

Economics for Managers

THIRD EDITION

Paul G. Farnham









Third Economics for Managers

Global Edition

Paul G. Farnham

Georgia State University

PEARSON

Boston Columbus Indianapolis New York San Francisco Upper Saddle River Amsterdam Cape Town Dubai London Madrid Milan Munich Paris Montréal Toronto Delhi Mexico City São Paulo Sydney Hong Kong Seoul Singapore Taipei Tokyo Editor in Chief: Donna Battista
AVP/Executive Editor: David Alexander
Head of Learning Asset Acquisition,
Global Editions: Laura Dent
Senior Editorial Project Manager:

Lindsey Sloan

Director of Marketing: Maggie Moylan **Executive Marketing Manager:** Lori Deshazo

Senior Marketing Assistant:

Kimberly Lovato

Managing Editor: Jeffrey Holcomb Assistant Acquisitions Editor, Global

Editions: Debapriya Mukherjee

Senior Project Editor, Global Editions:

Vaijvanti

Art Director: Jayne Conte

Cover Designer: Lumina Datamatics Ltd.

Cover Art: ©Zoran Orcik/123rf Media Director: Lisa Rinaldi

Media Production Manager, Global

Editions: M Vikram Kumar

Production Manager: Meghan DeMaio Senior Manufacturing Production Controller, Global Editions:

Trudy Kimber

Full-Service Project Management: Integra

Credits and acknowledgments borrowed from other sources and reproduced, with permission, in this textbook appear on the appropriate page within text.

Microsoft® and Windows® are registered trademarks of the Microsoft Corporation in the U.S.A. and other countries. Screen shots and icons reprinted with permission from the Microsoft Corporation. This book is not sponsored or endorsed by or affiliated with the Microsoft Corporation.

Pearson Education Limited

Edinburgh Gate Harlow Essex CM20 2JE England

and Associated Companies throughout the world

Visit us on the World Wide Web at: www.pearsonglobaleditions.com

© Pearson Education Limited 2014

The rights of Paul G. Farnham to be identified as the author of this work have been asserted by him in accordance with the Copyright, Designs and Patents Act 1988.

Authorized adaptation from the United States edition, entitled Economics for Managers, 3rd edition, ISBN 978-0-132-077370-6, by Paul G. Farnham, published by Pearson Education © 2014.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without either the prior written permission of the publisher or a license permitting restricted copying in the United Kingdom issued by the Copyright Licensing Agency Ltd, Saffron House, 6–10 Kirby Street, London EC1N 8TS.

All trademarks used herein are the property of their respective owners. The use of any trademark in this text does not vest in the author or publisher any trademark ownership rights in such trademarks, nor does the use of such trademarks imply any affiliation with or endorsement of this book by such owners.

British Library Cataloguing-in-Publication Data A catalogue record for this book is available from the British Library

10 9 8 7 6 5 4 3 2 1 15 14 13 12 11

ISBN 10: 1-292-06009-3 ISBN 13: 978-1-292-06009-5

Typeset in ITC Century Std by Integra

Printed by Courier Kendallville in the United States of America

Dedication

To my friend and colleague, Dr. Jon Mansfield, who continues to excel at teaching economics for managers.

Brief Contents

PART 1	MICROECONOMIC ANALYSIS 32
	 1 Managers and Economics 32 2 Demand, Supply, and Equilibrium Prices 46 3 Demand Elasticities 76 4 Techniques for Understanding Consumer Demand and Behavior 116 5 Production and Cost Analysis in the Short Run 144 6 Production and Cost Analysis in the Long Run 172 7 Market Structure: Perfect Competition 200 8 Market Structure: Monopoly and Monopolistic Competition 226 9 Market Structure: Oligopoly 260 10 Pricing Strategies for the Firm 288
PART 2	MACROECONOMIC ANALYSIS 320
DARTS	11 Measuring Macroeconomic Activity 320 12 Spending by Individuals, Firms, and Governments on Real Goods and Services 350 13 The Role of Money in the Macro Economy 390 14 The Aggregate Model of the Macro Economy 416 15 International and Balance of Payments Issues in the Macro Economy 446
PART 3	INTEGRATION OF THE FRAMEWORKS 482
	16 Combining Micro and Macro Analysis for Managerial Decision Making 482

SOLUTIONS TO EVEN-NUMBERED PROBLEMS 501

GLOSSARY 521 INDEX 535

Contents

Preface 17
About the Author 29

PART 1	MICROECONOMIC ANALYSIS 32
Chapter 1	MANAGERS AND ECONOMICS 32
	CASE FOR ANALYSIS: Micro- and Macroeconomic Influences on the Global Automobile Industry 33
	Two Perspectives: Microeconomics and Macroeconomics 35 Microeconomic Influences on Managers 36 Markets 36
	Managerial Rule of Thumb: Microeconomic Influences on Managers 39
	Macroeconomic Influences on Managers 39 Factors Affecting Macro Spending Behavior 41
	Managerial Rule of Thumb: Macroeconomic Influences on Managers 43
	End of Chapter Resources
	Summary 43 • Key Terms 44 • Exercises 44 • Application Questions 44
Chapter 2	DEMAND, SUPPLY, AND EQUILIBRIUM PRICES 46
	CASE FOR ANALYSIS: Demand and Supply in the Copper Industry 47
	Demand 48
	Nonprice Factors Influencing Demand 49
	Demand Function 53
	Demand Curves 54 Change in Quantity Demanded and Change in Demand 55
	Individual Versus Market Demand Curves 56
	Linear Demand Functions and Curves 56
	Mathematical Example of a Demand Function 57
	Managerial Rule of Thumb: Demand Considerations 58
	Supply 58 Nonprice Factors Influencing Supply 58
	Supply Function 60 Supply Curves 61
	Change in Quantity Supplied and Change in Supply 61
	Mathematical Example of a Supply Function 62
	Summary of Demand and Supply Factors 63
	Managerial Rule of Thumb: Supply Considerations 64

