# International Economics

Trade and Finance

**Tenth Edition** 

## **Dominick Salvatore**

Fordham University

**International Student Version** 



*Chapter 1: Introduction 1
1.1 The Globalization of the World Economy 1
1.1A We Live in a Global Economy 2
1.1B The Globalization Challenge 2
Case Study 1-1 The Dell PC Is Anything But American! 3
Case Study 1-2 Is India's Globalization Harming the United States? 5
1.2 International Trade and the Nation's Standard of Living 6
Case Study 1-3 Rising Importance of International Trade to the United States 8
1.3 The International Flow of Goods, Services, Labor, and Capital 9
1.3A The International Flow of Goods and Services: The Gravity Model
1.3B The International Flow of Labor and Capital 10
Case Study 1-4 Major Net Exporters and Importers of Capital 11
1.4 International Economic Theories and Policies 12
1.4A Purpose of International Economic Theories and Policies 12
1.4B The Subject Matter of International Economics 12
1.5 Current International Economic Problems and Challenges 13
1.6 Organization and Methodology of the Text 16
1.6A Organization of the Text 16
1.6B Methodology of the Text 17
Summary 18 • A Look Ahead 19 • Key Terms 19 • Problems 19
Appendix: 20 Appendix: A1.1 Basic International Trade Data 20 Appendix: A1.2 Sources of Additional International Data and Information 24
Selected Bibliography 26
INTERNet 28

### RT ONE: INTERNATIONAL TRADE THEORY

### \*Chapter 2: The Law of Comparative Advantage 31

- 2.1 Introduction 31
- 2.2 The Mercantilists' Views on Trade 32

  Case Study 2-1 Munn's Mercantilistic Views on Trade 33

<sup>\*</sup> Core chapters and sections.

Case Study 2-2 Mercantilism Is Alive and Well in the Twenty-first Century 34
2.3 Trade Based on Absolute Advantage: Adam Smith 35
2.3A Absolute Advantage 35
2.3B Illustration of Absolute Advantage 36
2.4 Trade Based on Comparative Advantage: David Ricardo 37
2.4A The Law of Comparative Advantage 37
2.4B The Gains from Trade 38
2.4C The Case of No Comparative Advantage 40
2.4D Comparative Advantage with Money 40
Case Study 2-3 The Petition of the Candlemakers 42
2.5 Comparative Advantage and Opportunity Costs 43
2.5A Comparative Advantage and the Labor Theory of Value 43
2.5B The Opportunity Cost Theory 44
2.5°C The Production Possibility Frontier under Constant Costs 44
2.5D Opportunity Costs and Relative Commodity Prices 46
2.6 The Basis for and the Gains from Trade under Constant Costs 47
2.6A Illustration of the Gains from Trade 47
2.6B Relative Commodity Prices with Trade 48
2.7 Empirical Tests of the Ricardian Model 50
Case Study 2-4 Relative Unit Labor Costs and Relative Exports—United States
and Japan 51
Summary 53 • A Look Ahead 54 • Key Terms 55 • Problems 55
Appendix: 56 Appendix: A2.1 Comparative Advantage with More Than Two
Commodities 57 Appendix: A2.2 Comparative Advantage with More Than Two Nations 58
Selected Bibliography 59
INTERNet 60
*Chapter 3: The Standard Theory of International Trade 61
3.1 Introduction 61
3.2 The Production Frontier with Increasing Costs 62
3.2A Illustration of Increasing Costs 62
3.2B The Marginal Rate of Transformation 63
3.2C Reasons for Increasing Opportunity Costs and Different Production Frontiers 64
3.3 Community Indifference Curves 65
3.3A Illustration of Community Indifference Curves 65
3.3B The Marginal Rate of Substitution 66
3.3C Some Difficulties with Community Indifference Curves 66

3.4 Equilibrium in Isolation 67
3.4A Illustration of Equilibrium in Isolation 67
3.4B Equilibrium-Relative Commodity Prices and Comparative Advantage 68
Case Study 3-1 Comparative Advantage of the United States, the European Union, and Japan 69
3.5 The Basis for and the Gains from Trade with Increasing Costs 70
3.5A Illustrations of the Basis for and the Gains from Trade with Increasing Costs 70
3.5B Equilibrium-Relative Commodity Prices with Trade 72
3.5C Incomplete Specialization 72
Case Study 3-2 Specialization and Export Concentration in Selected Countries 73
3.5D Small-Country Case with Increasing Costs 74
3.5E The Gains from Exchange and from Specialization 74
Case Study 3-3 Job Losses in High U.S. Import-Competing Industries 76
Case Study 3-4 International Trade and Deindustrialization in the United States, the European Union, and Japan 77
3.6 Trade Based on Differences in Tastes 78
3.6A Illustration of Trade Based on Differences in Tastes 78
Summary 79 • A Look Ahead 80 • Key Terms 81 • Problems 81
Appendix: 82 Appendix: A3.1 Production Functions, Isoquants, Isocosts, and Equilibrium 83 Appendix: A3.2 Production Theory with Two Nations, Two Commodities, and Two Factors 84 Appendix: A3.3 Derivation of the Edgeworth Box Diagram and Production Frontiers 85 Appendix: A3.4 Some Important Conclusions 88
Selected Bibliography 89
INTERNet 90
*Chapter 4: Demand and Supply, Offer Curves, and the Terms of Trade 93
4.1 Introduction 93
4.2 The Equilibrium-Relative Commodity Price with Trade—Partial Equilibrium Analysis 94
Case Study 4-1 Demand, Supply, and the International Price of Petroleum 96
Case Study 4-2 The Index of Export to Import Prices for the United States 97
4.3 Offer Curves 98
4.3A Origin and Definition of Offer Curves 98
4.3B Derivation and Shape of the Offer Curve of Nation 1 98
4.3C Derivation and Shape of the Offer Curve of Nation 2 99

