PART 1  Introduction  47

CHAPTER 1
Why Study Money, Banking, and Financial Markets?  48

Why Study Financial Markets? ........................................... 48
  The Bond Market and Interest Rates .................................. 49
  The Stock Market ......................................................... 49

Why Study Financial Institutions and Banking? .................... 51
  Structure of the Financial System .................................... 52
  Banks and Other Financial Institutions .............................. 52
  Financial Innovation ..................................................... 52
  Financial Crises ........................................................ 53

Why Study Money and Monetary Policy? .............................. 53
  Money and Business Cycles ............................................ 53
  Money and Inflation ..................................................... 54
  Money and Interest Rates ............................................. 56
  Conduct of Monetary Policy .......................................... 56
  Fiscal Policy and Monetary Policy .................................... 57

Why Study International Finance? ...................................... 58
  The Foreign Exchange Market ........................................ 58
  The International Financial System ................................... 60

How We Will Study Money, Banking, and Financial Markets ...... 60
  Exploring the Web ...................................................... 61

Concluding Remarks .................................................... 61
  Summary 61  ·  Key Terms 62  ·  Questions 62  ·  Applied Problems 63  ·
  Data Analysis Problems 63  ·  Web Exercises 64  ·  Web References 64

APPENDIX TO CHAPTER 1
Defining Aggregate Output, Income, the Price Level, and the Inflation Rate  65

Aggregate Output and Income .......................................... 65
Real Versus Nominal Magnitudes ....................................... 65
Aggregate Price Level ................................................... 66
Growth Rates and the Inflation Rate ................................... 67

CHAPTER 2
An Overview of the Financial System  68

Function of Financial Markets ........................................... 68
Structure of Financial Markets .......................................... 71
  Debt and Equity Markets ............................................. 71
  Primary and Secondary Markets ..................................... 71
  Exchanges and Over-the-Counter Markets .......................... 72
  Money and Capital Markets .......................................... 73
<table>
<thead>
<tr>
<th>Financial Market Instruments</th>
<th>73</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Market Instruments</td>
<td>73</td>
</tr>
<tr>
<td><strong>Following the Financial News</strong> Money Market Rates</td>
<td>74</td>
</tr>
<tr>
<td>Capital Market Instruments</td>
<td>75</td>
</tr>
<tr>
<td><strong>Following the Financial News</strong> Capital Market Interest Rates</td>
<td>76</td>
</tr>
<tr>
<td>Internationalization of Financial Markets</td>
<td>77</td>
</tr>
<tr>
<td><strong>Global</strong> Are U.S. Capital Markets Losing Their Edge?</td>
<td>78</td>
</tr>
<tr>
<td>International Bond Market, Eurobonds, and Eurocurrencies</td>
<td>78</td>
</tr>
<tr>
<td>World Stock Markets</td>
<td>79</td>
</tr>
<tr>
<td>Function of Financial Intermediaries: Indirect Finance</td>
<td>79</td>
</tr>
<tr>
<td><strong>Following the Financial News</strong> Foreign Stock Market Indexes</td>
<td>80</td>
</tr>
<tr>
<td>Transaction Costs</td>
<td>80</td>
</tr>
<tr>
<td><strong>Global</strong> The Importance of Financial Intermediaries Relative to Securities Markets: An International Comparison</td>
<td>81</td>
</tr>
<tr>
<td>Risk Sharing</td>
<td>82</td>
</tr>
<tr>
<td>Asymmetric Information: Adverse Selection and Moral Hazard</td>
<td>82</td>
</tr>
<tr>
<td>Economies of Scope and Conflicts of Interest</td>
<td>84</td>
</tr>
<tr>
<td><strong>Types of Financial Intermediaries</strong></td>
<td>84</td>
</tr>
<tr>
<td>Depository Institutions</td>
<td>84</td>
</tr>
<tr>
<td>Contractual Savings Institutions</td>
<td>86</td>
</tr>
<tr>
<td>Investment Intermediaries</td>
<td>87</td>
</tr>
<tr>
<td><strong>Regulation of the Financial System</strong></td>
<td>88</td>
</tr>
<tr>
<td>Increasing Information Available to Investors</td>
<td>88</td>
</tr>
<tr>
<td>Ensuring the Soundness of Financial Intermediaries</td>
<td>89</td>
</tr>
<tr>
<td>Financial Regulation Abroad</td>
<td>91</td>
</tr>
<tr>
<td>Summary</td>
<td>91</td>
</tr>
<tr>
<td>Key Terms</td>
<td>92</td>
</tr>
<tr>
<td>Questions</td>
<td>92</td>
</tr>
<tr>
<td>Applied Problems</td>
<td>93</td>
</tr>
<tr>
<td>Data Analysis Problems</td>
<td>94</td>
</tr>
<tr>
<td>Web Exercises</td>
<td>94</td>
</tr>
<tr>
<td>Web References</td>
<td>94</td>
</tr>
</tbody>
</table>

