Simulation and Optimization in Finance. Modeling with MATLAB, @Risk, or VBA. Frank J. Fabozzi Series

Description: An introduction to the theory and practice of financial simulation and optimization

In recent years, there has been a notable increase in the use of simulation and optimization methods in the financial industry. Applications include portfolio allocation, risk management, pricing, and capital budgeting under uncertainty.

This accessible guide provides an introduction to the simulation and optimization techniques most widely used in finance, while at the same time offering background on the financial concepts in these applications. In addition, it clarifies difficult concepts in traditional models of uncertainty in finance, and teaches you how to build models with software. It does this by reviewing current simulation and optimization methodology—along with available software—and proceeds with portfolio risk management, modeling of random processes, pricing of financial derivatives, and real options applications.

- Contains a unique combination of finance theory and rigorous mathematical modeling emphasizing a hands-on approach through implementation with software
- Highlights not only classical applications, but also more recent developments, such as pricing of mortgage-backed securities
- Includes models and code in both spreadsheet-based software (@RISK, Solver, Evolver, VBA) and mathematical modeling software (MATLAB)

Filled with in-depth insights and practical advice, Simulation and Optimization Modeling in Finance offers essential guidance on some of the most important topics in financial management.

Contents: Preface xi

About the Authors xvi

Acknowledgments xvii

CHAPTER 1 Introduction 1

Optimization; Simulation; Outline of Topics

PART ONE Fundamental Concepts

CHAPTER 2 Important Finance Concepts 11

Basic Theory of Interest; Asset Classes; Basic Trading Terminology; Calculating Rate of Return; Valuation; Important Concepts in Fixed Income; Summary; Notes

CHAPTER 3 Random Variables, Probability Distributions, and Important Statistical Concepts 51

What is a Probability Distribution?; Bernoulli Probability Distribution and Probability Mass Functions; Binomial Probability Distribution and Discrete Distributions; Normal Distribution and Probability Density Functions; Concept of Cumulative Probability; Describing Distributions; Brief Overview of Some Important Probability Distributions; Dependence Between Two Random Variables: Covariance and Correlation; Sums of Random Variables; Joint Probability Distributions and Conditional Probability; From Probability Theory to Statistical Measurement: Probability Distributions and Sampling; Summary; Software Hints; Notes

CHAPTER 4 Simulation Modeling 101

Monte Carlo Simulation: A Simple Example; Why Use Simulation?; Important Questions in Simulation Modeling; Random Number Generation; Summary; Software Hints; Notes
Factors; Structuring RMBS Deals Using Dynamic Programming; Summary; Notes

CHAPTER 16 Using Derivatives in Portfolio Management 627
Using Derivatives in Equity Portfolio Management; Using Derivatives in Bond Portfolio Management; Using Futures to Implement an Asset Allocation Decision; Measuring Portfolio Risk When the Portfolio Contains Derivatives; Summary; Notes

PART FIVE Capital Budgeting Decisions

CHAPTER 17 Capital Budgeting under Uncertainty 653
Classifying Investment Projects; Investment Decisions and Wealth Maximization; Evaluating Project Risk; Case Study; Managing Portfolios of Projects; Summary; Software Hints; Notes

CHAPTER 18 Real Options 707
Types of Real Options; Real Options and Financial Options; New View of NPV; Option to Expand; Option to Abandon; More Real Options Examples; Estimation of Inputs for Real Option Valuation Models; Summary; Software Hints; Notes

References 733
Index 743

Order by Fax - using the form below
Order by Post - print the order form below and send to

Research and Markets,
Guinness Centre,
Taylors Lane,
Dublin 8,
Ireland.
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit
http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Simulation and Optimization in Finance. Modeling with MATLAB, @Risk, or VBA. Frank J. Fabozzi Series
Web Address: http://www.researchandmarkets.com/reports/2241316/
Office Code: SCLOPGK1

Product Format
Please select the product format and quantity you require:

Quantity

- Hard Copy (Hard Back): USD 133 + USD 28 Shipping/Handling

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: Mr [ ] Mrs [ ] Dr [ ] Miss [ ] Ms [ ] Prof [ ]
First Name: ___________________________ Last Name: ___________________________
Email Address: * ___________________________
Job Title: ___________________________
Organisation: ___________________________
Address: ___________________________
City: ___________________________
Postal / Zip Code: ___________________________
Country: ___________________________
Phone Number: ___________________________
Fax Number: ___________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
**Payment Information**

Please indicate the payment method you would like to use by selecting the appropriate box.

- **Pay by credit card:** You will receive an email with a link to a secure webpage to enter your credit card details.
- **Pay by check:** Please post the check, accompanied by this form, to:
  Research and Markets,  
  Guinness Center,  
  Taylors Lane,  
  Dublin 8,  
  Ireland.
- **Pay by wire transfer:** Please transfer funds to:
  
<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Account number</td>
<td>833 130 83</td>
</tr>
<tr>
<td>Sort code</td>
<td>98-53-30</td>
</tr>
<tr>
<td>Swift code</td>
<td>ULSBIE2D</td>
</tr>
<tr>
<td>IBAN number</td>
<td>IE78ULSB98533083313083</td>
</tr>
<tr>
<td>Bank Address</td>
<td>Ulster Bank, 27-35 Main Street,</td>
</tr>
</tbody>
</table>
<pre><code>               | Blackrock, Co. Dublin, Ireland. |
</code></pre>

If you have a Marketing Code please enter it below:

**Marketing Code:**

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at [http://www.researchandmarkets.com/info/terms.asp](http://www.researchandmarkets.com/info/terms.asp)

---

Please fax this form to:  
(646) 607-1907 or (646) 964-6609 - From USA  
+353-1-481-1716 or +353-1-653-1571 - From Rest of World