

# Macroeconomics

Boyes • Melvin



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## **CREDITS**

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**To Susan, Katie, and my father, and in memory of my mother  
and my first economics instructor, John Merriam**

**W.B.**

**To Cathy, Jason, Jeremy, and Flo**

**M.M.**

# Preface

When we looked at today's students and the world they will enter on graduation, we saw a gap: we felt that students would increasingly expect their courses to prepare them to live in a global economy. When we looked at the traditional principles texts and the information our students will need, we saw a gap: the current economic world is vastly different from the one described in most textbooks. We set out to close that gap by writing a textbook that would give students the tools they need to understand the world they face.

Today's economic environment is a global environment. The decisions made by a firm or a government in one part of the world will have far-reaching effects. The coming together of Germany and the vitality of the European Community; the freeing of restraints in Eastern Europe, Russia, and other parts of the communist world; the struggles in Latin America and the Middle East—all affect the U.S. economy and the lives of U.S. citizens. In a like manner, actions taken by the United States and by its citizens alter economic patterns around the globe. *ECONOMICS* gives students the tools they need to make connections between the principles they learn and the world they live in.

*ECONOMICS* is the only book designed from the beginning with the intention of presenting a global perspective. By fully integrating international topics throughout the text *from the very beginning*, we have internationalized the study of economics without increasing the difficulty for students or faculty. The basic macroeconomic material is highly readable and accessible even to those who have had no training in international issues.

Throughout the writing process we were continually reminded by our reviewers that we must approach this challenge with care. We are thankful for their good advice, for it became apparent that there were many good reasons why instructors had experienced difficulty as they tried to incorporate international factors into their courses. For this reason we meticulously constructed our core chapters so that they appropriately serve a traditional course structure. For those less willing to dedicate class time to international concerns and variables, you will find our overall structure very accessible.

Throughout each phase of the development, we kept in mind that this text *must* adhere to a few basic principles.

- Stress the fundamental concepts.
- Connect them to the real world through applications and examples.
- Note and explain the deviations and departures from the outcomes predicted in models.
- Provide a framework for understanding and critiquing rather than a prescription for answers.
- Motivate students to engage in further observation and critical thinking.

Our intention, then, was that by adhering to these basic principles of good authorship, we would expand the traditional scope of the principles course and provide an arena in which economics educators could present and students could absorb the principles of the global economy.

We hope that this text well serves all the students who use it—those who major in business, psychology, education, engineering, English, and other fields, as well as those who choose to pursue economics. All of these readers will inevitably be faced with new issues and questions as the world's economic story continues to unfold.

## **OVERALL ORGANIZATION AND CONTENT – FLEXIBILITY AND CONNECTIONS**

Flexibility and connections are key to the organization of this text. Parts II and IV, the specifically macroeconomic chapters, are self-contained and independent, yet each builds on the introductory concepts presented in the first five chapters and prepares students for the international material at the end of the text. Because this text contains international as well as introductory chapters, it is equally suitable for macro-first or micro-first course sequences.

Flexibility and connections underlie the organization within parts and within chapters as well. The introductory chapters are followed by an IDEA MAP that helps students visualize the relationship of ideas to be covered. We purposely structure Parts II through IV so that they progress from descriptions of basic concepts and analytical tools to policy issues and applications. Within each chapter this same structure exists. We identify key points through our fundamental question system and then go on to explain, exemplify, and apply these fundamentals. Color and photographs on part openers and chapter openers reinforce the interrelatedness of chapters within a part. Numbered headings within each chapter make it easy to point students to specific sections and to reinforce a hierarchy of ideas. By using section references in end-of-chapter summaries and lists of key terms, students are encouraged to group related concepts and terms. Readers are less likely to memorize terms and models in isolation and more likely to see how they fit together to make a whole. Our text will provide ample support for all instructors who are striving to teach their

students to think economically rather than merely to memorize isolated facts and figures.