**CHAPTER 3**

**What Is Money?** 95

**Meaning of Money** 95

**Functions of Money** 96

Medium of Exchange 96

Unit of Account 97

Store of Value 98

**Evolution of the Payments System** 99

Commodity Money 99

Fiat Money 99

Checks 99

Electronic Payment 100

E-Money 100

**FYI** Are We Headed for a Cashless Society? 101
PART 2
Financial Markets 109

CHAPTER 4
The Meaning of Interest Rates 110
Measuring Interest Rates................................................................. 110
Present Value.............................................................................. 110
APPLICATION Simple Present Value........................................... 112
APPLICATION How Much Is That Jackpot Worth?...................... 112
Four Types of Credit Market Instruments................................. 113
Yield to Maturity........................................................................ 114
APPLICATION Yield to Maturity on a Simple Loan...................... 114
APPLICATION Yield to Maturity and the Yearly Payment on a Fixed-Payment Loan.... 116
APPLICATION Yield to Maturity and Bond Price for a Coupon Bond .... 117
APPLICATION Yield to Maturity on a Perpetuity.......................... 119
APPLICATION Yield to Maturity on a Discount Bond.................... 120
The Distinction Between Interest Rates and Returns.................. 121
   Maturity and the Volatility of Bond Returns: Interest-Rate Risk.... 124
   Summary.............................................................................. 125
The Distinction Between Real and Nominal Interest Rates........... 125
APPLICATION Calculating Real Interest Rates............................ 126
   Summary 128 • Key Terms 128 • Questions 128 • Applied Problems 129 •
   Data Analysis Problems 130 • Web Exercises 130 • Web References 130

CHAPTER 4 WEB APPENDIX
Measuring Interest-Rate Risk: Duration
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 5
The Behavior of Interest Rates 131
Determinants of Asset Demand....................................................... 131
   Wealth............................................................................... 132
   Expected Returns.............................................................. 132
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk</td>
<td>132</td>
</tr>
<tr>
<td>Liquidity</td>
<td>133</td>
</tr>
<tr>
<td>Theory of Portfolio Choice</td>
<td>133</td>
</tr>
<tr>
<td>Supply and Demand in the Bond Market</td>
<td>134</td>
</tr>
<tr>
<td>Demand Curve</td>
<td>134</td>
</tr>
<tr>
<td>Supply Curve</td>
<td>135</td>
</tr>
<tr>
<td>Market Equilibrium</td>
<td>136</td>
</tr>
<tr>
<td>Supply and Demand Analysis</td>
<td>137</td>
</tr>
<tr>
<td>Changes in Equilibrium Interest Rates</td>
<td>137</td>
</tr>
<tr>
<td>Shifts in the Demand for Bonds</td>
<td>138</td>
</tr>
<tr>
<td>Shifts in the Supply of Bonds</td>
<td>141</td>
</tr>
<tr>
<td>APPLICATION: Changes in the Interest Rate Due to Expected Inflation:</td>
<td></td>
</tr>
<tr>
<td>The Fisher Effect</td>
<td>143</td>
</tr>
<tr>
<td>APPLICATION: Changes in the Interest Rate Due to a Business Cycle Expansion</td>
<td>145</td>
</tr>
<tr>
<td>APPLICATION: Explaining Low Japanese Interest Rates</td>
<td>146</td>
</tr>
<tr>
<td>Supply and Demand in the Market for Money:</td>
<td></td>
</tr>
<tr>
<td>The Liquidity Preference Framework</td>
<td>147</td>
</tr>
<tr>
<td>Changes in Equilibrium Interest Rates in the Liquidity Preference Framework</td>
<td>150</td>
</tr>
<tr>
<td>Shifts in the Demand for Money</td>
<td>150</td>
</tr>
<tr>
<td>Shifts in the Supply of Money</td>
<td>150</td>
</tr>
<tr>
<td>APPLICATION: Changes in the Equilibrium Interest Rate Due to</td>
<td></td>
</tr>
<tr>
<td>Changes in Income, the Price Level, or the Money Supply</td>
<td>151</td>
</tr>
<tr>
<td>Changes in Income</td>
<td>152</td>
</tr>
<tr>
<td>Changes in the Price Level</td>
<td>152</td>
</tr>
<tr>
<td>Changes in the Money Supply</td>
<td>152</td>
</tr>
<tr>
<td>Money and Interest Rates</td>
<td>153</td>
</tr>
<tr>
<td>APPLICATION: Does a Higher Rate of Growth of the Money Supply</td>
<td></td>
</tr>
<tr>
<td>Lower Interest Rates?</td>
<td>155</td>
</tr>
</tbody>
</table>