Chapter 3

Demand, Supply, and Equilibrium 64 Definition of Equilibrium Price and Equilibrium Quantity 64 Lower-Than-Equilibrium Prices 64 Higher-Than-Equilibrium Prices 66 Mathematical Example of Equilibrium 67 Changes in Equilibrium Prices and Quantities 67 Mathematical Example of an Equilibrium Change 70
End of Chapter Resources
Summary 72 • Key Terms 72 • Exercises 72 • Application Questions 74
DEMAND ELASTICITIES 76
CASE FOR ANALYSIS: Demand Elasticity and Procter & Gamble's Pricing Strategies 77
Demand Elasticity 78 Price Elasticity of Demand 79 The Influence of Price Elasticity on Managerial Decision Making 80 Price Elasticity Values 81 Elasticity and Total Revenue 81
Managerial Rule of Thumb: Estimating Price Elasticity 83
Determinants of Price Elasticity of Demand 83 Number of Substitute Goods 84 Percent of Consumer's Income Spent on the Product 84
Time Period 85
Numerical Example of Elasticity, Prices, and Revenues 85 Calculating Price Elasticities 85 Numerical Example 87
The Demand Function 87 Other Functions Related to Demand 87 Calculation of Arc and Point Price Elasticities 88 Price Elasticity Versus Slope of the Demand Curve 89 Demand Elasticity, Marginal Revenue, and Total Revenue 90
Vertical and Horizontal Demand Curves 92 Vertical Demand Curves 92 Horizontal Demand Curves 93
Income and Cross-Price Elasticities of Demand 94
Income Elasticity of Demand 94 Managerial Rule of Thumb: Calculating Income Elasticity 95
Cross-Price Elasticity of Demand 95
Elasticity Estimates: Economics Literature 97 Elasticity and Chicken and Agricultural/Food Products 98 Elasticity and Beer 99 Water Demand 100
Elasticity and the Tobacco Industry 100 Elasticity and Health Care 101 Tuition Elasticity in Higher Education 101
Managerial Rule of Thumb: Price Elasticity Decision Making 102
Elasticity Issues: Marketing Literature 102 Marketing Study I: Tellis (1988) 103 Marketing Study II: Sethuraman and Tellis (1991) 104 Marketing Study III: Hoch et al. (1995) 105
Marketing Study Update 105

	Managerial Rule of Thumb: Elasticities in Marketing and Decision Making 106
	End of Chapter Resources
	Summary 106 • Appendix 3A Economic Model of Consumer Choice 107 • Key Terms 113 • Exercises 113 • Application Questions 114
Chapter 4	TECHNIQUES FOR UNDERSTANDING CONSUMER DEMAND AND BEHAVIOR 116
	CASE FOR ANALYSIS: The Use of New Technology to Understand and Impact Consumer Behavior 117
	Understanding Consumer Demand and Behavior: Marketing Approaches 118 Expert Opinion 118 Consumer Surveys 119 Test Marketing and Price Experiments 120 Analysis of Census and Other Historical Data 121 Unconventional Methods 121 Evaluating the Methods 122
	Managerial Rule of Thumb: Marketing Methods for Analyzing Consumer Behavior 1
	Consumer Demand and Behavior: Economic Approaches 123 Relationship Between One Dependent and One Independent Variable: Simple Regression Analysis 124 Relationship Between One Dependent and Multiple Independent Variables: Multiple Regression Analysis 129 Other Functional Forms 131 Demand Estimation Issues 132
	Managerial Rule of Thumb: Using Multiple Regression Analysis 133
	Case Study of Statistical Estimation of Automobile Demand 133
	Managerial Rule of Thumb: Using Empirical Consumer Demand Studies 137
	Relationships Between Consumer Market Data and Econometric Demand Studies 137 Case Study I: Carnation Coffee-mate 137 Case Study II: Carnation Evaporated Milk 138 Case Study III: The Demand for Cheese in the United States 139
	Managerial Rule of Thumb: Using Consumer Market Data 141
	End of Chapter Resources
	Summary 141 • Key Terms 141 • Exercises 142 • Application Questions 143
Chapter 5	PRODUCTION AND COST ANALYSIS IN THE SHORT RUN 144
	CASE FOR ANALYSIS: Production and Cost Analysis in the Fast-Food Industry 145
	Defining the Production Function 146 The Production Function 146 Fixed Inputs Versus Variable Inputs 146 Short-Run Versus Long-Run Production Functions 147
	Managerial Rule of Thumb: Short-Run Production and Long-Run Planning 147
	Productivity and the Fast-Food Industry 147 Model of a Short-Run Production Function 148 Total Product 148 Average Product and Marginal Product 148 Relationships Among Total, Average, and Marginal Product 149 Economic Explanation of the Short-Run Production Function 151

Chapter 6

Chapter 7

Productivity Changes Across Industries 155 Model of Short-Run Cost Functions 156 Measuring Opportunity Cost: Explicit Versus Implicit Costs 156 Accounting Profit Measures Versus Economic Profit Measures 157	
Measuring Opportunity Cost: Explicit Versus Implicit Costs 156	
Managerial Rule of Thumb: The Importance of Opportunity Costs 158	
Definition of Short-Run Cost Functions 159 Fixed Costs Versus Variable Costs 159 Relationships Among Total, Average, and Marginal Costs 160 Relationship Between Short-Run Production and Cost 162 Other Short-Run Production and Cost Functions 163	
Managerial Rule of Thumb: Understanding Your Costs 164	
Empirical Evidence on the Shapes of Short-Run Cost Functions 164 Econometric Estimation of Cost Functions 164 Survey Results on Cost Functions 165 Constant Versus Rising Marginal Cost Curves 166 Implications for Managers 167 End of Chapter Resources Summary 168 • Key Terms 168 • Exercises 169 • Application Questions 1	170
PRODUCTION AND COST ANALYSIS IN THE LONG RUN 172	
CASE FOR ANALYSIS: The iPhone in China 173	
Model of a Long-Run Production Function 174 Input Substitution 174	
Model of a Long-Run Cost Function 182 Derivation of the Long-Run Average Cost Curve 182	
Economies and Diseconomies of Scale 183	
Factors Creating Economies and Diseconomies of Scale 184	
Other Factors Influencing the Long-Run Average Cost Curve 185 The Minimum Efficient Scale of Operation 186	
Long-Run Average Cost and Managerial Decision Making 189	
End of Chapter Resources	
Summary 189 • Appendix 6A Isoquant Analysis 190 • Key Terms 197 • Exercises 197 • Application Questions 198	
MARKET STRUCTURE: PERFECT COMPETITION 200	
CASE FOR ANALYSIS: Competition and Cooperative Behavior in the Potato Industry 201	
The Model of Perfect Competition 202 Characteristics of the Model of Perfect Competition 202 Model of the Industry or Market and the Firm 203 The Short Run in Perfect Competition 209 Long-Run Adjustment in Perfect Competition: Entry and Exit 209 Adjustment in the Potato Industry 210 Long-Run Adjustment in Perfect Competition: The Optimal Scale of Production 211	

Managerial Rule of Thumb: Competition Means Little Control Over Price 212 Other Illustrations of Competitive Markets 212 Competition and the Agricultural Industry 213

Competition and the Broiler Chicken Industry 214 Competition and the Red-Meat Industry 215

Competition and the Milk Industry 217

Competition and the Trucking Industry 218

Managerial Rule of Thumb: Adopting Strategies to Gain Market Power in Competitive Industries 219

