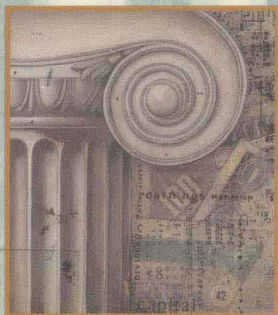
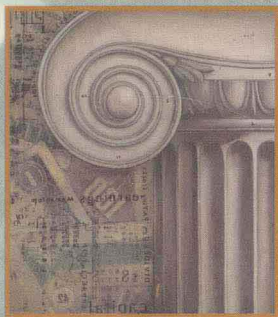


CONTEMPORARY MONEY, BANKING, AND FINANCIAL MARKETS

Theory and Practice

Michael G. Hadjimichalakis

Karma G. Hadjimichalakis



DIVIDENDS PAYING stocks

earnings Momentum

%

771	114	32	15%
27	15%	15	15%
328	15%	15%	15%

PRECEDENCE

CONTEMPORARY
MONEY,
BANKING, AND
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MARKETS

Theory and Practice

Michael G. Hadjimichalakis

Karma G. Hadjimichalakis

University of Washington

IRWIN

Chicago • Bogatá • Boston • Buenos Aires • Caracas
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*This book is dedicated to Anna S. Gaetano and
Albert L. Gaetano*

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Why write a textbook on money, banking, and financial markets? As we set out on this project, we envisioned a book that would be different and, we believed, better than those available in the market: a book that (1) would deal with the real-life financial system and the real-life conduct of monetary policy, (2) would be based on a coherent, recognizable, economic framework, and (3) would be accessible to anybody who has completed an introductory course on the principles of economics.

Accessibility is crucial. Why write a book if it cannot be read by those it addresses? But sacrificing substance for accessibility would be a hollow success. A substantive approach to money, banking, and financial markets requires an analytical framework that permits one to tackle important issues rather than to skirt them, especially during a period of great change and even upheaval in financial markets, as the past 15 years have been.

Learning about money, banking, and financial markets and their links to the rest of the economy has been exciting and challenging in recent years. During the past 15 years, deposit rates paid by U.S. banks and other depository institutions have been deregulated for the first time since the 1930s. Restrictions on permissible activities of financial institutions have been relaxed and, in some cases, removed. As we write this preface, President Clinton has signed into law the Riegle–Neal Interstate Banking and Branching Efficiency Act of 1994. This law permits nationwide banking by allowing banks to set up branches across state lines, thereby removing a restriction on banks dating back to the 1920s. The last decade also witnessed the failure of banks and thrifts at rates unseen for 60 years. Moreover, in the early 1990s a credit crunch, in which banks became less willing and able to lend, hampered the recovery of the U.S. economy.

We have both been involved in studying and teaching these developments. First, from 1980 to 1982, as economists at the Board of Governors of the Federal Reserve System in Washington, D.C., we witnessed and wrote about the quantum leap the financial system took toward the new financial environment with the passage of the Depository Institutions Deregulation and Monetary Control Act of 1980 and the challenges the new financial environment created for the conduct of monetary policy. Since our return to the University of Washington in 1982, we have been teaching money, banking, and financial markets—one of us in the economics department, the other in the business school. In our teaching we have tried to bring to the classroom the excitement of exploring these issues. Our approach has been to establish a theoretical framework to examine today's monetary and financial system and to connect theory with practice. The enthusiastic response of our students convinced us to write this book.

THE TWO-PILLAR FRAMEWORK

The framework that we have worked on and refined over the past 14 years and that we develop in this book is simple and powerful. It is based on (1) the rational behavior of participants in the economy and (2) their interaction in the marketplace. How participants

make decisions and how markets work are, what we call, the two pillars of economics. These two pillars embody our approach to money, banking, and financial markets. We use this two-pillar framework to describe the contemporary monetary and financial system; to build a theoretical model to understand and analyze the workings of that system and its links to the rest of the economy; and to connect theory with practice, such as assessing the practices of the Federal Reserve in its conduct of monetary policy, the activities of banks, and the workings of financial markets.

