multidimensional Voting	312
10.4.5	Agenda Manipulation	314
10.5	Alternatives to Majority Rule	317
10.5.1	Borda Voting	318
10.5.2	Plurality Voting	319
10.5.3	Approval Voting	320
10.5.4	Runoff Voting	321
10.6	The Paradox of Voting	322
10.7	The "Alabama" Paradox	327
10.8	Conclusions	329
	Further Reading	329
	Exercises	331
<b>11</b>	<b>Rent-Seeking</b>	<b>335</b>
11.1	Introduction	335
11.2	Definitions	336
11.3	Rent-Seeking Games	338
11.3.1	Deterministic Game	339
11.3.2	Probabilistic Game	342
11.3.3	Free-Entry	344
11.3.4	Risk Aversion	345
11.3.5	Conclusions	346
11.4	Social Cost of Monopoly	346
11.5	Equilibrium Effects	349
11.6	Government Policy	352
11.6.1	Lobbying	352
11.6.2	Rent Creation	354
11.6.3	Conclusions	356
11.7	Informative Lobbying	356
11.8	Controlling Rent-Seeking	361
11.9	Conclusions	362
	Further Reading	363
	Exercises	364

<b>V EQUITY AND DISTRIBUTION</b>	<b>367</b>
<b>12 Optimality and Comparability</b>	<b>369</b>
12.1 Introduction	369
12.2 Social Optimality	370
12.3 Lump-Sum Taxes	373
12.4 Impossibility of Optimality	375
12.5 Non-Tax Redistribution	380
12.6 Aspects of Pareto-Efficiency	382
12.7 Social Welfare Functions	385
12.8 Arrow's Theorem	387
12.9 Interpersonal Comparability	388
12.10 Comparability and Social Welfare	392
12.11 Conclusions	396
Further Reading	397
Exercises	399
<b>13 Inequality and Poverty</b>	<b>403</b>
13.1 Introduction	403
13.2 Measuring Income	404
13.3 Equivalence Scales	406
13.4 Inequality Measurement	412
13.4.1 The Setting	413
13.4.2 Statistical Measures	413
13.4.3 Inequality and Welfare	421
13.4.4 An Application	426
13.5 Poverty	428
13.5.1 Poverty and the Poverty Line	428
13.5.2 Poverty Measures	430
13.5.3 Two Applications	434
13.6 Conclusions	435
Further Reading	437
Exercises	438
<b>VI TAXATION</b>	<b>441</b>
<b>14 Commodity Taxation</b>	<b>443</b>
14.1 Introduction	443



14.2	Deadweight Loss	444
14.3	Optimal Taxation	447
14.4	Production Efficiency	451
14.5	Tax Rules	453
	14.5.1 The Inverse Elasticity Rule	454
	14.5.2 The Ramsey Rule	456
14.6	Equity Considerations	460
14.7	Applications	462
	14.7.1 Reform	463
	14.7.2 Optimality	465
14.8	Efficient Taxation	467
14.9	Public Sector Pricing	469
14.10	Conclusions	469
	Further Reading	470
	Exercises	471
<b>15</b>	<b>Income Taxation</b>	<b>477</b>
15.1	Introduction	477
15.2	Equity and Efficiency	478
15.3	Taxation and Labor Supply	479
15.4	Empirical Evidence	483
15.5	Optimal Income Taxation	486
15.6	Two Specializations	493
	15.6.1 Quasi-Linearity	493
	15.6.2 Rawlsian Taxation	496
15.7	Numerical Results	499
15.8	Tax Mix: Separation Principle	501
15.9	Voting over a Flat Tax	503
15.10	Conclusions	506
	Further Reading	506
	Exercises	508
<b>16</b>	<b>Tax Evasion</b>	<b>513</b>
16.1	Introduction	513
16.2	The Extent of Evasion	514
16.3	The Evasion Decision	516
16.4	Auditing and Punishment	523
16.5	Evidence on Evasion	526

16.6	Effect of Honesty	529
16.7	Tax Compliance Game	531
16.8	Compliance and Social Interaction	534
16.9	Conclusions	536
	Further Reading	536
	Exercises	537
<b>VII</b>	<b>MULTIPLE JURISDICTIONS</b>	<b>541</b>
<b>17</b>	<b>Fiscal Federalism</b>	<b>543</b>
17.1	Introduction	543
17.2	Arguments for Multi-level Government	544
17.2.1	The Costs of Uniformity	545
17.2.2	The Tiebout Hypothesis	547
17.2.3	Distributive Arguments	548
17.3	Optimal Structure: Efficiency versus Stability	548
17.4	Accountability	551
17.5	Risk Sharing	554
17.5.1	Voluntary Risk Sharing	555
17.5.2	Insurance versus Redistribution	557
17.6	Evidence on Decentralization	559
17.6.1	Decentralization around the World	559
17.6.2	Decentralization by Functions	560
17.6.3	Determinants of Decentralization	560
17.7	Conclusions	562
	Further Reading	563
	Exercises	564
<b>18</b>	<b>Fiscal Competition</b>	<b>569</b>
18.1	Introduction	569
18.2	Tax Competition	569
18.2.1	Competitive Behavior	570
18.2.2	Strategic Behavior	571
18.2.3	Size Matters	577
18.2.4	Tax Overlap	578
18.2.5	Tax Exporting	580
18.2.6	Efficient Tax Competition	582

18.3	Income Distribution	584
18.3.1	Perfect Mobility	584
18.3.2	Imperfect Mobility	585
18.3.3	Race to the Bottom	588
18.4	Intergovernmental Transfers	589
18.4.1	Efficiency	589
18.4.2	Redistribution	592
18.4.3	Flypaper Effect	593
18.5	Evidence	594
18.5.1	Race to the Bottom	594
18.5.2	Race to the Top	596
18.5.3	Tax Mimicking	597
18.6	Conclusions	597
	Further Reading	599
	Exercises	601

## **VIII ISSUES OF TIME 605**

<b>19</b>	<b>Intertemporal Efficiency</b>	<b>607</b>
19.1	Introduction	607
19.2	Overlapping Generations	609
19.2.1	Time and Generations	609
19.2.2	Consumers	610
19.2.3	Production	611
19.3	Equilibrium	614
19.3.1	Intertemporal Equilibrium	615
19.3.2	Steady State	615
19.4	Optimality and Efficiency	618
19.4.1	The Golden Rule	618
19.4.2	Pareto-Efficiency	621
19.5	Testing Efficiency	625
19.6	Conclusions	626
	Further Reading	626
	Exercises	627
<b>20</b>	<b>Social Security</b>	<b>631</b>
20.1	Introduction	631
20.2	Types of System	632

20.3	The Pensions Crisis	634
20.4	The Simplest Program	637
20.5	Social Security and Production	639
20.6	Population Growth	643
20.7	Sustaining a Program	646
20.8	Ricardian Equivalence	651
20.9	Social Security Reform	653
20.10	Conclusions	659
	Further Reading	660
	Exercises	661
<b>21</b>	<b>Economic Growth</b>	<b>665</b>
21.1	Introduction	665
21.2	Exogenous Growth	666
	21.2.1 Constant Savings Rate	666
	21.2.2 Optimal Taxation	673
21.3	Endogenous Growth	679
	21.3.1 Models of Endogenous Growth	679
	21.3.2 Government Expenditure	681
21.4	Policy Reform	685
21.5	Empirical Evidence	688
21.6	Conclusions	693
	Further Reading	694
	Exercises	696
	Index	699