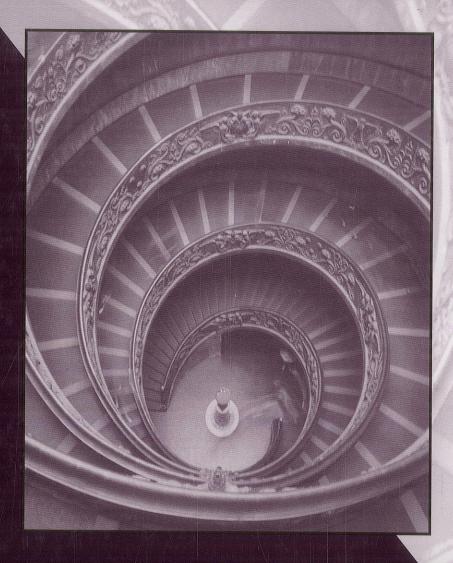


SHAREHOLDER VALUE CREATION



Pablo Fernández



Contents

Preface	xxiii	
Acknowled	igments	xxvii

Part I Basics of Valuation Methods and Shareholder Value Creation

Chapter 1			
Shareholder Value Creation, Basic Concepts			
1.1. Increase of Equity Market Value 1.2. Shareholder Value Added 4 1.3. Shareholder Return 6 1.4. Required Return to Equity 7 1.5. Created Shareholder Value 8 1.6. The ROE is not the Shareholder Return 9 1.7. Comparison of General Electric with Other Companies 1.8. Value Creation and Value Destruction of the S&P 500 1.9. What Should the Shareholder Return be Compared With? Reference 20	10 19 19		
Chapter 2			
Company Valuation Methods			
2.1. Value and Price: What Purpose Does a Valuation Serve?	22		

vi Contents

2.2. Balance Sheet-Based Methods 24	
2.2.1. Book Value 24	
2.2.2. Adjusted Book Value 25	
2.2.3. Liquidation Value 25	
2.2.4. Substantial Value 26	
2.2.5. Book Value and Market Value 27	
2.3. Income Statement-Based Methods: Relative Valuation	ion 27
2.3.1. Value of Earnings, PER 28	
2.3.2. Value of the Dividends 30	
2.3.3. Sales Multiples 31	
2.3.4. Other Multiples 32	
2.3.5. Multiples Used to Value Internet Companie	es 32
2.4. Goodwill-Based Methods 33	
2.4.1. The "Classic" Valuation Method 33	
2.4.2. The Simplified "Abbreviated Goodwill Inco	me''
Method or the Simplified UEC Method	34
2.4.3. UEC Method 35	
2.4.4. Indirect Method 35	
2.4.5. Anglo-Saxon or Direct Method 36	
2.4.6. Annual Profit Purchase Method 36	
2.4.7. Risk-Bearing and Risk-Free Rate Method	36
2.5. Cash Flow Discounting-Based Methods 37	
2.5.1. General Method for Cash Flow Discounting	
2.5.2. Deciding the Appropriate Cash Flow for Di	-
the Company's Economic Balance Sheet	38
2.5.3. Calculating the Value of the Company Usin	g the Free
Cash Flow 42	
2.5.4. Calculating the Value of the Company as th	
Unlevered Value Plus the Discounted Value	of the
Tax Shield 43	• •
2.5.5. Calculating the Value of the Company's Eq	
Discounting the Equity Cash Flow 44	•
2.5.6. Calculating the Company's Value by Discor	inting the
Capital Cash Flow 45	
2.5.7. Basic Stages in the Performance of a Valuat	ion by Cash
Flow Discounting 45	
2.6. Which is the Best Method to Use? 47	Distale
2.7. The Company as the Sum of the Values of Different	Divisions:
Break-Up Value 48 2.8. Valuation Methods Used Depending on the Nature of	
- / A - V WITH HALL WITH HALL I SEAR I INDOMINITAN THA MICHINA	of the

