

# MANAGERIAL ECONOMICS

CORPORATE ECONOMICS AND STRATEGY

THOMAS H. NAYLOR  
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## **MANAGERIAL ECONOMICS**

### **Corporate Economics and Strategy**

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# PREFACE

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Most textbooks on managerial economics contain chapters on demand analysis, production, cost analysis, the theory of the firm, market structures, and capital budgeting. This text is no exception in that it too contains these core topics. However, there is a fundamental difference between this book and other managerial economics texts: This is the first textbook on the subject to recognize and acknowledge an important new approach to decision making, known as *corporate strategy*, that emerged in the 1970s.

The major premise of this book is that the single most important application of microeconomics to practical business problems is in strategic planning, which lies at the heart of the firm's long-term resource allocation problem. Given a set of corporate goals and objectives, and a set of assumptions about the company's economic, competitive, regulatory, factor-supply, technological, and international environments, strategic planning is a threefold problem: a *portfolio* problem, an *investment* problem, and a *strategy selection* problem. Which businesses should the company be in? What level of investment should be made in each business? Which specific financial, marketing, and production strategies should each business follow? *Corporate economics* is defined as the integration of microeconomics and strategic planning.

To understand the firm's economic and competitive environments, we must consider both demand theory (Chapter 2) and empirical demand analysis and econometrics (Chapter 3). The study of production and cost functions in Chapter 4 is necessary to enhance our knowledge of the factor-supply and technological environments of the firm. The regulatory and international environments can affect the firm through its demand, cost, and production functions.

The firm's factor-input and product-output decisions are analyzed in Chapter 5 using conventional marginal analysis and linear programming. Although relatively few firms employ optimization techniques as strategic planning tools, optimization is a useful conceptual framework through which to view the interdependence of the firm's portfolio, investment, and strategy selection problems.

Having developed the basic elements of microeconomics in Chapters 2 through 5, we apply microeconomics to the firm's competitive environment in Chapters 6 through 8. We formulate and analyze competitive markets in Chapter 6, industrial organization and competitive analysis are the topics of Chapter 7, and Chapter 8 treats antitrust and government regulation.

In Chapters 9 and 10 the microeconomic theory of the firm is extended to include capital investment decisions and decision making under risk and uncertainty.

The final three chapters are concerned with the direct application of microeconomics to corporate strategic planning. After outlining the elements of strategic planning in Chapter 11, we argue that microeconomics, instead of accounting, should be the language of strategic planning. Two different types of strategic planning models, those of competitive strategy and simulation, are described in Chapter 12. Finally, Chapter 13 covers the "politics of corporate economics," which concerns the practical problem of integrating corporate economics and strategy into the decision-making process.

Armed with the analytical tools and the microeconomic conceptual framework outlined in this book, the reader should be able to come to grips with solutions to the three major interdependent problems of business: the portfolio problem, the investment problem, and the strategy selection problem.

Throughout the entire book substantial emphasis is placed on practical examples to illustrate the application of corporate economics to the "real world." Based on the authors' extensive consulting experience with over 200 major corporations, the book attempts to combine microeconomic theory, strategic planning, and the analytical tools used in both fields.

This book is aimed at three different groups: (1) managerial decision makers who use corporate economics to make decisions, (2) corporate economists who specialize in the application of microeconomics to problems of the firm, and (3) advanced undergraduate and beginning graduate students in business and economics who expect to use corporate economics in the future.

The reader who has had a basic course in calculus will find numerous applications in footnotes and appendixes. However, readers who have had only high school algebra should have little difficulty with this book. In several sections some previous knowledge of elementary statistics should prove helpful. Appendixes are included on calculus, optimization, and the simplex method of linear programming. Each chapter has a set of review problems and questions.

We are grateful to the Literary Executor of the late Sir Ronald A. Fisher, F.R.S., to Dr. Frank Yates, F.R.S., and to the Longman Group Ltd., London, for permission to reprint Table III from their book *Statistical Tables for Biological, Agricultural, and Medical Research* (6th ed., 1974).

