

MULTINATIONAL FINANCIAL MANAGEMENT

Alan C. Shapiro

University of Southern California

Paul Hanouna

Villanova University

WILEY

CONTENTS IN BRIEF

PART I THE INTERNATIONAL FINANCIAL MANAGEMENT ENVIRONMENT

1	Introduction: Multinational Corporations and Financial Management	3
2	The Determination of Exchange Rates	37
3	The International Monetary System	63
4	Parity Conditions in International Finance and Currency Forecasting	101
5	The Balance of Payments and International Economic Linkages	139

PART II THE FOREIGN EXCHANGE AND DERIVATIVE MARKETS

6	The Foreign Exchange Market	167
7	Currency Futures and Options Markets	189
8	Currency, Interest Rate, and Credit Derivatives and Swaps	217

PART III FOREIGN EXCHANGE RISK MANAGEMENT

9	Measuring and Managing Translation and Transaction Exposure	245
10	Measuring and Managing Economic Exposure	287

**PART IV THE INTERNATIONAL CAPITAL MARKETS AND PORTFOLIO
MANAGEMENT**

11	International Financing and National Capital Markets	325
12	The Euromarkets	348
13	International Portfolio Management	368

PA RT V INTERNATIONAL CAPITAL BUDGETING

14	Country Risk Analysis	395
15	The Cost of Capital for Foreign Investments	427
16	Corporate Strategy and Foreign Direct Investment	457
17	Capital Budgeting for the Multinational Corporation	477
18	Managing the Internal Capital Markets of Multinational Corporations	509
	Glossary	G-1
	Index	1-1

CONTENTS

List of Figures	xix
List of Tables	xxiii
Preface	xxvii
World Currencies and Symbols	xxxix
Acronyms and Symbols	xxxv

PART I THE INTERNATIONAL FINANCIAL MANAGEMENT ENVIRONMENT

1	Introduction: Multinational Corporations and Financial Management	3
1.1	THE RISE OF THE MULTINATIONAL CORPORATION	4
1.1.1	Evolution of the Multinational Corporation	7
1.1.2	The Process of Overseas Expansion by Multinationals	14
1.1.3	A Behavioral Definition of the Multinational Corporation	17
1.1.4	The Global Manager	18
1.2	THE INTERNATIONALIZATION OF BUSINESS AND FINANCE	18
1.2.1	Political and Labor Union Concerns About Global Competition	19
1.2.2	Consequences of Global Competition	22
1.3	MULTINATIONAL FINANCIAL MANAGEMENT: THEORY AND PRACTICE	24
1.3.1	Functions of Financial Management	25
1.3.2	Theme of This Book	25
1.3.3	Relationship to Domestic Financial Management	26
1.3.4	The Global Financial Marketplace	28
1.3.5	The Role of the Financial Executive in an Efficient Market	28