The most immediate payoff of the two-pillar framework is to make teaching and learning money, banking, and financial markets easier. Students with a principles of economics background are familiar with the two pillars of economics, especially in the form of profit-maximizing decisions, on the one hand, and the forces of supply and demand, on the other. The message of even a beginning course is that economics is about incentives and purposeful behavior and about market forces. Students feel at home when instructors explain money, banking, and financial markets in these terms, because they see the exposition as a natural application of concepts they already know. Learning money, banking and financial markets in this way is a lot easier and more fruitful than memorizing disjointed material. Beyond the final exam, students have a framework they can continue to apply to understand and analyze current issues.

The two-pillar framework also simplifies the exposition by enabling us to present the material in self-contained but not disjointed chapters. Most chapters can be read by themselves, and yet, all chapters are unified in a coherent framework. With a unified framework it is easy to incorporate important new concepts of economic theory, such as asymmetric information, as we do beginning in Chapter 2. Moreover, existing theories can be extended to incorporate new practices. For example, ours is the only textbook that develops a theory of the deposit-rate setting behavior of banks in the new financial environment and incorporates this theory into traditional models of money demand. The resulting contemporary theory of money demand is essential for understanding and analyzing the portfolio decisions of the public and the policy decisions of the Federal Reserve, such as the Fed's decision in July 1993 to downgrade the role of monetary aggregates in the policy process.

Now that we have finished writing this book, we believe that we have achieved all three goals we set out to accomplish. But we are not impartial observers. The students and professors who use this book must be the ultimate judges.

AN INTEGRATED APPROACH TO INTERNATIONAL TOPICS

The U.S. economy is connected to the rest of the world through trade in goods and services and trade in financial and real assets. Because the international linkages are a key part of the economic system, we incorporate them in our framework from the start, beginning with Chapter 2, in which the foreign sector is one of the six participants. The last two chapters of the book present more detailed treatments of international issues. These chapters are designed so that they may be introduced earlier. For example, instructors who want a full-blown treatment of the balance of payments accounts and the foreign exchange market early in their course may introduce Chapter 29 after Chapter 9 or Chapter 10.

PEDAGOGICAL FEATURES

The book has a variety of learning tools:

- **Part Openers** list the chapters in each part and explain briefly how they fit into the two-pillar framework.
- **Chapter Previews** typically begin with a vignette to introduce key issues and then explain how the chapter is organized.
- **“Watch” Boxes** connect theory with practice by using real-world data, policy reports of the Federal Reserve, excerpts from *The Wall Street Journal*, and interesting anecdotes to illuminate concepts developed in each chapter. The four types of watch boxes are tied to the two-pillar framework.

SectorWatch examines the behavior of the participants, which is the subject of the first pillar of economics. There are six categories of participants: households, firms, financial intermediaries, the government, the Federal Reserve, and foreign participants. All the participants in one category are often referred to as a “sector,” such as the household sector.

MarketWatch examines the behavior of participants in the marketplace, which is the subject of the second pillar of economics.

FedWatch follows and explains the actions of the Federal Reserve, as professional Fedwatchers do. Because of the importance of the Federal Reserve in the economy, the Fed is assigned its own watch box.

GlobalWatch presents the international perspective by explaining the behavior of foreign participants and also by explaining how the domestic economy is linked to foreign economies through the markets for goods and services and financial assets.

- **Schematic Explanations** in the text and in summary tables help students understand and remember the basic logic behind important economic relations.
- **Try-It-Out Exercises** are workstations for students that appear within most chapters. They are tools to check and reinforce student understanding. Answers to the try-it-out exercises are at the end of the book.
- **End-of-Chapter Questions and Problems** consist of a variety of review questions and analytical and quantitative problems. Our approach of connecting theory with practice extends to this end-of-chapter material. Questions identified by The Wall Street Journal ask students to interpret quotations and data from *The Wall Street Journal*.
- **Key Terms and Concepts** appear in boldface when they are defined in a chapter. They are also listed at the end of each chapter.
- **A Glossary** at the end of the book provides definitions of all the key terms and concepts.
- **End-of-Chapter Summaries** present concise reviews of the main points in each chapter.
- **A short, annotated list of readings** ends each chapter. The readings were chosen to be accessible and interesting to a student audience.