Summary 158 • Key Terms 158 • Questions 158 • Applied Problems 159 • Data Analysis Problems 160 • Web Exercises 161 • Web References 161

**CHAPTER 5 WEB APPENDIX 1**
Models of Asset Pricing
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

**CHAPTER 5 WEB APPENDIX 2**
Applying the Asset Market Approach to a Commodity Market: The Case of Gold
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

**CHAPTER 5 WEB APPENDIX 3**
Loanable Funds Framework
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin
CHAPTER 6
The Risk and Term Structure of Interest Rates 162
Risk Structure of Interest Rates .......................................................... 162
Default Risk ......................................................................................... 162
FYI Conflicts of Interest at Credit-Rating Agencies and the Global Financial Crisis 166
APPLICATION The Global Financial Crisis and the Baa-Treasury Spread .............. 167
Liquidity .............................................................................................. 167
Income Tax Considerations ................................................................. 168
Summary ............................................................................................. 169
APPLICATION Effects of the Obama Tax Increase on Bond Interest Rates .................. 169
Term Structure of Interest Rates .......................................................... 170
Following the Financial News Yield Curves 170

Expectations Theory ........................................................................... 172
Segmented Markets Theory ................................................................. 175
Liquidity Premium and Preferred Habitat Theories ................................. 176
Evidence on the Term Structure .......................................................... 179
FYI The Yield Curve as a Forecasting Tool for Inflation and the Business Cycle 180
Summary ............................................................................................. 180
APPLICATION Interpreting Yield Curves, 1980–2014 ........................................ 180

Summary 182 • Key Terms 182 • Questions 182 • Applied Problems 184 • Data Analysis Problems 184 • Web Exercises 185 • Web References 185

CHAPTER 7
The Stock Market, the Theory of Rational Expectations, and the Efficient Market Hypothesis 186
Computing the Price of Common Stock .................................................. 186
The One-Period Valuation Model ........................................................... 187
The Generalized Dividend Valuation Model ............................................. 188
The Gordon Growth Model .................................................................. 188
How the Market Sets Stock Prices .......................................................... 189
APPLICATION Monetary Policy and Stock Prices ..................................... 191
APPLICATION The Global Financial Crisis and the Stock Market .................. 191
The Theory of Rational Expectations ...................................................... 191
Formal Statement of the Theory ............................................................ 193
Rationale Behind the Theory ................................................................. 193
Implications of the Theory .................................................................. 194
The Efficient Market Hypothesis: Rational Expectations in Financial Markets .......... 195
Rationale Behind the Hypothesis ............................................................ 196
Random-Walk Behavior of Stock Prices .................................................. 197

Global Should Foreign Exchange Rates Follow a Random Walk? 198
Contents in Detail