4.4 The Equilibrium-Relative Commodity Price with Trade—General Equilibrium Analysis 101
4.5 Relationship between General and Partial Equilibrium Analyses 102
4.6 The Terms of Trade 104
4.6A Definition and Measurement of the Terms of Trade 104
4.6B Illustration of the Terms of Trade 104
4.6C Usefulness of the Model 105
Case Study 4-3 The Terms of Trade of the G-7 Countries 105
Case Study 4-4 The Terms of Trade of Industrial and Developing Countries 106
Summary 107 • A Look Ahead 108 • Key Terms 108 • Problems 108
Appendix: 109 Appendix: A4.1 Derivation of a Trade Indifference Curve for Nation 1 110 Appendix: A4.2 Derivation of Nation 1's Trade Indifference Map 111 Appendix: A4.3 Formal Derivation of Nation 1's Offer Curve 112 Appendix: A4.4 Outline of the Formal Derivation of Nation 2's Offer Curve 114 Appendix: A4.5 General Equilibrium of Production, Consumption, and Trade 114 Appendix: A4.6 Multiple and Unstable Equilibria 116
Selected Bibliography 118
INTERNet 118
*Chapter 5: Factor Endowments and the Heckscher-Ohlin Theory 119
5.1 Introduction 119
5.2 Assumptions of the Theory 120
5.2A The Assumptions 120
5.2B Meaning of the Assumptions 121
5.3 Factor Intensity, Factor Abundance, and the Shape of the Production Frontier 122
5.3A Factor Intensity 123
5.3B Factor Abundance 125
5.3C Factor Abundance and the Shape of the Production Frontier 126
Case Study 5-1 Relative Resource Endowment of Various Countries 127
Case Study 5-2 Capital-Labor Ratios of Selected Countries 128
5.4 Factor Endowments and the Heckscher-Ohlin Theory 129
5.4A The Heckscher–Ohlin Theorem 130
5.4B General Equilibrium Framework of the Heckscher–Ohlin Theory 130
5.4C Illustration of the Heckscher–Ohlin Theory 132
Case Study 5-3 Classification of Major Product Categories in Terms of Factor Intensity 134
Case Study 5-4 The Factor Intensity of Trade of Various Countries 135

5.5 Factor-Price Equalization and Income Distribution 136
5.5A The Factor–Price Equalization Theorem 136
5.5B Relative and Absolute Factor-Price Equalization 137
5.5C Effect of Trade on the Distribution of Income 139
5.5D The Specific-Factors Model 140
5.5E Empirical Relevance 141
Case Study 5-5 Convergence of Real Wages among Industrial Countries 142
5.6 Empirical Tests of the Heckscher–Ohlin Model 143
5.6A Empirical Results—The Leontief Paradox 143
5.6B Explanations of the Leontief Paradox and Other Empirical Tests of the H–O Model 144
Case Study 5-6 Capital and Labor Requirements in U.S. Trade 145
Case Study 5-7 The H—O Model with Skills and Land 148
5.6C Factor-Intensity Reversal 149
Summary 151 • A Look Ahead 152 • Key Terms 152 • Problems 153
Appendix: 154 Appendix: A5.1 The Edgeworth Box Diagram for Nation 1 and Nation 2 155 Appendix: A5.2 Relative Factor—Price Equalization 156 Appendix: A5.3 Absolute Factor—Price Equalization 158 Appendix: A5.4 Effect of Trade on the Short–Run Distribution of Income: The Specific–Factors Model 159 Appendix: A5.5 Illustration of Factor–Intensity Reversal 161 Appendix: A5.6 The Elasticity of Substitution and Factor–Intensity Reversal 162 Appendix: A5.7 Empirical Tests of Factor–Intensity Reversal 163
Selected Bibliography 164
INTERNet 168
*Chapter 6: Economies of Scale, Imperfect Competition, and International Trade 169  6.1 Introduction 169
6.2 The Heckscher–Ohlin Model and New Trade Theories 170
6.3 Economies of Scale and International Trade 172
Case Study 6-1 The New International Economies of Scale 174
6.4 Imperfect Competition and International Trade 175
6.4A Trade Based on Product Differentiation 175
Case Study 6-2 U.S. Intra-Industry Trade in Automotive Products 175
Case Study 6-3 Variety Gains with International Trade 177
6.4B Measuring Intra-Industry Trade 179
Case Study 6-4 Growth of Intra-Industry Trade 180
6.4C Formal Model of Intra-Industry Trade 181
6.4D Another Version of the Intra-Industry Trade Model 183
,