OVERVIEW AND ORGANIZATION OF TOPICS

For a bird's-eye view of the entire book, we present a brief summary of each of the eight parts of the book.

Part 1: Introduction (Chapter 1) This introductory chapter explains the importance of money in the economy by looking at its functions and definitions and by previewing the relation between money and the economy. It also introduces the two-pillar framework that is the foundation of our approach to money, banking, and financial markets.

Part 2: The U.S. Financial System: *The Participants, the Instruments, and the Environment* (Chapters 2–5) Money is a key financial asset, but it is not the only asset in the financial system. Part 2 describes the entire financial system by introducing the participants, the financial instruments they issue and acquire, and the environment in which they operate.

Chapter 2 poses two questions. Who are the participants in the financial system? And why do they issue and acquire financial instruments? In answering these questions, the chapter explains the linkages between the domestic economy and foreign economies and introduces the concepts of direct and indirect finance and asymmetric information. Chapter 3 explains six characteristics of financial instruments: maturity, marketability, rate of return, risk, liquidity, and divisibility. Chapter 4 describes the basic instruments in the financial system in terms of these characteristics and puts the financial instruments into the participants' balance sheets. There are six participants: households, firms, financial intermediaries, the government, the Federal Reserve, and foreign participants. The balance sheets of these participants are profiles of their financial condition. Bringing the balance sheets to life to describe the purposeful behavior of the participants is the subject of one of the two pillars of economics that will occupy us throughout the book. Chapter 5 surveys the evolution from the old financial environment to the new financial environment in which participants operate. A key characteristic of the new financial environment that emerged in the 1980s is that the interest paid on bank deposits is market determined. By contrast, in the old financial environment regulators set the deposit rate. The chapter begins by explaining the market forces that made the rise of the new financial environment inevitable and ends by examining how that environment functioned under a crisis and a crunch: the thrift crisis of the 1980s and the credit crunch of the early 1990s.

Part 3: Money, Interest Rates, and Prices (Chapters 6–10) Part 3 uses the two-pillar framework to explain the portfolio choice of the participants, the interaction of participants in financial markets, and the connection between the markets for domestic financial instruments, foreign exchange, and goods and services.

Chapter 6 develops five laws of asset demand by explaining the portfolio choice of the public (households and firms) in terms of the characteristics of assets introduced in Chapter 3. Chapter 7 first develops a theory of the deposit-rate setting behavior of banks and applies the theory to explain movements in deposit rates in the early 1990s. Then it combines the theory of deposit-rate determination with the laws of asset demand to

develop a contemporary theory of money demand. Chapter 8 uses the balance sheets of the Fed, banks, and the public to develop and apply a simple and realistic explanation of the money supply process based on the concepts of nonborrowed reserves, borrowed reserves, required reserves, and excess reserves. An appendix presents the monetary base approach to the money supply. Chapter 9 moves to the markets to explain interest rate determination by using the money market (the liquidity preference theory) and the bonds market (the loanable funds theory). The chapter connects theory with practice to explain the behavior of the Fed after the stock market crash of 1987 and to compare the monetary policies of the Fed and the Bundesbank in the early 1990s. Chapter 10 completes the framework of the economy by adding the foreign exchange market and the market for goods and services to the model. The chapter develops the aggregate demand-aggregate supply model in a simple way to explore the effects of policy and other shocks on interest rates, prices, and output. Emphasis is on the four effects of a change in the money supply on interest rates: the liquidity effect, the real income effect, the price level effect, and the expected inflation effect. The chapter connects theory with practice by using the model to assess and compare the conduct of policy in the United States and Japan in the early 1990s.