1.4	OUTLINE OF THE BOOK	29
1.4.1	The International Financial Management Environment	29
1.4.2	The Foreign Exchange and Derivatives Markets	29
1.4.3	Foreign Exchange Risk Management	29
1.4.4	The International Capital Markets and Portfolio Management	29
1.4.5	International Capital Budgeting	30
	Questions	30
Appendix:	The Origins and Consequences of International Trade	31
	Questions	35
2	The Determination of Exchange Rates	37
2.1	/ SETTING THE EQUILIBRIUM SPOT EXCHANGE RATE	38
2.1.1	Factors That Affect the Equilibrium Exchange Rate	39
2.1.2	Calculating Exchange Rate Changes	41
2.2	EXPECTATIONS AND THE ASSET MARKET MODEL OF EXCHANGE RATES	43
2.2.1	The Nature of Money and Currency Values	44
2.2.2	Central Bank Reputations and Currency Values	44
2.3	THE FUNDAMENTALS OF CENTRAL BANK INTERVENTION	49
2.3.1	How Real Exchange Rates Affect Relative Competitiveness	50
2.3.2	Foreign Exchange Market Intervention	50
2.3.3	The Effects of Foreign Exchange Market Intervention	53
2.4	THE EQUILIBRIUM APPROACH TO EXCHANGE RATES	55
2.5	DISEQUILIBRIUM THEORY AND EXCHANGE RATE OVERSHOOTING	55
2.5.1	The Equilibrium Theory of Exchange Rates and Its Implications	56
2.6	CONCLUSIONS	58
	Questions	60
	Problems	61
References		62
3	The International Monetary System	63
3.1	ALTERNATIVE EXCHANGE RATE SYSTEMS	64
3.1.1	The Trilemma and Exchange Rate Regime Choice	64
3.1.2	Free Float	66
3.1.3	Managed Float	67
3.1.4	Target-Zone Arrangement	69
3.1.5	Fixed Rate System	69
3.2	A BRIEF HISTORY OF THE INTERNATIONAL MONETARY SYSTEM	70
3.2.1	The Classical Gold Standard	71
3.2.2	How the Classical Gold Standard Worked in Practice: 1821-1914	73
3.2.3	The Gold Exchange Standard and Its Aftermath: 1925-1944	73
3.2.4	The Bretton Woods System: 1946-1971	74
3.2.5	The Post-Bretton Woods System: 1971 to the Present	76
3.2.6	Assessment of the Floating Rate System	77
3.3	THE EUROPEAN MONETARY SYSTEM AND MONETARY UNION	78
3.3.1	The Exchange Rate Mechanism	79
3.3.2	Lessons from the European Monetary System	79
3.3.3	The Currency Crisis of September 1992	79

3.3.4	The Exchange Rate Mechanism Is Abandoned in August 1993	80
3.3.5	European Monetary Union	81
3.3.6	Optimum Currency Area	88
3.3.7	Exchange Rate Regimes Today	93
3.4	EMERGING MARKET CURRENCY CRISES	96
3.4.1	Transmission Mechanisms	96
3.4.2	Origins of Emerging Market Crises	96
3.4.3	Policy Proposals for Dealing with Emerging Market Crises	97
3.5	SUMMARY AND CONCLUSIONS	98
	Questions	99
	Problems	100
References		100
4 Parity Conditions in International Finance and Currency Forecasting		101
4.1	ARBITRAGE AND THE LAW OF ONE PRICE	102
4.2	PURCHASING POWER PARITY	104
4.2.1	The Lesson of Purchasing Power Parity	108
4.2.2	Expected Inflation and Exchange Rate Changes	109
4.2.3	The Monetary Approach	110
4.2.4	Empirical Evidence	110
4.3	THE FISHER EFFECT	113
4.3.1	Empirical Evidence	114
4.4	THE INTERNATIONAL FISHER EFFECT	118
4.4.1	Empirical Evidence	119
4.5	INTEREST RATE PARITY THEORY	120
4.5.1	Empirical Evidence	123
4.6	THE RELATIONSHIP BETWEEN THE FORWARD RATE AND THE FUTURE SPOT RATE	123
4.6.1	Empirical Evidence	126
4.7	CURRENCY FORECASTING	126
4.7.1	Requirements for Successful Currency Forecasting	127
4.7.2	Market-Based Forecasts	127
4.7.3	Model-Based Forecasts	129
4.7.4	Model Evaluation	130
4.7.5	Forecasting Controlled Exchange Rates	132
4.8	SUMMARY AND CONCLUSIONS	132
	Questions	133
	Problems	135
References		137
5 The Balance of Payments and International Economic Linkages		139
5.1	BALANCE-OF-PAYMENTS CATEGORIES	140
5.1.1	Current Account	141
5.1.2	Capital Account	144
5.1.3	Financial Account	144
5.1.4	Balance-of-Payments Measures	145
5.1.5	The Missing Numbers	146