**xviii** Contents

6.5 Trade Based on Dynamic Technological Differences 184
6.5A Technological Gap and Product Cycle Models 184
6.5B Illustration of the Product Cycle Model 186
Case Study 6-5 The United States as the Most Competitive Economy 187
6.6 Costs of Transportation, Environmental Standards, and International Trade 188
6.6A Costs of Transportation and Nontraded Commodities 189
6.6B Costs of Transportation and the Location of Industry 190
6.6C Environmental Standards, Industry Location, and International Trade 191
Case Study 6-6 Environmental Performance Index 192
Summary 193 • A Look Ahead 194 • Key Terms 194 • Problems 194
Appendix: 195 Appendix: A6.1 External Economies and the Pattern of Trade 195 Appendix: A6.2 Dynamic External Economies and Specialization 197
Selected Bibliography 198
INTERNet 201
*Chapter 7: Economic Growth and International Trade 203
7.1 Introduction 203
7.2 Growth of Factors of Production 204
7.2A Labor Growth and Capital Accumulation over Time 205
7.2B The Rybczynski Theorem 206
7.3 Technical Progress 208
7.3A Neutral, Labor-Saving, and Capital-Saving Technical Progress 208
7.3B Technical Progress and the Nation's Production Frontier 209
Case Study 7-1 Growth in the Capital Stock per Worker of Selected  Countries 210
7.4 Growth and Trade: The Small-Country Case 211
7.4A The Effect of Growth on Trade 212
7.4B Illustration of Factor Growth, Trade, and Welfare 212
7.4C Technical Progress, Trade, and Welfare 214
7.5 Growth and Trade: The Large-Country Case 215
7.5A Growth and the Nation's Terms of Trade and Welfare 215
Case Study 7-2 Growth in Output per Worker from Capital Deepening, Technological Change, and Improvements in Efficiency 216
7.5B Immiserizing Growth 217
7.5C Illustration of Beneficial Growth and Trade 219
Case Study 7-3 Growth and the Emergence of New Economic Giants 221

9	7.6 Growth, Change in Tastes, and Trade in Both Nations 222
	7.6A Growth and Trade in Both Nations 222
	7.6B Change in Tastes and Trade in Both Nations 224
	Case Study 7-4 Growth, Trade, and Welfare in the Leading Industrial Countries 225
	Summary 226 • A Look Ahead 227 • Key Terms 227 • Problems 227
	Appendix: 228 Appendix: A7.1 Formal Proof of the Rybczynski Theorem 229 Appendix: A7.2 Growth with Factor Immobility 231 Appendix: A7.3 Graphical Analysis of Hicksian Technical Progress 232
9	Selected Bibliography 234
,	INTERNet 235
Two Issues	Development To the Development
ART TWO: INTE	RNATIONAL TRADE POLICY
+Clar	anton 9. To 1. Destrictions Torico 220
	apter 8: Trade Restrictions: Tariffs 239 8.1 Introduction 239
,	8.1 Introduction 239  Case Study 8-1 Average Tariff on Nonagricultural Products in Major Developed
	Case Study 8-1 Average Largy on Inonagricultural Froducts in Major Developed  Countries 241
	Case Study 8-2 Average Tariffs on Nonagricultural Products in Some Major Developing Countries 241
8	8.2 Partial Equilibrium Analysis of a Tariff 242
	8.2A Partial Equilibrium Effects of a Tariff 242
/	8.2B Effect of a Tariff on Consumer and Producer Surplus 244
	8.2C Costs and Benefits of a Tariff 245
	Case Study 8-3 The Welfare Effect of Liberalizing Trade in Some U.S.  Products 247
	Case Study 8-4 The Welfare Effect of Liberalizing Trade in Some EU  Products 248
3	8.3 The Theory of Tariff Structure 249
	8.3A The Rate of Effective Protection 249
	8.3B Generalization and Evaluation of the Theory of Effective Protection 250
	Case Study 8-5 Rising Tariff Rates with Degree of Domestic Processing 251
	8.4 General Equilibrium Analysis of a Tariff in a Small Country 252
	Case Study 8-6 Structure of Tariffs on Industrial Products in the United States, the European Union, Japan, and Canada 252

8.4A General Equilibrium Effects of a Tariff in a Small Country 2548.4B Illustration of the Effects of a Tariff in a Small Country 254

