

Third Edition

Managerial Economics

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Managerial Economics

Third Edition

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McGraw Hill Education (India) Private Limited

Published by McGraw Hill Education (India) Private Limited
444/1, Sri Ekambara Naicker Industrial Estate, Alapakkam, Porur, Chennai - 600 116

Managerial Economics, 3e

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This edition can be exported from India only by the publishers,
McGraw Hill Education (India) Private Limited

1 2 3 4 5 6 7 8 9 D101417 22 21 20 19 18

Printed and bound in India

Print Book

ISBN-13: 978-93-87067-62-2

ISBN-10: 93-87067-62-9

E-Book

ISBN-13: 978-93-87067-63-9

ISBN-10: 93-87067-63-7

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Typeset at The Composers, 260, C.A. Apt., Paschim Vihar, New Delhi 110 063 and printed at

Cover Printer:

Visit us at: www.mheducation.co.in

This book is dedicated to...

My Parents, for being so wonderful....

Geetika

My Mother, for all those moments of her pride in my achievements...

Piyali Ghosh

My Parents, for their constant support....

Purba Roy Choudhury

CONTENTS

<i>Foreword</i>	<i>xix</i>
<i>Preface to the Third Edition</i>	<i>xxi</i>
<i>Preface to the First Edition</i>	<i>xxv</i>

PART I INTRODUCTION

1. Basic Concepts and Principles	3
<i>Introduction</i>	<i>3</i>
Definition and Scope of Economics	4
Basic Assumptions	4
Types of Economic Analysis	6
Kinds of Economic Decisions	9
Managerial Economics	10
Economic Principles Relevant to Managerial Decisions	12
Managerial Economics and Functions of Management	15
Relation of Managerial Economics with Decision Sciences	16
<i>Summary</i>	<i>17</i>
<i>Key Concepts</i>	<i>18</i>
<i>Questions</i>	<i>18</i>
<i>Check Your Answers</i>	<i>21</i>
<i>Caselet 1—The ‘Retail Dahi’</i>	<i>21</i>
<i>Caselet 2—Baby Steps for Baby Food</i>	<i>22</i>
<i>Appendix 1.1—Basic Mathematics for Economic Analysis</i>	<i>22</i>
2. Theory of Firm	33
<i>Introduction</i>	<i>33</i>
Forms of Ownership	34
Public Sector in India	46
Objectives of Firm	46

Principal Agent Problem	53
<i>Summary</i>	54
<i>Key Concepts</i>	55
<i>References and Further Reading</i>	56
<i>Questions</i>	56
<i>Check Your Answers</i>	58
<i>Caselet 1—The Utterly, Butterly Cooperative</i>	58
<i>Caselet 2—Asymmetric Information in Healthcare</i>	59
<i>Case 1—Vistara: Scaling New Heights in the Skies</i>	59
<i>Case 2—Dabur India Limited: Growing Big and Global</i>	60

PART 2 CONSUMER BEHAVIOUR, DEMAND AND SUPPLY

3. Consumer Preferences and Choice	65
<i>Introduction</i>	65
Consumer Choice	66
Consumer Preferences	73
Consumer's Income	79
Revealed Preference Theory	83
Consumer Surplus	84
<i>Summary</i>	85
<i>Key Concepts</i>	86
<i>Questions</i>	86
<i>Check Your Answers</i>	89
<i>Caselet 1—The Androids-Windows Battle</i>	89
<i>Caselet 2—From Economy to First Class</i>	90
<i>Caselet 3—Retail Sector: Riding the Changing Waves of Consumerism</i>	91
<i>Case 1—Maggi Noodles: Trouble in Oodles</i>	91
<i>Case 2—Making Magic: The Multiplex Way</i>	92
4. Demand and Supply Analysis	95
<i>Introduction</i>	95
Demand	96
Law of Demand	103
Supply	112
Law of Supply	114
Market Equilibrium	116
<i>Summary</i>	122
<i>Key Concepts</i>	122
<i>Questions</i>	123

<i>Check Your Answers</i>	126
<i>Caselet 1—Price Cut to Stay Alive</i>	126
<i>Caselet 2—The Yoga of Advertising</i>	127
<i>Caselet 3—The Demand and Supply of Mobile App Economy</i>	127
<i>Case 1—The Rough Ride from Feature Phones to Smartphones</i>	128
<i>Case 2—Power for All: Myth or Reality?</i>	129