2.9. Key Factors Affecting Value: Growth, Return, Risk, and Inter	est
Rates 50 2.10. Speculative Bubbles on the Stock Market 51	
2.11. Most Common Errors in Valuations 55	
References 56	
A.V. 4	
Ol surban 2	
Chapter 3	
Price-Earnings Ratio, Profitability, Cost of Capital,	
and Growth	
3.1. Evolution of the PER on the International	
Stock Markets 58	
3.2. Factors Affecting the PER 60	
3.2.1. Companies A and B 61	
3.2.2. Companies C and D 62	
3.2.3. Company E 62	
3.2.4. Company F 63	
3.3. Influence of Growth (g) on the PER3.4. Influence of the ROE on the PER66	
3.4. Influence of the ROE of the PER 3.5. Influence of the Required Return to Equity on the PER	66
3.6. Influence of Interest Rates on the PER 67	vv
3.7. Growth Value and PER Due to Growth 67	
Summary 69	
Appendix 3.1: Price Per Share, Market Capitalization, Earnings	
Per Share (EPS), Dividend Yield and PER of the	
Companies Included in the Euro Stoxx 50 on 30 Ma	y
2001 70	
Appendix 3.2: Breakdown of the Price Per Share Between	
No-Growth Price and Growth Value; and Breakdown the PER (Companies Included in the Euro Stoxx 50	
30 May 2001) 73	UII
Appendix 3.3: Relationship Between the PER and Growth (g),	
Required Return to Equity (Ke) and Return on Equit	tv
- · · · · · · · · · · · · · · · · · · ·	74
, , , , , , , , , , , , , , , , , , ,	
Chapter 4	
*	
Splitting the Price-Earnings Ratio: Franchise Factor,	

Growth Factor, Interest Factor, and Risk Factor 4.1. PER, Franchise Factor, and Growth Factor

viii Contents

 4.2. PER*, Franchise Factor*, and Growth Factor 79 4.3. PER, Interest Factor, and Risk Factor 80 4.4. Value Generation Over Time in Companies with Growth 82 4.5. Influence of Growth on the Franchise Factor and on the Growth Factor 84 4.6. Influence of the ROE on the Franchise Factor 85 4.7. Influence of the Required Return to Equity on the Franchise Factor and on the PER 86 Appendix 4.1: Splitting the PER 88 Reference 90
Chapter 5
Market Value and Book Value
 5.1. Market Value and Book Value on the North American Stock Market 5.2. Market-To-Book Ratio on the International Stock Markets 5.3. Market-To-Book Ratio and Interest Rates on the North American Stock Market 5.4. Relationship Between the Market-To-Book Ratio and the PER and the ROE 5.5. Value Creation and the Difference Between Market Value and Book Value 5.6. Equity Book Value may be Negative:
Chapter 6
Dividends and Market Value
 6.1. Evolution of Dividends on the U.S. Stock Market 109 6.2. Increasingly Fewer Companies Distribute Dividends and More Buy Back Shares 109 6.3. Evolution of Dividends on the International Markets 112

6.4.		are Value is the Present Value of the	
		ed Dividends 112	
6.5.	Share Value When Dividends have Constant Growth,		
	Gordon	and Shapiro Formula 114	
6.6.	Share V	Value when Dividends Grow at a Fixed Quantity	
	Each Ye	ear 117	
6.7.	Binomia	al Valuation Model of Discounted Dividends 11	.8
	6.7.1. A	Additive Binomial Model 118	
	6.7.2. A	Additive Binomial Model with Probability	
	c	of Bankruptcy 118	
		Geometric Binomial Model 119	
		Geometric Binomial Model with Probability	
		of Bankruptcy 119	
6.8.			20
0.0.		Additive Trinomial Model 120	
		Additive Trinomial Model with Probability	
		of Bankruptcy 120	
		Geometric Trinomial Model 121	
		Geometric Trinomial Model with Probability	
		of Bankruptcy 121	
6.9.		are's Value when the Dividends have Two Growth Rat	tes:
		vo-Stage Growth Model 122	
6.10.		Valuation when Dividends have Two Growth	
	Rates: N	Model H 123	
6.11.	Stock V	Valuation with Three Periods of	
		d Growth 123	
Appe	ndix 6.1:	: Derivation of the Gordon and	
		Shapiro Formula 124	
Appe	ndix 6.2:	: Derivation of the Share Value Formula when the	
		Dividend Grows at a Fixed Quantity Every	
		Year 125	
Appe	ndix 6.3:	: Derivation of the Share Value Formula in the Addit	ive
		Binomial Model 126	
Appe	ndix 6.4:	: Derivation of the Share Value Formula in the	
		Geometric Binomial Model 127	
Appe	ndix 6.5	: Derivation of the Share Value Formula in the	
		Geometric Trinomial Model 127	
Appe	ndix 6.6	: Error Made with the Share Price Approximation w	hen
		the Share's Dividends Grow at Two	
		Different Rates 128	
Appe	ndix 6.7	: Error Made with the Share Price Approximation U	sing
		the Model H 129	

