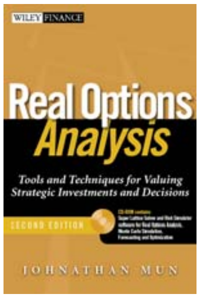

Real Options Analysis, 2nd Edition: Tools and Techniques for Valuing Strategic Investments & Decisions

Dr. Johnathan Mun
ISBN: 0471747483 (2005)
Hard Cover and Cloth, 670 Pages
Available on www.amazon.com
Keyword: JOHNATHAN MUN

Real Options Analysis, 2nd edition provides a novel view of evaluating capital investment strategies by taking into consideration the strategic decision-making process. The book provides a qualitative and quantitative description of real options, the methods used in solving real options, why and when they are used, and the applicability of these methods in decision making. In addition, multiple business cases and real-life applications are discussed. This includes presenting and framing the real options problems, as well as introducing a stepwise quantitative process developed by the author for solving these problems using the different methodologies inherent in real options. Included are technical presentations of models and approaches used as well as their theoretical and mathematical justifications. The book is divided into three parts: the qualitative discussions of real options; the quantitative analysis and mathematical concepts; and practical applications. The first part looks at the qualitative nature of real options, providing actual business cases and scenarios of real options in the industry, as well as high-level explanations of how real options provide the much-needed insights in decision making. The second part of the book looks at the step-by-step quantitative analysis, complete with worked-out examples and mathematical formulae. The third part illustrates the use of the Real Options Valuation's Super Lattice Solver software and Risk Simulator software both developed by the author and included in the enclosed CD-ROM (standard 30-day trial with extended academic license). In this section, more detailed business cases are solved using the software.

This second edition provides many updates including:
• A trial version and introduction to the Super Lattice Solver software that supersedes the author's older Real Options Analysis Toolkit software (all bugs and computational errors have been fixed and verified).
• A trial version and introduction to the Risk Simulator software also created by the author.
• Extended examples and step-by-step computations of American, Bermudan, European, and Customized options (including abandon, barrier, chooser, contraction, expansion, and other options).
• More extensive coverage of advanced and exotic real and financial options (multiple-phased sequential compound options, complex sequential compound option, barrier options, trinomial mean-reverting options, quadranomial jump-diffusion options, pentanomial dual-asset rainbow options, multiple-asset with multiple-phased options, engineering your own exotic options, and so forth).
• Extended real options cases with step-by-step worked out solutions using the Super Lattice Solver software.
• Several brand new case studies on applying real options in the industry.
• An extended discussion on volatility estimates, risk, and uncertainty.
This book is targeted at both the uninitiated professional as well as those well-versed in real options applications. It is also applicable for use as a second-year M.B.A. level textbook or introductory Ph.D. reference book.

ABOUT THE AUTHOR

Dr. Johnathan C. Mun is the founder and CEO of Real Options Valuation, Inc., a consulting, training, and software development firm specializing in real options, employee stock options, financial valuation, simulation, forecasting, optimization, and risk analysis located in northern California. He is the creator of the Super Lattice Solver software, Risk Simulator software, and Employee Stock Options Valuation software at the firm. The Super Lattice Solver software showcased in this book supersedes the previous Real Options Analysis Toolkit software which he also developed. He has also authored numerous other books including Real Options Analysis Course: Business Cases (Wiley 2003), Applied Risk Analysis: Moving Beyond Uncertainty (Wiley 2003), Valuing Employee Stock Options (Wiley 2004), Modeling Risk: Applying Monte Carlo Simulation, Real Options Analysis, Forecasting, and Optimization (Wiley 2006), and others. His books and software are being used around the world at top universities (including the Bern Institute in Germany, Chung-Ang University in South Korea, Georgetown University, ITESM in Mexico, Massachusetts Institute of Technology, New York University, Stockholm University in Sweden, University of the Andes in Chile, University of Chile, University of Pennsylvania Wharton School, University of York in the United Kingdom, and Edinburgh University in Scotland, etc).
Dr. Mun is also currently a finance and economics professor and has taught courses in financial management, investments, real options, economics, and statistics at the undergraduate and the graduate M.B.A. levels. He is teaching and has taught at universities all over the world, from the U.S. Naval Postgraduate School (Monterey, California) and University of Applied Sciences (Switzerland and Germany) to Golden Gate University (California) and St. Mary's College (California), and has chaired many graduate research thesis committees. He was formerly the Vice President of Analytics at Decisioneering, Inc. where he headed up the development of real options and financial analytics software products, analytical consulting, training, and technical support, and where he was the creator of the Real Options Analysis Toolkit software, the older predecessor of the Super Lattice Software discussed in this book.
Dr. Mun received his Ph.D. in Finance and Economics from Lehigh University, where his research and academic interests were in the areas of Investment Finance, Econometric Modeling, Financial Options, Corporate Finance, and Microeconomic Theory. He also has an M.B.A. in business administration, an M.S. in management science, and a B.S. in Biology and Physics. He is Certified in Financial Risk Management (FRM), Certified in Financial Consulting (CFC), and is Certified in Risk Analysis (CRA). Finally, he has written many academic articles published in the Journal of the Advances in Quantitative Accounting and Finance, the Global Finance Journal, the International Financial Review, the Journal of Financial Analysis, the Journal of Applied Financial Economics, the Journal of International Financial Markets, Institutions and Money, the Financial Engineering News, and the Journal of the Society of Petroleum Engineers.

