

Contents

Part I Introduction

1 Capital Budgeting and Investment Decisions	3
1.1 Characteristics and Classification of Investment Projects	3
1.2 Investment Planning and Investment Decisions	6
1.2.1 Investment Planning as Part of the Management Process	6
1.2.2 Investment Planning as Part of the Capital Investment Decision-Making Process	8
1.2.3 Strategic Analysis Tools Supporting the Capital Investment Decision-Making Process	19
1.3 Investment Appraisal Methods as Tools for Investment Planning	23
Further Reading – Part I	25

Part II Basic Methods of Investment Appraisal

2 Static Methods	29
2.1 Cost Comparison Method	31
2.2 Profit Comparison Method	37
2.3 Average Rate of Return Method	39
2.4 Static Payback Period Method	42
Assessment Material	44
3 Discounted Cash Flow Methods	47
3.1 Introduction	47
3.2 Net Present Value Method	50
3.3 Annuity Method	61
3.4 Internal Rate of Return Method	63
3.5 Dynamic Payback Period Method	71
3.6 Data Collection	73
Assessment Material	79
Further Reading – Part II	81

Part III Advanced Methods and Applications of Investment Appraisal	
4	Compounded Cash Flow Methods 87
4.1	Compound Value Method 87
4.2	Critical Debt Interest Rate Method 92
4.3	Visualisation of Financial Implications (VoFI) Method 94
	Assessment Material 102
5	Selected Further Applications of Investment Appraisal Methods . . . 105
5.1	Income Taxes and Investment Decisions 105
5.1.1	Taxes and the Net Present Value Method 105
5.1.2	Taxes and the Visualisation of Financial Implications (VoFI) Method 110
5.2	The Assessment of Foreign Direct Investments 112
5.2.1	Special Characteristics of Foreign Direct Investments 112
5.2.2	Net Present Value Model and the Assessment of Foreign Direct Investments 115
5.2.3	The Visualisation of Financial Implications (VoFI) Method and the Assessment of Foreign Investments 121
5.3	Models for Economic Life and Replacement Time Decisions 125
5.3.1	Overview 125
5.3.2	Optimum Economic Life Without Subsequent Projects 127
5.3.3	Optimum Economic Life with a Limited Number of Identical Subsequent Projects 130
5.3.4	Optimum Economic Life with an Unlimited Number of Identical Subsequent Projects 133
5.3.5	Optimum Replacement Time with an Unlimited Number of Identical Subsequent Projects 137
5.3.6	Optimum Replacement Time with a Limited Number of Non-identical Subsequent Projects 140
5.4	Models to Determine Optimum Investment Timing 143
	Assessment Material 152
	Further Reading – Part III 158
Part IV Multi-Criteria Methods and Simultaneous Decision-Making	
6	Multi-criteria Methods 163
6.1	Introduction 163
6.2	Utility Value Analysis 167
6.3	Analytic Hierarchy Process 171
6.4	Multi-attribute Utility Theory 184
6.5	PROMETHEE 193
	Assessment Material 204

7	Simultaneous Decision-Making Models	209
7.1	Static Model for Simultaneous Investment and Financing Decisions (DEAN Model)	209
7.2	Multi-tier Model of Simultaneous Investment and Financing Decisions (HAX and WEINGARTNER Model)	216
7.3	Multi-tier Model of Simultaneous Investment and Production Decisions (Extended FORSTNER and HENN Model)	226
	Assessment Material	234
	Further Reading – Part IV	240
Part V Methods and Models that Incorporate Uncertainty		
8	Methods and Models for Appraising Investment Projects Under Uncertainty	247
8.1	Decision Theory	248
8.2	Risk-Adjusted Analysis	253
8.3	Sensitivity Analysis	259
8.4	Risk Analysis	265
8.5	Decision-Tree Method	270
8.6	Options Pricing Models	280
	Assessment Material	290
9	Analysing Investment Programmes Under Uncertainty	299
9.1	Overview	299
9.2	Portfolio Selection	302
9.3	Flexible Planning	310
	Further Reading – Part V	318
	Solutions	323
	References	355
	Index	363