

Beyond the J-curve

Managing a Portfolio of Venture Capital and
Private Equity Funds

Thomas Meyer & Pierre-Yves Mathonet



John Wiley & Sons, Ltd

Contents

List of Boxes	xv
Acknowledgements	xvii
Disclaimer	xviii
PART I PRIVATE EQUITY ENVIRONMENT	1
1 Introduction	3
1.1 Routes into private equity	3
1.2 The limited partner's viewpoint	4
1.3 The challenge of venture capital fund valuation	4
1.4 Hard figures or gut instinct?	5
1.5 Managing with fuzzy figures	5
1.6 Making the grades	5
1.7 Outline	7
2 Private Equity Market	9
2.1 Funds as intermediaries	10
2.2 The problem of predicting success	15
2.2.1 Can success be repeated?	15
2.2.2 What is success?	17
2.2.3 Tolerance for failure	18
2.3 Broad segmentation of investment universe	18
2.3.1 Institutional quality funds	18
2.3.2 Newcomers	21
2.4 Private equity market dynamics	22
2.4.1 Boom-and-bust cycles	22
2.4.2 The relationship between limited and general partners	23
2.4.3 Life cycle of limited and general partner relationship	24
2.5 Conclusion	26

3 Private Equity Fund Structure	27
3.1 Key features	29
3.1.1 Corporate governance	30
3.1.2 Investment objectives, fund term and fund size	31
3.1.3 Management fees and expenses	31
3.1.4 Carried interest	32
3.1.5 Preferred return or hurdle rate	33
3.1.6 General partners' contribution	34
3.1.7 Key person provision	35
3.1.8 Termination and divorce	36
3.1.9 Distribution waterfall	37
3.2 Conflicts of interest	38
3.3 Finding the balance	38
4 Buyout and Venture Capital Fund Differences	41
4.1 Valuation	43
4.2 Business model	44
4.3 Deal structuring	45
4.4 Role of general partners	45
5 Funds-of-funds	47
5.1 Structure	47
5.2 Value added	48
5.2.1 Diversification	49
5.2.2 Resources	49
5.2.3 Selection skills	50
5.2.4 Incentives	50
5.3 Costs	51
5.4 Private equity investment programme	52
5.4.1 Funding	53
5.4.2 Management fees and profit sharing	53
5.4.3 Investment activities	54
Appendix 5A	54
PART II INVESTMENT PROCESS	57
6 Investment Process	59
6.1 Key performance drivers	59
6.1.1 Fund manager selection	60
6.1.2 Management of diversification	60
6.1.3 Commitment management	60
6.2 Process description	61
6.2.1 Portfolio objectives	61
6.2.2 Portfolio design	62
6.2.3 Liquidity management and valuation	63
6.2.4 Monitoring	64
6.2.5 Action and implementation	64

6.3	Risk management	65
6.3.1	Risk-measurement framework	65
6.3.2	Risk control	65
6.3.3	Risk mitigation	67
6.4	Tackling uncertainty	68
6.4.1	Reducing uncertainty	69
6.4.2	Strategies under uncertainty	69
7	Risk Framework	73
7.1	Market value	75
7.2	Market or credit risk?	77
7.2.1	Market risk	77
7.2.2	Credit risk	77
7.3	Conclusion	78
Appendix 7A: Incorporating private equity into the traditional VaR framework		79
7A.1	VaR calculation based on reported financial data	79
7A.2	Marking-to-model	80
8	Portfolio Design	81
8.1	Portfolio design framework	81
8.1.1	Modern portfolio theory	81
8.1.2	“Naïve” allocation	83
8.2	Portfolio construction techniques	83
8.2.1	Bottom-up approach	84
8.2.2	Top-down approach	84
8.2.3	Mixed approach	85
8.2.4	Portfolio monitoring	87
8.3	Risk–return management approaches	88
8.3.1	Core–satellite approach	88
8.3.2	Diversification	90
9	Case Study	95
9.1	Looking for the optimal programme size	95
9.1.1	Data	96
9.1.2	The model	97
9.1.3	Results	98
9.1.4	Extension	100
9.1.5	Conclusion	102
9.2	Overcoming entry barriers: long-term strategies	104
9.2.1	Data	104
9.2.2	Modelling	105
9.2.3	Results	106
9.2.4	Conclusion	106
Appendix 9A: Formulae		111
Appendix 9B: Skewness and kurtosis		112
Appendix 9C: Expected utility		113