References	130
IZCICI CIICES	130

Chapter !	7
-----------	---

Interest Rates: T	heir Impo	rtance in t	the Valuation
-------------------	-----------	-------------	---------------

7.1.	Evolution of Interest Rates 133	
7.2.	Interest Rates with Different Maturities (Yield Curve)	134
7.3.	Relationship Between Interest Rates and Share Prices	136
7.4.	Relationship Between Interest Rates and the PER	136
7.5.	Relationship Between Interest Rates and Dividend	
	Yield in the United States 138	
7.6.	Equity Duration 138	
7.7.	Relationship Between the Yield of the S&P 500 and the	
	Variation in Interest Rates 139	
7.8.	Risk and Required Return to Different Debt Issues	140
7.9.	Rates of the Federal Reserve (United States) and the	
	European Central Bank (Germany Before 1998)	144
Refe	erence 144	

Chapter 8

Valuation Using Multiples. How Do Analysts Reach their Conclusions?

8.1.	Valua	tion Methods Used by the Analysts	145
8.2.	Most	Commonly Used Multiples 146	
	8.2.1.	Multiples Based on Capitalization	147
		8.2.1.a. Price Earnings Ratio (PER)	147
		8.2.1.b. Price to Cash Earnings (P/CE)	147
		8.2.1.c. Price to Sales (P/S) 147	
		8.2.1.d. Price to Levered Free Cash	
		Flow (P/LFCF) 148	
		8.2.1.e. Price to Book Value (P/BV)	148
		8.2.1.f. Price to Customer 149	
		8.2.1.g. Price to Units 149	
		8.2.1.h. Price to Output 149	
		8.2.1.i. Price to Potential Customer	149
	8.2.2.	Multiples Based on the Company's Valu	e 149
	8.2.3.	Growth-Referenced Multiples 150)
8.3.	Relati	ve Multiples 151	

8.4.	The Problem with Multiples: Their Dispersion	152
	8.4.1. Dispersion of the Utilities' Multiples	152
	8.4.2. Dispersion of the Multiples of Construction	n
	and Hotel Companies 152	
	8.4.3. Dispersion of the Multiples of	
	Telecommunications 156	157
	8.4.4. Dispersion of the Multiples of Banks	157
	8.4.5. Dispersion of the Multiples of Internet Companies 158	
8.5	Volatility of the Most Widely Used Parameters	
0.51	for Multiples 158	
8.6.	Analysts' Recommendations: Hardly Ever Sell	159
	Strange Multiples 161	•
Refe	erences 166	·
(C110	O	
Chapte		
Cash I	Flow and Net Income	
9.1.	Net Income is just an Opinion, but Cash Flow is a	Fact 169
	Accounting Cash Flow, Equity Cash Flow, Free C	
	and Capital Cash Flow 170	
	Calculating the Cash Flows 172	
9.4.	A Company with Positive Net Income and Negative	/e
0.5	Cash Flows 174	
	When is Profit after Tax a Cash Flow? 177 When is the Accounting Cash Flow a Cash Flow?	178
	Equity Cash Flow and Dividends 179	176
	Recurrent Cash Flows 180	
	mary 181	
	pendix 9.1: Attention to the Accounting and the Ma	naging
	of Net Income 182	
Ref	erences 184	
Chapte	er 10	
Inflati	on and Value	
10.2	 Campa Spain and Campa Argentina 185 Analysis of the Differences Between Campa Spainand Campa Argentina 187 Adjustments to Correct for the Effects of Inflation 	I