5. Elasticities of Demand and Supply

131

<i>Introduction</i>	131
Price Elasticity of Demand	132
Revenue and Price Elasticity of Demand	141
Income Elasticity of Demand	141
Cross Elasticity of Demand	143
Promotional Elasticity of Demand	145
Importance of Elasticity of Demand	146
Elasticity of Supply	147
Degrees of Price Elasticity of Supply	148
Determinants of Price Elasticity of Supply	150
Effect on Market Equilibrium	151
<i>Summary</i>	152
<i>Key Concepts</i>	153
<i>Questions</i>	153
<i>Check Your Answers</i>	157
<i>Caselet 1—Regaining its Lost Empire</i>	157
<i>Caselet 2—CNG Vehicles Have Arrived</i>	158
<i>Case—Lifestyle Inflation Goes Unnoticed</i>	159

6. Demand Forecasting

161

<i>Introduction</i>	161
Meaning of Demand Forecasting	162
Techniques of Demand Forecasting	163
Subjective Methods of Demand Forecasting	164
Quantitative Methods of Demand Forecasting	169
Limitations of Demand Forecasting	187
<i>Summary</i>	188
<i>Key Formulae</i>	189
<i>Questions</i>	190
<i>Check Your Answers</i>	193
<i>Caselet 1—The Pilot CNG</i>	194
<i>Caselet 2—Forecast to Reduce Risk</i>	195
<i>Case—Forecasting Electricity Price</i>	196

7. Cost and Revenue	199
<i>Introduction</i>	199
Kinds of Costs	200
Costs in Short Run	204
Costs in Long Run	210
Costs of a Multi Product Firm	213
Costs of Joint Products	214
Concepts of Revenue	215
Break-even Analysis	221
Economies of Scale	224
Economies of Scope	226
Cost and Learning Curves	227
<i>Summary</i>	228
<i>Key Concepts</i>	229
<i>References and Further Reading</i>	229
<i>Questions</i>	230
<i>Check Your Answers</i>	233
<i>Caselet—Would IndiGo?</i>	234
<i>Case 1—Cement Industry in India</i>	234
<i>Case 2—Disrupting FMCG the Swadeshi Way</i>	236
8. Production Analysis	238
<i>Introduction</i>	238
Types of Inputs	239
Production Function	242
Production Function with One Variable Input	243
Production Function with Two Variable Inputs	248
Elasticity of Substitution	253
Isocost Lines	257
Producer's Equilibrium	258
Expansion Path	260
Returns to Scale	260
Different Types of Production Functions	261
Technical Progress and its Implications	265
<i>Summary</i>	267
<i>Key Concepts</i>	268
<i>Questions</i>	268
<i>Check Your Answers</i>	271

- Caselet—Alternative Fuels* 272
Case 1—Expanding the Volvo Way 272
Case 2—3D Printing: the Future of Technology 273

9. Financial Evaluation of Long-Term Projects **275**

- Introduction* 275
 Project 275
 Types of Projects 276
 Features of Project Evaluation 278
 Importance of Project Evaluation 279
 Decision Criteria and Relevant Variables 280
 Methods of Project Evaluation 282
 Capital Rationing 289
Summary 290
Key Concepts 291
Questions 291
Check Your Answers 294
Caselet—Turnaround of Indian Railways 295
Case 1—Strategy 2025 295
Case 2—Geovic Feasibility Study 296

PART 4 MARKET MORPHOLOGY AND EQUILIBRIUM CONDITIONS

10. Perfect Competition **301**

- Introduction* 301
 Market Morphology 302
 Perfect Competition 303
 Demand and Revenue of a Firm 305
 Market Demand Curve and Firm's Demand Curve 308
 Short Run Equilibrium 309
 Market Supply Curve and Firm's Supply Curve 312
 Long Run Equilibrium 314
 Perfect Competition: Existence in Real World 315
Summary 316
Key Concepts 316
Questions 316
Check Your Answers 320
Caselet 1—FOREX Trading: Competition or not? 320
Caselet 2—Does Perfect Competition Exist? 321
Case 1—The Fantastic Plastic 322
Case 2—Indian Stock Market: Does it Explain Perfect Competition? 323