Chapters 6 through 10 present comprehensive but concise explanations of the behavior of the participants and their interaction in markets. Each of the remaining parts gives fuller treatments of these topics. Instructors can tailor the order in which they cover these parts to suit the needs of their class.

Part 4: The Federal Reserve and Its Behavior (Chapters 11–16) Part 4 combines real-world data and policy reports of the Federal Reserve with an analytical framework that helps one to understand and assess past, present, and future policy decisions of the Federal Reserve. The up-to-date analysis includes an explanation of why the Fed downgraded the monetary aggregates in July 1993 and put greater reliance on judgment and discretion in its policy process in 1994.

Chapter 11 lays out the structure and functions of the entire Federal Reserve System and explores political issues that arise from that structure, such as the ongoing debate about the independence of the Fed and about reducing secrecy. Chapter 12 explains in detail the operations of the 12 district Federal Reserve banks, such as their role as banker to banks, banker to the U.S. government, and examiner and supervisor of banks. Chapter 13 introduces a three-stage process that links the instruments, the operating targets, the intermediate targets, and the ultimate goals of monetary policy. It uses this framework to analyze past and current policies of the Fed, including the Fed's downgrading of the role of money as an intermediate target in July 1993. The chapter ends with a discussion of how the Fed used short-term real interest rates as an indicator in its search for a neutral monetary policy between February and August 1994. Chapter 14 explains how the Trading Desk of the Federal Reserve Bank of New York decides on the amount of securities to buy or sell in the open market, how Fedwatchers have traditionally followed the daily open market operations to detect shifts in the stance of monetary policy, and how the Fed began to announce these shifts in 1994 rather than filtering the information through Fedwatchers. It then uses an actual statistical release of the Federal Reserve System to explain all the factors that affect reserves in the banking system. Chapter 15 examines in

detail the relation between reserves and the money supply. The chapter begins with a “bouncing ball” metaphor followed by balance sheets of the Fed and banks to explain the mechanics of deposit creation. Next it links the mechanics of deposit creation to the money supply process introduced in Chapter 8 and presents a full discussion of all the factors affecting the money supply, including the interest rate. Finally, Chapter 16 combines the quantity theory of money with the Fed’s monetary policy reports and actual data from the 1980s and 1990s to explain the Fed’s conduct of monetary policy. The chapter explains the challenges posed by deregulation and uses data to show that since the mid-1980s the Fed has acted as if it were targeting velocity-indexed money growth, which equals the growth of nominal gross domestic product. Placed in this perspective, we see the downgrading of the monetary aggregates in 1993 as the culmination of a move away from monetary targeting that began in 1982.

Part 5: Financial Institutions: *Structure, Regulation, and Behavior* (Chapters 17–19) Part 5 examines the structure of financial institutions, the regulatory and supervisory environment in which they operate, and the strategies they use to maximize profits.

After presenting a roadmap for examining the organization and structure of all financial institutions, Chapter 17 concentrates on the structure, regulation, and supervision of banks and thrifts. The chapter assesses the changes that arose from the Financial Institutions Reform, Recovery and Enforcement Act (FIRREA) of 1989—passed in response to the thrift crisis—and the Federal Deposit Insurance Corporation Improvement Act (FDICIA) of 1991. The chapter also examines current debates on consolidating regulatory agencies and reforming deposit insurance. Chapter 18 develops a profit-maximizing model to explain the behavior of banks. To set the stage, the chapter begins with actual income statements and balance sheets of U.S. commercial banks and applies the concepts of adverse selection and moral hazard, which are related to the concept of asymmetric information introduced in Chapter 2. The chapter brings the balance sheet of banks to life by explaining how the choice of each item in a simplified balance sheet can be explained as the result of a profit-maximizing exercise. The chapter connects theory with practice by using the profit-maximizing model to explain the credit crunch of the 1990s. Finally, Chapter 19 explains the structure, regulation, and decisionmaking of nondepository institutions, such as finance companies, mutual funds, insurance companies, and pension funds.

