



# Fundamentals of Corporate Finance

Eleventh EDITION

**Richard A. Brealey**  
London Business School

**Stewart C. Myers**  
Sloan School of Management,  
Massachusetts Institute of Technology

**Alan J. Marcus**  
Carroll School of Management,  
Boston College

**Mc  
Graw  
Hill**



# Contents in Brief

<b>Part One</b>	<b>1</b>	Goals and Governance of the Corporation	<b>2</b>
<b>Introduction</b>	<b>2</b>	Financial Markets and Institutions	<b>32</b>
	<b>3</b>	Accounting and Finance	<b>56</b>
	<b>4</b>	Measuring Corporate Performance	<b>86</b>
<b>Part Two</b>	<b>5</b>	The Time Value of Money	<b>118</b>
<b>Value</b>	<b>6</b>	Valuing Bonds	<b>166</b>
	<b>7</b>	Valuing Stocks	<b>192</b>
	<b>8</b>	Net Present Value and Other Investment Criteria	<b>234</b>
	<b>9</b>	Using Discounted Cash-Flow Analysis to Make Investment Decisions	<b>270</b>
	<b>10</b>	Project Analysis	<b>300</b>
<b>Part Three</b>	<b>11</b>	Introduction to Risk, Return, and the Opportunity Cost of Capital	<b>330</b>
<b>Risk</b>	<b>12</b>	Risk, Return, and Capital Budgeting	<b>360</b>
	<b>13</b>	The Weighted-Average Cost of Capital and Company Valuation	<b>392</b>
<b>Part Four</b>	<b>14</b>	Introduction to Corporate Financing	<b>420</b>
<b>Financing</b>	<b>15</b>	How Corporations Raise Venture Capital and Issue Securities	<b>440</b>
<b>Part Five</b>	<b>16</b>	Debt Policy	<b>466</b>
<b>Debt and Payout</b>	<b>17</b>	Payout Policy	<b>504</b>
<b>Policy</b>			
<b>Part Six</b>	<b>18</b>	Long-Term Financial Planning	<b>526</b>
<b>Financial Analysis</b>	<b>19</b>	Short-Term Financial Planning	<b>550</b>
<b>and Planning</b>	<b>20</b>	Working Capital Management	<b>570</b>
<b>Part Seven</b>	<b>21</b>	Mergers, Acquisitions, and Corporate Control	<b>610</b>
<b>Special Topics</b>	<b>22</b>	International Financial Management	<b>638</b>
	<b>23</b>	Options	<b>664</b>
	<b>24</b>	Risk Management	<b>692</b>
<b>Part Eight</b>	<b>25</b>	What We Do and Do Not Know about Finance	<b>712</b>
<b>Conclusion</b>			
		<i>Appendix A: Present Value and Future Value Tables</i>	<i>A-1</i>
		<i>Glossary</i>	<i>G-1</i>
		<i>Index</i>	<i>IND-1</i>

# Contents

## Part One Introduction

### Chapter 1

#### Goals and Governance of the Corporation 2

- 1.1 Investment and Financing Decisions 4
  - The Investment (Capital Budgeting) Decision 6
  - The Financing Decision 6
- 1.2 What Is a Corporation? 8
  - Other Forms of Business Organization 9
- 1.3 Who Is the Financial Manager? 10
- 1.4 Goals of the Corporation 12
  - Shareholders Want Managers to Maximize Market Value 12
- 1.5 Agency Problems, Executive Compensation, and Corporate Governance 15
  - Executive Compensation 16
  - Corporate Governance 17
- 1.6 The Ethics of Maximizing Value 18
- 1.7 Careers in Finance 20
- 1.8 Preview of Coming Attractions 22
- 1.9 Snippets of Financial History 23
  - Summary* 25
  - Questions and Problems* 26

### Chapter 2

#### Financial Markets and Institutions 32

- 2.1 The Importance of Financial Markets and Institutions 34
- 2.2 The Flow of Savings to Corporations 35
  - The Stock Market 37
  - Other Financial Markets 38
  - Financial Intermediaries 40
  - Financial Institutions 42
  - Total Financing of U.S. Corporations 44
- 2.3 Functions of Financial Markets and Intermediaries 45
  - Transporting Cash across Time 45
  - Risk Transfer and Diversification 45
  - Liquidity 46
  - The Payment Mechanism 47
  - Information Provided by Financial Markets 47
- 2.4 The Crisis of 2007–2009 49
  - Summary* 51
  - Questions and Problems* 52