8.4C The Stolper–Samuelson Theorem 256

8.5 General Equilibrium Analysis of a Tariff in a Large Country 257
8.5A General Equilibrium Effects of a Tariff in a Large Country 257
8.5B Illustration of the Effects of a Tariff in a Large Country 258
8.6 The Optimum Tariff 259
8.6A The Meaning of the Concept of Optimum Tariff and Retaliation 26
8.6B Illustration of the Optimum Tariff and Retaliation 260
Summary 262 • A Look Ahead 263 • Key Terms 263 • Problems 263
Appendix: 265 Appendix: A8.1 Partial Equilibrium Effects of a Tariff in a Large Nation 265 Appendix: A8.2 Derivation of the Formula for the Rate of Effective Protection 267 Appendix: A8.3 The Stolper—Samuelson Theorem Graphically 268 Appendix: A8.4 Exception to the Stolper—Samuelson Theorem—The Metzler Paradox 270 Appendix: A8.5 Short–Run Effect of a Tariff on Factors' Income 271 Appendix: A8.6 Measurement of the Optimum Tariff 273
Selected Bibliography 274
INTERNet 276
*Chapter 9: Nontariff Trade Barriers and the New Protectionism 279
9.1 Introduction 279
9.2 Import Quotas 280
9.2A Effects of an Import Quota 280
9.2B Comparison of an Import Quota to an Import Tariff 281
9.3 Other Nontariff Barriers and the New Protectionism 282
9.3A Voluntary Export Restraints 283
9.3B Technical, Administrative, and Other Regulations 283
Case Study 9-1 Voluntary Export Restraints (VERs) on Japanese Automobiles to the United States and Europe 284
9.3C International Cartels 285
9.3D Dumping 286
9.3E Export Subsidies 287
Case Study 9-2 Antidumping Measures in Force in 2007 288
Case Study 9-3 Agricultural Subsidies in OECD Countries 289
Case Study 9-4 Pervasiveness of Nontariff Barriers 290
9.4 The Political Economy of Protectionism 292
9.4A Fallacious and Questionable Arguments for Protection 292
9.4B The Infant-Industry and Other Qualified Arguments for Protection 293
9.4C Who Gets Protected? 294
Case Study 9-5 Economic Effects of Removing All Import Restraints on Various U.S. Sectors 295

### Case Study 9-6 Benefits to the World Economy from Complete Trade Liberalization 296

- 9.5 Strategic Trade and Industrial Policies 297
  - 9.5A Strategic Trade Policy 297
  - 9.5B Strategic Trade and Industrial Policies with Game Theory 298
  - 9.5C The U.S. Response to Foreign Industrial Targeting and Strategic Trade Policies 300
- 9.6 History of U.S. Commercial Policy 301
  - 9.6A The Trade Agreements Act of 1934 302
  - 9.6B The General Agreement on Tariffs and Trade (GATT) 303
  - 9.6C The 1962 Trade Expansion Act and the Kennedy Round 304
  - 9.6D The Trade Reform Act of 1974 and the Tokyo Round 304
  - 9.6E The 1984 and 1988 Trade Acts 305
- 9.7 The Uruguay Round, Outstanding Trade Problems, and the Doha Round 306
  - 9.7A The Uruguay Round 307
  - Case Study 9-7 Gains from the Uruguay Round 308
  - 9.7B Outstanding Trade Problems and the Doha Round 310
  - Case Study 9-8 The Multilateral Rounds of Trade Negotiations 311
  - Case Study 9-9 Benefits from a Likely Doha Scenario 312

### Summary 313 • A Look Ahead 315 • Key Terms 315 • Problems 316

Appendix: 317 Appendix: A9.1 Centralized Cartels 317 Appendix: A9.2 International Price Discrimination 318 Appendix: A9.3 Tariffs, Subsidies, and Domestic Goals 319

Selected Bibliography 321

INTERNet 325

### \*Chapter 10: Economic Integration: Customs Unions and Free Trade Areas 327

- 10.1 Introduction 327
- 10.2 Trade-Creating Customs Union 329
  - 10.2A Trade Creation 329
  - 10.2B Illustration of a Trade-Creating Customs Union 329
- 10.3 Trade-Diverting Customs Unions 330
  - 10.3A Trade Diversion 331
  - 10.3B Illustration of a Trade-Diverting Customs Union 331
- 10.4 The Theory of the Second Best and Other Static Welfare Effects of Customs Unions 333
  - 10.4A The Theory of the Second Best 333

Contents

10.4B Conditions More Likely to Lead to Increased Welfare 333
10.4C Other Static Welfare Effects of Customs Unions 334
10.5 Dynamic Benefits from Customs Unions 334
10.6 History of Attempts at Economic Integration 336
10.6A The European Union 336
Case Study 10-1 Economic Profile of the EU, NAFTA, and Japan 337
Case Study 10-2 Gains from the Single EU Market 339
10.6B The European Free Trade Association 340
10.6C The North American and Other Free Trade Agreements 340
10.6D Attempts at Economic Integration among Developing Countries 342  Case Study 10-3 Mexico's Gains from NAFTA—Expectations and Outcome 343
Case Study 10-4 Economic Profile of Mercosur 345
10.6E Economic Integration in Central and Eastern Europe and in the Former Soviet Republics 346
Case Study 10-5 Changes in Trade Patterns with Economic Integration 346
Summary 349 • A Look Ahead 350 • Key Terms 351 • Problems 351
Appendix: 352 Appendix: A10.1 General Equilibrium Analysis of the Static Effects of a Trade-Diverting Customs Union 352 Appendix: A10.2 Regional Trade Agreements Around the World 354  Selected Bibliography 355
INTERNet 358
*Chapter 11: International Trade and Economic Development 361
11.1 Introduction 361
11.2 The Importance of Trade to Development 362
11.2A Trade Theory and Economic Development 363
11.2B Trade as an Engine of Growth 364
11.2C The Contributions of Trade to Development 365
11.2D International Trade and Endogenous Growth Theory 366
Case Study 11-1 The East Asian Miracle of Growth and Trade 367
11.3 The Terms of Trade and Economic Development 369
11.3A The Various Terms of Trade 369
11.3B Alleged Reasons for Deterioration in the Commodity Terms of Trade 370
11.3C Historical Movement in the Commodity and Income Terms of Trade 371
Case Study 11-2 Change in Commodity Prices over Time 374
11.4 Export Instability and Economic Development 374