End of Chapter Resources

Summary 220 • Appendix 7A Industry Supply 220 • Key Terms 222 • Exercises 222 • Application Questions 223

Chapter 8 MARKET STRUCTURE: MONOPOLY AND MONOPOLISTIC COMPETITION 226

CASE FOR ANALYSIS: Changing Market Power for Eastman Kodak Co. 227

Firms with Market Power 228 The Monopoly Model 228

Comparing Monopoly and Perfect Competition 230 Sources of Market Power: Barriers to Entry 231

Managerial Rule of Thumb: Using Lock-In as a Competitive Strategy 241

Changes in Market Power 241 Measures of Market Power 243

Antitrust Issues 246

Managerial Rule of Thumb: Understanding Antitrust Laws 251

Monopolistic Competition 251

Characteristics of Monopolistic Competition 252

Short-Run and Long-Run Models of Monopolistic Competition $\;$ 252

Examples of Monopolistically Competitive Behavior 253

Managerial Rule of Thumb: Maintaining Market Power in Monopolistic Competition 256

End of Chapter Resources

Summary 256 • Key Terms 256 • Exercises 257 • Application Questions 257

Chapter 9 MARKET STRUCTURE: OLIGOPOLY 260

CASE FOR ANALYSIS: Oligopoly Behavior in the Airline Industry 261

Case Studies of Oligopoly Behavior 262

The Airline Industry 262

The Soft Drink Industry 264

The Doughnut Industry 265

The Parcel and Express Delivery Industry 266

Oligopoly Models 267

Noncooperative Oligopoly Models 268

The Kinked Demand Curve Model 268

Game Theory Models 269

Strategic Entry Deterrence 272

Predatory Pricing 273

	Cooperative Oligopoly Models 275 Cartels 275 Tacit Collusion 281
	Managerial Rule of Thumb: Coordinated Actions 283
	End of Chapter Resources
	Summary 283 • Key Terms 283 • Exercises 283 • Application Questions 285
Chapter 10	PRICING STRATEGIES FOR THE FIRM 288
	CASE FOR ANALYSIS: Airline Pricing Strategies: Will They Start Charging for the Use of the Lavatories? 289
	The Role of Markup Pricing 290 Marginal Revenue and the Price Elasticity of Demand 291 The Profit-Maximizing Rule 292 Profit Maximization and Markup Pricing 292 Business Pricing Strategies and Profit Maximization 294 Markup Pricing Examples 295
	Managerial Rule of Thumb: Markup Pricing 296
	Price Discrimination 297 Definition of Price Discrimination 297 Theoretical Models of Price Discrimination 298 Price Discrimination and Managerial Decision Making 305 Marketing and Price Discrimination 312 Macroeconomics and Pricing Policies 313
	End of Chapter Resources
	Summary 315 • Key Terms 315 • Exercises 316 • Application Questions 317
PART 2	MACROECONOMIC ANALYSIS 320
Chapter 11	MEASURING MACROECONOMIC ACTIVITY 320
·	CASE FOR ANALYSIS: Measuring Changes in Macroeconomic Activity: Implications for Managers 321
	Measuring Gross Domestic Product (GDP) 322 The Circular Flow in a Mixed, Open Economy 322
	Managerial Rule of Thumb: Spending Patterns 324
	National Income Accounting Systems 324 Characteristics of GDP 325 Real Versus Nominal GDP 326 Alternative Measures of GDP 329 Other Important Macroeconomic Variables 337 Price Level Measures 337
	Measures of Employment and Unemployment 341
	Managerial Rule of Thumb: Price Level and Unemployment 343
	Major Macroeconomic Policy Issues 343 What Factors Influence the Spending Behavior of the Different Sectors of the Economy? 344 How Do Behavior Changes in These Sectors Influence the Level of Output and
	Income in the Economy? 344
	Can Policy Makers Maintain Stable Prices, Full Employment, and Adequate Economic Growth over Time? 344

How Do Fiscal, Monetary, and Balance of Payments Policies Influence the Economy? 346
What Impact Do These Macro Changes Have on Different Firms
and Industries? 346
Managerial Rule of Thumb: Competitive Strategies and the Macro Environment 346
End of Chapter Resources
Summary 347 • Key Terms 347 • Exercises 348 • Application Questions 349
SPENDING BY INDIVIDUALS, FIRMS, AND GOVERNMENTS ON REAL GOODS AND SERVICES 350
CASE FOR ANALYSIS: Mixed Signals on the U.S. Economy in Summer 2012 351
Framework for Macroeconomic Analysis 352
Focus on the Short Run 352 Analysis in Real Versus Nominal Terms 353
Treatment of the Foreign Sector 353
Outline for Macroeconomic Analysis 353
The Components of Aggregate Expenditure 354
Personal Consumption Expenditure 354
Gross Private Domestic Investment Expenditure 362 Government Expenditure 371
Net Expenditure 372
Aggregate Expenditure and Equilibrium Income and Output 375
Aggregate Expenditure 375
Equilibrium Level of Income and Output 377
Effect of the Interest Rate on Aggregate Expenditures 382
End of Chapter Resources
Summary 383 • Appendix 12A Numerical Example of Equilibrium and the Multiplier 383 • Appendix 12B Algebraic Derivation of the Aggregate Expenditure
Function 385 • Key Terms 388 • Exercises 388 • Application Questions 389
THE ROLE OF MONEY IN THE MACRO ECONOMY 390
CASE FOR ANALYSIS: The Chairman's Quandary 391
Money and the U.S. Financial System 392
Definition of Money 392
Measures of the Money Supply 392
Depository Institutions and the Fractional Reserve Banking System 393
The Central Bank (Federal Reserve) 396 Tools of Monetary Policy 398
Managerial Rule of Thumb: Federal Reserve Policy 407
Equilibrium in the Money Market 407
The Supply of Money 407
The Demand for Money 409
Equilibrium in the Money Market 411 Change in the Supply of Money 411
Change in the Demand for Money 412
Overall Money Market Changes 413
End of Chapter Resources
Summary 413 • Appendix 13A Monetary Tools and the Market for Bank Reserves 413 • Key Terms 414 • Evercises 415 • Application Questions 415
Reserves 413 • Key Terms 414 • Exercises 415 • Application Questions 415