### Chapter 3

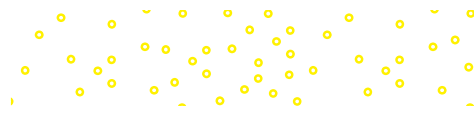
#### Accounting and Finance 56

- 3.1 The Balance Sheet 58
  - Book Values and Market Values 61
- 3.2 The Income Statement 63
  - Income versus Cash Flow 64
- 3.3 The Statement of Cash Flows 67
  - Free Cash Flow 69
- 3.4 Accounting Practice and Malpractice 70
- 3.5 Taxes 73
  - Corporate Tax 73
  - Personal Tax 74
  - Summary* 75
  - Questions and Problems* 76

### Chapter 4

#### Measuring Corporate Performance 86

- 4.1 How Financial Ratios Relate to Shareholder Value 88
- 4.2 Measuring Market Value and Market Value Added 89
- 4.3 Economic Value Added and Accounting Rates of Return 91
  - Accounting Rates of Return 93
  - Problems with EVA and Accounting Rates of Return 95
- 4.4 Measuring Efficiency 96
- 4.5 Analyzing the Return on Assets: The Du Pont System 98
  - The Du Pont System 98
- 4.6 Measuring Financial Leverage 100
  - Leverage and the Return on Equity 102
- 4.7 Measuring Liquidity 103
- 4.8 Interpreting Financial Ratios 104
- 4.9 The Role of Financial Ratios 108
  - Summary* 109
  - Questions and Problems* 110
  - Minicase* 116



## Part Two Value

### Chapter 5

#### The Time Value of Money 118

- 5.1 Future Values and Compound Interest 120
- 5.2 Present Values 123
  - Finding the Interest Rate 127
- 5.3 Multiple Cash Flows 128
  - Future Value of Multiple Cash Flows 128
  - Present Value of Multiple Cash Flows 129
- 5.4 Reducing the Chore of the Calculations: Part 1 131
  - Using Financial Calculators to Solve Simple Time-Value-of-Money Problems 131
  - Using Spreadsheets to Solve Simple Time-Value-of-Money Problems 132
- 5.5 Level Cash Flows: Perpetuities and Annuities 135
  - How to Value Perpetuities 135
  - How to Value Annuities 136
  - Future Value of an Annuity 140
  - Annuities Due 143
- 5.6 Reducing the Chore of the Calculations: Part 2 144
  - Using Financial Calculators to Solve Annuity Problems 144
  - Using Spreadsheets to Solve Annuity Problems 145
- 5.7 Effective Annual Interest Rates 145
- 5.8 Inflation and the Time Value of Money 147
  - Real versus Nominal Cash Flows 147
  - Inflation and Interest Rates 149
  - Valuing Real Cash Payments 151
  - Real or Nominal? 152

*Summary 152*

*Questions and Problems 153*

*Minicase 164*

### Chapter 6

#### Valuing Bonds 166

- 6.1 Bond Pricing 168
- 6.2 Interest Rates and Bond Prices 171
  - Interest Rate Risk and Bond Maturity 172
- 6.3 Yield to Maturity 173
- 6.4 Bond Rates of Return 174
- 6.5 The Yield Curve 177
  - Nominal and Real Rates of Interest 178
- 6.6 Corporate Bonds and the Risk of Default 180
  - Protecting against Default Risk 183
  - Not All Corporate Bonds Are Plain Vanilla 185

*Summary 185*

*Questions and Problems 186*

### Chapter 7

#### Valuing Stocks 192

- 7.1 Stocks and the Stock Market 194
  - Reading Stock Market Listings 195
- 7.2 Market Values, Book Values, and Liquidation Values 197
- 7.3 Valuing Common Stocks 199
  - Valuation by Comparables 199
  - Price and Intrinsic Value 200
  - The Dividend Discount Model 202
- 7.4 Simplifying the Dividend Discount Model 205
  - Case 1: The Dividend Discount Model with No Growth 205
  - Case 2: The Dividend Discount Model with Constant Growth 205
  - Case 3: The Dividend Discount Model with Nonconstant Growth 210
- 7.5 Valuing a Business by Discounted Cash Flow 214
  - Valuing the Concatenator Business 214
  - Repurchases and the Dividend Discount Model 215
- 7.6 There Are No Free Lunches on Wall Street 216
  - Random Walks and Efficient Markets 217
- 7.7 Market Anomalies and Behavioral Finance 220
  - Market Anomalies 220
  - Bubbles and Market Efficiency 222
  - Behavioral Finance 223

