



Donald G. Saari

# Mathematics of Finance

An Intuitive Introduction

Series: Undergraduate Texts in Mathematics

- Promotes critical thinking skills to develop intuition about financial options
- Highlights the mathematical concepts fundamental to finance by offering an intuitive approach
- Offers instructors potentially new to the area a valuable resource for teaching a mathematical finance course
- Simplifies complex mathematical concepts, such as the derivation of the Black–Scholes equation and its solutions, by emphasizing the concepts behind a formula

This textbook invites the reader to develop a holistic grounding in mathematical finance, where concepts and intuition play as important a role as powerful mathematical tools. Financial interactions are characterized by a vast amount of data and uncertainty; navigating the inherent dangers and hidden opportunities requires a keen understanding of what techniques to apply and when. By exploring the conceptual foundations of options pricing, the author equips readers to choose their tools with a critical eye and adapt to emerging challenges. Introducing the basics of gambles through realistic scenarios, the text goes on to build the core financial techniques of Puts, Calls, hedging, and arbitrage. Chapters on modeling and probability lead into the centerpiece: the Black–Scholes equation. Omitting the mechanics of solving Black–Scholes itself, the presentation instead focuses on an in-depth analysis of its derivation and solutions. Advanced topics that follow include the Greeks, American options, and embellishments. Throughout, the author presents topics in an engaging conversational style. “Intuition breaks” frequently prompt students to set aside mathematical details and think critically about the relevance of tools in context. Mathematics of Finance is ideal for undergraduates from a variety of backgrounds, including mathematics, economics, statistics, data science, and computer science. Students should have experience with the standard calculus sequence, as well as a familiarity with differential equations and probability.

1st ed. 2019, XVII, 144 p. 16 illus.

## Printed book

Softcover

32,99 € | £27.99 | \$39.99

<sup>[1]</sup>35,30 € (D) | 36,29 € (A) | CHF

39,00

## eBook

26,74 € | £21.99 | \$29.99

<sup>[2]</sup>26,74 € (D) | 26,74 € (A) | CHF

31,00

Available from your library or

[springer.com/shop](http://springer.com/shop)

## MyCopy <sup>[3]</sup>

Printed eBook for just

€ | \$ 24.99

[springer.com/mycopy](http://springer.com/mycopy)[Error\[en\\_EN | Export.Bookseller. MediumType | SE\]](#)

Order online at [springer.com](http://springer.com) / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com). / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com).

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