11.4B Measurements of Export Instability and Its Effect on Development 376
11.4C International Commodity Agreements 377
11.5 Import Substitution versus Export Orientation 378
11.5A Development through Import Substitution versus Exports 378
11.5B The Experience with Import Substitution 380
Case Study 11-3 The Growth of GDP of Rich Countries, Globalizers, and Nonglobalizers 381
11.5C Recent Trade Liberalization and Growth in Developing Countries 381
Case Study 11-4 Manufactures in Total Exports of Selected Developing  Countries 383
11.6 Current Problems Facing Developing Countries 383
11.6A Poverty in Developing Countries 384
11.6B The Foreign Debt Problem of Developing Countries 385
Case Study 11-5 The Foreign Debt Burden of Developing Countries 386
11.6C Trade Problems of Developing Countries 387
Case Study 11-6 Globalization and World Poverty 388  Summary 388 • A Look Ahead 390 • Key Terms 390 • Problems 390
Appendix: 391 Appendix: A11.1 Income Inequalities by Traditional and Purchasing-Power Parity (PPP) Measures 391  Selected Bibliography 392  INTERNet 398
*Chapter 12: International Resource Movements and Multinational Corporations 399
12.1 Introduction 399
12.2 Some Data on International Capital Flows 401  Case Study 12-1 Fluctuations in Foreign Direct Investment Flows to the United  States 403
12.3 Motives for International Capital Flows 404
12.3A Motives for International Portfolio Investments 404
12.3B Motives for Direct Foreign Investments 405
Case Study 12-2 The Stock of Foreign Direct Investments Around the World 407
12.4 Velfare Effects of International Capital Flows 408
<ul><li>12.4A Effects on the Investing and Host Countries 408</li><li>12.4B Other Effects on the Investing and Host Countries 410</li></ul>
12.5 Multinational Corporations 411
12.5A Reasons for the Existence of Multinational Corporations 411

11.4A Cause and Effects of Export Instability 375

440

447

449

450

Con	tents
12.5B Problems Created by Multinational Corporations in the Home Country 413	
Case Study 12-3 The World's Largest Multinational Industrial Corporations	414
Case Study 12-4 Employment of U.S. MNCs Abroad 415	
12.5C Problems Created by Multinational Corporations in the Host Country 416	
12.6 Motives for and Welfare Effects of International Labor Migration 417	
12.6A Motives for International Labor Migration 417	
12.6B Welfare Effects of International Labor Migration 418	
12.6C Other Welfare Effects of International Labor Migration 419	
Case Study 12-5 U.S. Immigration and Debate over Immigration Policy 421	
Summary 423 • A Look Ahead 424 • Key Terms 424 • Problems 425	
Appendix: 425 Appendix: A12.1 The Transfer Problem 425	
Selected Bibliography 426	
INTERNet 428	
	1
RT THREE: THE BALANCE OF PAYMENTS, FOREIGN EXCHANGE	
Markets, and Exchange Rates	
*Chapter 13: Balance of Payments 433	
13.1 Introduction 433	
13.2 Balance-of-Payments Accounting Principles 435	
13.2A Credits and Debits 435	
13.2B Double-Entry Bookkeeping 436	
13.3 The International Transactions of the United States 438	

Case Study 13-1 The Major Goods Exports and Imports of the United States

Appendix: A13.1 The IMF Method of Reporting International

Case Study 13-2 The Major Trade Partners of the United States

Case Study 13-4 The Exploding U.S. Trade Deficit with China

13.4 Accounting Balances and the Balance of Payments 13.5 The Postwar Balance of Payments of the United States

Appendix:

Transactions

**INTERNet** 

456

Selected Bibliography

456

459

Case Study 13-3 The U.S. Trade Deficit with Japan

13.6 The International Investment Position of the United States

Case Study 13-5 The United States as a Debtor Nation Summary 453 • A Look Ahead 454 • Key Terms 454 • Problems 455