*Summary 224*

*Questions and Problems 225*

*Minicase 232*

### Chapter 8

#### Net Present Value and Other Investment Criteria 234

- 8.1 Net Present Value 236
  - A Comment on Risk and Present Value 237
  - Valuing Long-Lived Projects 238
  - Choosing between Alternative Projects 240
- 8.2 The Internal Rate of Return Rule 241
  - A Closer Look at the Rate of Return Rule 242
  - Calculating the Rate of Return for Long-Lived Projects 242
  - A Word of Caution 244
  - Some Pitfalls with the Internal Rate of Return Rule 244
- 8.3 The Profitability Index 249
  - Capital Rationing 250
  - Pitfalls of the Profitability Index 250
- 8.4 The Payback Rule 251
  - Discounted Payback 252

- 8.5 More Mutually Exclusive Projects 252**
  - Problem 1: The Investment Timing Decision 253
  - Problem 2: The Choice between Long- and Short-Lived Equipment 254
  - Problem 3: When to Replace an Old Machine 256
- 8.6 A Last Look 257**
  - Summary 258*
  - Questions and Problems 259*
  - Minicase 266*
  - Appendix: More on the IRR Rule 267*
  - Using the IRR to Choose between Mutually Exclusive Projects 267
  - Using the Modified Internal Rate of Return When There Are Multiple IRRs 267

## Chapter 9

### Using Discounted Cash-Flow Analysis to Make Investment Decisions 270

- 9.1 Identifying Cash Flows 272**
  - Discount Cash Flows, Not Profits 272
  - Discount *Incremental* Cash Flows 274
  - Discount Nominal Cash Flows by the Nominal Cost of Capital 277
  - Separate Investment and Financing Decisions 278
- 9.2 Corporate Income Taxes 279**
- 9.3 An Example—Blooper Industries 279**
  - Forecasting Blooper's Cash Flows 280

- Calculating the NPV of Blooper's Mine 283
- Further Notes and Wrinkles Arising from Blooper's Project 284
- Summary 289*
- Questions and Problems 290*
- Minicase 298*

## Chapter 10

### Project Analysis 300

- 10.1 The Capital Investment Process, Some Problems, and Some Solutions 302**
- 10.2 Some "What-If" Questions 304**
  - Sensitivity Analysis 305
  - Stress Tests and Scenario Analysis 308
- 10.3 Break-Even Analysis 309**
  - Accounting Break-Even Analysis 310
  - NPV Break-Even Analysis 311
  - Operating Leverage 314
- 10.4 Real Options and the Value of Flexibility 316**
  - The Option to Expand 316
  - A Second Real Option: The Option to Abandon 318
  - A Third Real Option: The Timing Option 318
  - A Fourth Real Option: Flexible Production Facilities 319
- Summary 320*
- Questions and Problems 321*
- Minicase 328*

## Part Three Risk

### Chapter 11

#### Introduction to Risk, Return, and the Opportunity Cost of Capital 330

- 11.1 Rates of Return: A Review 332**
- 11.2 A Century of Capital Market History 333**
  - Market Indexes 333
  - The Historical Record 333
  - Using Historical Evidence to Estimate Today's Cost of Capital 336
- 11.3 Measuring Risk 338**
  - Variance and Standard Deviation 338
  - A Note on Calculating Variance 341
  - Measuring the Variation in Stock Returns 341
- 11.4 Risk and Diversification 343**
  - Diversification 343
  - Asset versus Portfolio Risk 344
  - Market Risk versus Specific Risk 350

- 11.5 Thinking about Risk 351**
  - Message 1: Some Risks Look Big and Dangerous but Really Are Diversifiable 351
  - Message 2: Market Risks Are Macro Risks 352
  - Message 3: Risk Can Be Measured 353
- Summary 354*
- Questions and Problems 355*