Chapter 12

Chapter 13

Chapter 14	THE AGGREGATE MODEL OF THE MACRO ECONOMY 416				
	CASE FOR ANALYSIS: What Role for Inflation? 417				
	The Model of Aggregate Demand and Supply 418				
	The Aggregate Demand Curve 418				
	Fiscal and Monetary Policy Implementation 422 The Aggregate Supply Curve 427				
	Using the Aggregate Model to Explain Changes in the Economy from 2007 to 2008 and from 2011 to 2012 434				
	Impact of Macro Changes on Managerial Decisions 438 Measuring Changes in Aggregate Demand and Supply 440				
	Managerial Rule of Thumb: Judging Trends in Economic Indicators 442				
	End of Chapter Resources				
	Summary 442 • Appendix 14A Specific and General Equations for the Aggregate Macro Model 442 • Key Terms 444 • Exercises 444 • Application Questions 445				
Chapter 15	INTERNATIONAL AND BALANCE OF PAYMENTS ISSUES IN THE MACRO ECONOMY 446				
	CASE FOR ANALYSIS: Uncertainty in the World Economy in 2012 447				
	Exchange Rates 448				
	Managerial Rule of Thumb: Currency Exchange Rates 451				
	Equilibrium in the Open Economy 452 U.S. International Transactions in 2011 (Balance of Payments) 453 The Current Account 453 The Financial Account 454 Revenue or T-Account 455 Deriving the Foreign Exchange Market 457 The Demand for and Supply of Dollars in the Foreign Exchange Market 457 Equilibrium in the Foreign Exchange Market 459				
	Managerial Rule of Thumb: The Foreign Exchange Market 460				
	Exchange Rate Systems 460 Flexible Exchange Rate System 462 Fixed Exchange Rate System 463 The Effect on the Money Supply 465 Sterilization 465				
	Policy Examples of International Economic Issues 466 The U.S. Economy, 1995–2000 466 The U.S. Economy, 2007–2008 and 2010–2012 468 Effects of the Euro in the Macroeconomic Environment 470				
	Euro Macro Environment Effects on Managerial Decisions 473 Southeast Asia: An Attempt to Maintain Fixed Exchange Rates 474 Macro and Managerial Impact of the Chinese Yuan Since 2003 476 Policy Effectiveness with Different Exchange Rate Regimes 478				
	End of Chapter Resources				
	Summary 479 • Appendix 15A Specific and General Equations for the Balance of Payments 479 • Key Terms 480 • Exercises 480 • Application Questions 481				

PART 3 INTEGRATION OF THE FRAMEWORKS 482

Chapter 16 COMBINING MICRO AND MACRO ANALYSIS FOR MANAGERIAL DECISION MAKING 482 CASE FOR ANALYSIS: Strong Headwinds for McDonald's 483

Microeconomic and Macroeconomic Influences on McDonald's and the

Fast-Food Industry 484

Shifting Product Demand 484

Oligopolistic Behavior 485

Strategies to Offset Shifting Demand 487

Cost-Cutting Strategies 488

Innovations for Different Tastes 488

Drawing on Previous Experience 489

2012 and Beyond: A Focus on China and Other Emerging Markets 490

Economic and Political Issues 492

Responses of Other Fast-Food Competitors 494

Calorie Counts on Menus 495

Macroeconomic Influences on the Fast-Food Industry in 2011 and 2012 497

End of Chapter Resources

Summary: Macro and Micro Influences on the Fast-Food Industry 497

- Appendix 16A Statistical Estimation of Demand Curves 498
- Exercises 500 Application Questions 500

SOLUTIONS TO EVEN-NUMBERED PROBLEMS 501

GLOSSARY 521

INDEX 535

Preface

The third edition of *Economics for Managers* builds on the strengths of the first two editions, while updating the case studies and examples, the data, and the references supporting the discussion. *Economics for Managers*, Third Edition, does not attempt to cover all the topics in traditional principles of economics texts or in intermediate microeconomic and macroeconomic theory texts. As in the previous editions, the goal of this text is to present the fundamental ideas of microeconomics and macroeconomics and then integrate them from a managerial decision-making perspective into a framework that can be used in a single-semester course for Master of Business Administration (MBA), Executive MBA (EMBA), and other business students.

What's New in This Edition?

This edition has been completely revised to update the industry cases and examples in the microeconomics section and the data and analysis in the macroeconomics section.

- Twelve of the sixteen chapters have entirely new cases, while the cases in the remaining four chapters have been updated extensively.
- New cases include: Micro- and Macroeconomic Influences on the Global Automobile Industry; Demand Elasticity and Procter & Gamble's Pricing Strategies; The iPhone in China; Changing Market Power for Eastman Kodak Co.; Airline Pricing Strategies: Will They Start Charging for the Use of the Lavatories?; Mixed Signals on the U.S. Economy in Summer 2012; The Chairman's Quandary; and Strong Headwinds for McDonald's.
- Linkage to the marketing literature, particularly in Chapter 4, Techniques for Understanding Consumer Demand and Behavior, and in Chapter 10, Pricing Strategies for the Firm, has been increased.
- The macroeconomics section of the text has been completely rewritten, given the changes in the macroeconomy since 2008, when the second edition was drafted.
- The macroeconomic data in the tables have been updated to 2011, and the data in the figures show trends from 2000 to first quarter 2012.
- The macroeconomics discussion, which makes extensive use of Federal Reserve Monetary Policy Reports to Congress and reports and analyses by the Congressional Budget Office, includes recent policy issues such as the impact of the American Recovery and Reinvestment Act of 2009, the fiscal cliff debates in 2012, and the Federal Reserve's use of nontraditional policy tools to stimulate the economy.
- An extensive discussion of the situation in the European Union from 2010 to 2012, which includes the banking, sovereign debt, and growth crises and the impact of these events on managerial decision making, is presented.

Motivation for the Text

Most micro/managerial economics and intermediate macroeconomics texts are written for economics students who will spend an entire semester using each text. The level of detail and style of writing in these texts are not appropriate for business students or for the time frame of a single-semester course. However, business students need more than a principles of economics treatment of these topics because they have often been exposed to that level of material already. The third edition of *Economics for Managers* will continue to present economic theory that goes beyond principles of economics, but the text is not as detailed or theoretical as a standard intermediate economics text given the coverage of both micro- and macroeconomics and the additional applications and examples included in this text. The compactness of the text and the style of writing are more appropriate for MBA students than what is typically found in large, comprehensive principles texts.

As in the previous editions, each chapter of *Economics for Managers*, Third Edition, begins with a "Case for Analysis" section, which examines events drawn from the current news media that illustrate the issues in the chapter. Thus, students begin the study of each chapter with a concrete, real-world example that highlights relevant economic concepts, which are then explained with the appropriate economic theory. Numerous real-world examples are used to illustrate the theoretical discussion. This approach appeals to MBA students who typically want to know the relevance and applicability of basic economic concepts and how these concepts can be used to analyze and explain events in the business environment.