458

*Chapter 14: Foreign Exchange Markets and Exchange Rates 461
14.1 Introduction 461
14.2 Functions of the Foreign Exchange Markets 462
Case Study 14-1 The U.S. Dollar as the Dominant International Currency 464
Case Study 14-2 The Birth of a New Currency: The Euro 465
14.3 Foreign Exchange Rates 466
14.3A Equilibrium Foreign Exchange Rates 466
Case Study 14-3 Foreign Exchange Quotations 469
14.3B Arbitrage 470
14.3C The Exchange Rate and the Balance of Payments 471
14.4 Spot and Forward Rates, Currency Swaps, Futures, and Options 473
14.4A Spot and Forward Rates 474
14.4B Currency Swaps 475
14.4C Foreign Exchange Futures and Options 475
Case Study 14-4 Size, Currency, and Geographic Distribution of the Foreign Exchange Market 476
14.5 Foreign Exchange Risks, Hedging, and Speculation 477
14.5A Foreign Exchange Risks 478
14.5B Hedging 481
14.5C Speculation 482
14.6 Interest Arbitrage and the Efficiency of Foreign Exchange Markets 484
14.6A Uncovered Interest Arbitrage 485
14.6B Covered Interest Arbitrage 485
14.6C Covered Interest Arbitrage Parity 486
14.6D Covered Interest Arbitrage Margin 488
14.6E Efficiency of Foreign Exchange Markets 490
14.7 Eurocurrency or Offshore Financial Markets 491
14.7A Description and Size of the Eurocurrency Market 491
14.7B Reasons for the Development and Growth of the Eurocurrency Market 492
Case Study 14-5 Size and Growth of Eurocurrency Market 493
14.7C Operation and Effects of the Eurocurrency Market 494
14.7D Eurobond and Euronote Markets 495
Summary 496 • A Look Ahead 498 • Key Terms 498 • Problems 498
Appendix: 500 Appendix: A14.1 Derivation of the Formula for the Covered Interest Arbitrage Margin 500

**Selected Bibliography** 501

INTERNet 503

*Chapter	15:	Exchange	Rate	Determination	505
----------	-----	----------	------	---------------	-----

- 15.1 Introduction 505
- 15.2 Purchasing-Power Parity Theory 506
  - 15.2A Absolute Purchasing-Power Parity Theory 506
  - 15.2B Relative Purchasing-Power Parity Theory 507
  - Case Study 15-1 Absolute Purchasing-Power Parity in the Real World 508
  - Case Study 15-2 The Big Mac Index and the Law of One Price 509
  - 15.2C Empirical Tests of the Purchasing-Power Parity Theory 511
  - Case Study 15-3 Relative Purchasing-Power Parity in the Real World 512
- 15.3 Monetary Approach to the Balance of Payments and Exchange Rates 514
  - 15.3A Monetary Approach under Fixed Exchange Rates 514
  - 15.3B Monetary Approach under Flexible Exchange Rates 516
  - 15.3C Monetary Approach to Exchange Rate Determination 518
  - 15.3D Expectations, Interest Differentials, and Exchange Rates 520
  - Case Study 15-4 Monetary Growth and Inflation 521
  - Case Study 15-5 Nominal and Real Exchange Rates, and the Monetary
    Approach 522
  - Case Study 15-6 Interest Differentials, Exchange Rates, and the Monetary
    Approach 523
- 15.4 Portfolio Balance Model and Exchange Rates 524
  - 15.4A Portfolio Balance Model 524
  - 15.4B Extended Portfolio Balance Model 526
  - 15.4C Portfolio Adjustments and Exchange Rates 529
- 15.5 Exchange Rate Dynamics 530
  - 15.5A Exchange Rate Overshooting 530
  - 15.5B Time Path to a New Equilibrium Exchange Rate 531
- 15.6 Empirical Tests of the Monetary and Portfolio Balance Models and Exchange Rate Forecasting 534
  - Case Study 15-7 Exchange Rate Overshooting of the U.S. Dollar 534
  - Case Study 15-8 The Euro Exchange Rate Defies Forecasts 537

### Summary 538 • A Look Ahead 540 • Key Terms 540 • Problems 540

- Appendix: 542 Appendix: A15.1 Formal Monetary Approach Model 542 Appendix: A15.2 Formal Portfolio Balance Model and Exchange Rates 544
- Selected Bibliography 545
- INTERNet 549

Contents

# PART FOUR: OPEN-ECONOMY MACROECONOMICS AND THE INTERNATIONAL MONETARY SYSTEM

# \*Chapter 16: The Price Adjustment Mechanism with Flexible and Fixed Exchange Rates 553

- 16.1 Introduction 553
- 16.2 Adjustment with Flexible Exchange Rates 554
  - 16.2A Balance-of-Payments Adjustments with Exchange Rate Changes 555

xxvii

- 16.2B Derivation of the Demand Curve for Foreign Exchange 556
- 16.2C Derivation of the Supply Curve for Foreign Exchange 558
- 16.3 Effect of Exchange Rate Changes on Domestic Prices and the Terms of Trade 559
  - Case Study 16-1 Currency Depreciation and Inflation in Developing Countries

    During the 1997–1998 East Asian Crisis 560
- 16.4 Stability of Foreign Exchange Markets 561
  - 16.4A Stable and Unstable Foreign Exchange Markets 561
  - 16.4B The Marshall-Lerner Condition 563
- 16.5 Elasticities in the Real World 564
  - 16.5A Elasticity Estimates 564
  - 16.5B The J-Curve Effect and Revised Elasticity Estimates 566
  - 16.5C Currency Pass-Through 567
  - Case Study 16-2 Estimated Price Elasticities in International Trade 568
  - Case Study 16-3 Effective Exchange Rate of the Dollar and U.S. Current Account
    Balance 568
  - Case Study 16-4 Dollar Depreciation and the U.S. Current Account Balance 570
  - Case Study 16-5 Exchange Rates and Current Account Balances during the European Financial Crisis of the Early 1990s 571
  - Case Study 16-6 Exchange Rate Pass-Through to Import Prices in Industrial