### Chapter 12

#### Risk, Return, and Capital Budgeting 360

- 12.1 Measuring Market Risk 362**
  - Measuring Beta 362
  - Betas for Amazon and McDonald's 365
  - Total Risk and Market Risk 365
- 12.2 What Can You Learn from Beta? 367**
  - Portfolio Betas 367
  - The Portfolio Beta Determines the Risk of a Diversified Portfolio 370

<b>12.3 Risk and Return</b>	<b>371</b>	The NPV of Geothermal's Expansion	400
Why the CAPM Makes Sense	373	Checking Our Logic	401
The Security Market Line	374	<b>13.3 Interpreting the Weighted-Average Cost of Capital</b>	<b>402</b>
Using the CAPM to Estimate Expected Returns	375	When You Can and Can't Use WACC	402
How Well Does the CAPM Work?	376	Some Common Mistakes	402
<b>12.4 The CAPM and the Opportunity Cost of Capital</b>	<b>379</b>	How Changing Capital Structure Affects Expected Returns	403
The Company Cost of Capital	380	What Happens When the Corporate Tax Rate Is Not Zero	403
What Determines Project Risk?	381	<b>13.4 Practical Problems: Measuring Capital Structure</b>	<b>403</b>
Don't Add Fudge Factors to Discount Rates	381	<b>13.5 More Practical Problems: Estimating Expected Returns</b>	<b>405</b>
<i>Summary</i>	<b>382</b>	The Expected Return on Bonds	405
<i>Questions and Problems</i>	<b>383</b>	The Expected Return on Common Stock	406
		The Expected Return on Preferred Stock	407
		Adding It All Up	408
		Real-Company WACCs	408
		<b>13.6 Valuing Entire Businesses</b>	<b>409</b>
		Calculating the Value of the Deconstruction Business	410
		<i>Summary</i>	<b>411</b>
		<i>Questions and Problems</i>	<b>412</b>
		<i>Minicase</i>	<b>417</b>

## Chapter 13

### The Weighted-Average Cost of Capital and Company Valuation 392

#### 13.1 Geothermal's Cost of Capital 394

#### 13.2 The Weighted-Average Cost of Capital 395

- Calculating Company Cost of Capital as a Weighted Average 396
- Use Market Weights, Not Book Weights 398
- Taxes and the Weighted-Average Cost of Capital 398
- What If There Are Three (or More) Sources of Financing? 400

## Part Four Financing

## Chapter 14

### Introduction to Corporate Financing 420

#### 14.1 Creating Value with Financing Decisions 422

#### 14.2 Patterns of Corporate Financing 422

- Are Firms Issuing Too Much Debt? 424

#### 14.3 Common Stock 425

- Stock Splits 427
- Ownership of the Corporation 427
- Voting Procedures 428
- The Wall Street Walk 429
- Classes of Stock 429

#### 14.4 Preferred Stock 429

#### 14.5 Corporate Debt 431

- Debt Comes in Many Forms 431
- Innovation in the Debt Market 434

#### 14.6 Convertible Securities 435

*Summary* 436

*Questions and Problems* 437

## Chapter 15

### How Corporations Raise Venture Capital and Issue Securities 440

#### 15.1 Venture Capital 442

- Venture Capital Companies 443

#### 15.2 The Initial Public Offering 444

- Arranging a Public Issue 445
- Other New-Issue Procedures 449
- The Underwriters 450

#### 15.3 General Cash Offers by Public Companies 451

- General Cash Offers and Shelf Registration 452
- Costs of the General Cash Offer 452
- Market Reaction to Stock Issues 453

#### 15.4 The Private Placement 454

*Summary* 454

*Questions and Problems* 455

*Minicase* 460

*Appendix: Hotch Pot's New-Issue Prospectus* 461

## Part Five Debt and Payout Policy

### Chapter 16

#### Debt Policy 466

- 16.1 How Borrowing Affects Value in a Tax-Free Economy 468**  
 MM's Argument—A Simple Example 469  
 How Borrowing Affects Earnings per Share 470  
 How Borrowing Affects Risk and Return 472
- 16.2 Debt and the Cost of Equity 474**  
 No Magic in Financial Leverage 476
- 16.3 Debt, Taxes, and the Weighted-Average Cost of Capital 478**  
 Debt and Taxes at River Cruises 478  
 How Interest Tax Shields Contribute to the Value of Stockholders' Equity 480  
 Corporate Taxes and the Weighted-Average Cost of Capital 480  
 The Implications of Corporate Taxes for Capital Structure 482
- 16.4 Costs of Financial Distress 482**  
 Bankruptcy Costs 483  
 Costs of Bankruptcy Vary with Type of Asset 484  
 Financial Distress without Bankruptcy 485
- 16.5 Explaining Financing Choices 487**  
 The Trade-Off Theory 487  
 A Pecking Order Theory 488  
 The Two Faces of Financial Slack 489  
 Is There a Theory of Optimal Capital Structure? 490
- Summary 491*  
*Questions and Problems 492*