APPLICATION Practical Guide to Investing in the Stock Market ........................................ 198
How Valuable Are Reports Published by Investment Advisers? .................................................. 198
Should You Be Skeptical of Hot Tips? ....................................................................................... 199
FYI Should You Hire an Ape as Your Investment Adviser? ..................................................... 200
Do Stock Prices Always Rise When There Is Good News? ........................................................ 200
Efficient Market Prescription for the Investor ............................................................................. 200
Why the Efficient Market Hypothesis Does Not Imply That Financial Markets Are Efficient .......... 201
Behavioral Finance .................................................................................................................... 202
Summary 203 • Key Terms 204 • Questions 204 • Applied Problems 205 •
Data Analysis Problems 206 • Web Exercises 206 • Web References 206

CHAPTER 7 WEB APPENDIX
Evidence on the Efficient Market Hypothesis
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

Financial Institutions 207

CHAPTER 8
An Economic Analysis of Financial Structure 208
Basic Facts About Financial Structure Throughout the World................................................. 208
Transaction Costs ....................................................................................................................... 211
How Transaction Costs Influence Financial Structure ........................................................... 211
How Financial Intermediaries Reduce Transaction Costs .................................................... 212
Asymmetric Information: Adverse Selection and Moral Hazard .............................................. 213
The Lemons Problem: How Adverse Selection Influences Financial Structure ..................... 213
Lemons in the Stock and Bond Markets .................................................................................... 214
Tools to Help Solve Adverse Selection Problems ..................................................................... 214
FYI The Enron Implosion 216

How Moral Hazard Affects the Choice Between Debt and Equity Contracts .......................... 219
Moral Hazard in Equity Contracts: The Principal–Agent Problem ......................................... 219
Tools to Help Solve the Principal–Agent Problem .................................................................... 220
How Moral Hazard Influences Financial Structure in Debt Markets ....................................... 222
Tools to Help Solve Moral Hazard in Debt Contracts .............................................................. 222
Summary .................................................................................................................................. 224
APPLICATION Financial Development and Economic Growth .............................................. 225
FYI The Tyranny of Collateral 226
### CHAPTER 10
Economic Analysis of Financial Regulation 261

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymmetric Information as a Rationale for Financial Regulation</td>
<td>261</td>
</tr>
<tr>
<td>Government Safety Net</td>
<td>261</td>
</tr>
<tr>
<td><strong>Global</strong> The Spread of Government Deposit Insurance Throughout the World: Is This a Good Thing?</td>
<td>263</td>
</tr>
<tr>
<td>Drawbacks of the Government Safety Net</td>
<td>264</td>
</tr>
<tr>
<td><strong>Types of Financial Regulation</strong></td>
<td>266</td>
</tr>
<tr>
<td>Restrictions on Asset Holdings</td>
<td>266</td>
</tr>
<tr>
<td>Capital Requirements</td>
<td>266</td>
</tr>
<tr>
<td>Prompt Corrective Action</td>
<td>267</td>
</tr>
<tr>
<td><strong>Global</strong> Where Is the Basel Accord Heading After the Global Financial Crisis?</td>
<td>268</td>
</tr>
<tr>
<td>Financial Supervision: Chartering and Examination</td>
<td>269</td>
</tr>
<tr>
<td>Assessment of Risk Management</td>
<td>270</td>
</tr>
<tr>
<td>Disclosure Requirements</td>
<td>271</td>
</tr>
<tr>
<td><strong>FYI</strong> Mark-to-Market Accounting and the Global Financial Crisis</td>
<td>272</td>
</tr>
<tr>
<td>Consumer Protection</td>
<td>272</td>
</tr>
<tr>
<td>Restrictions on Competition</td>
<td>273</td>
</tr>
<tr>
<td>Summary</td>
<td>273</td>
</tr>
<tr>
<td><strong>Global</strong> International Financial Regulation</td>
<td>274</td>
</tr>
<tr>
<td>Summary</td>
<td>277</td>
</tr>
</tbody>
</table>