We are indebted to dozens of graduate students in the Department of Economics and the Fuqua School of Business at Duke University who served as willing experimental subjects for over two years, while earlier drafts of this book were being tested in the classroom. Michele H. Mann provided valuable editorial assistance throughout the development of the book.

We would also like to express our thanks for the many useful comments and suggestions provided by colleagues who reviewed this text during the course of its development, especially to Donald Bumpass, Texas Tech University; Paul Hayashi, University of Texas, Arlington; John Pisciotta, Center of Economic Education, Baylor University; Mark Schaefer, Georgia State University; Charles Stokes, College of Business Administration, University of Bridgeport; John Tomaske, California State University, Los Angeles; Ron Wilder, University of South Carolina School of Business; and Daniel Williamson, California Polytechnic State University.

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# CONTENTS

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	PREFACE	xiii
<b>PART 1</b>	<b>INTRODUCTION</b>	
1	WHY CORPORATE ECONOMICS?	3
	Uncertainty in Today's Corporations	4
	<i>Economic Recessions / Inflation and Tight Money /</i> <i>Energy Problems and Supply Constraints /</i> <i>Government Regulation</i>	
	Corporate Economic Decisions	7
	<i>Demand Forecasting / Pricing and Competitive</i> <i>Strategy / Cost Analysis / Supply</i> <i>Forecasting / Resource</i> <i>Allocation / Government Regulation /</i> <i>Risk Analysis / Capital Investment</i> <i>Analysis / Strategic Planning /</i> <i>Corporate Development</i>	
	The Relationship between Corporate Economics and Other Functions of the Firm	11
	<i>Finance / Marketing / Production / Personnel /</i> <i>Legal / Management Science / Management</i> <i>Information Systems</i>	
	The Economic Theory of the Firm	12
	<i>Goals / Information / Decisions</i>	
	Microeconomics: The Language of Strategic Planning	16
	The Politics of Corporate Economics	17
	Questions and Problems	17

**PART 2 MICROECONOMICS**

<b>2</b>	<b>DEMAND THEORY</b>	<b>21</b>
	Introduction	21
	Features of Demand Functions in General	22
	Demand Functions of a Single Consumer	26
	Properties of Market Demand Functions	26
	<i>Price Elasticity of Demand / Price Elasticity and Money Expenditure / Total Revenue, Marginal Revenue, and Elasticity / Determinants of Price Elasticity / Income Elasticity of Demand / Cross-Elasticities of Demand</i>	
	Monopoly and Perfect Competition Demand Functions	37
	Implications for Specifying an Empirical Demand Function	38
	Questions and Problems	40
	Bibliography	41
	<b>APPENDIX A</b>	
	<b>CALCULUS AND OPTIMIZATION</b>	<b>42</b>
	Calculus: Rules of Differentiation	43
	<i>Background / Rules for Finding the First Derivative / Rules for Finding the Second Derivative / Rules for Finding Partial Derivatives</i>	
	Optimization Techniques	53
	<i>A Function of One Variable / A Function of Two Variables with a Constraint</i>	
	<b>APPENDIX B</b>	
	<b>CONSUMER BEHAVIOR THEORY</b>	<b>58</b>
<b>3</b>	<b>EMPIRICAL DEMAND ANALYSIS AND ECONOMETRICS</b>	<b>65</b>
	Empirical Demand Analysis	66
	<i>Survey Research / Controlled Market Experiments / Econometrics</i>	
	Model Specification	67
	<i>A Linear Demand Model / An Exponential Demand Model / Empirical Examples</i>	
	Parameter Estimation	73
	<i>Ordinary Least Squares / Test Statistics / Multiple Regression / Econometric Problems</i>	
	Solution of Econometric Models	92
	<i>A Model of the Textile Industry</i>	
	Validation	95