We wanted to provide additional flexibility in our approach to the quantitative side of economics. Appendixes allow instructors to tailor their course to their objectives and their students' abilities. The appendix to Chapter 1 is essential. Students must understand how to read and construct graphs. This appendix tells them what they need to know. Appendixes to the macroeconomic chapters provide algebraic models of aggregate expenditures and macroeconomic equilibrium. Thus, instructors can rely solely on description and graphical analysis by assigning the main chapter only, or they can incorporate algebraic solutions into their course by assigning the appendixes as well. The appendix to Chapter 20 presents indifference analysis, a topic that many instructors cover either to augment their micro coverage or to give students a natural lead-in to the intermediate course.

## **THOROUGHLY INTEGRATED INTERNATIONAL COVERAGE**

Students understand that they live in a global economy—they can hardly shop, or watch the news, or read a major newspaper without understanding this basic fact. International examples are presented in almost every chapter. By introducing, in a descriptive and nontechnical manner, the basics of the foreign exchange market and the balance of payments in Chapter 7, we are able to incorporate the international sector into the theoretical models wherever appropriate thereafter. Because the international content is incorporated from the beginning, students will develop a far more realistic picture of the economy; they will not have to later alter their thinking to allow for international factors. Recognizing that some instructors may wish to reserve international concerns for the last section of their course, we provide international trade and finance chapters in the traditional place. These instructors can follow a very traditional pattern by skipping certain early chapters and treating the international material in detail at the end of their course. In either case, the instructor is in no danger of omitting international coverage. This text offers the optimal opportunity for business programs to better answer the American Assembly of Collegiate Schools of Business (AACSB) call to prepare the student “for imaginative and responsible citizenship and leadership roles in business and society—domestic and worldwide.”

Uniquely international elements of the macroeconomic coverage include

- Treatment of the international sector as one of the economic participants and inclusion of net exports as early as Chapter 5
- Early description of the foreign exchange market and the balance of payments in Chapter 7
- Inclusion of international elements in Chapters 9 and 10, including the integration of international effects into the examination of the multiplier

- Extended treatment of macroeconomic links between countries in Chapter 17
- Examination of foreign exchange risk and international lending in Chapter 23

## **MODERN MACROECONOMIC ORGANIZATION AND CONTENT**

Macroeconomics is changing and textbooks must reflect that change. We begin with the basics—GNP, unemployment, and inflation. These are the ongoing concerns of any economy, for they have a significant influence on how people feel. These are the issues that don't go away. Added to these core basics is an easy-to-understand, descriptive introduction to the foreign exchange market and the balance of payments. We provide a critical alternative for those instructors who believe that it is no longer reasonable to relegate this material to the final chapters, where coverage may be rushed. Instructors today cannot afford *not* to get to this material. The basics covered here present the world as students experience it.

Armed with these basics, students are ready to delve into the richness of macroeconomic thought. Macro models and approaches have evolved over the years, and they continue to invite exciting theoretical and policy debates. The majority of instructors we asked voiced frustration with the challenge of pulling this rich and varied material together in class and stressed that a coherent picture of the aggregate demand and supply model was critical. We have structured the macro portion to allow for many teaching preferences while assuring a clear delineation of the aggregate demand/aggregate supply model.

To help instructors successfully build up to and present a single coherent model, we provide a carefully paced discussion of the logical, rather than the strictly historical, foundations of the aggregate demand/aggregate supply model in Chapters 9 and 10. Instructors may decide for themselves how much time they wish to spend on this material. Chapter 11 then presents a readily understood and complete picture of aggregate supply and aggregate demand. This clear progression is much more easily grasped than a brief introduction of aggregate demand and aggregate supply followed by a lengthy explanation of the foundations and then a return to the AD/AS model. We deliberately avoid the distracting and often confusing habit of continually contrasting different schools of thought. In our experience (and our reviewers concur), students want to know where macroeconomics is today. By structuring the core macro chapters as we do, we offer an extraordinarily teachable and flexible layout that presents a careful and logical base leading toward a single model.

