

## Preface Draft

I wrote this book out of a sense that it was time for intermediate macroeconomics to have many of the barnacles scraped off of its hull. It is more than three-quarters of a century since John Maynard Keynes wrote his *Tract on Monetary Reform*, which first linked inflation, production, employment, exchange rates, and government policy together in a pattern that we today can recognize as "macroeconomics." It is two-thirds of a century since John Hicks and Alvin Hansen drew their IS and LM curves. It is more than one-third of a century since Milton Friedman and Ned Phelps demolished the static Phillips curve, and since Robert Lucas, Thomas Sargent, and Robert Barro taught us what rational expectations could mean. At the same time, intermediate macroeconomics has been becoming more complicated, as new material is added while old material remains.

It seemed to me that if I could successfully streamline the presentation of material, both traditional and more modern, the result would be a more understandable and comprehensible book. I hope that I have succeeded—that this book does move more smoothly through the water than its competitors, and will prove to be a better textbook for third-millennium macroeconomics courses. This conclusion is based on five changes made in the standard presentation of modern macroeconomics. These changes are not radical, but rather shifts in emphasis and changes of focus. They do not require recasting of courses, but they are very important in bringing the organization of the book in line with what students learning macroeconomics need to know.

### Major Changes

#### *Economic Growth*

The first two changes have to do with economic growth:

- **A more student-friendly way of learning growth *theory*.**
- **Sufficient coverage of growth *facts* so that students learn the how and why of both growth over time and growth across countries.**

The presentation of long-run growth—both the facts and the theory—in modern macroeconomics textbooks need to be beefed up, and I have done so. Economic growth is worth much more than one or even two short chapters—my two chapters are among the longest in the book. Students have no business leaving macroeconomics courses without understanding the nature and causes of the wealth of nations. They need to see and

understand broad cross-country and cross-time patterns: the industrial revolution, the spread of industrialization, the East Asian miracle, and the American century.

Too often undergraduates find the standard presentation of growth theory—with concepts like "output per effective worker"—to be confusing. The more understandable and robust presentation of growth theory in this book focuses on the economy's steady-state capital-output ratio, which is itself a very simple function of the proximate determinants of accumulation: savings rates, depreciation rates, population growth, and labor-augmenting technical change. To make the links between the fundamental determinants of growth and the workings of the economy simpler and more transparent is more than half the battle.

### *The Open Economy*

The third change is to my mind long overdue:

- **Treat the economy as open from the beginning of the book.**

It is time to simply forget about the "closed-economy case" and ask students to analyze an open economy from the very beginning of the book. Even in the United States, virtually every economic policy issue and news event has an important international dimension. Presenting the closed-economy case first gives students a lot of wrong impressions—about the size of the Keynesian multiplier, about the freedom countries have to conduct independent monetary and fiscal policies, about the relationship between savings and investment—that then have to be unlearned later in the "open economy macro" chapters. Moreover, moving the international material into the main narrative thread enhances streamlining. All of the "in the closed-economy chapters we said this... but really that..." passages in the textbook are no longer needed. Throughout the book, save in Chapter 15, the default assumption is that the exchange rate is freely floating. This was not true in the past and may not be true in the distant future, but it is true now and for the foreseeable future and is thus a reasonable working assumption.

### *Monetary Policy*

The fourth change is also, to my mind, overdue:

- **Interest rates, not money stocks.**

In today's world, where central banks set interest rates and not money stocks, the LM curve's underlying assumption that the money stock is fixed is artificial. A major reason for giving the LM curve a central place is historical; it allows one to present the

Keynesian-monetarist debate of the 1970s as a debate about the relative slopes of IS and LM curves. Steep LM curve or shallow IS curve and monetarists are right—the money stock is the principal determinant of output, unemployment, and inflation. Shallow LM or steep IS curve, and the Keynesians are right. (Never mind that Milton Friedman always thought that this was an unwise and unfair way of presenting the debate.)

However, this is a debate that has been dead for a generation, and conducting much of the discussion of the determination of real GDP in a framework in which the money stock is fixed gives students the wrong intuitions. The LM curve cannot be eliminated: there are monetary regimes under which the central bank does not fix the interest rate. But it can be downplayed. It is much better to downplay the LM curve and focus on the key factors of the position of the IS curve and the real interest rate that is determined by the term structure and central bank policy. This brings the presentation in the textbook much closer to what the students will find when they open up their *Wall Street Journals*. This makes our tasks as teachers much easier because there is no longer an artificial gap between the models taught and the actions seen in the world.

Furthermore, the space saved by downplaying the LM curve can be used for a serious discussion of the term structure of interest rates. The Federal Reserve controls short-term, nominal, safe interest rates; and the principal determinants of aggregate demand are long-term, real, risky interest rates. The slippage between these two is a limitation on the government's ability to stabilize the economy. Treating this topic seriously allows us to begin to teach the importance of expectations and the limits of policy relatively early in the book, rather than leaving these topics for the policy chapters at the book's end.