	Simulation	98
	Linkage to National Macroeconometric Models	98
	<i>Rationale / An Example Model /</i>	
	<i>Experience / Other Econometric Models</i>	
	Questions and Problems	106
	Bibliography	107
<b>4</b>	<b>PRODUCTION AND COST</b>	<b>108</b>
	The Production Function	109
	<i>The Bobcat Corporation / Farmer Brown's</i>	
	<i>Production Function</i>	
	Properties of Bobcat's Production Function	112
	Isoquant Map	116
	Long-Run and Short-Run Production Functions	120
	Returns to Scale: Sources and Measurement	122
	<i>Sources of Returns to Scale / Measurement of</i>	
	<i>Returns to Scale</i>	
	The Cost Function	126
	Discussion of Input Prices	127
	Derivation of the Short-Run Cost Function	128
	Derivation of the Long-Run Cost Function	133
	Empirical Evidence on Long-Run Cost Functions	138
	Questions and Problems	142
	Bibliography	145
<b>5</b>	<b>OPTIMAL OUTPUT DECISIONS AND LINEAR PROGRAMMING</b>	<b>146</b>
	Introduction	146
	Marginal Analysis	147
	<i>The Single-Product Firm /</i>	
	<i>The Multiple-Product Firm</i>	
	Linear Programming	153
	<i>The Linear Programming Production</i>	
	<i>Function / Profit Maximization for a</i>	
	<i>Multiple-Product Firm: Television Assembly /</i>	
	<i>A Cost-Minimization Problem: Soap Blending</i>	
	The Evangeline Coffee Company	170
	<i>Coffee Blending / Recent Developments /</i>	
	<i>Evangeline's Blends / Problem Formulation /</i>	
	<i>Solution</i>	
	Questions and Problems	175
	Bibliography	177

	APPENDIX C	
	THE SIMPLEX METHOD AND DUALITY	178
	Linear Programming: Introduction	178
	Consistency and Independence	179
	Gauss-Jordan Elimination	180
	Linear Programming Equation System	182
	Basic Solutions in Linear Programming	183
	Generating New Basic Solutions	187
	The Simplex Method	189
	<i>Determine Which Variable to Enter / Determine</i>	
	<i>Which Variable to Remove / Construct a New</i>	
	<i>Simplex Table / Repeat Steps 4 through 6 Until</i>	
	<i>Optimum Is Obtained</i>	
	Shadow Prices	198
	The Dual Problem	198
<b>PART 3</b>	<b>COMPETITIVE STRATEGY AND ANALYSIS</b>	
<b>6</b>	<b>THEORY OF MARKET STRUCTURES</b>	<b>209</b>
	Introduction	209
	Perfect Competition	210
	<i>Short-Run Equilibrium / Long-Run Equilibrium /</i>	
	<i>A Case Study: Oil and Natural Gas</i>	
	Monopoly	217
	<i>Monopoly Equilibrium / Inefficiency of</i>	
	<i>Monopoly / Deadweight Loss from</i>	
	<i>Monopoly / Price Discrimination</i>	
	Monopolistic Competition	224
	Questions and Problems	227
	Bibliography	229
	APPENDIX D	
	SPECIAL PRICING MODELS	230
	Dorfman-Steiner Model	230
	A Numerical Application	232
	Sequential Monopoly and Transfer Pricing	232
<b>7</b>	<b>INDUSTRIAL ORGANIZATION AND</b>	
	<b>COMPETITIVE ANALYSIS</b>	<b>238</b>
	Introduction	238
	Concentration	241
	Barriers to Entry	244
	<i>Scale-Economy Barriers / Absolute-Cost</i>	
	<i>Barriers / Product Differentiation Barriers</i>	