### CHAPTER 10 WEB APPENDIX 1
The 1980s Banking and Savings and Loan Crisis

Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

### CHAPTER 10 WEB APPENDIX 2
Banking Crises Throughout the World

Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

### CHAPTER 11
Banking Industry: Structure and Competition 280

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historical Development of the Banking System</td>
<td>280</td>
</tr>
<tr>
<td>Multiple Regulatory Agencies</td>
<td>282</td>
</tr>
<tr>
<td>Financial Innovation and the Growth of the “Shadow Banking System”</td>
<td>283</td>
</tr>
<tr>
<td>Responses to Changes in Demand Conditions: Interest-Rate Volatility</td>
<td>284</td>
</tr>
<tr>
<td>Responses to Changes in Supply Conditions: Information Technology</td>
<td>285</td>
</tr>
<tr>
<td><strong>FYI</strong> Will “Clicks” Dominate “Bricks” in the Banking Industry?</td>
<td>287</td>
</tr>
<tr>
<td>Securitization and the Shadow Banking System</td>
<td>288</td>
</tr>
<tr>
<td>Avoidance of Existing Regulations</td>
<td>289</td>
</tr>
</tbody>
</table>
Contents in Detail

FYI Bruce Bent and the Money Market Mutual Fund Panic of 2008  291

Financial Innovation and the Decline of Traditional Banking  292

Structure of the U.S. Commercial Banking Industry  295

Restrictions on Branching  296
Response to Branching Restrictions  297

Bank Consolidation and Nationwide Banking  298

The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994  299
What Will the Structure of the U.S. Banking Industry Look Like in the Future?  300
Are Bank Consolidation and Nationwide Banking Good Things?  300

Global Comparison of Banking Structure in the United States and Abroad  301

Separation of Banking and Other Financial Service Industries  302

Erosion of Glass-Steagall  302
The Gramm-Leach-Bliley Financial Services Modernization Act of 1999:
Repeal of Glass-Steagall  302
Implications for Financial Consolidation  303

FYI The Global Financial Crisis and the Demise of Large,
Free-Standing Investment Banks  303

Separation of Banking and Other Financial Services Industries Throughout the World  304

Thrift Industry: Regulation and Structure  304

Savings and Loan Associations  304
Mutual Savings Banks  305
Credit Unions  305

International Banking  306

Eurodollar Market  306

Global Ironic Birth of the Eurodollar Market  307

Structure of U.S. Banking Overseas  307
Foreign Banks in the United States  308
Summary  309 • Key Terms  310 • Questions  310 • Data Analysis Problems  311 • Web Exercises  312 • Web References  312

CHAPTER 12
Financial Crises in Advanced Economies  313

What Is a Financial Crisis?  313

Dynamics of Financial Crises  314

Stage One: Initial Phase  314
Stage Two: Banking Crisis  315
Stage Three: Debt Deflation  317

APPLICATION The Mother of All Financial Crises: The Great Depression  318

Stock Market Crash  318
Bank Panics  318
Continuing Decline in Stock Prices  319
Debt Deflation  319
International Dimensions  320
The Global Financial Crisis of 2007–2009 .................................................................320
Causes of the 2007–2009 Financial Crisis .................................................................320
FYI Collateralized Debt Obligations (CDOs) 321
Effects of the 2007–2009 Financial Crisis ...............................................................322
Inside the Fed Was the Fed to Blame for the Housing Price Bubble? 323
Global The European Sovereign Debt Crisis 326
Height of the 2007–2009 Financial Crisis .................................................................327
Government Intervention and the Recovery ..............................................................328
Short-term Responses and Recovery .................................................................328
Global Latvia’s Different and Controversial Response: Expansionary Contraction 329
Stabilizing the Global Financial System: Long-term Responses ........................329
Global Financial Regulatory Framework .................................................................330
Policy Areas at the National Level .................................................................330
FYI The LIBOR Scandal 332
Future Regulations and Policy Areas at the International Level ........................333
Bilateral and Multilateral Supervisory Cooperation ........................................333
Collective Supervisory Cooperation .................................................................333
Collectively Coordinated Macroeconomic Stability Plans ................................333
Self-Discipline ........................................................................................................334
Summary 334 • Key Terms 335 • Questions 335 • Data Analysis
Problems 336 • Web Exercises 337 • Web References 337

