CONTENTS

CHAPTER 1 Introduction to Economic Decision Making 1

SEVEN EXAMPLES OF MANAGERIAL DECISIONS 2

SIX STEPS TO DECISION MAKING 5
Step 1: Define the Problem 5
Step 2: Determine the Objective 6
Step 3: Explore the Alternatives 8
Step 4: Predict the Consequences 8
Step 5: Make a Choice 9
Step 6: Perform Sensitivity Analysis 10

PRIVATE AND PUBLIC DECISIONS: AN ECONOMIC VIEW 11
Public Decisions 14

THINGS TO COME 15

CHAPTER 2 Optimal Decisions Using Marginal Analysis 19

A SIMPLE MODEL 20
A Microchip Manufacturer 21

MARGINAL ANALYSIS 27
Marginal Analysis and Calculus 28

MARGINAL REVENUE AND MARGINAL COST 31
Marginal Revenue 31
Marginal Cost 33
Profit Maximization Revisited 33

SENSITIVITY ANALYSIS 35
Asking What If 36

APPENDIX TO CHAPTER 2: CALCULUS AND OPTIMIZATION TECHNIQUES 47

SPECIAL APPENDIX TO CHAPTER 2: OPTIMIZATION USING SPREADSHEETS 56

CHAPTER 3 Demand Analysis and Optimal Pricing 59

DETERMINANTS OF DEMAND 60
The Demand Function 60
The Demand Curve and Shifting Demand 61
General Determinants of Demand 63

ELASTICITY OF DEMAND 64
Price Elasticity 64
Factors Affecting Price Elasticity 68
Other Elasticities 69
Price Elasticity and Prediction 70

DEMAND ANALYSIS AND OPTIMAL PRICING 71
Price Elasticity, Revenue, and Marginal Revenue 71

Maximizing Revenue 74
Optimal Markup Pricing 75
Price Discrimination 78
Information Goods 81

APPENDIX TO CHAPTER 3: CONSUMER PREFERENCES AND DEMAND 93

CHAPTER 4 Estimating and Forecasting Demand 100

COLLECTING DATA 101
Consumer Surveys 101
Controlled Market Studies 102
Uncontrolled Market Data 103

REGRESSION ANALYSIS 104
Ordinary Least-Squares Regression 104
Interpreting Regression Statistics 109
Potential Problems in Regression 114

FORECASTING 118
Time-Series Models 118
Fitting a Simple Trend 120
Barometric Models 127
Forecasting Performance 128
Final Thoughts 131

APPENDIX TO CHAPTER 4: REGRESSION USING SPREADSHEETS 140

SPECIAL APPENDIX TO CHAPTER 4: STATISTICAL TABLES 144

CHAPTER 5 Production 146

BASIC PRODUCTION CONCEPTS 147

PRODUCTION IN THE SHORT RUN 147
Optimal Use of an Input 151

PRODUCTION IN THE LONG RUN 153
Returns to Scale 153
Least-Cost Production 154

MEASURING PRODUCTION FUNCTIONS 160
Linear Production 160
Production with Fixed Proportions 161
Polynomial Functions 161
The Cobb-Douglas Function 162

OTHER PRODUCTION DECISIONS 164
Multiple Plants 164
Multiple Products 166

CHAPTER 6 Cost Analysis 175

RELEVANT COSTS 176
Opportunity Costs and Economic Profits 176
Fixed and Sunk Costs 179

THE COST OF PRODUCTION 182
Short-Run Costs 183
Long-Run Costs 187

RETURNS TO SCALE AND SCOPE 191
Returns to Scale 191
Economies of Scope 196

COST ANALYSIS AND OPTIMAL DECISIONS 199
A Single Product 199
The Shut-Down Rule 200
Multiple Products 202

APPENDIX TO CHAPTER 6: TRANSFER PRICING 211

CHAPTER 7 Perfect Competition 214

THE BASICS OF SUPPLY AND DEMAND 216
Shifts in Demand and Supply 217

COMPETITIVE EQUILIBRIUM 219
Decisions of the Competitive Firm 220
Market Equilibrium 223

MARKET EFFICIENCY 225
Private Markets: Benefits and Costs 225

INTERNATIONAL TRADE 234
Tariffs and Quotas 235

CHAPTER 8 Monopoly 244

PURE MONOPOLY 244
Monopoly Behavior 245
Barriers to Entry 247

PERFECT COMPETITION VERSUS PURE MONOPOLY 250
Cartels 252
Natural Monopolies 255

MONOPOLISTIC COMPETITION 257

CHAPTER 9 Oligopoly 266

OLIGOPOLY 268
Five-Forces Framework 268
Industry Concentration 269
Concentration and Prices 273