xii Contents

Summary

Refere	nce	199					
Chapter 1	.1						
Cost of 1	Equity:	Beta a	nd Risk	(Prem	ium		
11.1.	Betas an	d Volatili	ties	202			
11.2.	Volatilit	y (σ) and	Diversific:	ation	203		
	Beta (β)						
11.4.			as and Vo		Instabili	ty	
		od Depen		205			
	_		ation of tl		211		
		Risk Pren		212	- N/II	1	
11./.		a Proposed emium	l for Calca 214	mating th	e Marke	τ	
			Different	ial Retur	n of the	Market	
			and the R			214	
			Gordon a				215
			Analysts			216	
			IRR of th			the	
	I	Expected	Dividends	2	17		
	11.7.5. I	From the	Inverse of	the PER	. 2	217	
					tock and	l Long-Te	rm
		Bond Vol		217			
			ent Studie		217		_
						Average and	nd
11.0			etric Aver		218	n46 . 1!	
11.8.		ai Differe e Rate in		rn of the 219		Portfolio a	ına tne
	11.8.1. I		219	213	,		
		Volatility)			
11.9.			Over Bond		LS.	221	
11.51			d 1926–19		221		
			d 1802–19		224		
11.10.	Premiun	Over the	Risk-Fre	e Rate in	Differen	t Countri	es and
	Country	Risk Pre	mium	226			
11.11.	Premiun	n of the N	orth Amei	rican Sto	ek Mark	et from th	e
			ro Equati		227		
11.12.		_				lution in S	pain,
	German	y, Japan,	and the U	.S.	229		

Contents xiii

Overval 11.14. Does the	e Market Risk Premiu IDYWD Method 236		s the Market
Chapter 12			
Valuations of I of Terra-Lycos	Internet Compa s	nies: The Ca	se
12.2. Some C	Valuations of Terra: I omparisons Between t Valuations 245	he Projections	ations 241
	on Performed by a Euroon 100; 104 Euros	roamerican Bank 245	; in
84.4 Eu		-	
53 Euro			
1999: 19	on Performed by a Sp 9.8 Euros 257		ptember
	nould Terra be Valued cdote on the "New Eco	258 onomy" 20	60

Part II Shareholder Value Creation

Chapter 13

13.3. CVA and MVA

Proposed Measures of Shareholder Value Creation: EVA®, Economic Profit, MVA, CVA, CFROI, and TSR

Ā™,	Economic Profit	t, MVA	, CVA, C	FROI, and	TSR
13.1.	Book Profit (EP) and	MVA	266		
13.2.	EVA® and MVA	268			

13.4. First Example: Investment Without Value Creation 269

13.5. Incorrect Interpretation of EVA, EP and CVA 13.6. Usefulness of EVA, EP, and CVA 273	;
13.7. CFROI, TSR, and TBR 275	
13.8. Second Example: Investment with Value Creation	278
13.9. Conclusions 281	
Appendix 13.1: Verification that the EP (Economic Profit)	
Discounted at the Rate (Ke) is the MVA	
(Market Value–Book Value) 282	
Appendix 13.2: Obtainment of the Formulas for EVA and MV	A
from the FCF and WACC 285	
Appendix 13.3: Verification that the CVA Discounted at the WACC is the MVA 287	
Appendix 13.4: Adjustments Sugggested by Stern Stewart & Co	D.
for Calculating the EVA 288	- •
References 289	
Chapter 14 EVA, Economic Profit, and Cash Value Added do	لمسم
) not
Measure Shareholder Value Creation	
14.1. Accounting-Based Measures Cannot Measure Value Creation 291	
14.2. EVA Does not Measure the Shareholder Value Creation by American Companies 292	y
14.3. The CVA Does not Measure the Shareholder	
Value Creation of the World's 100 Most Profitable	
Companies 299	
14.4. The Economic Profit Does not Measure the Shareholder	
Value Creation 302	
14.5. Usefulness of EVA, EP, and CVA 304	
14.5.1. The EVA, the EP, and the CVA can be Used to	
Value Companies 304	
14.5.2. EVA, EP, and CVA as Management	
Performance Indicators 305	
14.6. Consequences of the Use of EVA, EP, or CVA for	
Executive Remuneration 305	
14.7. Measures Proposed for Measuring	
Shareholder Return 307	
14.8. What is Shareholder Value Creation? 308	
14.9. An Anecdote about the EVA 309	
References 311	