CHAPTER 13
Financial Crises in Emerging Economies 338
Dynamics of Financial Crises in Emerging Market Economies ........................338
Stage One: Initial Phase .........................................................................................338
Stage Two: Currency Crisis ..................................................................................342
Stage Three: Full-Fledged Financial Crisis .........................................................343
APPLICATION Crisis in South Korea, 1997–1998 ........................................344
Financial Liberalization and Globalization Mismanaged ................................345
Perversion of the Financial Liberalization and Globalization Process: Chaebols
and the South Korean Crisis ........................................................................346
Stock Market Decline and Failure of Firms Increase Uncertainty ................347
Adverse Selection and Moral Hazard Problems Worsen, and the Economy Contracts 348
Currency Crisis Ensues .........................................................................................348
Final Stage: Currency Crisis Triggers Full-Fledged Financial Crisis 348
Recovery Commences .........................................................................................350
APPLICATION The Argentine Financial Crisis, 2001–2002 ..............................350
Severe Fiscal Imbalances .......................................................................................350
Adverse Selection and Moral Hazard Problems Worsen ..................................350
Bank Panic Begins ...............................................................................................351
Currency Crisis Ensues .........................................................................................351
Currency Crisis Triggers Full-Fledged Financial Crisis .................................................................352
Recovery Begins .................................................................................................................................354

Global When an Advanced Economy Is Like an Emerging Market Economy:
The Icelandic Financial Crisis of 2008 355

Preventing Emerging Market Financial Crises..................................................................................355
Beef Up Prudential Regulation and Supervision of Banks.................................................................355
Encourage Disclosure and Market-Based Discipline.........................................................................356
Limit Currency Mismatch.......................................................................................................................356
Sequence Financial Liberalization........................................................................................................357
Summary 357 • Key Terms 357 • Questions 358

PART 4

Central Banking and the Conduct of Monetary Policy 359

CHAPTER 14
Central Banks: A Global Perspective 360
Origins of the Federal Reserve System.................................................................................................360
Structure of the Federal Reserve System.............................................................................................361
  Federal Reserve Banks .........................................................................................................................361
  Member Banks ....................................................................................................................................363
  Board of Governors of the Federal Reserve System ......................................................................363
  Federal Open Market Committee (FOMC) .........................................................................................364

Inside the Fed The FOMC Meeting 365

How Independent Is the Fed? ................................................................................................................366

Inside the Fed Styles of Federal Reserve Chairs: Bernanke and Yellen
  Versus Greenspan 366

Should the Fed Be Independent? .........................................................................................................368
  The Case for Independence ................................................................................................................368
  The Case Against Independence .......................................................................................................369
  Central Bank Independence and Macroeconomic Performance Throughout the World...........370

Explaining Central Bank Behavior....................................................................................................371

Structure and Independence of the European Central Bank..............................................................371
  Governing Council Executive Board and General Council ..............................................................372

Central Banks Round the World..........................................................................................................376
  Central Banks in Developing Countries and Emerging Economies.................................................377

Global Islamic Finance: Alternative Ethical Solutions to
  Financial Stability 378
  People’s Bank of China ......................................................................................................................379
  Multinational Central Banks in Developing Countries .................................................................379
  Central Bank Reforms in South America .........................................................................................380
  Currency Unions in Developing Nations ..........................................................................................380

Structure and Independence of Other Foreign Central Banks..........................................................381
  Bank of Canada .................................................................................................................................381
  Bank of England ...............................................................................................................................381
CHAPTER 15

The Money Supply Process 386

Three Players in the Money Supply Process 386

The Fed’s Balance Sheet 386

Liabilities 387

Assets 388

Control of the Monetary Base 388

Federal Reserve Open Market Operations 389

Shifts from Deposits into Currency 390

Loans to Financial Institutions 391

Other Factors That Affect the Monetary Base 391

Overview of the Fed’s Ability to Control the Monetary Base 392

Multiple Deposit Creation: A Simple Model 393

Deposit Creation: The Single Bank 393

Deposit Creation: The Banking System 394

Deriving the Formula for Multiple Deposit Creation 397

Critique of the Simple Model 398

Factors That Determine the Money Supply 399

Changes in the Nonborrowed Monetary Base, MBn 399

Changes in Borrowed Reserves, BR, from the Fed 399

Changes in the Required Reserve Ratio, r 400

Changes in Excess Reserves 400

Changes in Currency Holdings 400

Overview of the Money Supply Process 400

The Money Multiplier 401

Deriving the Money Multiplier 401

Intuition Behind the Money Multiplier 403

Money Supply Response to Changes in the Factors 404


Summary 407 • Key Terms 407 • Questions 407 • Applied Problems 408 • Data Analysis Problems 409 • Web Exercises 409 • Web References 410