QUANTITY COMPETITION 276
A Dominant Firm 276
Competition among Symmetric Firms 278

PRICE COMPETITION 280
Price Rigidity and Kinked Demand 280
Price Wars and the Prisoner's Dilemma 282

OTHER DIMENSIONS OF COMPETITION 287
Strategic Commitments 288
Advertising 290

APPENDIX TO CHAPTER 9: BUNDLING AND TYING 299

CHAPTER 10 Game Theory and Competitive Strategy 303

SIZING UP COMPETITIVE SITUATIONS 304

ANALYZING PAYOFF TABLES 307
Equilibrium Strategies 310

COMPETITIVE STRATEGY 315
Market Entry 317
Bargaining 318
Sequential Competition 319
Repeated Competition 323

APPENDIX TO CHAPTER 10: MIXED STRATEGIES 336

CHAPTER 11 Regulation, Public Goods, and Benefit–Cost Analysis 341

I. MARKET FAILURES AND REGULATION 342

MARKET FAILURE DUE TO MONOPOLY 343
Government Responses 344

MARKET FAILURE DUE TO EXTERNALITIES 349
Remedying Externalities 351
Promoting Positive Externalities 356

MARKET FAILURE DUE TO IMPERFECT INFORMATION 358

II. BENEFIT–COST ANALYSIS AND PUBLIC GOODS PROVISION 359

PUBLIC GOODS 359
Public Goods and Efficiency 359

THE BASICS OF BENEFIT–COST ANALYSIS 361
Applying the Net Benefit Rule 362
Dollar Values 362
Efficiency versus Equity 362

EVALUATING A PUBLIC PROJECT 363
Public Investment in a Bridge 363

VALUING BENEFITS AND COSTS 366
Market Values 366
Nonmarketed Benefits and Costs 366

CHAPTER 12 Decision Making under Uncertainty 378

UNCERTAINTY, PROBABILITY, AND EXPECTED VALUE 379
Probability 379
Expected Value 381

DECISION TREES 381
An Oil Drilling Decision 382
Features of the Expected-Value Criterion 384

SEQUENTIAL DECISIONS 388

RISK AVERSION 395
Expected Utility 398
Why the Expected-Utility Method Works 400
Expected Utility and Risk Aversion 402

CHAPTER 13 The Value of Information 413

THE VALUE OF INFORMATION 414
The Oil Wildcatter Revisited 414
Imperfect Information 416

REVISING PROBABILITIES 418
Bayes' Theorem 419

OTHER APPLICATIONS 422
Predicting Credit Risks 423
Business Behavior and Decision Pitfalls 424

AUCTIONS AND COMPETITIVE BIDDING 429
Private-Value Auctions 429
Common-Value Auctions 431
Expected Auction Revenue 433

CHAPTER 14 Asymmetric Information and Organizational Design 445

ASYMMETRIC INFORMATION 446
Adverse Selection 446
Signaling 448
Principals, Agents, and Moral Hazard 449

ORGANIZATIONAL DESIGN 454
The Nature of the Firm 454
The Boundaries of the Firm 455
Assigning Decision-Making Responsibilities 456
Monitoring and Rewarding Performance 460
Separation of Ownership and Control in the Modern Corporation 464

CHAPTER 15 Bargaining and Negotiation 475

THE ECONOMIC SOURCES OF BENEFICIAL AGREEMENTS 476
Resolving Disputes 479
Differences in Values 481
Contingent Contracts 483

MULTIPLE-ISSUE NEGOTIATIONS 484

NEGOTIATION STRATEGY 489
Perfect Information 490
Imperfect Information 491
Repetition and Reputation 492

CHAPTER 16 Linear Programming 503

LINEAR PROGRAMS 504
Graphing the LP Problem 506
A Minimization Problem 510

SENSITIVITY ANALYSIS AND SHADOW PRICES 513
Changes in the Objective Function 513
Shadow Prices 515
Optimal Decisions and Shadow Prices 517

FORMULATION AND COMPUTER SOLUTION FOR LARGER LP PROBLEMS 520
Production Decisions 520
Computer Solutions 523

CHAPTER 17 Auctions and Competitive Bidding available online

THE ADVANTAGES OF AUCTIONS

BIDDER STRATEGIES
English and Dutch Auctions
Sealed-Bid Auctions
Common Values and the Winner's Curse

OPTIMAL AUCTIONS
Expected Auction Revenue
Competitive Procurement

INDEX 539