    Countries 572
- 16.6 Adjustment under the Gold Standard 573
  - 16.6A The Gold Standard 573
  - 16.6B The Price-Specie-Flow Mechanism 575

### Summary 576 • A Look Ahead 577 • Key Terms 578 • Problems 578

Appendix: 579 Appendix: A16.1 The Effect of Exchange Rate Changes on Domestic Prices 579 Appendix: A16.2 Derivation of the Marshall–Lerner Condition 580 Appendix: A16.3 Derivation of the Gold Points and Gold Flows under the Gold Standard 583

Selected Bibliography 584

INTERNet 587

### \*Chapter 17: The Income Adjustment Mechanism and Synthesis of Automatic Adjustments 589

- 17.1 Introduction 589
- 17.2 Income Determination in a Closed Economy 590
  - 17.2A Determination of the Equilibrium National Income in a Closed Economy 591
  - 17.2B Multiplier in a Closed Economy 593
- 17.3 Income Determination in a Small Open Economy 594
  - 17.3A Import Function 595
  - Case Study 17-1 Income Elasticity of Imports 596
  - 17.3B Determination of the Equilibrium National Income in a Small Open Economy 597
  - Case Study 17-2 Private Sector and Current Account Balances in the G-7
    Countries 598
  - 17.3C Graphical Determination of the Equilibrium National Income 598
  - 17.3D Foreign Trade Multiplier 600
  - Case Study 17-3 Growth in the United States and the World and U.S. Current Account Deficits 602
  - Case Study 17-4 Growth and Current Account Balance in Developing

    Economies 603
- 17.4 Foreign Repercussions 604
  - Case Study 17-5 Effect of the Asian Financial Crisis of the Late 1990s on OECD

    Countries 607
- 17.5 Absorption Approach 608
- 17.6 Monetary Adjustments and Synthesis of the Automatic Adjustments 609
  - 17.6A Monetary Adjustments 609
  - 17.6B Synthesis of Automatic Adjustments 610
  - 17.6C Disadvantages of Automatic Adjustments 611
  - Case Study 17-6 Interdependence in the World Economy 612

### Summary 614 • A Look Ahead 615 • Key Terms 615 • Problems 616

Appendix: 617 Appendix: A17.1 Derivation of Foreign Trade Multipliers with Foreign Repercussions 617 Appendix: A17.2 The Transfer Problem Once Again 619

Selected Bibliography 621

INTERNet 622

### \*Chapter 18: Open-Economy Macroeconomics: Adjustment Policies 625

18.1 Introduction 625

xxix
Case Study 18-1 Government, Private-Sector, and Current Account Balances in the G-7 Countries 627
18.2 Internal and External Balance with Expenditure-Changing and Expenditure-Switching Policies 628
18.3 Equilibrium in the Goods Market, in the Money Market, and in the Balance of Payments 631
18.4 Fiscal and Monetary Policies for Internal and External Balance with Fixed Exchange Rates 634
18.4A Fiscal and Monetary Policies from External Balance and Unemployment 634
18.4B Fiscal and Monetary Policies from External Deficit and Unemployment 636
18.4C Fiscal and Monetary Policies with Elastic Capital Flows 636
Case Study 18-2 Relationship between U.S. Current Account and Budget Deficits 639
18.4D Fiscal and Monetary Policies with Perfect Capital Mobility 640
Case Study 18-3 Effect of U.S. Fiscal Policy in the United States and Abroad 641
18.5 The IS-LM-BP Model with Flexible Exchange Rates 643
18.5A The IS–LM–BP Model with Flexible Exchange Rates and Imperfect Capital Mobility 643
18.5B The IS–LM–BP Model with Flexible Exchange Rates and Perfect Capital Mobility 644
Case Study 18-4 Effect of Monetary Policy in the United States and Other OECD Countries 646
18.6 Policy Mix and Price Changes 647
18.6A Policy Mix and Internal and External Balance 648
18.6B Evaluation of the Policy Mix with Price Changes 650
18.6C Policy Mix in the Real World 651
18.7 Direct Controls 652
18.7A Trade Controls 653
18.7B Exchange Controls 653
Case Study 18-5 Direct Controls on International Transactions Around the World 655
18.7c Other Direct Controls and International Cooperation 656
Summary 656 • A Look Ahead 658 • Key Terms 658 • Problems 659
Appendix: 660 Appendix: A18.1 Derivation of the IS Curve 660  Appendix: A18.2 Derivation of the LM Curve 662 Appendix: A18.3

Derivation of the BP Curve 663 Appendix: A18.4 Mathematical Summary 665

Selected Bibliography INTERNet 668

**XXX** Contents

*Chapter 19:	Prices and	Output in an	Open 1	Economy:	Aggregate
	Demand as	nd Aggregate	Supply	669	