CHAPTER 15 WEB APPENDIX 1

The Fed’s Balance Sheet and the Monetary Base

Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 15 WEB APPENDIX 2

The M2 Money Multiplier

Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin
CHAPTER 15 WEB APPENDIX 3
Explaining the Behavior of the Currency Ratio
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 15 WEB APPENDIX 4
The Great Depression Bank Panics, 1930–1933, and the Money Supply
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 16
Tools of Monetary Policy 411
The Market for Reserves and the Federal Funds Rate.......................................................... 411
  Demand and Supply in the Market for Reserves ................................................................. 412
  How Changes in the Tools of Monetary Policy Affect the Federal Funds Rate .................. 413
APPLICATION  How the Federal Reserve's Operating Procedures Limit
  Fluctuations in the Federal Funds Rate .............................................................................. 417
Conventional Monetary Policy Tools................................................................................... 418
  Open Market Operations ..................................................................................................... 418
  Discount Policy and the Lender of Last Resort ................................................................. 419
Inside the Fed  A Day at the Trading Desk 420
  Reserve Requirements ........................................................................................................ 422
Inside the Fed  Using Discount Policy to Prevent a Financial Panic 423
  Interest on Reserves ........................................................................................................... 424
  Relative Advantages of the Different Tools ........................................................................ 424
Nonconventional Monetary Policy Tools and Quantitative Easing................................. 425
  Liquidity Provision ............................................................................................................. 425
  Large-Scale Asset Purchases .............................................................................................. 426
Inside the Fed  Fed Lending Facilities During the Global Financial Crisis 427
  Quantitative Easing Versus Credit Easing ....................................................................... 428
  Forward Guidance and the Commitment to Future Policy Actions ............................... 430
Monetary Policy Tools of the European Central Bank......................................................... 431
  Open Market Operations ..................................................................................................... 431
  Lending to Banks ................................................................................................................ 432
  Reserve Requirements ........................................................................................................ 432
Summary 432  •  Key Terms 433  •  Questions 433  •  Applied Problems 434  •  
  Data Analysis Problems 435  •  Web Exercises 435  •  Web References 435

CHAPTER 17
The Conduct of Monetary Policy: Strategy and Tactics 436
The Price Stability Goal and the Nominal Anchor ............................................................... 436
  The Role of a Nominal Anchor ......................................................................................... 437
  The Time-Inconsistency Problem ..................................................................................... 437
Other Goals of Monetary Policy ......................................................................................... 438
  High Employment and Output Stability ......................................................................... 438
PART 6
Monetary Theory 525

CHAPTER 20
Quantity Theory, Inflation, and the Demand for Money 526

APPLICATION Testing the Quantity Theory of Money 530

Budget Deficits and Inflation 532

APPLICATION The Zimbabwean Hyperinflation 534
Keynesian Theories of Money Demand

Transactions Motive
Precautionary Motive
Speculative Motive
Putting the Three Motives Together

Portfolio Theories of Money Demand

Theory of Portfolio Choice and Keynesian Liquidity Preference
Other Factors That Affect the Demand for Money
Summary

Empirical Evidence for the Demand for Money

Interest Rates and Money Demand
Stability of Money Demand
Summary

CHAPTER 20 WEB APPENDIX 1
The Baumol-Tobin and Tobin Mean Variance Model
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 20 WEB APPENDIX 2
Empirical Evidence on the Demand for Money
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 21
The IS Curve

Planned Expenditure and Aggregate Demand
The Components of Aggregate Demand
Consumption Expenditure

FYI Meaning of the Word Investment

Planned Investment Spending
Net Exports
Government Purchases and Taxes

Goods Market Equilibrium
Solving for Goods Market Equilibrium
Deriving the IS Curve

Understanding the IS Curve
What the IS Curve Tells Us: Intuition
What the IS Curve Tells Us: Numerical Example
Why the Economy Heads Toward Equilibrium
Factors That Shift the IS Curve
Changes in Government Purchases

