

The Economics of Oligopolistic Competition

Price and Nonprice Rivalry

Collected Papers of Robert E. Kuenne



BLACKWELL
Oxford UK & Cambridge USA

Contents

Figures	xiii
Tables	xv
Series Editor's Preface	xviii
Preface	xx
Acknowledgments	xxii
Introduction to the Volume	1
Part I Rivalrous Consonance Theory: a Blend of Competition and Cooperation	7
Introduction to Part I	9
1 Toward a Usable General Theory of Oligopoly	16
1 Desiderata	16
2 The Short-run Model	19
3 The Short-term Model under Profit Maximization	24
4 The Target Rate of Return: a Nonconvex Programming Model	34
5 A Final Word	41
Appendix	41
2 Toward an Operational General Equilibrium Theory with Oligopoly: Some Experimental Results and Conjectures	48
1 The Goals	48
2 An Oligopolistic Industry Module	49
3 The Interdependence Model	53
4 An Approximation to Classic Displacement Analysis	57

5	More Extensive Experiments and the Uses of Econometrics	61
6	Conclusions and Conjectures	68
3	General Oligopolistic Equilibrium: A Crippled-optimization Approach	71
1	The Model of Oligopolistic General Equilibrium with Rate-of-return Components	71
2	Necessary and Sufficient Conditions for a Global Constrained Minimum for the Firm	75
3	The Methodology of Crippled Optimization	86
4	A Methodology of Simulative Theorizing	89
5	A Multivariate Analysis of the Three Cases	99
6	The Results of the Simulative Theorizing	106
4	Duopoly Reaction Functions under Crippled-optimization Regimes	109
1	Introduction	109
2	The Duopoly Model	110
3	Comparative Statics Propositions	118
4	Conclusions	124
5	Rivalrous Consonance: A Theory of Mature Oligopolistic Behavior in a General Equilibrium Framework	126
1	Introduction	126
2	The Oligopoly in Rivalrous Consonance	128
3	A Graphic Presentation	130
4	Comparative Statics Propositions	134
5	Conclusion	138
Part II	Price Competition in Oligopoly: The Case of OPEC	139
	Introduction to Part II	141
6	Rivalrous Consonance and the Power Structure of OPEC	148
1	The Theoretical Context	148
2	Decision Impact Power Bases	149
3	Cross-factor Analysis	154
4	The Aggregate Consonance Factors	156
5	Binary Market Power Relationships	158

6	The Binary Consonance Factors, θ_{ij}	164
7	Conclusion	166
7	A Short-run Demand Analysis of the OPEC Cartel	169
1	Introduction	169
2	The Choice of Time Period	169
3	The Data	173
4	Model Specification	177
5	The Results of the Analysis	180
6	Summary and Conclusion	197
	Appendix	198
8	The Limits of OPEC	206
1	Price and Supply Projections	206
2	Functional Considerations	207
3	Demand Elasticities	210
4	Structural Characteristics	211
5	Price, Output, and Profit Implications	212
9	The GENESYS Model of OPEC, 1974-1980: Structural Insights from a Non-forecasting Model	216
1	The Industry's Power Structure	216
2	The Multi-objective Firm	217
3	The Flexibility of the Model	218
4	The Solution of the Model	219
5	An Overview of the OPEC Cartel: The Search for Ideal Price	219
6	Strengths and Weaknesses of the <i>Modus Operandi</i>	221
7	The Stability of OPEC	222
8	The GENESYS Model	223
9	Base Case Parameters and Solution	226
10	The Structural Cases	234
11	Summary	240
10	Lessons and Conjectures on OPEC	243
1	The Passing of the "Energy Crisis"	243
2	OPEC and Stagflation in the 1970s	244
3	Can OPEC Survive?	247
4	The GENESYS Model	248
5	Conjectures on Future OPEC Power	250

Part III Nonprice Competition in Oligopoly: Quality, Marketing, and Spatial Location	255
Introduction to Part III	257
11 Quality-space, Interproduct Competition, and General Equilibrium Theory	265
1 Some Problems of Introducing Monopolistic Competition into General Equilibrium Theory	265
2 Triffin's Pioneering Efforts	270
3 Quality and Product Space	275
4 The Product Group	278
5 The Technology	280
6 Interfirm Competition	286
7 The Consumer Sector	288
8 Interproduct Competition	289
9 The Market Equilibrium	291
12 Interproduct Distances in a Quality-space: Inexact Measurement in Differentiated Oligopoly Analysis	296
1 Some Preliminaries on the Theory of Measurement	297
2 The Practicalities of Scaling in the Social Sciences	299
3 Qualities Capable of High-uniqueness Representation	301
4 Qualities of Varying Intensities that Differ Absolutely	302
5 Qualities of Varying Intensities that Differ Relatively	305
6 Attributes	307
7 Weighting the Qualities	307
8 An Illustrative Experiment	311
9 Conclusion	317
13 Price-quality Competition in Oligopolistic Interdependence	319
1 Introduction	319
2 An Initial Framework for Product Differentiation Analysis	322
3 The Firm's Decision in an Assumed Nonreactive Context	326
4 The Firm in a Rivalrous Context	330
5 The Firm in Rivalrous Consonance	335
6 Conclusion	340
14 Price-marketing Competition and Information Flows in Spatial Oligopoly	343
1 The Emerging Industrial Structure	343

2	A Simple Model of Price-marketing Competition	345
3	Case 1: Transportation Costs Dominant	348
4	Case 2: Marketing Dominant	354
5	Case 3: Marketing Dominant with Assimilated Attrition	357
6	Conclusions and Future Research Directions	360
15	Spatial Oligopoly: Price-location Interdependence and Social Cost in a Discrete Market Space	362
1	Introduction	362
2	A Brief Survey of the Literature	363
3	An Extension of the Spatial Oligopoly Framework	368
4	The Index of Circular Compactness	371
5	The Social Cost of Oligopoly	372
6	An Experiment in Simulative Theorizing	376
7	Conclusion	381
16	The Dynamics of Oligopolistic Location: Present Status and Future Research Directions	383
1	Introduction	383
2	The Present Status of Spatial Oligopoly Analysis	384
3	Suggested Research Directions	387
4	Conclusion	390
17	Modelling Price and Nonprice Competition in Spatial Oligopoly	392
1	Introduction	392
2	Model 1: Aggregated Demand Effects of Marketing	394
3	Research in Progress and Prospect	417
Part IV	Oligopolistic Decision-making under Uncertainty	423
	Introduction to Part IV	425
18	Oligopolistic Uncertainty and Optimal Bidding in Government Procurement: A Subjective Probability Approach	429
1	Bidding in a Competitive Market Structure	430
2	The Firm's Bidding Decision	431
3	Parametric Displacement Analyses	439
4	Conclusion	444

19	Uncertainty, Spatial Proximity, and the Stability of Oligopoly Pricing	448
1	Introduction	448
2	The Firm's Autonomous Expectations	450
3	The Firm's Reaction Expectations	457
4	The Firm's Maximum Expected Profits and Reaction Function	459
5	Some Necessary Refinements	463
20	Conflict Management and the Theory of Mature Oligopoly	465
1	Introduction	465
2	The Economist's Models of Conflict Management	466
3	The Role of Uncertainty	468
4	Rivalrous Consonance	481
5	Conclusion	484
	Index	487