11. Monopoly and Monopsony	326
<i>Introduction</i>	326
Monopoly	327
Reasons and Types of Monopoly	328
Demand and Marginal Revenue Curves for a Monopoly Firm	333
Price and Output Decisions in Short Run	334
Price and Output Decisions in Long Run	336
Supply Curve of a Monopoly Firm	337
Price and Output Decisions of Multi Plant Monopoly	338
Price Discrimination	340
Price and Output Decisions of Discriminating Monopolist	345
Economic Inefficiency of Monopoly	347
Monopsony	349
<i>Summary</i>	351
<i>Key Concepts</i>	352
<i>Questions</i>	352
<i>Check Your Answers</i>	355
<i>Caselet 1—The Pure Joy of Monopoly</i>	355
<i>Caselet 2—Is Government Monopoly also Harmful?</i>	356
<i>Case 1—Discriminating all the Way: Indian Railways</i>	357
<i>Case 2—WalMart: Monopsony Power</i>	358
12. Monopolistic Competition	360
<i>Introduction</i>	360
Monopolistic Competition	361
Identification of Industry	364
Demand and Marginal Revenue Curves of a Firm	365
Price and Output Decisions in Short Run	365
Price and Output Decisions in Long Run	367
Monopolistic Competition and Advertising	369
Comparison between Monopolistic Competition, Monopoly and Perfect Competition	370
<i>Summary</i>	371
<i>Key Concepts</i>	372
<i>Questions</i>	372
<i>Check Your Answers</i>	375
<i>Caselet 1—The Toy World</i>	375
<i>Caselet 2—Booming Business: Indian Hotel Industry</i>	376
<i>Case 1—The Jewel in the Crown</i>	377
<i>Case 2—David Fights Goliath: The Nirma Story</i>	378

13. Oligopoly	381
<i>Introduction</i>	381
Oligopoly	382
Duopoly	387
Price and Output Decisions	387
Collusive Oligopoly	395
Price Leadership	400
Recent Global Trends	402
<i>Summary</i>	402
<i>Key Concepts</i>	403
<i>Questions</i>	403
<i>Check Your Answers</i>	406
<i>Caselet—Battle in the Domestic Skies</i>	407
<i>Case 1—Jio: The New Samurai in Telecom Battle</i>	408
<i>Case 2—Duopoly in Air</i>	409
14. Choice Under Uncertainty and Game Theory	411
<i>Introduction</i>	411
Risk and Uncertainty in Decision-Making	412
Game Theory	413
Nash Equilibrium	419
Prisoner's Dilemma	421
Types of Games	422
Applications of Game Theory in Economics	424
<i>Summary</i>	431
<i>Key Concepts</i>	432
<i>Questions</i>	432
<i>Check Your Answers</i>	436
<i>Caselet—Winning over the Winner</i>	437
<i>Case—The Herbal Strategy</i>	437
PART 5 PRICING DECISIONS	
15. Product Pricing	441
<i>Introduction</i>	441
Cost Based Pricing	443
Pricing Based on Firm's Objectives	446
Competition Based Pricing	446
Product Life Cycle Based Pricing	448
Cyclical Pricing	452

Multi-Product Pricing 454
 Peak Load Pricing 458
 Surge Pricing 459
 Sealed Bid Pricing Strategy 460
 Retail Pricing 461
 Administered Pricing 462
 Export Pricing 462
 International Price Discrimination and Dumping 463
Summary 464
Key Concepts 465
Questions 466
Check Your Answers 468
Caselet 1—Multiplex Pricing 469
Caselet 2—India the Dump-yard for China 469
Caselet 3—From Xiaomi to Mi 470
Case—Indian Railways: Surging Ahead or Backwards? 470

16. Input Pricing

472

Introduction 472
 Wages 473
 Interest 479
 Rent 482
 Profit 485
Summary 490
Key Concepts 491
References and Further Readings 492
Questions 492
Check Your Answers 494
Caselet 1—Government Revises Minimum Wage Rate 495
Caselet 2—The Interesting Interest Rates 495
Case 1—JSW: Expanding with Grits of Steel 496
Case 2—From Wages to Packages: the Journey of Software 497

17. Externalities, Public Goods and Role of Government

499

Introduction 499
 Externalities 500
 Types of Externalities 501
 Externalities and Market Efficiency: Net Welfare Loss 505
 Role of Government in Controlling Externalities 505
 Public Goods 506
 Public Goods and Other Goods 507

