
Contents

Introduction	ix
Chapter 1. The Utility of Real Options in the Valuation of Liabilities	
1.1. Introduction	1
1.2. Real options: a mitigating alternative to the deficiency of traditional valuation methods	2
1.2.1. The limits of traditional approaches	3
1.2.2. The alternative of real options	7
1.2.3. Black–Scholes optional modeling	10
1.3. Intersections between approaches to assets valuation	12
1.3.1. Convergence between the Cox–Ross–Rubinstein (1979) and the Black–Scholes (1973) models and the Merton formula (1973)	12
1.3.2. Convergence between the CAPM and the Modigliani–Miller theory	15
1.3.3. Convergence between the Black–Scholes model and the Modigliani–Miller theory outside of taxation	18
1.4. Valuation of liabilities structures with real options	22
1.4.1. The economic value of equity and net debt	22
1.4.2. The impact of the risk debt on the time value of equity and the resolution of conflict between creditors and shareholders	27
1.5. Conclusion	30
Chapter 2. The New Allocation of Company Value Using the Optional Approach	
	31
2.1. Introduction	31
2.2. Economic value of debt and systematic risk adjustment of equity	34
2.2.1. Optional valuation of debt and the issues associated with getting into debt	34

2.2.2. Combination of CAPM and the options model: the systematic risk of equity and the rate of return required by shareholders	36
2.2.3. Situations that impact financial structure	42
2.3. Integration of organizational problems between shareholders and debtors	45
2.3.1. The interaction of financing decisions.	47
2.3.2. Accounting for information costs and protection clauses	53
2.3.3. Bankruptcy costs, getting into permanent debt and optimizing the debt ratio	61
2.4. Mechanisms of refinancing debt and the impact on the value of equity	70
2.4.1. Risks of refinancing	71
2.4.2. Reimbursing loans at intermediate intervals and the impact on the value of equity	76
2.5. Conclusion	82
Chapter 3. Applications of Real Options on Financial Structure Valuation	85
3.1. Introduction	85
3.2. Application to the stock market index of a country: the CAC 40	86
3.2.1. Databases, methodology and hypotheses	87
3.2.2. Equality test for asset and equity volatility and the interpretation of results	94
3.2.3. Equality test for growth potential of stock prices based on the approach of brokers and Black–Scholes–Merton and the interpretation of results	94
3.2.4. Equality test for debt ratios based on net debt from the financial states of companies and the recalculation of net debt using the Black–Scholes–Merton approach, and the interpretation of results	95
3.2.5. Regression coefficient to explain growth potential of stock prices	96
3.3. Application to a business sector: the cinema industry	97
3.3.1. Databases, methodology and hypotheses	97
3.3.2. Equality test for volatility of assets and equity and interpretation of results	100
3.3.3. Equality test for the growth potential of stock prices based on the approach of brokers and Black–Scholes–Merton.	100
3.3.4. Test for equal debt ratios based on net debt from the financial reports of companies and the recalculation of net debts using the Black–Scholes–Merton approach	101

Conclusion	103
Appendices	105
Appendix 1	107
Appendix 2	109
Appendix 3	111
Appendix 4	113
Appendix 5	115
Appendix 6	117
Appendix 7	119
Appendix 8	123
Appendix 9	125
Appendix 10	127
Appendix 11	129
Appendix 12	131
Appendix 13	133
Appendix 14	135
Appendix 15	137
Appendix 16	139
Appendix 17	141
Appendix 18	143
Appendix 19	145
Appendix 20	147

Appendix 21	149
Appendix 22	151
Appendix 23	153
Bibliography	159
Index	165