Intended Audience

This text is designed to teach economics for business decision making to students in MBA and EMBA programs. It includes fundamental microeconomic and macroeconomic topics that can be covered in a single quarter or semester or that can be combined with other readers and case studies for an academic year course. The book is purposely titled *Economics for Managers* and not *Managerial Economics* to emphasize that this is *not* another applied microeconomics text with heavy emphasis on linear programming, multiple regression analysis, and other quantitative tools. This text is written for business students, most of whom will not take another course in economics, but who will work in firms and industries that are influenced by the economic forces discussed in the text.

A course using this text would ideally require principles of microeconomics and macroeconomics as prerequisites. However, the text is structured so that it can be used without these prerequisites. Coverage of the material in this text in one semester does require a substantial degree of motivation and maturity on the part of the students. However, the style of writing and coverage of topics in *Economics for Managers* will facilitate this process and are intended to generate student interest in these issues that lasts well beyond the end of the course.

Economics for Managers can be used with other industry case study books, such as The Structure of American Industry by James Brock. These books present extensive discussions of industry details from an economic perspective. Although they focus primarily on microeconomic and managerial topics, these texts can be used with Economics for Managers to integrate influences from the larger macroeconomic environment with the microeconomic analysis of different firms and industries.

Organization of the Text

The text is divided into three parts. Part 1, Microeconomic Analysis, focuses on how individual consumers and businesses interact with each other in a market economy. Part 2, Macroeconomic Analysis, looks at the aggregate behavior of different sectors of the economy to determine how changes in behavior in each of these sectors influence the overall level of economic activity. And finally, Part 3, Integration of the Frameworks, draws linkages between Parts 1 and 2.

Although many of the micro- and macroeconomic topics are treated similarly in other textbooks, this text emphasizes the connections between the frameworks, particularly in the first and last chapters. Changes in macroeconomic variables, such as interest rates, exchange rates, and the overall level of income, usually affect a firm through microeconomic variables such as consumer income, the price of the inputs of production, and the sales revenue the firm receives. Managers must be able to analyze factors relating to both market competition and changes in the overall economic environment so they can develop the best competitive strategies for their firms.

To cover all this material in one text, much of the detail and some topics found in other micro and macro texts have been omitted, most of which are not directly relevant for MBA students. There is no calculus in this text, only basic algebra and graphs. Algebraic examples are kept to a minimum and used only after the basic concepts are presented intuitively with examples. Statistical and econometric techniques are covered, particularly for demand estimation, at a very basic level, while references are provided to the standard sources on these topics. The text places greater emphasis than other texts on how managers use nonstatistical and marketing strategies to make decisions about the demand for their products, and it draws linkages between the statistical and nonstatistical approaches.

Economics for Managers, Third Edition, includes little formal analysis of input or resource markets, either from the viewpoint of standard marginal productivity theory or from the literature on the economics of organization, ownership and control, and human resource management. The latter are interesting topics that are covered in other texts with a focus quite different from this one. The macroeconomics portion of this text omits many of the details of alternative macro theories discussed elsewhere. Students are given the basic tools that will help them understand macroeconomics as presented in business sources, such as the Wall Street Journal, that emphasize how the national government and the Federal Reserve manage the economy to promote full employment, a stable price level, and economic growth.

Chapter-by-Chapter Breakdown: What's New in This Edition?

Part 1: Microeconomic Analysis

The third edition of *Economics for Managers* includes new and updated cases from 2010 to 2012 that introduce each chapter. In some chapters, the cases are on the same topic as in previous editions (e.g., the copper industry in Chapter 2) to facilitate the transition for current users of the text.

Chapter 1 introduces an entirely new case on the global automobile industry, which includes a discussion of the microeconomic factors influencing competition among the major players in the industry, and the impact of macroeconomic

changes on the entire industry. The chapter focuses on the competition between Japanese and American auto makers, how the American industry has been making a comeback in recent years, and how that change intensified competition among the American producers. I also discuss the impact of the 2011 earthquake and tsunami on the Japanese auto industry and the effect of the 2010 recall and quality issues on Toyota. Automobile production and demand changes in China are major issues in this chapter. Moreover, the role of China regarding both individual firms' strategies and in the larger macroeconomic environment will be a significant factor throughout this text.

Another theme introduced in this chapter is the impact of the global financial crisis and recession on managerial strategies. General Motors and Chrysler received a bailout from the U.S. government to help them survive. The ongoing economic crisis in Europe, which I discuss throughout the text, created major challenges for all players in the global automobile industry. I also discuss the role of currency exchange rates, particularly the impact of the strong yen on the Japanese auto industry.

As in previous editions, this chapter presents the frameworks for the microeconomic and macroeconomic analyses used throughout the text. I introduce the role of relative prices and discuss the different models of market competition. I also present the circular flow macroeconomic model that focuses on consumption (C), investment (I), and government spending (G), and spending on exports (X) and imports (M). I introduce macro policy issues, including the U.S. Federal Reserve policy since 2008 of targeting historically low interest rates and fiscal policy issues such as the American Recovery and Reinvestment Act of 2009.

These microeconomic and macroeconomic issues will be discussed again in the context of the fast-food industry in Chapter 16. The use of two well-known industries to frame both the microeconomic and macroeconomic discussion is a unique feature of *Economics for Managers*, Third Edition.

Chapter 2 updates the case on the copper industry that introduces the concepts of demand and supply and shows the extreme volatility of prices in a competitive industry. The current discussion highlights the issues of the global demand for copper, the particular influence of China, and the problem of copper thefts due to its high price. I have retained much of the discussion of the copper industry from previous editions to illustrate the impact of these changes over time. Even though this chapter focuses on the microeconomic concepts of demand and supply, the copper industry has been given the name "Dr. Copper," because strong demand and high prices can indicate the overall health of the economy.

New examples of the non-price factors influencing demand include (1) the impact on the Zippo Manufacturing Co. of changing attitudes on cigarette smoking; (2) the Chinese demand for pecans; (3) the effect of the Japanese earthquake on the demand for luxury goods in that country; (4) the increased marketing of beer and other products to the Hispanic community; (5) the return of the practice of layaway in department stores; and (6) the effect of substitutes on Nestle bottled water.

New examples of the non-price factors influencing supply include (1) the effect of new technology on pecan growers; (2) the impact of high pecan prices as inputs for bakers; (3) the impact of high oil prices on the supply of natural gas; and (4) the effect of Chinese demand on the number of lumber producers. The extensive numerical example on the copper industry that is used throughout Chapter 2 has been updated to reflect recent events in the copper industry.