Part 6: Financial Markets, Interest Rates, and the Conduct of Monetary Policy (Chapters 20–23) Part 6 expands the analysis of financial markets introduced in Chapter 9. The chapters in this part examine the deposit market and the money market in more detail and add more financial markets and, hence, more rates of return to the picture.

Chapter 20 derives the laws of money demand in a way that shows how the theory has evolved over the past 100 years. Emphasis is on modern treatments of the transactions motive and the speculative motive. Chapter 21, by exploring the workings of the deposit market, extends the analysis introduced in Chapter 7 of factors affecting the deposit rate. Following the approach of Chapter 7, the deposit rate relation distilled from the deposit market is incorporated into the money demand relation to arrive at a complete theory of money demand. The chapter connects theory with practice to explain why banks bid less

aggressively for deposits in the early 1990s and how deregulation affected the stability of money demand in the 1980s and early 1990s. Chapter 22 explores the workings of the money market to explain how the actions of the Fed, the public, and banks, as well as changes in the price level and in the level of real economic activity, affect the interest rate, the quantity of money, and the deposit rate. The chapter also uses the model of the money market to examine alternative practices of the Fed, under which the Fed targets either the quantity of money or the interest rate. Chapter 23 disaggregates the model of the financial system to explain factors that affect a spectrum of interest rates on debt securities and rates of return on equity securities. First the chapter examines the term structure of interest rates. It connects theory with practice by examining the debate about whether a shortening of the maturity structure of government debt can reduce long-term interest rates. Next, the chapter examines the risk structure of interest rates. Finally, the chapter uses a four-asset model that includes the stock market to examine how monetary policy affects interest rates on open-market debt securities, bank loan rates, deposit rates, and the rate of return on equity securities.

Part 7: The Integration of the Financial and Real Sectors (Chapters 24–28)

Part 7 expands the discussion introduced in Chapter 10 of the connection between the financial sector and the real sector. The chapters in this part paint a more detailed picture of the factors that affect interest rates, output, and prices. They also explain the theoretical underpinnings of controversies about the conduct of monetary and fiscal policy and use economic history to show how these controversies have played out in practice.

To keep our early discussion of the linkages between the financial sector and the real sector as simple as possible, Chapter 10 bypassed the IS-LM model and went straight to the AD-AS model. In contrast, this part begins with the IS-LM model. Chapter 24 develops a modern version of the IS-LM model that includes the international linkages and a credit channel. Chapter 25 applies the model to examine the effects on the interest rate and output of changes in monetary and fiscal policy and changes in the behavior of the private sector. The chapter connects theory with practice to explain the twin deficits in the United States in the 1980s and in Germany in the 1990s. It also explains the shocks, dubbed headwinds, that buffeted the U.S. economy in the early 1990s. Finally, the chapter uses the model to examine the Fed's choice of an intermediate target for the conduct of monetary policy. Chapter 26 combines the IS-LM model with the markets for inputs to derive and apply the AD-AS model, which explains the factors affecting interest rates, output, and the price level. Chapter 27 examines in more detail the most controversial part of the macroeconomic model: the theoretical underpinnings of the aggregate supply relation. The chapter develops the concept of rational expectations and explains how new classicists combine this concept with the assumption of continuous clearance of the labor market whereas new Keynesians combine it with the assumption of slow clearance of the labor market. The chapter then examines differences in the policy prescriptions of Keynesians, classicists, new classicists, and new Keynesians. Chapter 28 uses the AD-AS model and the Phillips curve model to examine the relation between inflation and unemployment. The chapter connects theory with practice by examining the effects on inflation, output, unemployment, and interest rates of wars, supply-side shocks, stock-market crashes, and revolutions in economic policymaking.

Part 8: International Finance (Chapters 29–30) This last part of the book extends the analysis of international trade and finance that appears throughout the book.