The macroeconomic policy chapters begin with a fairly traditional presentation of fiscal policy, money and banking, and monetary policy—with international elements included. Chapter 15 covers contemporary policy issues, and various schools of thought are treated in Chapter 16, when students are ready to appreciate the differences and can benefit from a discussion of new Keynesian and new classical models as well as of their



precursors. Chapter 17 develops macroeconomic links between countries. This chapter helps students understand why economies cannot function in isolation from each other and clearly demonstrates why policy actions undertaken by one government affect not only that government's own citizens but citizens and businesses in other countries as well.

Part IV, Economic Growth and Development, brings together the concepts and issues presented in the core macro chapters to explain how economies grow and what factors encourage or discourage growth. Most of Eastern Europe has embarked on a journey from a planned economy to a market economy. Growth and development are critical to them, as well as to countries that are beset by unchecked inflation and crippling international debt. These chapters build on macro foundations to permit informed analysis of today's world.

## **ABUNDANT TEACHING AND LEARNING AIDS**

This text is designed to make teaching easier by enhancing student learning. Tested pedagogy motivates students, emphasizes clarity, reinforces relationships, simplifies review, and fosters critical thinking.

### **Fundamental Questions**

These questions help to organize the chapter and highlight those issues that are critical to understanding. Students can preview chapters with these questions in mind, reading actively for understanding and retention. The Fundamental Questions reappear in the margin by the text discussion that helps students to answer the question. Fundamental Questions also serve to organize the chapter summaries. Brief paragraphs answering each of these questions are found in the *Study Guides* available as supplements to this text. They also serve as one of several criteria used to categorize questions in the *Test Bank*.

### **In-text Referencing System**

Sections are numbered for easy reference and to reinforce hierarchies of ideas. The key term list and summary at the end of the chapter refer students back to the appropriate *section*. If students can't recall a term or don't understand a point in the summary, they cannot merely turn to a page to memorize a definition or a sentence. The implicit message in this referencing system is that students must try to understand and draw connections between the concepts.

The numbering system also makes it easy to clearly assign portions of a chapter, enhancing the flexibility of the text.

### **In-text Study System**

Pedagogical elements were designed to work together to simplify the task of understanding and retaining the material.

*Preview.* This motivating lead-in sets the stage for the chapter. Much more than a road map, it helps students identify real issues that relate to the concepts that will be presented.

*Recaps.* Briefly listing the main points covered, a recap appears at the end of each major section within a chapter. Students are reminded to quickly review what they have just read before going on to the next section.

*Summary.* The summary at the end of each chapter is organized along two dimensions. The primary organizational device is the list of Fundamental Questions. A brief synopsis of the discussion that helps students to answer those questions is arranged by section below each of the questions. Students are encouraged to create their own links between material as they keep in mind the connections between the “big picture” and the details that comprise it.

## **Margin Notes**

*Student Annotations.* These hints and comments highlight especially important concepts, point out common mistakes, and warn students of common pitfalls. They alert students to parts of the discussion that they should read with particular care.

*Key Terms.* Key terms appear in bold type in the text. They also appear with their definition in the margin and are listed at the end of the chapter for easy review. All key terms are included in the glossary at the end of the text.

*Fundamental Questions.* The fundamental questions presented at the beginning of the chapter appear again next to the discussion that helps students formulate answers to these questions.

## **Exercises**

These exercises provide excellent self-checks for students whose instructors do not assign the exercises as homework.

*Basic Terms and Concepts.* The exercises rely generally on recognition and recall: Do students remember what they read?

*Extended Concepts.* The exercises in this group ask students to work with the ideas presented in the chapter: Do they know how to apply the concepts? Can they perform necessary computations? Can they draw conclusions about the real world based on the theories presented?

## **FULL-COLOR ART PROGRAM**

Over 200 figures rely on well-developed pedagogy and consistent use of color to reinforce understanding. Striking colors were chosen to enhance readability and provide visual interest. Experienced art editors developed a color palette that would help students recognize curves and grasp rela-

tionships. Specific curves were assigned specific colors. Each time a particular curve appears, it is shown in the same color. Families of curves were assigned related colors. Once again, the pedagogy emphasizes connections.

