Introductory Mathematics and Statistics for Islamic Finance. + Website

Description:

Praise for Introductory Mathematics and Statistics for Islamic Finance

The authors have done a great service for those who are undertaking quantitative analysis, empirical research, and developing models in Islamic economics and finance. The strength of the book lies in the range of topics covered the richness of its logical presentation, easy to follow examples and most importantly, simplification of complex mathematical and statistical concepts. This is an essential book for the library of any researcher of Islamic finance.

ZAMIR IQBAL, Lead Investment Officer, The World Bank, Washington, DC, USA

This book is a very accessible introduction to mathematical and statistical modelling in Islamic finance. With minimum prerequisites for reading, it presents a clear and concise exposition of the fundamental analytical tools in economics and illustrates their applications to important topics in Islamic finance. Introductory Mathematics and Statistics for Islamic Finance is a timely and major contribution to the collective efforts currently underway to close the wide gap between theoretical and empirical research in Islamic finance. The authors are among the leading thinkers and voices in Islamic finance, and write from a depth of experience.

NABIL MAGHREBI, Professor of Finance, Graduate School of Economics, Wakayama University, Japan Center for the Study of Finance and Insurance, Osaka University

This book is an important contribution and a must-read for every student seeking knowledge in this particular area. It is also undeniably a great resource for lecturers, researchers and practitioners who are interested in Islamic finance and its conceptualization. The book provides useful mathematical and statistical tools for Islamic finance and presents a wide range of applications in a concise, relevant and pedagogical way.

ADAMA DIEYE, Central Bank of the West African Economic and Monitory Union and Advisor in the Cabinet Ministry of Economy and Finance of Senegal

A book written by two senior and well respected Islamic economists that will have an important impact in the field. This book will equip a new generation of researchers with quantitative muscles. Learning Islamic finance using another language (Mathematics and Statistics) is a great way to push you towards mastering the field. Since Mathematics and Statistics are the language of logic, this book is expected to enhance and deepen the readers understanding of Islamic finance.

ABDULLAH Q. TURKISTANI, Dean, Islamic Economics Institute King Abdulaziz University, Saudi Arabia

There are several books in the market on both Mathematics and Statistics. However, Introductory Mathematics and Statistics for Islamic Finance is unique in many respects. It addresses a specific target group: researchers and students in the field of Islamic finance an industry with an impressive growth record and tremendous potential. This book puts the fundamental requirements for quantitative research in a simple yet rigorous enough style to meet professional research standards. Its selection of the most relevant topics from a broad array of computational mathematics and statistics, and use of explanatory examples for direct application in Islamic finance make this book handy and most practical.

MUNAWAWAR IQBAL, Chief Editor, Journal of King Abdulaziz University: Islamic Economics, and Former Chief of Research, Islamic Banking Division, Islamic Research and Training Institute, Islamic Development Bank, Jeddah

Contents:

Preface ix

Acknowledgments xi

About the Authors xiii

PART ONE Mathematics

CHAPTER 1 Elementary Mathematics 3
CHAPTER 2 Functions and Models 25
CHAPTER 3 Differentiation and Integration of Functions 41
CHAPTER 4 Partial Derivatives 61
CHAPTER 5 Logarithm, Exponential, and Trigonometric Functions 77
CHAPTER 6 Linear Algebra 91
CHAPTER 7 Differential Equations 117
CHAPTER 8 Difference Equations 141
CHAPTER 9 Optimization Theory 167
CHAPTER 10 Linear Programming 195

PART TWO Statistics
CHAPTER 11 Introduction to Probability Theory: Axioms and Distributions 227
CHAPTER 12 Probability Distributions and Moment Generating Functions 251
CHAPTER 13 Sampling and Hypothesis Testing Theory 271
CHAPTER 14 Regression Analysis 301
CHAPTER 15 Time Series Analysis 327
CHAPTER 16 Nonstationary Time Series and Unit-Root Testing 355
CHAPTER 17 Vector Autoregressive Analysis (VAR) 369
CHAPTER 18 Co-Integration: Theory and Applications 381
CHAPTER 19 Modeling Volatility: ARCH-GARCH Models 397
CHAPTER 20 Asset Pricing under Uncertainty 413
CHAPTER 21 The Consumption-Based Pricing Model 439
CHAPTER 22 Brownian Motion, Risk-Neutral Processes, and the Black-Scholes Model 451

References 473
Index 475
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.

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>Introductory Mathematics and Statistics for Islamic Finance. + Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Address:</td>
<td><a href="http://www.researchandmarkets.com/reports/2766334/">http://www.researchandmarkets.com/reports/2766334/</a></td>
</tr>
<tr>
<td>Office Code:</td>
<td>SC</td>
</tr>
</tbody>
</table>

Product Format

Please select the product format and quantity you require:

- **Hard Copy** (Paper back):
  - [ ] USD 97 + USD 30 Shipping/Handling

* Shipping/Handling is only charged once per order.

* The price quoted above is only valid for 30 days. Please submit your order within that time frame to avail of this price as all prices are subject to change.

Contact Information

Please enter all the information below in BLOCK CAPITALS

<table>
<thead>
<tr>
<th>Title:</th>
<th>Mr [ ] Mrs [ ] Dr [ ] Miss [ ] Ms [ ] Prof [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Email Address: *</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Job Title:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Organisation:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Address:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>City:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Postal / Zip Code:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Country:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Phone Number:</td>
<td>___________________________________________</td>
</tr>
<tr>
<td>Fax Number:</td>
<td>___________________________________________</td>
</tr>
</tbody>
</table>

* 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: Bank details will be provided on the invoice which you will receive after you place your order with us.

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

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