Contents $\mathbf{x}\mathbf{v}$

Chapter 15		
The RJR N	Jabisco Valuation	
	ackground of the Company 314 re-Bid Strategy 315	
	he Management Group's Bid 318	
	aluation of the Management Group's Strategy	321
	KR's Bid 325	
	aluation of KKR's Strategy 325	CD 220
	omparison of the Three Alternatives' FCF and Co	
	VA and the Two Alternatives' Value Creation inal Bids and Outcome 334	333
	aluations Grouping all the Financial Instruments	2
	Bebt or Equity 336	,
	alue Creation in Acquisitions and Mergers	339
Reference	-	
Chapter 16	1	
_	and Value Creation in Internet-Re	lated
Companie		lated
16.1. So 16.2. A	ome Examples of Value Creation and Destruction mazon 343	on 342
	5.2.1. Spectacular Growth in Sales and Losses	343
	5.2.2. Stock Market Evolution 346	
16	6.2.3. On-Line Leadership: Barnes & Noble	•
460 17	Versus Amazon 349	
	aluations of Amazon 350	ale Tillere
10	5.3.1. Valuation Made by an Analyst Using Ca Discounting: \$87.3/Share 350	ISH PIOW
16	6.3.2. Damodaran's Valuation by Cash Flow	
10	Discounting: \$35/Share 352	
16	6.3.3. Copeland's Valuation by Scenarios and	Cash Flow
	Discounting: \$66/Share 352	
16	6.3.4. Our Valuation by Simulation and Cash I	Flow
	Discounting: \$21/Share 354	
16	5.3.5. Differences Between our Valuation and	Those of
	Copeland and Damodaran 356	
	merica Online 358	
16	6.4.1. The Analysts' Recommendations	359

xvi Contents

 16.5. On-Line Brokers: ConSors, Ameritrade, E*Trade, Charles Schwab, and Merrill Lynch 360 16.5.1. ConSors Versus Ameritrade, E*Trade 363 16.6. Microsoft 366 16.7. A Final Comment on the Valuation of Internet Companies 369 References 370
Part III
Rigorous Approaches to Discounted Cash Flow Valuation
Chapter 17
Discounted Cash Flow Valuation Methods: Perpetuities, Constant Growth, and General Case
 17.1. Introduction 375 17.2. Company Valuation Formulae, Perpetuities 376 17.2.1. Calculating the Company's Value from the ECF 376 17.2.2. Calculating the Company's Value from the FCF 377 17.2.3. Caluclating the Company's Value from the CCFs 378 17.2.4. Adjusted Present Value (APV) 379 17.2.5. Use of the CAPM and Expression of the Levered Beta 380
17.3. DVTS in Perpetuities, Tax Risk in Perpetuities 380
 17.4. Examples of Companies without Growth 383 17.5. Formulae for when the Debt's Book Value (N) is not the Same as its Market Value (D), (r ≠ Kd) 387
17.6. Formula for Adjusted Present Value Taking into Account the
Cost of Leverage 387 17.6.1. Impact on the Valuation of Using the Simplified Formulae for the Levered Beta 388
17.6.2. The Simplified Formulae as a Leverage-Induced