Characteristics of Public Goods	508
Public Goods and Market Forces	509
Role of Government	510
<i>Summary</i>	513
<i>Key Concepts</i>	514
<i>Questions</i>	514
<i>Check Your Answers</i>	516
<i>Caselet 1—Death in Air</i>	516
<i>Caselet 2—Millennium Development Goals</i>	517
<i>Case—Bhopal Gas Tragedy: The Lingering Toxic Legacy</i>	517

PART 6 **MACROECONOMIC ASPECTS OF MANAGERIAL DECISIONS**

18. Macroeconomic Phenomena	521
<i>Introduction</i>	521
Circular Flow of Economic Activities and Income	522
Macroeconomic Variables	526
Consumption Function	530
Investment Function	532
Fiscal Policy and Budget	534
IS-LM Analysis	538
<i>Summary</i>	542
<i>Key Concepts</i>	543
<i>Questions</i>	543
<i>Check Your Answers</i>	546
<i>Caselet 1—How Basic is the Universal Basic Income?</i>	547
<i>Caselet 2—Massive Scheme for City Modernisation</i>	548
<i>Case 1—India on the Growth Trajectory</i>	548
<i>Case 2—Skill Development Programmes</i>	549
19. National Income	550
<i>Introduction</i>	550
Concepts of National Income	551
Measurement of National Income	559
Uses of National Income Data	564
Difficulties in Measurement of National Income	565
Balance of Payments	566
Current Account	567
Capital Account	568
Official Reserves Account	568

Measures to Reduce Trade Deficit 569
Importance of Balance of Payments 570
Summary 570
Key Concepts 571
Key Equations 571
Questions 572
Check Your Answers 576
Caselet 1—Industry or Services? 576
Caselet 2—Raising the Exemption Limit 577
Case 1—India’s External Sector 577
Case 2—National Income of India 578

20. Money Supply, Inflation and Unemployment

582

Introduction 582
Demand and Supply of Money 587
Inflation 594
Causes of Inflation 597
Inflation and Decision-Making 601
Measuring Inflation 603
Inflation and Employment: Phillips Curve 607
Control of Inflation 607
Summary 610
Key Concepts 611
Questions 611
Check Your Answers 614
Caselet 1—Headline Inflation 614
Caselet 2—Wage-Price Spiral 615
Case 1—The Long and Short of Demonetisation 616
Case 2—India in Search of a Way to Harness the Inflation “Dragon” 617

21. Business Cycles

619

Introduction 619
Features of Business Cycles 620
Phases of Business Cycles 621
Concepts of Multiplier and Accelerator 623
Causes of Business Cycles 628
Effects of Business Cycles 637
Controlling Business Cycles 638
Summary 642
Key Concepts 643

Questions 643

Check Your Answers 645

Caselet 1—Is IT Ringing Recession Bells? 646

Caselet 2—The Turning Point 646

Case 1—Volatility in World Economy 647

Case 2—IT Industry Growth Cycle: Manifesting or Synchronism 648

References 651

Index 656

FOREWORD

“To appreciate the charms of quantum physics, sophisticated mathematical techniques must first be mastered; but to sense the aesthetic structure of economic analysis requires only a feeling for logic and a capacity for wonderment that such mental constructs really do have a life-and-death significance for billions of men all over the world. Of course, mere beauty is not enough. One studies economics for the light it sheds; any pleasure along the way is an incidental bonus.”

Paul A. Samuelson

When the authors requested me to contribute a foreword, I was hesitant since I felt that there were many more knowledgeable persons than me to do the honours. Then I realised that this was a book for managers who have either not had any formal education in economics, or have, with the passage of time, forgotten, to a varying extent, what they had learnt in their studies. The book is on ‘Managerial Economics’, a subject that is taught in most business schools to students aspiring for managerial positions. Having been a manager myself for over three decades, that too in the country’s central bank (Reserve Bank of India) which is intimately concerned with a variety of economic issues, I decided to attempt this foreword in deference to the authors’ wishes. Another important factor, that impelled me to accede to the request, is the fact the Reserve Bank has always espoused the cause of economic education and research and has recently launched a campaign for the promotion of financial education with which I am associated with, as the chairman of a Steering Group. I also happen to be an alumnus of the University of Allahabad and ‘university brotherhood’, as aptly put by one of the authors, Geetika, who hails from the same University, was a compelling enough reason for undertaking this privileged task.