10	The Management of Liquidity	115
10.1	Liquidity management problem	115
10.1.1	Modelling	117
10.1.2	Impact of liquidity returns	118
10.1.3	Over-commitments	119
10.1.4	Conclusion	122
10.2	Liquidity management approaches	123
10.2.1	Sources of liquidity	123
10.2.2	Foreign exchange risk	124
10.2.3	Distributions-in-kind	128
10.2.4	Consequences for performance measurement	130
10.3	Investment strategies for undrawn capital	130
10.3.1	Publicly quoted private equity	131
10.3.2	Other alternative assets	132
10.4	Cash flow projections	133
10.4.1	Estimates	135
10.4.2	Forecasting	138
10.4.3	Scenarios	142
10.4.4	Control framework	144
10.5	Conclusion	145
	Appendix 10A: Cash flow estimation technique	145
10A.1	Cash flow estimate—example 1	145
10A.2	Cash flow estimate—example 2	145
10A.3	Cash flow estimate—example 3	146
	Appendix 10B: Cumulative net cash flow statistics	147
	Appendix 10C: Liquidity management tests	147
10C.1	Main tests	148
10C.2	Liquidity tests	148
10C.3	Performance tests	149
10C.4	Matching tests	149
10C.5	Scenario validity tests	149
	PART III DESIGN TOOLS	151
11	Established Approaches to Fund Valuation	153
11.1	Bottom-up approach to private equity fund valuation	154
11.2	Inconsistency of valuations	157
11.3	NAVs do not tell the full picture	157
11.4	Portfolio companies cannot be valued in isolation	159
11.5	Conclusion	162
12	Benchmarking	165
12.1	Specific issues	165
12.2	Individual funds	166
12.2.1	Performance measures	166
12.2.2	Classical relative benchmarks	167

12.2.3	Other relative benchmarks	169
12.2.4	Absolute benchmarks	169
12.3	Portfolio of funds	170
12.3.1	Performance measures	170
12.3.2	Benchmarks	171
13	A Prototype Internal Grading System	173
13.1	Grading of private equity funds	173
13.2	The NAV is not enough	174
13.3	Existing approaches	176
13.3.1	Fund rating by external agencies	176
13.3.2	Internal VC fund assessment approaches	178
13.3.3	Comparison of approaches	180
13.4	New approach to internal fund-grading system	180
13.4.1	Grading formalisation	180
13.4.2	Expected performance grades	181
13.5	Summary—NAV- and grading-based valuation	188
13.6	Conclusion	189
Appendix 13A		189
14	Fund Manager Selection Process	193
14.1	Relevance of fund manager selection	193
14.2	Why due diligence?	194
14.2.1	Due diligence as a requirement for prudent investors	194
14.2.2	Due diligence as a basis for better investment decisions	195
14.3	The due diligence process	195
14.3.1	Limitations	195
14.3.2	Due diligence questionnaires	196
14.4	Fund manager selection process	197
14.4.1	Determination of the “wish list”	197
14.4.2	Deal sourcing	198
14.4.3	Screening	198
14.4.4	Meet the team	198
14.4.5	Evaluation	199
14.4.6	In-depth due diligence	200
14.5	Decision and commitment	201
Appendix 14A:	Illustrative due diligence questionnaire—venture capital funds	202
15	Qualitative Fund Scoring	219
15.1	Scoring approach	219
15.2	Scoring dimensions	221
15.2.1	Management team skills	221
15.2.2	Management team stability	224
15.2.3	Management team motivation	225
15.2.4	Fund strategy	227
15.2.5	Fund structure	229

15.2.6	External validation	230
15.2.7	Overall fit	231
16	Grading-based Economic Model	233
16.1	Approach	233
16.2	Internal age adjustment	237
16.3	Private equity fund IRR projections	238
16.4	Expected portfolio returns	239
16.5	Discussion	241
16.5.1	Verification of approach	241
16.5.2	Reliance on assumptions	242
16.6	Conclusion	242
Appendix 16A		242
16A.1	Identifying bottom funds	243
16A.2	Identifying top funds	243
Appendix 16B		245
Appendix 16C: Grading-based private equity fund valuation—how fair is my valuation?		248
16C.1	The revised IAS 39	248
16C.2	Valuation model (mark-to-model)	251
17	Private Equity Fund Discount Rate	253
17.1	The capital asset pricing model	253
17.1.1	Risk-free rate	254
17.1.2	Equity risk premium	254
17.1.3	Beta	256
17.2	Private equity fund betas	257
17.2.1	Estimation based on quoted comparable	257
17.2.2	Alternatives to the “standard” regression betas	261
17.3	The alternatives to the capital asset pricing model	264
17.3.1	The opportunity cost of capital	265
17.3.2	The historical performance	265
17.4	Summary and conclusion	266
PART IV MANAGEMENT TOOLS		269
18	Monitoring	271
18.1	Approach to monitoring	272
18.1.1	Monitoring as part of a control system	272
18.1.2	The trade-offs	273
18.2	The monitoring objectives	273
18.2.1	Protecting downside	274
18.2.2	Creating value	276
18.3	Information gathering	276
18.3.1	Standard monitoring	279
18.3.2	Specific monitoring	281
18.4	Evaluation	282
18.5	Actions	285