Reduction of the FCF

17.6.3. The Simplified Formulae as a Leverage-Induced Increase in the Business Risk (Ku) 390

	17.6.4. The Simplified Formulae as a Probability
	of Bankruptcy 390
	17.6.5. Impact of the Simplified Formulae on the Required
	Return to Equity 391
17.7.	Valuing Companies Using Discounted Cash Flow,
	Constant Growth 391
17.8.	Company Valuation Formulae, Constant Growth 392
	17.8.1. Relationships Obtained from
	the Formulae 392
	17.8.2. Formulae when the Debt's Book Value (N) is not
	Equal to its Market Value (D) 393
	17.8.3. Impact of the Use of the
	Simplified Formulae 394
17.9.	Examples of Companies with Constant Growth 395
17.10.	Tax Risk and DVTS with Constant Growth 399
17.11.	Valuation of Companies by Discounted Cash Flow,
	General Case 400
17.12.	Company Valuation Formulae, General Case 400
	Company , and a comment, comment and
	Company Valuation Formulae, General Case Relationships Obtained from the Formulae, General Case 401
17.13.	Relationships Obtained from the Formulae,
17.13. 17.14.	Relationships Obtained from the Formulae, General Case 401
17.13. 17.14.	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402
17.13. 17.14. 17.15.	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its
17.13. 17.14. 17.15.	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407
17.13. 17.14. 17.15. 17.16.	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407 Impact on the Valuation when $D \neq N$, Without
17.13. 17.14. 17.15. 17.16.	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407 Impact on the Valuation when $D \neq N$, Without Cost of Leverage 408
17.13. 17.14. 17.15. 17.16. 17.17.	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407 Impact on the Valuation when $D \neq N$, Without Cost of Leverage 408 Impact on the Valuation when $D \neq N$, with Cost of Leverage, in a
17.13. 17.14. 17.15. 17.16. 17.17. Appen	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407 Impact on the Valuation when $D \neq N$, Without Cost of Leverage 408 Impact on the Valuation when $D \neq N$, with Cost of Leverage, in a Real-Life Case 408
17.13. 17.14. 17.15. 17.16. 17.17. Appen	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407 Impact on the Valuation when $D \neq N$, Without Cost of Leverage 408 Impact on the Valuation when $D \neq N$, with Cost of Leverage, in a Real-Life Case 408 dix 17.1: Main Valuation Formulae 415 dix 17.2: A Formula for the Required Return to Debt 417
17.13. 17.14. 17.15. 17.16. 17.17. Appen	Relationships Obtained from the Formulae, General Case 401 An Example of Company Valuation 402 Valuation Formulae when the Debt's Book Value (N) and its Market Value (D) are not Equal 407 Impact on the Valuation when $D \neq N$, Without Cost of Leverage 408 Impact on the Valuation when $D \neq N$, with Cost of Leverage, in a Real-Life Case 408 dix 17.1: Main Valuation Formulae 415 dix 17.2: A Formula for the Required Return to Debt 417 dary 417

Chapter 18

Optimal Capital Structure: Problems with the Harvard and Damodaran Approaches

- 18.1. Optimal Structure According to a Harvard Business School Technical Note 420
- 18.2. Critical Analysis of the Harvard Business School Technical Note 425

xviii Contents

18.2.1. Present Value of the Cash Flows Generated by the	e
Company and Required Return to	
Assets 425	
18.2.2. Leverage Costs 427	
18.2.3. Incremental Cost of Debt 427	
18.2.4. Required Return to Incremental Equity	
Cash Flow 429	
18.2.5. Difference Between Ke and Kd 429	
18.2.6. Price Per Share for Different	
Debt Levels 429	
18.2.7. Adding the Possibility of Bankruptcy to	
the Model 431	
18.2.8. Ke and Kd if there are no	
Leverage Costs 432	
18.2.9. Ke and Kd with Leverage Costs 434	
18.2.10. Influence of Growth on the	
Optimal Structure 434	
18.3. Boeing's Optimal Capital Structure According	
to Damodaran 437	
References 441	
Chapter 19 Financial Literature about Discounted Cash Flow Valuation	
Cash Flow Valuation	
19.1. A Brief Review of the Most Significant Papers 444	
19.2. Main Formulae in the Most Significant Papers 451	
19.2.1. Different Expressions of the Discounted Value	
of the Tax Shield and of the Required Return	
to Equity 451	
19.2.2. Different Expressions of WACC and	
$WACC_{BT}$ 454	
19.2.3. Different Expressions of the Levered Beta 45.	5
19.3. The Basic Problem: The Value of the Tax Shield Due to the	
Payment of Interest (DVTS) 455	
19.3.1. Adjusted Present Value (APV) in a World Without	
Cost-of-Leverage 455	
19.3.2. Appropriate Discount Rate for Taxes	
in Perpetuities 456	