Interestingly, managers in all organisations, while running their businesses, wittingly or unwittingly, contend with economic issues and problems and take logical decisions that are shaped by one’s sense of economics. Indeed, the working of organisations is inextricably linked with economics and it would be useful for scholars and professors in economics, such as the authors, to disseminate knowledge of the subject as simply and comprehensively as possible. A basic knowledge of economics is essential for managers to be able to run their businesses intelligently. This helps in the analysis of several economic problems that they daily encounter and leads to decisions that are in the organisation’s best interest.

Managerial Economics by Geetika, Piyali Ghosh and Purba Roy Choudhury, aims at making economics simple to understand. It will not only help the students in having conceptual clarity with respect to various topics, but will also aid the teachers in making their presentations and lectures more

absorbing. The book gives a good conceptual overview of the entire range of topics which would be of interest to existing and prospective managers. The layout of the book is well-planned with each chapter clearly defining its objective and then smoothly taking the reader through the nuances of the topic. The language used is simple, almost conversational in nature, and avoids jargon and ‘tyranny of words’. Key Concepts, Summary, Questions and Case Study appearing at the end of every chapter makes it easier to recall and refresh what one has read through. Case studies (*Reality Bites*) used to illustrate the theories add value to each chapter and facilitate better understanding. Interestingly, another feature of the book is that it carries with it a supplementary instructors’ manual for teachers which would help them in preparing their lectures and even chapter-wise PowerPoint slides for presentation. Indeed this book has not one, but several USPs.

I congratulate the authors for their splendid overview of economics and I am certain that this book will prove to be useful for all those who want to improve their understanding of the subject and bring it to bear while strategising their businesses and in dealing with issues and problems. It has been a pleasure writing this foreword.



Vishwvir Saran Das
Former Executive Director
Reserve Bank of India

PREFACE TO THE THIRD EDITION

“If four things are followed - having a great aim, acquiring knowledge, hard work, and perseverance - then anything can be achieved.”

Dr. A.P.J. Abdul Kalam

Knowledge is like an ocean, the deeper you dive into it, the better you are rewarded. Similarly, more you learn, greater is your understanding. To excel in life one must refresh it by being updated. With this doctrine of learning, we have revisited our book for its third edition. The world is dynamic and factors affecting decision-making change with time. Hence, we have updated the book with fresh information and new cases in light of recent developments. In this pursuit, we bring to you this edition, with a promise to make the journey of knowledge more interesting and rewarding to teachers, students and all knowledge seekers.

The year bygone had ended with a major decision of demonetisation and the country is still trying to come to the terms with the long and short of it. Hence, this makes it a perfect time to introduce the revised edition. Furthermore, the entire economy has braced up for the new GST regime which is expected to have far-reaching impact on big and small businesses. On the international front, it is being envisaged that new visa norms in the US are likely to pose a threat to Indian Information Technology sector leading to major shifts in outsourcing strategy. The telecom sector is experiencing a new kind of competition among service providers with the entry of Jio. Many of such changes at national and international level have been incorporated in this edition at relevant places.

WHAT IS NEW IN THE THIRD EDITION?

In view of the market insights related to the previous editions, the subject matter of the current edition has been amended/rearranged. Every chapter has been revisited and refreshed to include new facts, updated *Reality Bites* and new chapter-end cases, including small caselets in tandem with recent significant economic phenomena. To nurture creativity among students, *Think Out of the Box* questions have been refreshed and added at appropriate places. Readers shall also notice more sequential arrangement of chapters, for instance, the chapter on Consumer Preferences now precedes Demand and Supply, while Financial Evaluation of Projects has now been placed just after Cost and Revenue. This new arrangement of chapters ensures that the foundations are built for the course before delving into the advanced topics

in Managerial Economics. This edition retains the conversational style of writing as we are convinced that it enhances the learning process.

New Chapter: An altogether new chapter titled Externalities, Public Goods and Role of Government has been added in Part 5. This chapter acts as a bridge between microeconomics and macroeconomics, driven by the philosophy that whenever you link your knowledge of micro-theoretical concepts with the real-life situations, you also peek into the macro world to find its relevance in the fast-changing economic scenario and policy framework. The chapter introduces the concept of externalities, categorising it into positive and negative externalities, and consumption and production externalities. It also discusses the impact of externalities on the market forces, besides explaining the nature of public goods, and analysing the role of government in reducing externalities and providing public goods.