Chapter 3 begins with a new case on the relationship between Procter & Gamble's pricing strategy and the price elasticity of demand. I have updated information on price elasticity for airline prices, gasoline, and illegal substances such as cocaine and heroin. The discussion of income elasticity now includes the demand for wines, while the cross-elasticity discussion includes the relationship between airline and automobile travel, which influenced the regulation of child airline safety seats, and

consumer demand for wireline and wireless phones. I have updated Table 3.7 with recent estimates of demand elasticity for food, water, and higher education. I have also increased the discussion of the relationship between the economic and marketing approaches to consumer demand, and I have updated an earlier marketing demand elasticity study included in previous editions.

Chapter 4 presents a new case on how firms use cable television and Visa/MasterCard information to better understand and impact consumer behavior. Although successful from the firm's viewpoint, these strategies have raised concerns over the invasion of consumer privacy. In the discussion of marketing techniques to estimate consumer demand. I have drawn extensively on two major marketing references: Vithala R. Rao, Handbook of Pricing Research in Marketing, 2009, and Thomas T. Nagle et al., The Strategy and Tactics of Pricing, 5th ed., 2011. I have also updated the econometric references on estimating consumer demand, and I added a new case, "Case Study III: The Demand for Cheese in the United States." I retained the case study of automobile demand and the illustrations of the use of consumer market data in econometric demand studies from the previous editions.

In Chapter 5, I updated the opening case, "Production and Cost Analysis in the Fast-Food Industry," by adding a discussion of fast-food delivery in various parts of the world. New productivity examples in the chapter include (1) the use of additional workers versus robots by Amazon and Crate & Barrel; (2) eliminating diminishing returns in hospital emergency rooms; (3) a discussion of Toyota's quality problems; and (4) an updated discussion of overall industry productivity increases.

Chapter 6 begins with a new case, "The iPhone in China," that focuses on the long-run decisions of Apple Inc. to produce iPhones in China and the controversy that followed over working conditions in those Chinese factories. I also discuss the location and production decisions of smaller manufacturers such as Standard Motor Products of North Carolina. New examples of long-run production and cost decisions include (1) the use of robots in mining operations and hospitals; (2) crowdsourcing or farming out production tasks to the general public; (3) law firms' increased use of software for the discovery process; (4) the trade-off between airline use of smaller jets to cut costs and increased time for refueling; and (5) the decreased use of bags in grocery stores. I also describe the limits of lean production that arose during the Japanese earthquake and tsunami, and I update the discussion of the use of nurseto-patient ratios to regulate hospital staffing decisions.

Chapter 7 begins with an update of the case of the potato industry from the previous editions of the book. Earlier editions focused on how potato farmers attempted to move away from the competitive market, where they had very little control over price. They formed farmers' cooperatives to help control production and keep prices high. These moves recently faced consumer challenges as price-fixing arrangements. I discuss other recent influences on the potato industry, including obesity concerns resulting from potato consumption and a move to eliminate white potatoes from federally subsidized school breakfasts and lunches. I also update the analysis of competitive strategies in the broiler chicken, red meat, milk, and trucking industries. The red meat industry discussion includes both the issues of "pink slime" and the National Cattlemen's Beef Association's MBA or Master of Beef Advocacy, a training program to promote and defend red meat. The theme in all of these cases is how firms deal with the volatility of the competitive market.

Chapter 8 begins with a new case, "Changing Market Power for Eastman Kodak Co.," which illustrates how the changing markets for cameras and film eroded the market power of this well-known company. In the section on the sources of market power, I have updated the discussion of mergers in the banking, beer, and airlines industries and examined mergers among pharmacy-benefit managers and law firms. New licensing examples include the case of interior decorators and the controversy over who can perform teeth whitening. I have updated the patent discussion with the case of Pfizer's blockbuster drug Lipitor and the patent infringement case between Apple Inc. and Samsung Electronics Co. The changing market power section now includes a discussion of how bricks-and-mortar retailers are fighting showrooming and the consumer use of phone apps to compare prices and then purchase online.

I have updated the antitrust section with a discussion of the August 2010 revisions in the antitrust guidelines and the use of the Herfindahl-Hirschman Index (HHI). I also provided new references on the guidelines. Although the Microsoft antitrust case was an important illustrative example in the two previous editions of the text, it has become dated. I replaced this case with a discussion of the failed merger of AT&T and T-Mobile in 2011. This case clearly illustrates for students the controversies over the existence and use of market power. This discussion is extended in the monopolistic competition section with an update on the cases of independent drugstores and booksellers.

The opening case in Chapter 9 builds on the previous case of interdependent airline pricing behavior by adding current examples of oligopolistic strategies. I have also updated the examples of oligopolistic behavior between Coke and Pepsi; in the doughnut industry; and among DHL, Federal Express, and UPS. I added a discussion of the predatory pricing case of Spirit Airlines versus Northwest Airlines, included new references on cartel behavior, and updated the discussion of OPEC and the diamond cartel.

Chapter 10 begins with the case, "Airline Pricing Strategies: Will They Start Charging for the Use of the Lavatories?" This case illustrates revenue or yield management strategies where the airlines have unbundled their services and are charging separately for different services based on demand elasticity and consumer willingness to pay. I have extended this discussion throughout the chapter and have drawn extensively on articles in the *Journal of Revenue and Pricing Management*, a source that would be very useful for MBA students. As in Chapter 4, I have included more linkages with the marketing literature by including examples and citations from Vithala R. Rao, *Handbook of Pricing Research in Marketing*, and Thomas T. Nagle et al., *The Strategy and Tactics of Pricing*, 5th ed. I updated the discussion of major league baseball ticket pricing and peak load pricing with smart electric meters, and I added an example of revenue management by the Atlanta Symphony Orchestra. At the end of the chapter, I added material to the discussion of the macro impacts on pricing in 2011–2012.

Part 2: Macroeconomic Analysis

Part 2, Macroeconomic Analysis, continues with the framework in the second edition. After introducing the macroeconomic variables in Chapter 11, the text discusses real spending by individuals, firms, and governments (C + I + G + X - M) in Chapter 12. This material draws on the analyses students see daily in the Wall Street Journal and other business publications. A discussion of money, money markets, and Federal Reserve policy is presented in Chapter 13. These elements are combined using the aggregate demand-aggregate supply (AD-AS) model in Chapter 14. Monetary and fiscal policy implementation issues are also presented in this chapter. Chapter 15 continues to focus on exchange rate and balance of payments issues and presents an updated discussion of controversies over the role of the euro and the Chinese yuan. The text continues to describe the impacts of policy changes in these areas on the U.S. and foreign economies. However, as in the previous editions, and unlike the presentation in other texts, Economics for Managers, Third Edition, has an extensive discussion in both Chapters 14 and 15 of the impact of macro policy changes on the competitive strategies of both domestic and international firms. This is a unique feature of this textbook, which makes it most appropriate for MBA students who will probably never make macroeconomic policy, but who will work in firms and industries influenced by these policy changes.