PRAISES FOR *REAL OPTIONS ANALYSIS*

"…this book is a *must have* and *must read…* Dr. Mun's new book is a refreshing, cutting-edge look at a powerful new decision-making process… it isn't often you can truthfully say a book breaks new ground, but [this book] has certainly done that."
-Glenn G. Kautt, President, Monitor Group, Inc. (USA)

"Many books on real options can be intimidating. Dr. Mun offers a pragmatic, reliable and entertaining guide. Complex concepts and formulas are brilliantly interspersed with well chosen examples and step-by-step walk through from a variety of industries."
-Shota Hattori, President and CEO, Kozo Engineering, (Japan)

"Real Options Analysis is the clearest book on real options that we have read to date. It does an excellent job of demystifying a difficult and complex subject. It provides a solid basis for conceiving, assessing and evaluating real option investments, which will make it useful to practitioners and students alike."
-Ian C. MacMillan, Professor
The Wharton School of the University of Pennsylvania (USA)

"…the clarity and comprehensive coverage makes it the best guide for all practitioners… coupled with state-of-the-art financial tools CD-ROM."
-Michael Sim, Partner, Moores Rowland International (Hong Kong)

"Dr. Johnathan Mun certainly has earned the reputation of being an expert on the subject… consultants, analysts, decision-makers and engineers will be all over this book and its software."
-Phyllis Koessler, Managing Director, Koessler and Associates (Switzerland)

"…finally, a real options analysis book that is technically sophisticated enough to be useful, and practically written so that it can actually be used. It is destined to become the handbook of real options."
-Tracy Gomes, CEO, Intellectual Property Economics (USA)

"Dr. Mun demystifies real options analysis and delivers a powerful, pragmatic guide for decision-makers and practitioners alike. Finally, there is a book that equips professionals to easily recognize, value, and seize real options in the world around them."
- Jim Schreckengast, Sr. Vice President, R&D Strategy – Gemplus International SA (France)

"...written from the viewpoint of an educator and a practitioner, his book offers a readable reference full of insightful decision-making tools to satisfy both the novice and the experienced veteran."
-Richard Kish, Ph.D., Associate Professor of Finance, Lehigh University (USA)

"Dr. Mun has converted his tacit financial knowledge into a digestible user-friendly book. He effectively leads the reader on a solid path starting from *discounted cash flow,* progressing through *Monte Carlo analysis* and evolving to *real options* to get even closer to the target of achieving confident corporate decisions. His ability to clearly explain the relationships of popular competing analysis methods will make this a must have reference book for today's decision makers."
-Ken English, Director of R&D, The Timken Company (USA)

"The book leads the field in real options analytics and is a must-read for anyone interested in performing such analyses. Dr. Mun has made a formidable subject crystal clear and exponentially easy for senior management to understand. *Monte Carlo simulation* and *real options* software alone is worth the book price many times over."
-Morton Glantz, Renowned educator in finance, author of several books, financial advisor to government (USA)

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