### *The Phillips Curve and Aggregate Supply*

The fifth major change is another streamlining operation:

- **Focus on the Phillips curve--not the AS-AD diagram.**

The variable on the vertical axis of the Aggregate Supply-Aggregate Demand graph—the price level—is not the best price variable to use in analyzing economic policy. The best price variable is the one on the vertical axis of the Phillips curve, the inflation rate. A very close integration of the AS-AD framework with the Phillips curve helps students follow the thread of the argument better and saves an enormous amount of repetition. After all, the Phillips curve “is” the AS curve with a couple of changes of variables. What point would be served by considering them separately, in different chapters?

Other shifts of emphasis and presentation include Chapter 3, “Thinking Like an Economist,” which examines many things about how economists argue and reason that are usually left unexamined, and Chapter 12, “The Phillips Curve and Expectations,” which explains that rational, adaptive, and static expectations are not incompatible, but

rather different strategies for dealing with the problems of inflation—each of which can be useful in the right economic environment. This book has space for more thorough discussions of the term structure of interest rates and of the workings of international financial markets made possible because of the streamlining exercises undertaken.

## **Pedagogy**

Much of the pedagogical work in this book is aimed at smoothing over what often turn out to be rough spots for the students. One important way that people learn is by watching other people solve problems, and then by repeating the process. Thus, students will note that this book contains a greater-than-usual number of worked examples. This will be especially helpful for those who hesitate before making conceptual leaps.

Boxes provided throughout the book try to reinforce the main narrative without disrupting it. They are an attempt to solve the perennial problem of how to provide additional depth and background to those who need (or want) it without boring or distracting those who wish to move on. *Macroeconomics* contains four kinds of boxes:

- **Tools boxes remind students of some of the algebraic and conceptual tools economists use.**
- **Details boxes provide for those who want to dig deeper into a particular subject.**
- **Policy boxes provide for those who want to know how the current thread of the book affects the making of economic policy.**
- **Examples boxes show how the concepts, ideas, and models of the current main thread of the book can be applied.**

The extensive end-of-chapter exercises are divided into two sets, one that tied to the theoretical material in the book—Analytical Exercises—and a second that is tied to recent events—Policy Exercises. It is important to have policy exercises at the ends of chapters, but since few things turn students off as much as exercises that are obsolete, we have tried to make them current in the book and we will add new ones to our dynamic web site.

And finally, the glossary provides fuller and deeper explanations of economic concepts than is typically found in other books. Once again, there are some students for whom such extended definitions are truly useful. And even the extended glossary takes up little space.

## Structure

While the treatment of many, if not all, topics is unique, the structure of the book follows a standard pattern that has served macroeconomists well. Section I contains three chapters—Introduction, Measuring the Macroeconomy, and How Economists Think. Chapter 1 begins with an overview of what macroeconomics is and then quickly focuses in on six key variables that together allow one to gain a firm hold on the state of the macroeconomy. These variables are (1) real GDP, (2) the unemployment rate, (3) the inflation rate, (4) the interest rate, (5) the level of the stock market, and (6) the inflation rate. The chapter closes with a quick tour of recent macroeconomic events and macroeconomic policy dilemmas in the world, included both to pique student interest and to give them a sense of the kinds of questions and issues that macroeconomics is supposed to help resolve.

Chapter 2 provides the standard review of national income accounting and other measurement issues, organized around the six key economic variables of Chapter 1. The focus is on the quality of our measurements of these six key variables and what the measurements mean.

Chapter 3, arguably the most innovative material in this section, focuses on how economists view the world. It attempts to provide insight into the kind of "science" economics is and information on the dominance of the circular flow of economic activity in how macroeconomists view the world and on how economists go about building the models that they then use to try to analyze the macroeconomy.

Section II focuses on long-run growth and contains two chapters—The Theory of Economic Growth and The Reality of Economic Growth: History and Prospect. Chapter 4 focuses on the simple-to-understand capital-output ratio (rather than the more complicated concept of capital-per-effective-worker), how the economy converges to its steady-state equilibrium capital-output ratio, and the effect of technological progress on productivity. While most treatments of growth theory begin with a very artificial economy—no population growth, no technological progress—and do not achieve relative realism until near the end of the discussion, this chapter puts all the balls in play early on. Thus students are unlikely to acquire faulty intuitions about the relationships of economic variables that will plague them later.