in a World Without Cost-of-Leverage with
Constant Growth 458
19.3.4. Analysis of the Theories for Perpetuities 459
19.3.5. Analysis of Competing Theories in a World Without
Cost-of-Leverage and With Constant Growth 461
Growth 461 19.4. Differences in the Valuation According to the Most
Significant Papers 462
19.4.1. Growing Perpetuity with a Preset Debt
Ratio of 30% 462
19.4.2. Growing Perpetuity with Preset Debt 467
Appendix 19.1: In a World with No Leverage Cost the Value of Tax
Shields is PV[Ku; D T Ku] 467
References 469
Chapter 20
Application of the Different Theories to RJR Nabisco
20.1. Valuation According to No-Cost-of-Leverage Theory 20.2. Valuation According to Damodaran (1994) 20.3. Valuation from the CCF According to Ruback 20.4. Valuation from the APV According to Myers 20.5. Differences in the Valuations, Summary References 490
Chapter 21
Eight Methods and Seven Theories for Valuing
Companies by Cash Flow Discounting
21.1. Eight Methods for Valuing Companies by Cash Flow Discounting 492
21.2. An Example: Valuation of the Company Delta Inc. 496
21.3. How is the Company Valued when it Reports Losses in One or
More Years 501
Appendix 21.1: Valuation Formulae According to the Main
Theories (Market Value of the Debt =
Nominal Value) 506

xx Contents

Appendix 21.2: Valuation Formulae According to the Main Theories when the Debt's Market Value (D) does not Match its Nominal or Book Value (N) 508

References 511

Part IV Real Options and Brands

Chapter 22

Real Options. Valuing Flexibility: Beyond Discounted Cash Flow Valuation

22.1	Real Options 516
	Exploitation of Oil Reserves 518
ZZ.Z.	-
	22.2.2. With the Option of Extracting 519
22.3.	Black and Scholes' Formula for Valuing
	Financial Options 521
22.4.	Factors that Determine a Financial Option's Value 523
22.5.	Replication of the Call 524
22.6.	The Expectations Regarding an Increase in the Share's Price do
	not Affect the Value of a Replicable Call 526
22.7	. Value of a Call if it Cannot be Replicated 528
	Differences Between a Financial Option and a
2 2.0	Real Option 529
22.0	Applying Options Theory in a Firm 532
	. Use of the Binomial Method for Valuing
<i>44</i> .10	
	Real Options 534
	22.10.1. Valuation of a Project 534
	22.10.2. Valuation of the Option to Expand
	the Project 536
	22.10.3. Valuation of the Option to Defer
	the Investment 537
	22.10.4. Valuation of the Option to Use the Investment for
	Alternative Purposes 539
22.11	Frequently Made Errors When Valuing Real Options 540
	. * * * * * * * * * * * * * * * * * * *

22.12. Methods for Valuing Real Options 546 Appendix 22.1: A Derivation of Black and Scholes' Formula Summary 553 References 553	549
Chapter 23	
Valuation of Brands and Intangibles	
23.1. Methods Used for Valuing Brands23.2. Valuation of the Brand "For Whom" and "For What Purpose"560	
23.3. Valuation of the Brand Using the Difference in the Price to Sales Ratios 562	
23.4. Valuations of the Kellogg and Coca-Cola Brands by Damodaran 564	
23.5. Analysis of Damodaran's Valuations 564	
23.6. Interbrand's Valuation Method 568	
23.7. Comment on Interbrand's Method 576	
23.8. Financial World's Valuation Method 577	
23.9. Houlihan Valuation Advisors' Method 577	
23.10. Other Methods Proposed by Different Consulting Firms	579
23.11. Brand Value Drivers, Parameters Influencing the Brand's Value 580	
23.12. What is the Purpose of Valuing Brands? 582	
23.13. Brand Value as a Series of Real Options 582	
23.14. Brand Accounting 583	
23.15. Valuation of Intellectual Capital 584 References 586	
Appendix A	
* *:	
Capital Asset Pricing Model (CAPM)	
A.1. An Investor Forms an Optimal Portfolio A.2. Optimal Portfolio if all Investors have Homogeneous Expectations 589 A.3. Basic Assumptions of the CAPM 591	
A.4. Basic Consequences of the CAPM 591	

xxii Contents

A.5. When the Assumptions of the CAPM are not Met	592
A.5.1. Investors have Different Expectations	592
A.5.2. CAPM in Continuous Time 592	
A.5.3. If the Risk-Free Rate is Random 592	
A.5.4. There is no Risk-Free Rate 592	
A.6. Empirical Tests of the CAPM 593	
A.7. Formulae for Calculating the Beta 594	
A.8. Relationship Between Beta and Volatility 594	
A.9. Important Relationships Derived from the CAPM	595
Summary 595	
References 595	

Glossary 597 Notation 603 Company Index 607 Name Index 615 Subject Index 619