Xii CONTENTS

5.2	THE INTERNATIONAL FLOW OF GOODS, SERVICES, AND CAPITAL	146
5.2.1	Domestic Saving and Investment and the Financial Account	146
5.2.2	The Link between the Current and Financial Accounts	147
5.2.3	Government Budget Deficits and Current-Account Deficits	149
5.2.4	The Current Situation	150
5.3	COPING WITH THE CURRENT-ACCOUNT DEFICIT	153
5.3.1	Currency Depreciation	153
5.3.2	Protectionism	157
5.3.3	Ending Foreign Ownership of Domestic Assets	158
5.3.4	Boosting the Saving Rate	158
5.3.5	External Policies	159
5.3.6	Current-Account Deficits and Unemployment	160
5.3.7	The Bottom Line on Current-Account Deficits and Surpluses	161
5.4	SUMMARY AND CONCLUSIONS	161
	Questions	162
	Problems	163
	References	164

PART II THE FOREIGN EXCHANGE AND DERIVATIVE MARKETS

6	The Foreign Exchange Market	167
6.1	ORGANIZATION OF THE FOREIGN EXCHANGE MARKET	168
6.1.1	The Participants	169
6.1.2	Size	172
6.2	THE SPOT MARKET	174
6.2.1	Spot Quotations	174
6.2.2	The Mechanics of Spot Transactions	181
6.3	THE FORWARD MARKET	181
6.3.1	Forward Quotations	183
6.3.2	Forward Contract Maturities	186
6.4	SUMMARY AND CONCLUSIONS	186
	Questions	186
	Problems	187
	References	188
7	Currency Futures and Options Markets	189
7.1	FUTURES CONTRACTS	190
7.1.1	Forward Contract versus Futures Contract	191
7.2	CURRENCY OPTIONS	194
7.2.1	Market Structure	195
7.2.2	Using Currency Options	196
7.2.3	Option Pricing and Valuation	201
7.2.4	Using Forward or Futures Contracts versus Options Contracts	203
7.2.5	Futures Options	205
7.3	READING CURRENCY FUTURES AND OPTIONS PRICES	206
7.4	SUMMARY AND CONCLUSIONS	206
	Questions	208
	Problems	209

Appendix: Option Pricing Using Black-Scholes	210
A.1 The Black-Scholes Model	210
A.2 Implied Volatilities	212
A.3 Shortcomings of the Black-Scholes Option Pricing Model	212
Problems	213
Appendix: Put-Call Option Interest Rate Parity	213
Problems	215
References	215
8 Currency, Interest Rate, and Credit Derivatives and Swaps	217
8.1 INTEREST RATE AND CURRENCY SWAPS	218
8.1.1 Interest Rate Swaps	218
8.1.2 Currency Swaps	221
8.1.3 Economic Advantages of Swaps	228
8.2 INTEREST RATE FORWARDS AND FUTURES	229
8.2.1 Forward Forwards	229
8.2.2 Forward Rate Agreement	230
8.2.3 Eurodollar Futures	231
8.3 STRUCTURED NOTES	233
8.3.1 Inverse Floaters	233
8.3.2 Callable Step-Up Note	234
8.3.3 Step-Down Coupon Note	234
8.4 CREDIT DEFAULT SWAPS	235
8.4.1 Single-Name CDS	235
8.4.2 CDS Indexes	237
8.5 SUMMARY AND CONCLUSIONS	238
Questions	239
Problems	239
Reference	241