Chapter 5 begins with a survey of very long-run economic growth before the Industrial Revolution, moves on to the Industrial Revolution itself, and then covers the astonishing economic growth in the United States over the past century and a half that has made America a remarkably rich and productive society from the standpoint of any previous century. It then shifts its focus to patterns of growth and development the world over—the East Asian miracle, stagnation in Africa, the convergence of the OECD nations to common levels of productivity and industrial structure, etc.—before concluding with a discussion of economic policies and how they affect long-run growth. In a sense, Chapter

5 should be part of *everyone's* general education. It is, in summary and compressed form, an inquiry into the nature and causes of the wealth of nations. In my view, intermediate macroeconomics is the most natural place to provide this overview of long-run economic growth.

Section III presents flexible-price, business-cycle macroeconomics with two real-side chapters— The Flexible-Price Framework: Building Blocks and The Flexible-Price Framework: Equilibrium —and one money and inflation chapter—Money, Prices, and Inflation. Since many of the functions are the same in the flexible-price full-employment model of this section and the sticky-price model of Section IV, the real-side chapters are written with an eye toward making it clear what changes and what doesn't when we move from flexible to sticky-price models. Chapter 6 covers the determination of potential output when wages and prices are flexible; the domestic components of aggregate demand—consumption, investment spending, and government purchases; and the determinants of the final component of aggregate demand, net exports.

Chapter 7 focuses first on how the demand and supply for loanable funds in the flow-of-funds through financial markets pushes the interest rate to the level at which investment demand equals savings supply, the economy is at full employment, and real GDP equals potential output. It then shows how to use the method of comparative statics to analyze the effects of changes in economic policy and the economic environment on the macroeconomy. It concludes with a section on supply shocks and on "real" business cycles, which are understood as fluctuations in current and expected future productivity and thus in the value of investment spending today.

Chapter 8 moves from the real to the monetary side in the flexible-price framework. It focuses first on the utility of money and on the simple interest-inelastic quantity theory, and it then moves on to consider the determinants of the price level and inflation when money demand is sensitive to the nominal interest rate.

Section IV's presentation of sticky-price macroeconomics is divided into four chapters—The Income-Expenditure Framework; Investment, Net Exports, and Interest Rates; Extending the Sticky-Price Model; and The Phillips Curve and Expectations. This material not only rounds out the sticky-price business-cycle framework but also reaches back to the previous section to explain under what circumstances flexible price and under what circumstances sticky-price modeling is likely to be appropriate. Chapter 9 provides the standard treatment of the sticky-price income-expenditure inventory-adjustment model. Its only innovative feature is that, because the model begins with the open economy case, the calculated value of the multiplier is realistic, as opposed to the grossly inflated multiplier values calculated in closed-economy models with lump-sum taxes, something students then have to unlearn.

Chapter 10 then builds on Chapter 9 to construct the IS curve. An immediate payoff is that the last sections of Chapter 10 use the IS curve, along with changes in the Federal Reserve's interest rate targets, to help students understand macroeconomic fluctuations in the United States in the post-World War II period. It thus demonstrates that the models

are actually useful and that they help us gain a measure of understanding of why the state of the business cycle went as it did in post-World War II America.

Chapter 11 performs three tasks. It asks what determines the interest rate when the Federal Reserve is not following a policy of interest-rate targeting, and then explains that the interest rate and aggregate demand are jointly determined by money demand and the money stock—together summarized in the LM curve—and by the IS curve. It goes on to analyze the impact of changes in the economic environment and economic policy on the exchange rate and the trade balance. And it concludes by introducing the concepts of aggregate demand and aggregate supply.

Chapter 12 puts in place the keystone for Sections III and IV. It analyzes not just the determination of real GDP in the sticky-price framework, but also how prices change—how inflation is generated—by the state of aggregate demand relative to potential output. It presents the Phillips curve and the key determinants of the location of the Phillips curve: the natural rate of unemployment on the one hand, and the expected rate of inflation on the other. It then presents the three kinds of inflation expectations we expect to see—static, adaptive, and rational expectations of inflation—and the circumstances under which we expect to see each one. And the chapter concludes by outlining the transition from the sticky-price "short run" to the flexible-price "long run": it helps students think about under what circumstances the better answers are generated by using the flexible-price model of Section III, and under what circumstances the better answers are generated by the sticky-price model of Section IV.

Section V, which provides the payoff to all of this model-building work, begins with economic policy in three chapters—Stabilization Policy; The Budget Deficit, the National Debt, and Investment; and International Economic Policy. This material allows students to think through the issues and to understand the debates about proper macroeconomic management, both for stabilization and for enhancing economic growth. Chapter 13 deals with the institutions of macroeconomic policy, the power and limits of stabilization policy, monetary vs. fiscal policy, rules vs. authorities, and extreme situations such as financial crises.