New Cases, Caselets and Reality Bites: The basic objective of the course on Managerial Economics is to link economic principles to managerial decision-making process. We have used triple tools to facilitate this process via *Reality Bites* (within a chapter), small *Caselets*, and *Cases* (at the end of each chapter). These triple tools are drawn from the most recent real-life situations, and concurrent economic scenario, to support the learning process. Every chapter ends with at least two new caselets and one new full-length case. In all, 20 new full-length *Cases*, 22 *Caselets* and 28 *Reality Bites* have been added in this edition.

The examples and cases are based on recent developments such as the nationwide ban faced by Maggi, surge pricing by Uber, layoffs across the IT sector in the context of restrictions on the H1B visa, ban on the sale of alcohol on highways by the Supreme Court, and smog in Delhi, to mention a few. The impact of Jio on telecom sector has been encapsulated as a case in the chapter on Oligopoly. The spectacular case of Patanjali Ayurved Limited, a new entrant to Indian FMCG market, has been covered under Game Theory. Similarly, the chapter on Macroeconomic Phenomenon has reality bites on GST and highlights of Budget 2017 along with an end-of-chapter case on Universal Basic Income, which are the most recent economic measures in the country. Furthermore, the chapter on Business Cycles has *Reality Bites* on Brexit and commodity market pricing cycles.

Additional Knowledge Material: The content has been thoroughly updated, enhanced and rearranged, primarily on basis of our understanding and observation of changing needs of the curriculum along with the comments and opinion of reviewers, students and other distinguished readers. The chapter on Elasticity now includes an elaborate discussion on the elasticity of supply, including its degrees and determinants. Revenue occupies a deserving portion of the chapter on cost, which has been renamed as Cost and Revenue. The chapter on Monopoly has been renamed as Monopoly and Monopsony, with substantial modification in its content; a note on monopoly power and a section on monopsony and its impact on economic inefficiency have been included. Balance of Payments, which was earlier an appendix, now features as a part of the chapter on National Income. The chapter Macroeconomic Phenomena has been revamped to include a discussion on fiscal policy and budget. Demonetisation is introduced as a part of the chapter Money and Inflation, especially to highlight the concept of evolution of money.

With all these changes, amendments and additions, we believe that the book has the freshness of a new title and maturity of a seasoned learning resource.

ACKNOWLEDGEMENTS

Words fall short in expressing our gratitude to all the persons who have motivated us to write this book as well as people who have inspired and driven us to revise the book on a regular basis. First of all, we bow in reverence to the Supreme Power who causes all that happens in this universe, for giving us vivacity and capability to take up this task.

We wish to render our heartfelt thanks to all the students, teachers and other readers, who have enthusiastically accepted the book ever since the first edition was introduced. The success of this title lies in the fact that a number of reputed higher education institutions have adopted it as a textbook along with a large number of knowledge enthusiasts who have accepted it for personal reading. We also want to thank all the teachers of Managerial Economics who have found it worthy of their reference and it is gratifying to hear from them that they find the book very interesting and useful. It is the patronage of our readers that binds us to constantly add value to their quest for knowledge in the domains of Managerial Economics.

Complacency is the worst enemy of quality; hence it is important to remain vigilant and seek feedback on a recurring basis. Sincere thanks to our esteemed reviewers who have painstakingly reviewed all chapters and given their candid opinion. Part 5 of this edition, especially the chapters on Macroeconomic Phenomena and National Income, has been substantially revamped on the basis of such feedback.

We profoundly appreciate the content development and production teams at McGraw Hill Education, India, for their unflinching support in bringing out this edition with utmost care for quality and value addition.

This edition is dedicated to everyone who wishes to learn Managerial Economics with practical outlook in a learning-by-doing mode. We present the third edition with the belief that it would make the journey of knowledge and decision-making more enriching and enjoyable. We seek continued support and patronage of all our readers in this expedition to education and erudition.