	Oligopolistic Pricing Behavior	249
	<i>Cournot and Warfare Models / Imperfect Collusion</i>	
	Statistical Tests	262
	<i>Bain Study / Comanor and Wilson Study</i>	
	Competitive Analysis and Strategy Formulation	264
	Questions and Problems	266
	Bibliography	267
<b>8</b>	<b>ANTITRUST AND REGULATION</b>	<b>269</b>
	Introduction	269
	Antitrust	270
	<i>Price-Fixing Conspiracies / Monopolization / Mergers</i>	
	Regulation	280
	<i>Rationale for Regulation / Benefits and Costs of Regulation / FDA Regulation of Pharmaceuticals</i>	
	Questions and Problems	289
	Bibliography	289
<b>PART 4</b>	<b>CAPITAL BUDGETING AND RISK ANALYSIS</b>	
<b>9</b>	<b>CAPITAL BUDGETING</b>	<b>293</b>
	Introduction	293
	Present-Value Fundamentals	294
	Internal Rate of Return	298
	The Capital Budgeting Process	299
	<i>A Project Evaluation Example / Investment Opportunity Schedule / Complications</i>	
	The Cost of Capital	309
	<i>The Cost of Debt / The Cost of Equity</i>	
	Conclusions	311
	Questions and Problems	312
	Bibliography	313
<b>10</b>	<b>RISK ANALYSIS</b>	<b>314</b>
	<i>Decision Making under Risk and Uncertainty</i>	315
	Decision Criteria under Risk	315
	<i>Finite Planning Horizon / Sensitivity Analysis / Risk Discounting / Expected Value / Certainty Equivalents / Expected Utility</i>	
	Decision Trees	327
	Computer Simulation	328
	<i>Rationale / A Capital Budgeting Application</i>	
	Practical Limitations of Risk Analysis	333

	Decision Rules under Uncertainty	334
	<i>Bayes Rule / Maximin Rule / Maximax Rule / Hurwicz Rule / Minimax Regret Rule</i>	
	Questions and Problems	338
<b>PART 5</b>	<b>STRATEGIC PLANNING</b>	
<b>11</b>	<b>MICROECONOMICS: THE LANGUAGE OF STRATEGIC PLANNING</b>	<b>345</b>
	Microeconomic Foundations of Strategic Planning	346
	Strategic Planning	347
	<i>Goals and Objectives / Information / Resource / Allocation Decisions / The Problem of Strategic Planning</i>	
	An Economic Paradigm for Strategic Decision Making	356
	<i>Identify Stakeholders / Review Goals and Objectives / Specify Corporate Constraints / Review Existing Strategic Options / Search for Additional Strategic Options / Sort Out Strategic Options Worthy of Serious Consideration / Evaluate Strategic Options / Select a Set of Strategic Options</i>	
	Questions and Problems	360
	Bibliography	361
<b>12</b>	<b>STRATEGIC PLANNING MODELS</b>	<b>364</b>
	Overview of Strategic Planning Models	365
	The Boston Consulting Group Model	366
	<i>The Growth-Share Matrix / The Experience Curve / Growth and Financial Strategies / Some Practical Problems</i>	
	The PIMS Model	373
	<i>Methodology / PIMS Reports / Research Findings / A Critical Appraisal of PIMS</i>	
	Optimization Models	375
	<i>A Simple Portfolio Optimization Model / A Portfolio Optimization Model with Debt / A Strategy-Based Model for Resource Allocation / An Optimization Model for Corporate Financial Planning / Capital-Asset Pricing Models</i>	
	Corporate Simulation Models	383
	<i>Financial Planning Models / Marketing Planning Models / Production Planning Models / Integrated Planning Models /</i>	