Because some students have difficulty seeing changes in color intensity or recognizing that related colors refer to the same curve, we have shown curve shifts through the use of slashed lines for the first shift and dotted lines for a subsequent shift. Where a curve may shift either in or out and there is no reference to time sequence (it is an either/or situation), both shifts are shown with dashes to emphasize that one shift is not dependent on or subsequent to the other. One very substantial benefit of this system is the ease with which it can be used at the chalkboard or in notetaking. We chose to illustrate complex sequences of shifts with a series of side-by-side graphs where relying on a single graph would be confusing.

Annotations on the art point out areas of particular concern or importance. Students can see exactly what parts of the graph illustrate a shortage or a surplus, a change in consumption or consumer surplus. The art annotations are the same color as the margin statements. Students know in each case that here is material they should look at carefully to be sure they understand it.

Tables that provide data from which graphs are plotted are paired with their graphs. Where appropriate, color is used to show correlations between the art and the table, as can be seen in Figure 8 in Chapter 3. There the pale yellow screen in the area that shows a surplus echoes the screen over the top two rows of the table, which also show a surplus. The light blue screen designating the area of shortage in the graph echoes the screen over the bottom two rows of the table, which show shortage values.

Extensive captions clearly explain what is shown in the figures and draw explicit connections between the art and the text discussion. Because the critical information is contained in the caption, students can find it easily and have no need to hunt for it in the text.

## ENHANCED STUDENT RELEVANCE

With all the demands on today's students, it's no wonder that they resist spending time on a subject unless they see how the material relates to them and how they will benefit from mastering it. We worked hard to incorporate features throughout the text that would show economics as the relevant and necessary subject we know it to be.

### Photo Essays

The photo essay—Making Sense of Macroeconomics—engages student interest. Through the use of visually arresting photographs and highly readable text, we show students just how directly macroeconomics affects them. Students can see at a glance that the material they will be studying makes a difference in their own lives.

## **Idea Maps**

The idea map portrays significant interconnections between topics and encourages students to find their own paths through the material. This overview helps them keep the “big picture” in focus while they are concentrating on the details presented in individual topics. These cognitive “hooks” allow for superior retention, comprehension, and synthesis.

## **Real-world Examples**

Students are rarely intrigued by a large manufacturer or a service company. Our text talks about people and firms that students recognize. We describe business decisions made by McDonald’s and Pizza Hut, by General Motors and Shearson Lehman Hutton. We talk about the war on drugs and the results of rent control in New York City. These examples grab students’ interest. Reviewers have repeatedly praised the use of novel examples to convey economic concepts.

## **Economic Insight**

These short boxes bring in contemporary material from current periodicals and journals to illustrate or extend the discussion in the chapter. By reserving interesting but more technical sidelights for boxes, we lessen the likelihood that students will be confused or distracted by issues that are not critical to understanding the chapter. By including excerpts from articles we help students learn to move from theory to real-world example. And by including plenty of contemporary issues, we guarantee that students will see how economics relates to their own lives.

## **Economically Speaking**

The objective of the principles course is to teach students how to translate the predictions that come out of economic models to the real world and to translate real-world events into an economic model in order to analyze and understand what lies behind the events. The Economically Speaking boxes present students with a model of this kind of analysis. First they read an article which appears on the left-hand page of a two-page spread at the end of each chapter. The commentary on the right-hand page shows how the facts and events in the article translate into a specific economic model or idea, thereby moving the student from reality back to theory.

## **Carefully Selected Photographs**

Vibrant photos that tell a story and illustrate a concept appear throughout the text. Captions explain what is in the photo and draw connections between these images and the discussion in the text. Careful coordination between text, photograph, and caption help students make concepts concrete, enhancing retention of the material and increasing the relevance of the material.

## FULLY INTEGRATED TEACHING AND LEARNING PACKAGE

In today's market no book is complete without a full complement of ancillaries. Our package provides the breadth and depth of support for both instructors and students that the market has a right to demand. The ancillary package for ECONOMICS is second to none. Throughout its development, we have kept today's economics instructor in mind. Those instructors who face huge classes find good transparencies (acetates) and transparency masters critical instructional tools. Others, who teach small classes, may find that computer simulations and tutorials are invaluable. ECONOMICS meets both challenges. And to foster the development of consistent teaching and study strategies, the ancillaries pick up pedagogical features of the text—like the fundamental questions—wherever appropriate.