**Geetika
Piyali Ghosh
Purba Roy Choudhury**

PREFACE TO THE FIRST EDITION

Teaching and learning should be like pleasure trips, like excursions, to explore new vistas, and to attain greater heights of knowledge. The basic purpose of teaching should be to nurture inquisitiveness in such a manner that clear value addition takes place. There are already marvels in the form of textbooks, and plenty of them. Yet we have dared to enter into this arena, but with a mission. While teaching the course of Managerial Economics to students of management and engineering, we strongly felt the need for a text book which would be written in simple illustrative language, with sufficient support from real business world information. Students of management programmes come from diversified streams; many of them have never studied economics, or any other social science subject, for that matter. They find economics a mere bundle of theories, which, instead of solving many of their queries, increase the mysteries of economic functions. At the same time, understanding of economic theories, principles, and concepts is essential for laying a strong foundation for all areas of management. And why only management? Economics provides a basis for understanding, comprehending and utilising the knowledge acquired under any programme of study, be it engineering, computers, information technology, law or even medicine! How to make a choice from among various alternatives? How are prices determined? Are the principles of price determination of products different from those of services? Are the rules of game different when there are a few players and when many firms compete? How are production decisions taken? Why are countries divided into developed and less developed categories? Why do economies face recession and are there any remedies to that? You will find the answers to these and many other questions through economics. So, needless to say that basic understanding of economic theory is useful to everyone. As a buyer you need to know as much economics as a producer (or seller) needs to know.

There is no dearth of good books written on economics; in fact there are a myriad of such books which talk of economic theory and analysis. So why this new title? Is it just another in the lot? We do not claim it is better than the others already available in the market; that is for you to decide. But we find it pertinent to talk about some of the salient features of this book, which would differentiate it from the lot.

What is new and different?

In a competitive world, differentiation is the best strategy, and we have adopted that. The whole book is written in conversational mode, so that even the *naïve* can comprehend the concepts, without being lost in the maze of theories and laws. We have presented a judicious blend of micro and macro economics, without making the book very bulky and unmanageable. We have also combined theories

with mathematical analysis for those who are very fond of numbers and find it more convenient to understand various phenomena with the help of a set of equations. Some of the chapters in this book discuss those issues which are very important to understand the business syndrome, but normally are not found in textbooks on Managerial Economics. There are **end chapter cases** and **a number of small cases** (which we have named *Reality Bites*) along with the text of each chapter to illustrate the theories, with a large number of other examples mentioned within the text.

Special Inputs The chapters on *Theory of Firm* (Chapter 2), *Input Pricing* (Chapter 15) and *Money Supply and Inflation* (Chapter 17) are included in the book to provide a comprehensive description of managerial economics. Somehow these aspects have not received due attention at the hands of other authors. You will appreciate that unless one knows the various forms of business organisations and the objectives of companies, one would not be very comfortable in taking crucial decisions regarding a company's future. Similarly, pricing of products is very important, but pricing of factor inputs is no less important, and is, in fact, a critical decision-making area. It will be of particularly great interest to those who are seeking jobs, as it will help them know how their salary packages are decided upon. Pricing of inputs will be equally useful to those who plan to start their own enterprise and wish to know how to determine the amount of funds needed for payments to various resources.

Inflation is one aspect which troubles everyone, and deserves an exclusive discussion. Merely a brush with inflation in the chapter on trade cycle, like most authors do, does not do justice to one of the most important aspects of economic life of people at large.

We have made an attempt here to discuss all these issues and more at length in exclusively designed chapters, and we believe that this will definitely add value to readers' knowledge.

Real-Life Cases Another very useful dimension of the book is its emphasis on a wide spectrum of case studies. There is one case at the end of each chapter; then, there are *Reality Bites* along with the text of each chapter. These small cases testify the complexity of economic theory as applicable to the real life. For instance, readers would find it easy to understand price discrimination through *Reality Bites* on practices followed by Indian Railways; or price war by a description of the war between major national news dailies. You will note that all the case studies are drawn from real-life situations; and we deeply acknowledge our indebtedness to all whose knowledge pool helped us in developing these cases. You will also see that most of these cases discuss very recent information, which is fresh in the minds of most of us, but we have not been relating that to economic theory. These cases are aimed at diffusing the myth that economics is theory and not practice, as you know managerial economics is bringing economic theory to practice. They also infuse life into any prosaic discussion on mundane theories.

The chapter-end cases are also drawn from real-life situations—mostly from India, but also from international arena, wherever relevant. Most of these cases are tested in the classroom.

Theory Blends with Mathematics Knowledge of optimisation techniques is essential for understanding economic theories. Therefore this book is designed in such a way that theories are accompanied by mathematical explanations involving calculus, while avoiding overdose of either. For beginners, all the essential mathematical tools used in managerial decisions are explained in a lucid manner in the **appendix of the very first chapter**. The appendix is crafted in the same manner as the remaining book, i.e., mathematical tools are explained with the help of graphs and examples, so that even those who are not very comfortable with numbers can brush up their quantitative aptitude.