The macro section of the second edition of *Economics for Managers* was revised just as the U.S. economy was slipping into recession in 2008. Given that the third edition was revised in 2012, I rewrote most of the macro discussion to reflect the substantial economic and policy changes during that period. I updated the references for the national income and product accounts and for the underground economy (Chapter 11). I used 2011 data for all the tables, while the figures show trends from 2000 to the first quarter of 2012. I updated the discussion of each component of GDP with recent data and events (Chapter 12), and I made extensive use of Federal Reserve Monetary Policy Reports to Congress and the reports and analyses by the Congressional Budget Office. All of the cases reflect the uncertainty about the U.S. and global economies in 2011–2012 and the slow recovery from the recession of 2007–2009. In the case in Chapter 13, "The Chairman's Quandary," I discuss the dilemma facing Federal Reserve officials in summer 2012 as they made decisions on future monetary policy. This discussion includes issues related to the continuation of historically low targeted interest rates, Operation Twist, future bond buying, and the use of public statements to achieve monetary policy goals. I also refer students to Federal Reserve Chairman Ben Bernanke's 2012 College Lecture Series, The Federal Reserve and the Financial Crisis.

In Chapter 14, I discuss recent fiscal policy issues, including the American Recovery and Reinvestment Act of 2009, the fiscal cliff debate in 2012, the impacts of fiscal multipliers and how they are estimated, the role of automatic stabilizers, and the interactions between fiscal and monetary policies. On the supply side, I updated the discussion of productivity growth and the natural rate of unemployment. I kept the section on the use of the aggregate macro model to explain changes in the economy from 2007 to 2008, but I added a similar discussion for the period 2011–2012. I also added a summary of the U.S. auto bailout in 2008–2009, and I discussed the impact of the uncertain economic recovery on managerial decisions in 2011–2012.

Chapter 15, which is built around the opening case, "Uncertainty in the World Economy in 2012," focuses on the U.S. economy and international issues from 2010 to 2012. The chapter includes an analysis of the weakness in the Chinese economy, the worsening situation in Europe, and capital flows among industrialized and emerging economies. I have updated all tables and figures, included balance of payments data for 2011, and I updated the discussion and references on balance of payment issues and the role of fixed versus flexible exchange rates. I include a discussion and extensive references on the euro zone situation that involves the banking crisis, the sovereign debt crisis, the growth crisis, and the issue of the sustainability of the euro, and I show the impact of the euro crisis on managerial decision making. I also updated the discussion of the Southeast Asia crisis from the second edition, and I have included recent policy issues related to the Chinese yuan.

Part 3: Integration of the Frameworks

As noted earlier in this section, in Part 3 we return to the issues first discussed in Chapter 1, the relationship between microeconomic and macroeconomic influences on managerial decision making. Chapter 16 presents the case, "Strong Headwinds for McDonald's," which examines the effects of changes in the microeconomic and macroeconomic environment on McDonald's competitive strategies. I discuss current challenges facing the company and how these challenges were met in the past. I then broaden the discussion to include McDonald's major rivals in the fast-food industry, Burger King, Subway, Wendy's, and Starbucks, and I discuss the opportunities and challenges facing all of these companies as they enter emerging markets. I have added a discussion of how these companies are facing public health concerns over obesity, and I present a detailed discussion of the impact of regulations requiring calorie counts on menus. I have also kept a statistical study

of fast-food industry demand that was included in previous editions of the text. I discuss macroeconomic influences on the fast-food industry with details from the International Monetary Fund Global Economic Report in October 2012.

The text ends by emphasizing its major theme: Changes in the macro environment affect individual firms and industries through the microeconomic factors of demand, production, cost, and profitability. Firms can either try to adapt to these changes or undertake policies to try to modify the environment itself. This theme is particularly important in this third edition of Economics for Managers, given the impact of the slow recovery from the 2007–2009 recession on the overall economy and on the strategies of different firms operating in this environment.

Unique Features of the Text

Chapter Opening Cases for Analysis

Each chapter begins with a "Case for Analysis" section, which examines a case drawn from the current news media that illustrates the issues in the chapter. Thus, students begin the study of each chapter with a concrete, real-world example that highlights relevant economic issues, which are then explained with the appropriate economic theory. For example, Chapter 2 begins with a case on the copper industry that illustrates forces on both the demand and supply sides of the market that influence the price of copper and have caused that price to change over time. This example leads directly to a discussion of demand and supply functions and curves, the concept of equilibrium price and quantity, and changes in those equilibria. Within this discussion, I include numerous real-world examples to illustrate demand and supply shifters. The chapter concludes by reviewing how formal demand and supply analysis relates to the introductory case. Students thus go from concrete examples to the relevant economic theory and then back to real-world examples.

Interdisciplinary Focus

Economics for Managers, Third Edition, continues to have an interdisciplinary focus. For example, Chapter 3 presents demand price elasticity estimates drawn from both the economics and marketing literature. Empirical marketing and economic approaches to understanding consumer demand are both discussed in Chapter 4. The production and cost analysis in Chapters 5 and 6 relates to topics covered in management courses, while the pricing discussion in Chapter 10 draws extensively on the marketing literature. Thus, the third edition of Economics for Managers is uniquely positioned to serve the needs of instructors who are trying to integrate both micro- and macroeconomic topics and who want to relate this material to other parts of the business curriculum.

Focus on Global Issues

Global and international examples are included in both the microeconomic and macroeconomic sections of the text. For example, Chapter 2 discusses how demand from China, an earthquake in Chile, and the financial crisis in Europe affected the copper industry. I revisit these international issues again in Chapters 15 and 16. Analyses of the impact of changing consumer demand, new production technologies, and rising input costs on both U.S. and international firms are included in many of the microeconomic chapters. Chapters 14 and 15 include discussions of the effects of U.S. and international macroeconomic policy changes on firms located around the world.

As noted previously, *Economics for Managers*, Third Edition, takes the unique approach in Chapters 1 and 16 to discuss the impact of both microeconomic and macroeconomic factors on firms' competitive strategies in international markets. The analysis of the global automobile industry in Chapter 1 and the fast-food industry in Chapter 16 helps students see how economic and political issues around the world impact managerial decision making. This *integration of micro and macro tools* in the global setting has been a key feature of all editions of *Economics for Managers*.

Managerial Decision-Making Perspective

Economics for Managers is developed from a firm and industry decision-making perspective. Thus, the demand and elasticity chapters focus on the implications of elasticity for pricing policies, not on abstract models of consumer behavior. To illustrate the basic models of production and cost, the text presents examples of cost-cutting and productivity-improving strategies that firms actually use. It discusses the concept of input substitution intuitively with examples, but places the formal isoquant model in an appendix to Chapter 6. The text then compares and contrasts the various models of market behavior, incorporating discussions and examples of the measurement and use of market power, most of which are drawn from the current news media and the industrial organization literature.