**Transparencies** Available to adopters are 164 color acetates showing the most important figures in the text. Over 10 percent of these figures have one to three overlays, which in addition to adding clarity and flexibility to the discussion, allow instructors to visually demonstrate the dynamic nature of economics.

**Instructor's Resource Manual** Edward T. Merkel and Paul S. Estenson, two experienced and highly talented economists with a wealth of classroom experience, have collaborated to produce a manual that will streamline preparation for both new and experienced faculty. Preliminary sections cover class administration and alternative syllabi. Each chapter contains

- ☐ **Teaching Objectives.** *What are the critical points to cover if your students are to succeed with later chapters?* You can ensure that the foundations are laid and that students see connections between topics. *What concepts are traditionally difficult for students to master?* You can concentrate on these topics and develop classroom exercises to bring these topics into clearer focus. *What are the unique features of this chapter?* You may wish to augment your lectures and treat these topics differently than you have in the past.
- ☐ **Fundamental Questions listed.**
- ☐ **Key Terms listed.**
- ☐ **Lecture Outline.** The in-text reference system comes into play again in the lecture outline. The numbered heads are picked up from the main text. The authors have identified primary points to cover each section and have suggested examples and classroom activities that have worked well for them or that have been suggested by instructors who reviewed the text.
- ☐ **Teaching Tips.** More general techniques and guidelines, essay topics, and other hints to enliven your classes are presented.

- **Answers to End-of-Chapter Questions.** Every exercise in this text is answered here.
- **Transparency Masters.** Significant figures that do not appear in the transparency package are included here.

**Study Guides** Janet L. Wolcutt and James E. Clark of the Center for Economic Education at Wichita State University have written study guides for **MACROECONOMICS** and **MICROECONOMICS** that give students the practice they need to master this course. These two dynamic teachers have come up with an abundance of exercises that reinforce classroom learning and that build student confidence. Written in a warm and lively style, the study guides should keep students on the right track. In each chapter

- **Fundamental Questions** are answered in one or several paragraphs. For students who have trouble formulating their own answers to these questions after reading the text, the study guides provide an invaluable model.
- **Key terms** are listed.
- **Quick Check Quiz** is organized by section, so any wrong answers send the student directly to the relevant material in the text. These questions focus on vocabulary and basic concepts. They alert students to sections of the chapter that they forgot or didn't understand.
- **Practice Questions and Problems**, which is also organized by section, includes a variety of question formats—multiple choice, true/false, matching, and fill-in-the-blank. They test understanding of the concepts and ask students to construct or perform computations.
- **Thinking About and Applying . . .** use the Economically Speaking boxes as a springboard for applications or present new situations for students to think about.
- **Answers** are provided to every question in the study guides. Students are referred back to relevant pages in the main text. Rejoinders are provided where appropriate to alert students to common mistakes or likely reasons for an incorrect answer.

**Test Bank** Over 5,000 test items provide a wealth of material for classroom testing. All items are identified by topic, question type (factual, interpretative, or applied), level of difficulty, and applicable fundamental question. In addition, the page on which the answer is found is shown for the complete volume and for macro and micro splits. Each chapter includes 5 test items taken directly from the study guide and 5 test items that parallel study guide questions. Instructors who wish to ensure very high similarity between the study guide and classroom tests are able to do so.

## FOR THE COMPUTER

### PC Test Bank Plus

This innovative test-assembly program renders precise, preprogrammed graphs on the computer quickly, easily, and accurately. You can select

from among more than 5,000 questions, edit nongraphic items, peruse items in order, add your own questions to customize tests, and print out alternate versions using a number of variables. Individual items or tests in their entirety can be previewed before printing. The sophisticated data retrieval capabilities of the computerized test bank allow instructors to generate multiple versions of a test automatically and assure comparability of tests consisting of different test items. Available for IBM-PC®, PS/2, and compatible microcomputers.