Chapter 29 begins with the U.S. balance of payments accounts and then brings the accounts to life by connecting them to the foreign exchange market. The chapter explains the workings of the foreign exchange market under flexible and fixed exchange rate systems and explains and applies the concepts of interest rate parity and purchasing power parity. Finally, the chapter explains the evolution of the existing international payments system, which is a mix of fixed and floating exchange rates. Chapter 30 extends the discussion of the international dimensions of economic policy by building and applying the IS-LM-BP model, where BP stands for the balance of payments. This model is well suited to explaining the differences in the effects of economic policy under fixed and flexible exchange rates. The chapter connects theory with practice to explain crises in the European Monetary System in 1992 and 1993.

FLEXIBILITY

The preceding summary highlights the main points of each chapter in the order in which the chapters appear in the book. The book, however, is designed to be flexible. There are numerous alternative ways to arrange the chapters. Most courses will use the first nine or ten chapters, which are the core of the book. Below are illustrations of sequences of chapters that can be used in four types of courses. *The Instructors' Manual* provides more details.

<i>General Course on Money, Banking, and Financial Markets</i>	Chapters 1–10, 11, 13, 15–16, 17–19, 22–23
<i>Course with an Emphasis on Financial Institutions and Markets</i>	Chapters 1–9, 23, 29, 11–14, 17–19
<i>Course with an Emphasis on Monetary Policy</i>	Chapters 1–10, 11–16, 17, 24–25, 29–30
<i>Course with an Emphasis on Monetary Theory and Macroeconomics</i>	Chapters 1–9, 11, 13, 20–30

SUPPLEMENTARY MATERIALS

In order to make the instructor's transition to our book smooth, we've prepared an *Instructor's Manual* that makes good use of our teaching experience with this text. It includes lecture outlines and teaching tips, as well as solutions to the end-of-chapter questions.

Also for the instructor, *Computest 4* (as well as a bound version of the *Test Bank*), has been prepared for this text by Marvin S. Margolis, of Millersville University of Pennsylvania. The testing material consists of multiple-choice and essay questions which range both in type (analytical vs. definitional) and level of difficulty.

The *Study Guide* by Frederick L. Joutz, of George Washington University, and Jane de Winter, completes the learning package. We think it's important for students to know how to read (and to understand what they read in) *The Wall Street Journal*—that's why it's a fundamental part of the text. The study guide extends this concept. In addition to

“drill and review” questions, this problem-solving manual also includes at least two articles from the popular press per chapter—in particular from the *Journal*. These articles encourage students to apply the text material to what they read in the papers.

A Wall Street Journal edition of our book is also available. For those of you unfamiliar with this uniquely Irwin product, an order form (along with a few pages of instruction) is bound into the edition. Students mail in the order form and shortly thereafter they will begin to receive their 10-week subscription. For an additional \$4, there’s no better way to get *The Wall Street Journal* into your classroom. Instructors will receive a year-long complimentary subscription to the *Journal*. Also, a fax newsletter is under development and will be made available to all instructors using our book.

ACKNOWLEDGMENTS

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Michael G. Hadjimichalakis
Karma G. Hadjimichalakis