APPLICATION The Vietnam War Buildup, 1964–1969
Changes in Taxes
CHAPTER 23 WEB APPENDIX 4
The Taylor Principle and Inflation
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

CHAPTER 24
Monetary Policy Theory 623
Response of Monetary Policy to Shocks 623
Response to an Aggregate Demand Shock 624
Response to a Permanent Supply Shock 626
Response to a Temporary Supply Shock 628
The Bottom Line: The Relationship Between Stabilizing Inflation and Stabilizing Economic Activity 631
How Actively Should Policymakers Try to Stabilize Economic Activity? 631
Lags and Policy Implementation 631
Inflation: Always and Everywhere a Monetary Phenomenon 632
FYI The Activist/Nonactivist Debate Over the Obama Fiscal Stimulus Package 633
Causes of Inflationary Monetary Policy 633
High Employment Targets and Inflation 633
APPLICATION The Great Inflation 637
Monetary Policy at the Zero Lower Bound 639
Deriving the Aggregate Demand Curve with the Zero Lower Bound 639
The Disappearance of the Self-Correcting Mechanism at the Zero Lower Bound 641
APPLICATION Nonconventional Monetary Policy and Quantitative Easing 642
Liquidity Provision 643
Asset Purchases and Quantitative Easing 644
Management of Expectations 645
APPLICATION Abenomics and the Shift in Japanese Monetary Policy in 2013 646
Summary 648 • Key Terms 648 • Questions 649 • Applied Problems 650 • Data Analysis Problems 650 • Web Exercises 651 • Web References 651

CHAPTER 25
The Role of Expectations in Monetary Policy 652
Lucas Critique of Policy Evaluation 652
Econometric Policy Evaluation 653
APPLICATION The Term Structure of Interest Rates 653
Policy Conduct: Rules or Discretion? 654
Discretion and the Time-Inconsistency Problem 654
Types of Rules 655
The Case for Rules 655
FYI The Political Business Cycle and Richard Nixon 656
  The Case for Discretion ........................................ 656
  Constrained Discretion ........................................... 657

Global The Demise of Monetary Targeting in Switzerland 657
  The Role of Credibility and a Nominal Anchor .................. 658
  Benefits of a Credible Nominal Anchor ....................... 658
  Credibility and Aggregate Demand Shocks ..................... 659
  Credibility and Aggregate Supply Shocks ...................... 661

APPLICATION A Tale of Three Oil Price Shocks .................. 662
  Credibility and Anti-Inflation Policy ......................... 664

Global Ending the Bolivian Hyperinflation: A Successful Anti-Inflation Program 665

APPLICATION Credibility and the Reagan Budget Deficits ........ 666

Approaches to Establishing Central Bank Credibility .......... 667
  Nominal GDP Targeting ........................................... 667

Inside the Fed The Appointment of Paul Volcker, Anti-Inflation Hawk 668
  Appoint “Conservative” Central Bankers ....................... 668
  Summary 669 • Key Terms 669 • Questions 669 • Applied Problems 670 •
  Data Analysis Problems 671 • Web Exercises 671

CHAPTER 26
Transmission Mechanisms of Monetary Policy 672

Transmission Mechanisms of Monetary Policy .......................... 672
  Traditional Interest-Rate Channels .................................. 673
  Other Asset Price Channels ......................................... 674
  Credit View ................................................................ 677

FYI Consumers' Balance Sheets and the Great Depression 679
  Why Are Credit Channels Likely to Be Important? ................... 680

APPLICATION The Great Recession .................................. 681

Lessons for Monetary Policy ......................................... 681

APPLICATION Applying the Monetary Policy Lessons
  to Japan’s Two Lost Decades ........................................ 683
  Summary 684 • Key Terms 684 • Questions 684 • Applied Problems 685 •
  Data Analysis Problems 686 • Web Exercises 686 • Web References 687

CHAPTER 26 WEB APPENDIX
Evaluating Empirical Evidence: The Debate Over the Importance
of Money in Economic Fluctuations
Go to the Companion Website, http://www.pearsonglobaleditions.com/Mishkin

Glossary ................................................................. 689

Index ........................................................................ 701