Chapter 14 covers the government's budget and the government debt, outlining both short-run stabilization and long-run growth implications of the government's budget. And Chapter 15 takes a look at how fixed exchange rate systems function, how exchange rate regimes have been chosen, and at currency crises.

These chapters are then followed by three more discussions that emphasize the extent to which macroeconomics is an unfinished science. Chapter 16, Changes in the Macroeconomy and Changes in Macroeconomic Policy, deals with the fact that, because the macroeconomy changes over time, macroeconomists are always aiming at a moving target. Chapter 17, The Future of Macroeconomics, focuses on where macroeconomists disagree and on how the science is evolving, even in the absence of structural change in the macroeconomy. Finally, an Epilogue sums up the lessons of the book and reminds readers of what we do not know.

## Flexibility

The material in the first section can be compressed to the extent that it truly is review material. However, with the exception of omitting the economic growth material—Chapters 4 and 5, which would be a shame—this book does not lend itself to reordering especially well. The introductory chapters are there for good reason, and the chain of logic and presentation from the start of the flexible-price model in Chapter 6 through the international economic policy discussion in Chapter 15 is a cumulative one.

I have occasionally shortchanged the chapters after 15, but I don't recommend it. While in government I had many conversations with smart people who could not see why the macroeconomics they had learned 35 years ago did not immediately apply. It proved remarkably hard to teach them that the world had changed and that the way macroeconomists thought about the world had changed. The historical perspectives provided in Chapters 16, 17, and the Epilogue are (to my way of thinking, at least) worth the effort.

## Supplements

### For the Instructor

**Instructor's Manual** Written by David DeJong at the University of Pittsburgh, this useful manual offers a number of general information elements—Sample Syllabi, Web resources, Print Resources, and some Mathematical Background (with some homework problems/solutions)—along with the following elements for each chapter—Overview, Annotated Outline, Mathematical Tools, Teaching Tips, Answers to Textbook Exercises, Additional Exercises (and Answers), and Additional Readings.

**Test Bank** Written by Edward McNertney at Texas Christian University, this manual contains more than 1000 multiple-choice questions categorized by objective, level, type, and source. The print test bank is also available in the latest Diploma test-generating software, ensuring maximum flexibility in test preparation, including the reconfiguring of graphing exercises. This Brownstone program is the gold standard of testing programs.

**PowerPoints** Prepared by Linda Ghent at Eastern Illinois University, these more than 800 slides contain all of the illustrations from the textbook, along with a detailed, chapter-by-chapter review of the important ideas presented in the book.

**Web site** The site ([www.mhhe.com/economics/delong](http://www.mhhe.com/economics/delong)) will contain a host of offerings helpful to all teachers, especially to younger ones—a Career Center, Economics on the Web (an annotated list of urls useful to macroeconomists), a Graphing Library (graphs that can be used to create exercises), some Supplemental Materials (information too timely for the textbook), the

entire Instructor's Manual and all the PowerPoints, and finally a link to Brad DeLong's extremely rich and diverse site.

### **For the Student**

**Study Guide** Prepared by Martha Olney at the University of California, Berkeley, each chapter in this guide begins with an overview and is followed by a set of matching exercises and multiple-choice question under *Basic Definitions*. These are followed by one set of exercises for students to undertake the *Manipulation of Concepts and Models* and a second set for the *Applying the Concepts and Models*. This is followed by some problems for *Explaining the Real World* and a set of questions under the heading *Possibilities to Ponder*. Finally, answers and solutions are provided for all exercises and problems.

**Software** Prepared by Mark Reiman at Pacific Lutheran University, this Windows-based tutorial software will allow students to solve exercises by moving graphs and manipulating data in dealing with three key models of macroeconomics—Growth, AS/AD, and IS/LM.

**Web site** The site ([www.mhhe.com/economics/delong](http://www.mhhe.com/economics/delong)) will contain a host of offerings helpful to students—Quizzes (questions written by the test bank preparer), Graphing exercises (graphs that can be manipulated to solve exercises like those in the textbook), In the News (links to current news articles), Applying the Theory (exercises that test textbook mastery), Working with Data (exercises that help students understand how economists use data), Career Center (job opportunities in economics), Economics on the Web (an annotated list of urls useful to macroeconomics students), and finally a link to Brad DeLong's extremely rich and diverse site.

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I would like to thank, first of all, my students in intermediate macroeconomics--both those who took my courses in years when they were successful and, even more, those who took my courses in years when they were not: thinking about what went wrong and about why large groups of students did not get it has been a principal spur to this book.

I was very privileged to have Martin Feldstein, Olivier Blanchard, and Thomas Sargent as my teachers in the first three macroeconomics courses that I ever took: I thought they were awesome then, and I still think so now. I was also lucky enough to have Lawrence Summers as my dissertation advisor: I have surely learned more about macroeconomics from him than from any single other person.

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