- 19.1 Introduction 669
- 19.2 Aggregate Demand, Aggregate Supply, and Equilibrium in a Closed Economy 670
  - 19.2A Aggregate Demand in a Closed Economy 670
  - 19.2B Aggregate Supply in the Long Run and in the Short Run 672
  - 19.2c Short-Run and Long-Run Equilibrium in a Closed Economy 673
  - Case Study 19-1 Deviations of Short-Run Outputs from the Natural Level in the United States 675
- 19.3 Aggregate Demand in an Open Economy under Fixed and Flexible Exchange Rates 676
  - 19.3A Aggregate Demand in an Open Economy under Fixed Exchange Rates 677
  - 19.3B Aggregate Demand in an Open Economy under Flexible Exchange Rates 678
- 19.4 Effect of Economic Shocks and Macroeconomic Policies on Aggregate Demand in Open Economies with Flexible Prices 679
  - 19.4A Real-Sector Shocks and Aggregate Demand 680
  - 19.4B Monetary Shocks and Aggregate Demand 683
  - 19.4C Fiscal and Monetary Policies and Aggregate Demand in Open Economies 682
- 19.5 Effect of Fiscal and Monetary Policies in Open Economies with Flexible Prices 683
  - Case Study 19-2 Central Bank Independence and Inflation in Industrial

    Countries 685
- 19.6 Macroeconomic Policies to Stimulate Growth and Adjust to Supply Shocks 687
  - 19.6A Macroeconomic Policies for Growth 687
  - 19.6B Macroeconomic Policies to Adjust to Supply Shocks 687
  - Case Study 19-3 Petroleum Shocks and Stagflation in the United States 690
  - Case Study 19-4 Impact of an Increase in the Price of Petroleum 691

Summary 692 • A Look Ahead 693 • Key Terms 694 • Problems 694 Selected Bibliography 695

INTERNet 697

### \*Chapter 20: Flexible versus Fixed Exchange Rates, the European Monetary System, and Macroeconomic Policy Coordination 699

- 20.1 Introduction 700
- 20.2 The Case for Flexible Exchange Rates 701

Contents

20.2A Market Efficiency 701
20.2B Policy Advantages 702
20.3 The Case for Fixed Exchange Rates 703
20.3A Less Uncertainty 703
20.3B Stabilizing Speculation 705
20.3C Price Discipline 707
Case Study 20-1 Macroeconomic Performance under Fixed and Flexible Exchange Rate Regimes 708
20.4 Optimum Currency Areas, the European Monetary System, and the European Monetary Union 710
20.4A Optimum Currency Areas 710
20.4B European Monetary System (1979–1998) 711
Case Study 20-2 The 1992–1993 Currency Crisis in the European Monetary System 712
20.4C Transition to Monetary Union 713
20.4D Creation of the Euro 714
20.4E The European Central Bank and the Common Monetary Policy 716
Case Study 20-3 Benefits and Costs of the Euro 716
20.5 Currency Boards Arrangements and Dollarization 718
20.5A Currency Board Arrangements 718
20.5B Dollarization 719
Case Study 20-4 Argentina's Currency Board Arrangements and Crisis 719
20.6 Exchange Rate Bands, Adjustable Pegs, Crawling Pegs, and Managed Floating 720
20.6A Exchange Rate Bands 720
20.6B Adjustable Peg Systems 721
20.6C Crawling Pegs 722
20.6D Managed Floating 722
Case Study 20-5 Exchange Rate Arrangements of IMF Members 725
20.7 International Macroeconomic Policy Coordination 726
Summary 728 • A Look Ahead 730 • Key Terms 730 • Problems 731
Appendix: 736 Appendix: A20.1 Exchange Rate Arrangements 736
Selected Bibliography 736
INTERNet 740

xxxi

# \*Chapter 21: The International Monetary System: Past, Present, and Future 741

- 21.1 Introduction 741
- 21.2 The Gold Standard and the Interwar Experience 743

21.2A The Gold Standard Period (1880–1914) 21.2B The Interwar Experience 745 21.3 The Bretton Woods System 21.3A The Gold-Exchange Standard (1947–1971) 21.3B Borrowing from the International Monetary Fund 21.4 Operation and Evolution of the Bretton Woods System 21.4A Operation of the Bretton Woods System 749 21.4B Evolution of the Bretton Woods System 750 Case Study 21-1 Macroeconomic Performance under Different Exchange Rate Regimes 21.5 U.S. Balance-of-Payments Deficits and Collapse of the Bretton Woods System 753 21.5A U.S. Balance-of-Payments Deficits 21.5B Collapse of the Bretton Woods System 21.6 The International Monetary System: Present and Future 758 21.6A Operation of the Present System 21.6B Current IMF Operation 21.6C Problems with Present Exchange Rate Arrangements 761 21.6D Proposals for Reforming Present Exchange Rate Arrangements 764 21.6E Financial Crises in Emerging Market Economies Case Study 21-2 Chronology of Economic Crises in Emerging Markets: From Asia to Argentina Case Study 21-3 The Financial Crisis in the United States and Other Advanced Economies 21.6F Other Current International Economic Problems Case Study 21-4 Trade Imbalances of the Leading Industrial Nations 772

Summary 775 • Key Terms 777 • Problems 777

Appendix: 778 Appendix: A21.1 International Reserves: 1950–2008 778

Selected Bibliography 780

INTERNet 784

Glossary of Key Terms 787

Index 801