Throughout the chapters you will find "Managerial Rule of Thumb" features, which are shortcuts for using specific concepts and brief descriptions of important issues for managers. For example, Chapter 3 contains several quick approaches for determining price and income elasticities of demand. Chapter 4 includes some key points for managers to consider when using different approaches to understanding consumer behavior.

Macroeconomics presents a particular challenge for managers because the subject matter is traditionally presented from the viewpoint of the decision makers, either the Federal Reserve or the U.S. Congress and presidential administration. Although *Economics for Managers*, Third Edition, covers the models that include this policy-making perspective, the text also illustrates how the actions of these policy makers influence the decisions managers make in various firms and industries. This emphasis is important because most students taking an MBA economics course will never work or make policy decisions for the Federal Reserve or the U.S. government, but they are or will be employed by firms that are affected by these decisions and policies.

End-of-Chapter Exercises

As you will see, some of the end-of-chapter exercises are straightforward calculation problems that ask students to compute demand-supply equilibria, price elasticities, and profit-maximizing levels of output, for example. However, many exercises are broader analyses of cases and examples drawn from the news media. These exercises have a managerial perspective similar to the examples in the text. The goal is to make students realize that managerial decisions usually involve far more analysis than the calculation of a specific number or an "optimal" mathematical result. One of the exercises at the end of each chapter is related to the "Case for Analysis" discussed at the beginning of that chapter.

Instructor Resource Center

Economics for Managers is connected to the Instructor Resource Center available at **www.pearsonglobaleditions.com/farnham**. Instructors can access a variety of print, digital, and presentation resources available with this text in downloadable

format. Registration is simple and gives you immediate access to new titles and new editions. As a registered faculty member, you can download resource files and receive immediate access and instructions for installing course management content on your campus server. If you ever need assistance, our dedicated technical support team is ready to help with the media supplements that accompany this text. Visit http://247pearsoned.custhelp.com/ for answers to frequently asked questions and toll-free user support phone numbers. The following supplements are available to adopting instructors:

- Instructor's Manual
- Test Item File also available in TestGen software for both Windows and Mac computers
- PowerPoint Presentations containing all figures and tables from the text

Acknowledgments

As with any major project, I owe a debt of gratitude to the many individuals who assisted with this book.

I first want to thank my friend and colleague, Jon Mansfield, who worked with me in developing materials for the book. Jon and I have discussed the integration of microeconomics and macroeconomics for business students for many years as we both experimented with new ideas for teaching a combined course. We even team-taught one section of the course for EMBA students so that we could directly learn from each other. Jon is a great teacher, and his assistance in developing this approach has been invaluable.

I next want to thank the generations of students I have taught, not only in the MBA and EMBA programs, but also in the Master of Public Administration, Master of Health Administration, and Master of Public Health programs at Georgia State. They made it quite clear that students in professional master's degree programs are different from those in academic degree programs. Although these students are willing to learn theory, they have insisted, sometimes quite forcefully, that the theory must always be applicable to real-world managerial situations.

I also want to thank my colleagues Professors Harvey Brightman and Yezdi Bhada, now retired from Georgia State's Robinson College of Business, for their teaching seminars and for backing the approach I have taken in this book. I always knew that business and other professional students learned differently from economics students. Harvey and Yezdi provided the justification for these observations.

I want to acknowledge the following graduate research assistants supported by the Department of Economics, Georgia State University, for their contributions to various editions of the text: Mercy Mvundura, Djesika Amendah, William Holmes, and Sarah Beth Link. They provided substantial assistance in finding the sources used in the text and in developing tables and figures for the book.

The Prentice Hall staff has, of course, been of immense help in developing the third edition of the text. I would especially like to thank David Alexander, Executive Editor, Pearson Economics, for his support and Lindsey Sloan, Senior Editorial Project Manager, Economics, Pearson Higher Education, who has been available to answer all my questions at every step of the project. I would also like to thank Fran Russello, Pearson Production Manager, and Anand Natarajan, Project Manager at Integra Software Services, for their assistance in producing the text.

I would like to thank all those who assisted with supporting materials. Professor Leonie Stone of SUNY Geneseo contributed to the end-of-chapter questions in the micro section of the text. I also want to acknowledge the assistance of all the reviewers of the various drafts of the text. These include:

Gerald Bialka, University of North Florida; John Boschen, College of William and Mary; Vera Brusentsev, University of Delaware; Chun Lee, Loyola Marymount University; Mikhail Melnik, Niagara University; Franklin E. Robeson, College of William and Mary; Dorothy R. Siden, Salem State College; Ira A. Silver, Texas Christian University; Donald L. Sparks, The Citadel; Kasaundra Tomlin, Oakland University; Doina Vlad, Seton Hill University; John E. Wagner, SUNY-ESF; E. Anne York, Meredith College.

Finally, I want to thank my wife, Lynn, and daughters, Ali and Jen, for bearing with me during the writing of all editions of this text.

—Paul G. Farnham

Pearson would like to thank and acknowledge the following people for their work on the Global Edition. For her contribution: CHAN Ka Yu Yuka, *The Open University of Hong Kong*. And for their reviews: Erkan Ilgün, *International Burch University*; Rajkishan Nair, *IILM Graduate School of Management*; Ozlem Olgu Akdeniz, *College of Administrative Sciences and Economics*.

About the Author

Paul G. Farnham is Associate Professor Emeritus of Economics at Georgia State University. He received his B.A. in economics from Union College, Schenectady, New York, and his M.A. and Ph.D. in economics from the University of California, Berkeley. For over 30 years, he specialized in teaching economics to students in professional master's degree programs including the Master of Business Administration and Executive MBA, Master of Public Administration, Master of Health Administration, and Master of Public Health. He has received both teaching awards and outstanding student evaluations at Georgia State. Dr. Farnham's research focused first on issues related to the economics of state and local governments and then on public health economic evaluation issues where he has published articles in a variety of journals. He co-authored three editions of Cases in Public Policy Analysis (1989, 2000, and 2011), contributed to both editions of Prevention Effectiveness: A Guide to Decision Analysis and Economic Evaluation (1996, 2003), and wrote a chapter for the Handbook of Economic Evaluation of HIV Prevention Programs (1998). He is currently a Senior Service Fellow in the Division of HIV/AIDS Prevention at the Centers for Disease Control and Prevention in Atlanta. Dr. Farnham can be reached at pfarnham@gsu.edu.