PART III FOREIGN EXCHANGE RISK MANAGEMENT

9 Measuring and Managing Translation and Transaction Exposure	245
9.1 ALTERNATIVE MEASURES OF FOREIGN EXCHANGE EXPOSURE	246
9.1.1 Translation Exposure	246
9.1.2 Transaction Exposure	246
9.1.3 Operating Exposure	247
9.2 ALTERNATIVE CURRENCY TRANSLATION METHODS	247
9.2.1 Current/Noncurrent Method	248
9.2.2 Monetary/Nonmonetary Method	248
9.2.3 Temporal Method	248
9.2.4 Current Rate Method	249
9.3 TRANSACTION EXPOSURE	251
9.4 DESIGNING A HEDGING STRATEGY	251
9.4.1 Objectives	252
9.4.2 Costs and Benefits of Standard Hedging Techniques	255
9.4.3 Centralization versus Decentralization	258
9.4.4 Managing Risk Management	259

9.4.5	Accounting for Hedging and FASB 133	260
9.4.6	Empirical Evidence on Hedging	260
9.5	MANAGING TRANSLATION EXPOSURE	261
9.5.1	Funds Adjustment	261
9.5.2	Evaluating Alternative Hedging Mechanisms	262
9.6	MANAGING TRANSACTION EXPOSURE	263
9.6.1	Forward Market Hedge	263
9.6.2	Money Market Hedge	265
9.6.3	Risk Shifting	267
9.6.4	Pricing Decisions	268
9.6.5	Exposure Netting	269
9.6.6	Currency Risk Sharing	270
9.6.7	Currency Collars	270
9.6.8	Cross-Hedging	273
9.6.9	Foreign Currency Options	274
9.7	SUMMARY AND CONCLUSIONS	277
	Questions	278
	Problems	279
	References	282
	Appendix: Statement of Financial Accounting Standards No. 52	283
10	Measuring and Managing Economic Exposure	287
10.1	FOREIGN EXCHANGE RISK AND ECONOMIC EXPOSURE	288
10.1.1	Real Exchange Rate Changes and Exchange Risk	289
10.1.2	Importance of the Real Exchange Rate	290
10.1.3	Inflation and Exchange Risk	291
10.1.4	Competitive Effects of Real Exchange Rate Changes	292
10.2	THE ECONOMIC CONSEQUENCES OF EXCHANGE RATE CHANGES	294
10.2.1	Transaction Exposure	294
10.2.2	Operating Exposure	295
10.3	IDENTIFYING ECONOMIC EXPOSURE	298
10.3.1	Aspen Skiing Company	298
10.3.2	Petroleos Mexicanos	298
10.3.3	Toyota Motor Company	299
10.4	CALCULATING ECONOMIC EXPOSURE	300
10.4.1	Spectrum's Accounting Exposure	301
10.4.2	Spectrum's Economic Exposure	301
10.5	AN OPERATIONAL MEASURE OF EXCHANGE RISK	305
10.5.1	Limitations	306
10.6	MANAGING OPERATING EXPOSURE	307
10.6.1	Marketing Management of Exchange Risk	307
10.6.2	Production Management of Exchange Risk	310
10.6.3	Planning for Exchange Rate Changes	313
10.6.4	Financial Management of Exchange Risk	314
10.7	SUMMARY AND CONCLUSIONS	316
	Questions	318
	Problems	319
	References	322