*Minicase 499*

*Appendix: Bankruptcy Procedures 501*

### Chapter 17

#### Payout Policy 504

- 17.1 How Corporations Pay Out Cash to Shareholders 506**  
 How Firms Pay Dividends 507  
 Stock Dividends 507  
 Stock Repurchases 508
- 17.2 The Information Content of Dividends and Repurchases 508**
- 17.3 Dividends or Repurchases? The Payout Controversy 509**  
 Dividends or Repurchases? An Example 510  
 Repurchases and the Dividend Discount Model 511  
 Dividends and Share Issues 512
- 17.4 Why Dividends May Increase Value 513**
- 17.5 Why Dividends May Reduce Value 514**  
 Taxation of Dividends and Capital Gains under Current Tax Law 515  
 Taxes and Payout—A Summary 516
- 17.6 Payout Policy and the Life Cycle of the Firm 516**  
*Summary 518*  
*Questions and Problems 519*  
*Minicase 524*

## Part Six Financial Analysis and Planning

### Chapter 18

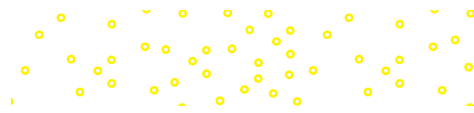
#### Long-Term Financial Planning 526

- 18.1 What Is Financial Planning? 528**  
 Why Build Financial Plans? 528
- 18.2 Financial Planning Models 529**  
 Components of a Financial Planning Model 529
- 18.3 A Long-Term Financial Planning Model for Dynamic Mattress 530**  
 Pitfalls in Model Design 535  
 Choosing a Plan 536  
 Valuing Dynamic Mattress 537
- 18.4 External Financing and Growth 538**  
*Summary 541*  
*Questions and Problems 542*  
*Minicase 549*

### Chapter 19

#### Short-Term Financial Planning 550

- 19.1 Links between Long-Term and Short-Term Financing 552**  
 Tax Strategies 553  
 Reasons to Hold Cash 553
- 19.2 Tracing Changes in Cash 554**
- 19.3 Cash Budgeting 556**  
 Preparing the Cash Budget 556
- 19.4 Dynamic's Short-Term Financial Plan 559**  
 Dynamic Mattress's Financing Plan 559  
 Evaluating the Plan 560  
 A Note on Short-Term Financial Planning Models 561  
*Summary 563*  
*Questions and Problems 563*  
*Minicase 568*



## Chapter 20

### Working Capital Management 570

#### 20.1 Working Capital 572

- Components of Working Capital 572
- Working Capital and the Cash Cycle 572

#### 20.2 Accounts Receivable and Credit Policy 575

- Terms of Sale 576
- Credit Agreements 577
- Credit Analysis 578
- The Credit Decision 579
- Collection Policy 584

#### 20.3 Inventory Management 586

#### 20.4 Cash Management 589

- Check Handling and Float 589

- Other Payment Systems 591
- Electronic Funds Transfer 592
- International Cash Management 593

#### 20.5 Investing Idle Cash: The Money Market 594

- Money Market Investments 594
- Calculating the Yield on Money Market Investments 595
- Yields on Money Market Investments 595
- The International Money Market 596

#### 20.6 Managing Current Liabilities: Short-Term Debt 596

- Bank Loans 596
- Commercial Paper 598

*Summary* 599

*Questions and Problems* 601

*Minicase* 608

## Part Seven Special Topics

## Chapter 21

### Mergers, Acquisitions, and Corporate Control 610

#### 21.1 Types of Mergers 612

#### 21.2 Sensible Motives for Mergers 613

- Economies of Scale and Scope 613
- Economies of Vertical Integration 614
- Complementary Resources 614
- Changes in Corporate Control 615
- Industry Consolidation 615
- Industrial Logic Does Not Guaranty Success 615