	<i>Consolidated Planning Models / Three Example Models</i>	
	The TVL Case	395
	<i>Goals and Objectives / Definition of Variables / Historical Data / External Assumptions / Policy Assumptions / Model Specification / Policy Simulation Experiments / Limitations of the TVL Model</i>	
	The Standard International Case	413
	Questions and Problems	416
	Bibliography	417
<b>13</b>	<b>THE POLITICS OF CORPORATE ECONOMICS</b>	<b>419</b>
	The Training of Corporate Economists	420
	Misunderstandings of Economic Forecasting	422
	<i>Unrealistic Expectations / One-Scenario Forecasting / Planning versus Forecasting / Participatory Forecasting / Multiple Forecasts</i>	
	Econometric Modeling	425
	<i>Folklore versus Fact / Econometric Service Bureaus / Undersell Forecasting</i>	
	Specific Political Conflicts	426
	<i>Corporate Planning / Management Science / Line Managers / Data Processing</i>	
	How to Ask the Right Questions of the Corporate Economist	428
	Why Some Corporate Economists Have Failed	428
	<i>Ill-Defined Problem / Unfulfilled Expectations / Excessive Use of Technical Jargon / Failure to Produce Useful Results / Inaccurate Forecasts / Failure to Meet Deadlines / Inadequate Political Support from Top Management</i>	
	Political Advice to Corporate Economists	432
	Questions and Problems	432
<b>PART 6</b>	<b>STATISTICAL TABLES</b>	
	1 <i>t</i> values	434
	2 <i>F</i> values (5 percent)	435
	3 <i>F</i> values (1 percent)	436
	4 Present Value of \$1	437
	5 Present Value of a Stream of \$1 Receipts	438
	INDEX	439

**PART ONE**

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**INTRODUCTION**

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# WHY CORPORATE ECONOMICS?

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## **CHAPTER OUTLINE**

### **UNCERTAINTY IN TODAY'S CORPORATIONS**

- Economic Recessions
- Inflation and Tight Money
- Energy Problems and Supply Constraints
- Government Regulation

### **CORPORATE ECONOMIC DECISIONS**

- Demand Forecasting
- Pricing and Competitive Strategy
- Cost Analysis
- Supply Forecasting
- Resource Allocation
- Government Regulation
- Risk Analysis
- Capital Investment Analysis
- Strategic Planning
- Corporate Development

### **THE RELATIONSHIP BETWEEN CORPORATE ECONOMICS AND OTHER FUNCTIONS OF THE FIRM**

- Finance
- Marketing
- Production
- Personnel
- Legal



Management Science

Management Information Systems

THE ECONOMIC THEORY OF THE FIRM

Goals

Information

Decisions

MICROECONOMICS: THE LANGUAGE OF STRATEGIC  
PLANNING

THE POLITICS OF CORPORATE ECONOMICS

QUESTIONS AND PROBLEMS

This book is aimed at (1) managerial decision makers who use corporate economics to make decisions, (2) corporate economists who specialize in the application of microeconomics to problems of the firm, and (3) undergraduate and graduate students who expect to use corporate economics in the future as managerial decision makers, corporate economists, or both.

Since the intended audience for this book includes those who specialize in corporate economics and those who merely use some of the tools associated with corporate economics as aids to decision making, we shall use the terms “corporate economist” and “decision maker” interchangeably. Although we recognize that some corporate economists are stereotyped as researchers who make few decisions, we are concerned primarily with the application of corporate economics to decision making. Rather than always referring to corporate economists and decision makers, we will tend to use only one of these designations at a time.

### **UNCERTAINTY IN TODAY'S CORPORATIONS**

The decade of the 1970s has imposed on corporate executives a degree of uncertainty which has not been seen since the end of World War II. As the external economic environment faced by large and small firms alike has become more uncertain and complex, corporations have been forced to treat economics much more seriously than in the past. During the past 10 years, corporate economists have come into their own as an integral part of the top management team of many large companies. It is appropriate to begin this book on corporate economics by defining some of the forms of economic uncertainty which have been exerting tremendous pressure on corporations, problems which corporate economists are being asked to help solve.

### **Economic Recessions**

The memory of the 1974–1975 recession still lingers in the minds of many corporate executives who anticipated neither the timing nor the depth of the most