19 Case Study: Saving Your Investments—Approaches to Restructuring	287
19.1 The valley of tears	288
19.2 The report to the board	289
19.3 The terms of the restructuring	291
19.4 Epilogue	293
Appendix 19A: Investment proposal	293
Appendix 19B: Track record	294
19B.1 Greenlight 1	294
19B.2 Greenlight buyout	295
20 Secondary Transactions	297
20.1 Sellers and their motivations	297
20.2 Buyers and their motivations	299
20.3 Secondary market prices	300
20.3.1 Factors for valuation	303
20.3.2 Top-down analysis	304
20.3.3 Bottom-up analysis	306
20.3.4 Comparables	307
20.4 Transactional issues	307
20.5 The fund manager perspective	308
PART V EMBRACING UNCERTAINTY	311
21 Deviating from Top Funds	313
21.1 Strategic investments	313
21.2 Policy objectives	314
22 Real Options	319
22.1 Real options in private equity	319
22.2 Real option analysis	321
22.3 An expanded strategy and decision framework	322
22.3.1 Decision framework	322
22.3.2 Strategy framework	322
Appendix 22A: A real option example	324
23 Beyond the J-curve	327
23.1 Some do it better	327
23.2 Deadly sins	327
23.3 Structure instead of “gut instinct”	328
23.4 Patience is a virtue	328
23.5 Turning water into wine	329
Glossary	331
Bibliography	341
Abbreviations	351
Index	353

List of Boxes

1.1	Private equity as winemaking	6
2.1	Is private equity an asset class?	9
2.2	The J curve	12
2.3	Access to top funds	19
3.1	Well-intentioned structures can have unpredictable consequences	38
6.1	Risk-adjusted pricing	65
6.2	Risk and uncertainty	68
7.1	Independent risk management function	73
8.1	Niche strategies	89
8.2	Market timing	91
9.1	Random pick	105
10.1	Emerging markets currency issues	126
11.1	Transactions before maturity	155
11.2	Venture capital as appraised asset class	160
16.1	Superior selection skills	234
18.1	Style drift	274
18.2	Transparency	277
18.3	Standard reporting	280
20.1	Secondaries as benchmark for “verifiable fair value”?	301
20.2	Securitisation: an alternative exit route	309
21.1	Cornerstoning	314

Acknowledgements

This book was written with the help of many individuals who have given invaluable assistance. We would like to express our gratitude to all of them and notably to:

- Gauthier Monjanel & Gabriel Robet for their hard work on the case studies in this book.
- Francis Carpenter, Chief Executive, European Investment Fund, who made this project possible and provided us great support. Also all our colleagues and especially Maria Leander for her "legal" advice, Sven Lahann for testing and implementing most of our concepts, and Jacques Lilli and Bruno Robino for their comments on the due diligence questionnaire.
- Juan Delgado-Moreira PhD, CFA, Baring Private Equity Partners, and Dr Michael Jean Gschrei of Dr Gschrei & Associates GmbH for their valuable comment and suggestions on the management of liquidity.
- Brenlen Jinkens, Director and Todd Konkel, Vice President, Cogent Partners, for having shared with us their expertise on secondary transactions.
- Chris Davison, Associate Director, Almeida Capital, for his initial help and encouragement and for taking the time to read chapters of the book and provide very useful comments.
- Dr. Didier Guennoc, Research Director, EVCA, for his longstanding support and collaboration.
- London Business School (LBS), for providing us with our financial background and for bringing us together. Also to Associate Professor Alexander Ljungqvist, NYU Stern School of Business (previously Visiting Assistant Professor LBS) for his unforgettable class on entrepreneurial finance and to Professor Eli Talmor, LBS, for his insights on discount rates.
- Daniel and Florence Cathiard for producing an amazing wine and for having helped us in drawing the analogy between winemaking and private equity.

Finally, to the team at John Wiley & Sons who helped us produce the book, including our Publishing Editor, Rachael Wilkie; Project Editor, Vivienne Wickham; Marketing Executive, Peter Baker, and Assistant Editor, Chris Swain.