BRIEF CONTENTS

<hr/>		CHAPTER 8	
PART 1		The Basics of the Money Supply	147
INTRODUCTION	1		
CHAPTER 1		CHAPTER 9	
The Importance of Money	2	Two Tales of Determining the Interest Rate	172
<hr/>		CHAPTER 10	
PART 2		A Framework for the Economy: <i>The Real and the Financial Sectors</i>	191
THE U.S. FINANCIAL SYSTEM: <i>The Participants, the Instruments, and the Environment</i>	19	<hr/>	
CHAPTER 2		PART 4	
Introducing the Participants	20	THE FEDERAL RESERVE AND ITS BEHAVIOR	221
✓ CHAPTER 3		CHAPTER 11	
A Framework for Understanding Financial Instruments	42	The Federal Reserve System: <i>Form and Function</i>	222
✓ CHAPTER 4		CHAPTER 12	
The Basic Financial Instruments	67	Functions of Federal Reserve Banks: <i>The Details</i>	248
CHAPTER 5		CHAPTER 13	
The Evolution to the New Financial Environment	92	Instruments, Targets, and Goals of the Federal Reserve	267
<hr/>		✓ CHAPTER 14	
PART 3		Open Market Operations and Movements in Reserves	291
MONEY, INTEREST RATES, AND PRICES	117	✓ CHAPTER 15	
CHAPTER 6		Deposit Creation and the Money Supply	310
The Public's Portfolio Choice: <i>The Laws of Asset Demand</i>	118	CHAPTER 16	
CHAPTER 7		Targeting Monetary Aggregates: <i>Theory and Experience</i>	329
Deposit Rate Deregulation and Money Demand	131		

<hr/>			
PART 5			
FINANCIAL INSTITUTIONS: <i>Structure, Regulation, and Behavior</i>	353		
CHAPTER 17			
The Structure, Regulation, and Supervision of U.S. Depository Institutions	354		
✓ CHAPTER 18 <i>Structure consolidated balance sheet</i>			
The Profit-Maximizing Banking Firm	382		
CHAPTER 19			
Nondepository Financial Institutions	411		
<hr/>			
PART 6			
FINANCIAL MARKETS, INTEREST RATES, AND THE CONDUCT OF MONETARY POLICY	429		
CHAPTER 20			
The Theory of Money Demand	430		
CHAPTER 21			
The Deposit Market and Money Demand	448		
CHAPTER 22			
The Money Market	472		
CHAPTER 23			
The Structure of Rates of Return	496		
<hr/>			
PART 7			
THE INTEGRATION OF THE FINANCIAL AND REAL SECTORS	521		
		CHAPTER 24	
		Determining the Interest Rate and Real Income: <i>The IS-LM Model</i>	522
		CHAPTER 25	
		Monetary and Fiscal Policy in the IS-LM Model	547
		CHAPTER 26	
		The Price Level and Real Income: <i>The Aggregate Demand-Aggregate Supply Model</i>	572
		CHAPTER 27	
		Aggregate Supply, Expectations, and Policy	604
		CHAPTER 28	
		Inflation, Unemployment, and Economic Policy: <i>History and Theory</i>	630
		<hr/>	
		PART 8	
		INTERNATIONAL FINANCE	663
		CHAPTER 29	
		International Payments and the Foreign Exchange Market	664
		CHAPTER 30	
		Economic Policy in an Open Economy	696
		Glossary	G-1
		Answers to Try-It-Out Exercises	A-1
		Index	I-1

C O N T E N T S

P A R T 1

INTRODUCTION 1

C H A P T E R 1

The Importance of Money 2

Chapter Preview 2

The Mystery of Money 3

The Functions of Money 3

Medium of Exchange 3

Unit of Account 5

Store of Value 5

Measurements of Money throughout History 6

From Unminted to Minted Gold 6

Fractionally Backed Paper Money 6

Fiat Money (Paper and Coins) and Checking Accounts 7

Controlling the Quantity of Money 8

Current Measures of Money 9

Money and the Economy: A Preview 11

FedWatch 1.1: Tracking the Monetary Aggregates 12

Money, Financial Markets, and Rates of Return 12

Nominal GDP, Real GDP, and the Price Level 13

Money, Economic Activity, and Prices 13

GlobalWatch 1.2: Plummeting Purchasing Power of the Russian Ruble 15

Looking Ahead: The Two-Pillar Framework 15

Summary 16

Key Terms and Concepts 17

Questions and Problems 17

Suggested Readings 18

P A R T 2

THE U.S. FINANCIAL SYSTEM: *The Participants, the Instruments, and the Environment* 19