#### 21.3 Dubious Reasons for Mergers 617

- Improved Diversification 617
- The Bootstrap Game 617
- Management Bias 619

#### 21.4 The Mechanics of a Merger 619

- The Form of Acquisition 619
- Mergers, Antitrust Law, and Popular Opposition 620

#### 21.5 Evaluating Mergers 620

- Mergers Financed by Cash 620
- Mergers Financed by Stock 622
- A Warning 623
- Another Warning 623

#### 21.6 The Market for Corporate Control 624

#### 21.7 Proxy Contests 625

#### 21.8 Takeovers 625

#### 21.9 Leveraged Buyouts 626

- Barbarians at the Gate? 627

#### 21.10 Divestitures, Spin-Offs, and Carve-Outs 628

#### 21.11 The Benefits and Costs of Mergers 630

- Who Gains and Loses from Mergers? 631
- Buyers versus Sellers 631
- Mergers and Society 632

*Summary* 632

*Questions and Problems* 633

*Minicase* 636

## Chapter 22

### International Financial Management 638

#### 22.1 Foreign Exchange Markets 640

- Spot Exchange Rates 640
- Forward Exchange Rates 642

#### 22.2 Some Basic Relationships 643

- Exchange Rates and Inflation 644
- Real and Nominal Exchange Rates 646
- Inflation and Interest Rates 647
- The Forward Exchange Rate and the Expected Spot Rate 648
- Interest Rates and Exchange Rates 650

#### 22.3 Hedging Currency Risk 651

- Transaction Risk 651
- Economic Risk 652

#### 22.4 International Capital Budgeting 652

- Net Present Values for Foreign Investments 652
- The Cost of Capital for Foreign Investment 654



Avoiding Fudge Factors 655

Political Risk 655

*Summary* 657

*Questions and Problems* 658

*Minicase* 663

## Chapter 23 Options 664

### 23.1 Calls and Puts 666

Selling Calls and Puts 668

Payoff Diagrams Are Not Profit Diagrams 669

Financial Alchemy with Options 670

Some More Option Magic 671

### 23.2 What Determines Option Values? 672

Upper and Lower Limits on Option Values 672

The Determinants of Option Value 673

Option-Valuation Models 675

### 23.3 Spotting the Option 678

Options on Real Assets 678

Options on Financial Assets 680

*Summary* 682

*Questions and Problems* 683

## Chapter 24 Risk Management 692

### 24.1 Why Hedge? 694

### 24.2 Reducing Risk with Options 695

### 24.3 Forward and Futures Contracts 695

The Mechanics of Futures Trading 698

Commodity and Financial Futures 700

Forward Contracts 700

### 24.4 Valuing Futures and Forward Contracts 701

### 24.5 Swaps 702

Interest Rate Swaps 702

Currency Swaps 704

### 24.6 Innovation in the Derivatives Market 705

### 24.7 Is “Derivative” a Four-Letter Word? 705

*Summary* 706

*Questions and Problems* 707

## Part Eight Conclusion

### Chapter 25 What We Do and Do Not Know about Finance 712

#### 25.1 What We Do Know: The Six Most Important Ideas in Finance 714

Net Present Value (Chapter 5) 714

Risk and Return (Chapters 11 and 12) 714

Efficient Capital Markets (Chapter 7) 715

MM’s Irrelevance Propositions (Chapters 16 and 17) 715

Option Theory (Chapter 23) 715

Agency Theory 716

#### 25.2 What We Do Not Know: Nine Unsolved Problems in Finance 716

What Determines Project Risk and Present Value? 716

Risk and Return—Have We Missed Something? 717

Are There Important Exceptions to the  
Efficient-Market Theory? 717

Is Management an Off-Balance-Sheet Liability? 718

How Can We Explain Capital Structure? 718

How Can We Resolve the Payout Controversy? 719

How Can We Explain Merger Waves? 719

What Is the Value of Liquidity? 719

Why Are Financial Systems Prone to Crisis? 720

What Should Be the Goals of the Corporation? 720

#### 25.3 A Final Word 721

*Questions and Problems* 721

*Appendix A* A-1

*Glossary* G-1

*Index* IND-1