PART IV THE INTERNATIONAL CAPITAL MARKETS AND PORTFOLIO MANAGEMENT

11	International Financing and National Capital Markets	325
11.1	CORPORATE SOURCES AND USES OF FUNDS	326
11.1.1	Financial Markets versus Financial Intermediaries	326
11.1.2	Financial Systems and Corporate Governance	327
11.1.3	Globalization of Financial Markets	330
11.2	NATIONAL CAPITAL MARKETS AS INTERNATIONAL FINANCIAL CENTERS	332
11.2.1	International Financial Markets	334
11.2.2	Foreign Access to Domestic Markets	335
11.3	DEVELOPMENT BANKS	340
11.3.1	The World Bank Group	341
11.3.2	Regional and National Development Banks	342
11.3.3	Private Sector Alternatives	343
11.4	PROJECT FINANCE	344
11.5	SUMMARY AND CONCLUSIONS	345
	Questions	345
	Problems	346
	References	347
12	The Euromarkets	348
12.1	THE EUROCURRENCY MARKET	348
12.1.1	Modern Origins	349
12.1.2	Eurodollar Creation	350
12.1.3	Eurocurrency Loans	351
12.1.4	Relationship between Domestic and Eurocurrency Money Markets	353
12.1.5	Euromarket Trends	354
12.2	EUROBONDS	355
12.2.1	Swaps	355
12.2.2	Links between the Domestic and Eurobond Markets	355
12.2.3	Rationale for Existence of Eurobond Market	358
12.2.4	Eurobonds versus Eurocurrency Loans	360
12.3	NOTE ISSUANCE FACILITIES AND EURONOTES	360
12.3.1	Note Issuance Facilities versus Eurobonds	362
12.3.2	Euro-Medium-Term Notes	363
12.4	EURO-COMMERCIAL PAPER	364
12.5	THE ASIACURRENCY MARKET	365
12.6	SUMMARY AND CONCLUSIONS	365
	Questions	366
	Problems	366
	References	367
13	International Portfolio Management	368
13.1	THE RISKS AND BENEFITS OF INTERNATIONAL EQUITY INVESTING	369
13.1.1	International Diversification	370
13.1.2	Investing in Emerging Markets	376

13.1.3	Barriers to International Diversification	380
13.1.4	Ways to Invest Internationally	381
13.2	INTERNATIONAL BOND INVESTING	383
13.3	OPTIMAL INTERNATIONAL ASSET ALLOCATION	383
13.4	MEASURING THE TOTAL RETURN FROM FOREIGN PORTFOLIO INVESTING	385
13.4.1	Bonds	385
13.4.2	Stocks	385
13.5	MEASURING EXCHANGE RISK ON FOREIGN SECURITIES	386
13.5.1	Hedging Currency Risk	386
13.6	SUMMARY AND CONCLUSIONS	387
	Questions	387
i	Problems	388
	References	390

PART V INTERNATIONAL CAPITAL BUDGETING

14	Country Risk Analysis	395
14:1	LEARNING OBJECTIVES	395
14.2	MEASURING POLITICAL RISK	396
14.2.1	Political Stability	397
14.2.2	Economic Factors	399
14.2.3	Subjective Factors	400
14.3	ECONOMIC AND POLITICAL FACTORS UNDERLYING COUNTRY RISK	405
14.3.1	Fiscal Irresponsibility	406
14.3.2	Monetary Instability	406
14.3.3	Controlled Exchange Rate System	408
14.3.4	Wasteful Government Spending	408
14.3.5	Resource Base	408
14.3.6	Country Risk and Adjustment to External Shocks	409
14.3.7	Market-Oriented versus Statist Policies	410
14.3.8	Key Indicators of Country Risk and Economic Health	413
14.4	COUNTRY RISK ANALYSIS IN INTERNATIONAL LENDING	418
14.4.1	The Mathematics of Sovereign Debt Analysis	418
14.4.2	Country Risk and the Terms of Trade	420
14.4.3	The Government's Cost/Benefit Calculus	421
14.5	SUMMARY AND CONCLUSIONS	422
	Questions	424
	Problems	424
	References	426
15	The Cost of Capital for Foreign Investments	427
15.1	THE COST OF EQUITY CAPITAL	428
15.2	THE WEIGHTED AVERAGE COST OF CAPITAL FOR FOREIGN PROJECTS	429
15.3	DISCOUNT RATES FOR FOREIGN INVESTMENTS	430
15.3.1	Evidence from the Stock Market	431
15.3.2	Key Issues in Estimating Foreign Project Discount Rates	432
15.3.3	Proxy Companies	433