C H A P T E R 2

Introducing the Participants 20

Chapter Preview 20

Who Are the Participants? 21

Households 21

Nonfinancial Firms 22

Financial Intermediaries 22

Government 23

The Federal Reserve 23

Foreign Participants 24

A Word on Stocks and Flows 24

Why Do the Participants Issue and Acquire Financial Instruments? 25

The Role of Surplus and Deficit Units 25

GlobalWatch 2.1: Is Foreign Borrowing Bad 32

The Role of Financial Go-Betweens 33

SectorWatch 2.2: A Web of Bank Regulators 38

The Role of Monetary Policymaker 39

Looking Ahead 39

Summary 40

Key Terms and Concepts 40

Questions and Problems 41

Suggested Readings 41

C H A P T E R 3

A Framework for Understanding Financial Instruments 42

Chapter Preview 42

Maturity 43

Marketability 44

Primary and Secondary Markets 44

Money and Capital Markets 45

Spot and Futures Markets 45

Rate of Return: The Most Watched Characteristic 45

Approximating the Rate of Return 46

MarketWatch 3.1: Is Gold a Good Investment? 48

Timing of Receipts and Expenditures	48
Calculating Present and Future Values	49
The Rate of Return	50
The Language and Mechanics of Notes and Bonds	51
Try It Out 3.1	53
MarketWatch 3.2: Tracking Rates on Treasury Notes and Bonds	54
Risk	55
Market Risk, or Interest Rate Risk	55
Default Risk	56
Risk of Inflation	57
MarketWatch 3.3: The Rise, Fall, and Rise of Junk Bonds	58
Liquidity	58
Divisibility	60
More Details on Calculating Interest Rates: Zero Coupon Securities	60
A “Zoo of Zeros”	61
Coupon Equivalent Yield on Zero Coupon Notes and Bonds	61
Coupon Equivalent Yield on Treasury Bills	62
Yield on a Discount Basis	63
MarketWatch 3.4: Tracking Treasury Bill Rates	64
Summary	64
Key Terms and Concepts	64
Questions and Problems	65
Suggested Readings	66

CHAPTER 4

The Basic Financial Instruments 67

Chapter Preview	67
Classifying Domestic Financial Instruments	68
Government Debt	68
U.S. Treasury Securities	68
Federal Agency Securities	70
SectorWatch 4.1: Will Sallie Mae Survive?	71
Municipal Securities	72
Why Hold U.S. Government Debt?	72
Open Market Debt and Equity of Firms	72
Corporate Bonds	72
GlobalWatch 4.2: The Foreign Presence in the U.S. Financial System	73

GlobalWatch 4.3: A Surge in Convertible Bonds in Japan 74

Commercial Paper	74
Bankers’ Acceptances	75
Corporate Stock	76
The Debt of Households and Firms to Banks: Bank Loans	78
MarketWatch 4.4: Debt Hangover in the 1990s	79
The Debt of Banks: Bank Deposits	80
The Federal Reserve’s Debt	82
Currency in Circulation	82
Total Reserves	82
Federal Funds	82
Try It Out 4.1	83
Placing the Financial Instruments into the Participants’ Balance Sheets	84
What’s in a Balance Sheet?	84
The Balance Sheet of Households	85
The Balance Sheet of Firms	85
SectorWatch 4.5: National Balance Sheet Distress	86
The Balance Sheet of Banks	86
The Balance Sheet of the U.S. Government	87
The Balance Sheet of the Fed	87
The External Balance Sheet	88
Two Key Questions and the Two Pillars	88
Summary	89
Key Terms and Concepts	89
Questions and Problems	90
Suggested Readings	91

CHAPTER 5

The Evolution to the New Financial Environment 92

Chapter Preview	92
The Rise and Fall of the Old Financial Environment	93
Financial Innovations and the Public	95
Cash Management Practices of Nonfinancial Firms	95
Cash Management Practices of Households	97
Financial Innovations and Banks	98
Financial Innovations in Bank Liabilities	98
Financial Innovations in Bank Assets	103
MarketWatch 5.1: The Essence of an Interest Rate Swap	108