Learning Orientation Our attempt is to promote learning, and the best way to learn is through practice and experiments. Teaching should never be one way flow of knowledge; it should be a process of sharing and adding value to the knowledge pool. A very unique feature of the text is the induction of *Think Out of Box* questions, essentially the outcome of our vast teaching experience. Over the course of time, we have seen that fresh students raise such questions which do not find answers in the routine manner. Taking clue from that, these questions are designed and framed to satisfy the quest of the inquisitive. As you go a little deeper into the analysis, you will find the answers to all these questions, although they have not been explicitly discussed as such.

Sequential and Lateral Learning Each chapter is designed in a manner to help sequential and lateral learning. Each chapter starts with Objectives and proceeds with sections and sub sections, elaborating and discussing various aspects of the chapter content, to end into **Key Concepts** and **Summary**. At the end of each chapter a combination of **objective type** and **discussion questions** are given. The objective type questions are designed to help you brush up your learning from the chapter, whereas the discussion questions test your understanding of theory, quantitative analysis and application of theory. The end chapter-end case study further helps you learn the application of theory to real-life situations.

At the same time, the text is accompanied by specially designed *Remember* boxes and *Think Out of Box* questions. *Remember* boxes keep you updated with knowledge acquired in earlier chapters and sections. This is aimed at saving time required to refer back to earlier chapters and sections, just in the same way as prompting helps actors performing on stage! *Think Out of Box* questions, on the other hand, facilitate you to hone your creativity.

Who can benefit from the book?

Practically the book is designed to cater to the needs of anyone and everyone who wants a first hand experience on knowledge of economics. The course content is wide, comprehensive and compact. In fact in consonance with our objective of bringing an entire ocean in a pitcher, we studied the syllabi of all major universities, business schools, and technical institutions, as also that recommended by UGC, and have assimilated that all in this book. In this way, the contents of the book are expected to satisfy the needs of an ideal textbook for students of all management programmes, as well as engineering programmes. Students of microeconomics can use this book as an elementary text.

Although the book is designed to promote self learning, yet no one can deny the role of a teacher in an effective learning process. Therefore the book has many supplements to facilitate teachers of the course in more efficient discharge of their lectures and dissemination of knowledge.

Supplementary Material To aid the adopters of this book, a specially designed instructor's manual has been prepared, which consists of solutions to all the problems in the book and explanation of chapter-end cases. In addition, there are MS PowerPoint slides for presentation; these slides are designed chapter-wise and include all the theories, graphs and figures to reduce the burden on the instructor for replicating the same. There is also an accompanying website with user-friendly features.

ACKNOWLEDGMENTS

The most precious moments are those when we get an opportunity to remember and thank everyone who has in some way or the other motivated and facilitated us to achieve our goals. The three of us were initially placed at three different locations, but this endeavour brought us together, and our commitment to the work quality helped us maintain coordination and harmony in making the book a cognate whole.

This book is a humble attempt to assimilate bits and pieces of a wide plethora of interaction with innumerable minds that we have come across in our noble task of teaching. We are fully aware of the fact that it will not be possible to thank each and everyone individually, and we know that our generous benefactors would pardon us for this.

First of all we thank God Almighty for giving us the power to pen down this book in its present shape. We thank the entire teaching community and students for being the motivating force behind this endeavour and for their inputs and insights, enriching the quality of the book. The support that we received from colleagues and students at our institutes and the staff of different libraries we had visited for references has been commendable and cannot be sufficiently expressed in words.

We fall short of words to thank our families and our dear ones, who have stood besides us while we were engrossed in writing this book, oblivious of their needs for our time and attention.

We are also indebted to the reviewers of our chapters, whose invaluable inputs have helped us to significantly enhance the value of the content. Finally, we thank our publishers, for bringing out the book in record time.

We sincerely wish that through this book we are able to reach out to the millions of minds that are inclined towards an understanding of the subject of *Managerial Economics*. Here's hoping that it is a book worth treasuring by students and teachers alike!

**Geetika
Piyali Ghosh
Purba Roy Choudhury**

Part 1

Introduction

Part One is designed to usher you into the realm of managerial economics by introducing the basic concepts and principles of economics, the meaning, nature and scope of managerial economics. The first chapter prepares the foundation for more advanced knowledge, whereas the second chapter tells you about the various forms of business and objectives of firms. This would help you understand the behaviour of firms discussed in later chapters.

CHAPTERS

1. **Basic Concepts and Principles**
2. **Theory of Firm**