15.3.4	The Relevant Base Portfolio	434
15.3.5	The Relevant Market Risk Premium	438
15.3.6	Recommendations	439
15.4	THE COST OF DEBT CAPITAL	439
15.4.1	Annual Exchange Rate Change	440
15.4.2	Using Sovereign Risk Spreads	441
15.5	ESTABLISHING A WORLDWIDE CAPITAL STRUCTURE	441
15.5.1	Foreign Subsidiary Capital Structure	442
15.5.2	Joint Ventures	446
15.6	VALUING LOW-COST FINANCING OPPORTUNITIES	447
15.6.1	Taxes	448
15.6.2	Government Credit and Capital Controls	449
15.6.3	Government Subsidies and Incentives	450
15.7	SUMMARY AND CONCLUSIONS	452
	Questions	453
	Problems	454
	References	455
	16 Corporate Strategy and Foreign Direct Investment	457
16.1	THEORY OF THE MULTINATIONAL CORPORATION	458
16.1.1	Product and Factor Market Imperfections	458
16.1.2	Financial Market Imperfections	459
16.1.3	The Strategy of Multinational Enterprise	460
16.1.4	Innovation-Based Multinationals	460
16.1.5	The Mature Multinationals	460
16.1.6	The Senescent Multinationals	463
16.1.7	Foreign Direct Investment and Survival	464
16.2	DESIGNING A GLOBAL EXPANSION STRATEGY	469
16.2.1	Awareness of Profitable Investments	469
16.2.2	Selecting a Mode of Entry	469
16.2.3	Auditing the Effectiveness of Entry Modes	470
16.2.4	Using Appropriate Evaluation Criteria	471
16.2.5	Estimating the Longevity of a Competitive Advantage	471
16.3	SUMMARY AND CONCLUSIONS	472
	Questions	474
	Problems	475
	References	475
	17 Capital Budgeting for the Multinational Corporation	477
17.1	BASICS OF CAPITAL BUDGETING	478
17.1.1	Net Present Value	478
17.1.2	Incremental Cash Flows	479
17.1.3	Alternative Capital-Budgeting Frameworks	482
17.2	ISSUES IN FOREIGN INVESTMENT ANALYSIS	483
17.2.1	Parent versus Project Cash Flows	484
17.2.2	Political and Economic Risk Analysis	485
17.2.3	Exchange Rate Changes and Inflation	486

17.3	FOREIGN PROJECT APPRAISAL: THE CASE OF INTERNATIONAL DIESEL CORPORATION	487
17.3.1	Estimation of Project Cash Flows	487
17.3.2	Estimation of Parent Cash Flows	492
17.4	POLITICAL RISK ANALYSIS	495
17.4.1	Expropriation	495
17.4.2	Blocked Funds	496
17.5	GROWTH OPTIONS AND PROJECT EVALUATION	497
17.6	SUMMARY AND CONCLUSIONS	500
	Questions	501
	Problems	502
	References	503
	Appendix: Managing Political Risks	503
18	Managing the Internal Capital Markets of Multinational Corporations	509
18.1	THE VALUE OF THE MULTINATIONAL FINANCIAL SYSTEM	510
18.1.1	Mode of Transfer	510
18.1.2	Timing Flexibility	511
18.1.3	Value	512
18.2	INTERCOMPANY FUND-FLOW MECHANISMS: COSTS AND BENEFITS	513
18.2.1	Tax Factors and the Tax Cuts and Jobs Act of 2017	513
18.2.2	Transfer Pricing	516
18.2.3	Offshore Centers	520
18.2.4	Fees and Royalties	521
18.2.5	Leading and Lagging	522
18.2.6	Intercompany Loans	524
18.2.7	Dividends	527
18.2.8	Equity versus Debt	529
18.3	DESIGNING A GLOBAL REMITTANCE POLICY	530
18.3.1	Prerequisites	532
18.3.2	Information Requirements	532
18.3.3	Behavioral Consequences	532
18.4	SUMMARY AND CONCLUSIONS	534
	Questions	534
	Problems	535
	References	536
	Glossary	G-1
	Index	1-1