### **LXR Test**

This state-of-the-art graphic test generator combines text-editing tools for creating or editing test questions with powerful layout features, graphic printing capabilities, and more. Multiple versions of a test can be generated quickly. Available for Macintosh® microcomputers.

### **Computerized Macroeconomics and Microeconomics Tutorial Package**

This easy-to-use software exploits the dynamic capabilities of the computer to create a highly interactive environment for learning. Each of the more than 35 modules reviews a major concept, then asks questions that require students to change variables and work with graphs. For questions answered incorrectly, page numbers refer students back to the appropriate text discussion. Scores are displayed at the end of each module. Available for IBM-PC®, PS/2, and compatible microcomputers.

### **Computerized Macroeconomics® and Macroeconomics Simulation Package**

The simulation builds on the tutorial program by asking students to apply concepts to real-world situations and evaluate the consequences. Unlike most simulation packages, Boyes/Melvin's is highly graphical, thereby promoting analytical skills. If students encounter problems with a particular decision, they are referred back to both the appropriate text page and tutorial module for further review. Available for IBM-PC®, PS/2, and compatible microcomputers.

## **ACKNOWLEDGMENTS**

Writing a text of this scope is a challenge that requires the expertise and efforts of many. We are grateful to our friends and colleagues who have so generously given their time, creativity, and insight to help us create a text that best meets the needs of today's classroom.

We especially want to thank the panel of instructors who reviewed our entire manuscript. In many respects, they were our collaborators—offering suggestions for improvement and innovation, redirecting us when we lost focus, and patiently awaiting new sections of manuscript. Their criticisms and encouragement were invaluable. Now they can see their contributions in print rather than on the manuscript page.

Throughout the development of the text, there were many instructors who reviewed sections of the manuscript, sometimes more than once and often, many sections. We thank them for their candor and diligence in pointing out problems and offering solutions.

We also want to thank our colleagues at Arizona State who have supported us through this entire process. Sometimes a quick answer to a question or a bit of advice provided the new direction we needed to overcome a particularly critical challenge.

During two focus group sessions, one in Atlanta and another in Orlando, we uncovered many ways to improve our manuscript. We very much appreciate the focus group members for their willingness to talk frankly about their course and our manuscript.

Special thanks also go to Michael Klein, who not only reviewed much of this manuscript, but devoted an enormous effort to the Economically Speaking feature. Michael selected many of the articles and developed the commentary for these pieces. We are most grateful for his ability to give concrete form to our objective—showing students how to think like an economist and translate reality back into theory.

We owe a special debt to Tom Oberhofer of Eckerd College for his vision for the idea maps. We met Tom at a focus group in Atlanta where we first proposed the idea of linking the major macroeconomic and microeconomic concepts and issues in a visual way for the students. Tom saw our idea as an exciting opportunity to provide students with an Idea Map and generously provided the time and energy to get it accomplished.

We extend special thanks to Jay Sultan of Bentley College, who patiently reviewed every graph and caption to assure accuracy throughout. His painstaking and thorough approach, combined with the proof-reading efforts of many dedicated individuals, has resulted in a text instructors and students can be sure of.

We also want to thank the many people at Houghton Mifflin who devoted countless hours to make this text the best it could be. From the beginning, we have been impressed with their expertise and energy. Through the mail, computer systems, phone, and sometimes by plane, we have managed to join forces continually for the last three years. We could not have completed this book without their enthusiasm and devotion.

Finally, we wish to thank our families and friends. The inspiration they provided through the conception and development of this book cannot be measured, but certainly was essential.

Our students at Arizona State University have helped us along the way: their many questions have given us invaluable insight into how best to present this intriguing subject. It is our hope that this textbook will bring a clear understanding of economic thought to many other students as well. We welcome any feedback for improvements.

W.B.  
M.M.



## **Reviewers**

Shahid Alam Northeastern University	Joel Feiner State University of New York at Old Westbury
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