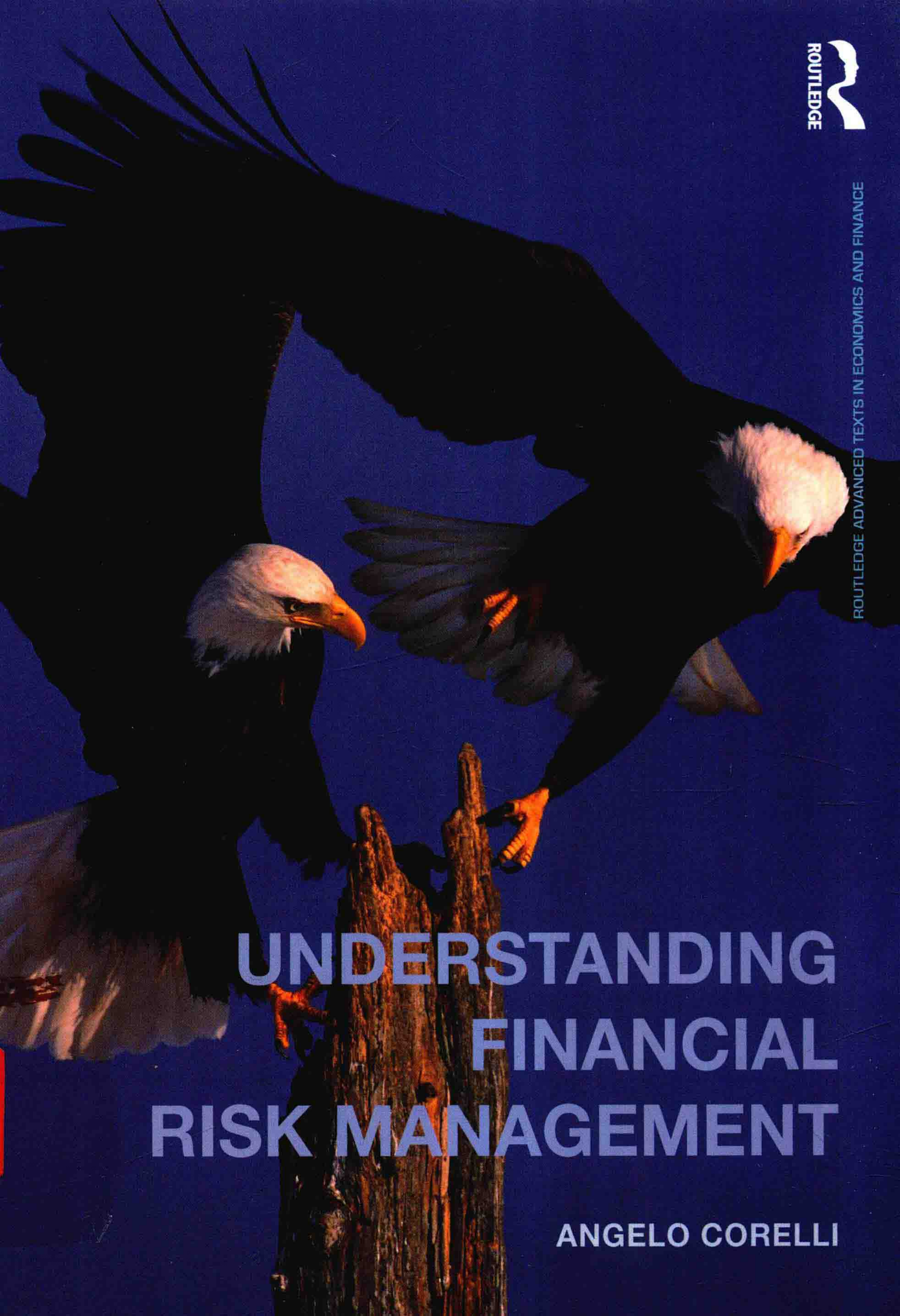

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# UNDERSTANDING FINANCIAL RISK MANAGEMENT

ANGELO CORELLI

# Understanding Financial Risk Management

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# Understanding Financial Risk Management

Financial risk management is a topic of primary importance in financial markets and, more generally, in life. Risk can be seen as an opportunity if related to the concept of compensative return. It is therefore important to learn how to measure and control risk, in order to get exposure to as much risk as is necessary to achieve some level of compensation, without further useless exposure.

This book analyses the various types of financial risk a financial institution faces in everyday operations. Each type of risk is dealt with using a rigorous mix of analytical and theoretical approaches, describing all the major models available in the literature, with an innovative look at the topic.

This book covers the following aspects of risk and provides introductory overviews of the most relevant statistical and mathematical tools:

- market risk
- interest rate risk
- credit risk
- liquidity risk
- operational risk
- currency risk
- volatility risk.

*Understanding Financial Risk Management* offers an innovative approach to financial risk management. With a broad view of theory and the industry, it aims at being a friendly, but serious, starting point for those who encounter risk management for the first time, as well as for more advanced users.

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**Giuseppe,**
**Rina,**
**e Mauro**

# Figures

# Tables

# Preface

## A modern approach

*Understanding Financial Risk Management* offers an innovative approach to financial risk management. With a broad view of theory and the industry, it aims at being a friendly, but serious, starting point for those who encounter risk management for the first time, as well as for more advanced users.

The focus is no longer on the mere measurement, but on the whole package. Risk is also opportunity, and when managing it, one should reach the right balance between opportunity and loss. That is why we propose a new approach that starts from the basic knowledge of classic theory and methodologies and moves to the latest findings in measurement and hedging.

Many books are more exhaustive in covering some of the topics that are treated in this book, but most of them do not offer the wholesome coverage on the horizon of financial risk management as the present book does.

There is no doubt that a deeper analysis of many concepts is possible, but no book in the actual market is able to collect all risks and the managing of them in one single essay. This book is definitely an all-included piece or work that guides the reader from the beginning to the end without ever losing focus on what is more important for good risk management knowledge.

## An innovative pedagogy

The foundations of the book rely on three main blocks: theory, analytics and computational. They all merge in a way that makes it easy for students to understand the exact meaning of the concepts and their representation and applicability in real-world contexts. Examples are given throughout the chapters in order to clarify the most intricate aspects; where needed, there are appendices at the end of chapters that give more mathematical insights about specific topics.

Learning comes from the correct combination of the three pillar elements, none of which should be excluded. The trinity stands as the foundation of the whole project.

Preferably, students have a solid background in financial mathematics, statistics and basic econometrics. Indeed, students facing financial topics for the first time may benefit from using the book as a medium-level introduction to some aspects of financial theory and practice.

In this sense, practitioners represent a possible share of the users of the book. In recent years, due to the global financial crisis, the demand for links between academics and private industry has increased substantially. For this reason, practitioners nowadays like to explore the work done in academic research, and this book provides useful information for managers who want to increase their knowledge about risk management and understand what may have been lacking in their own systems.

## A selected audience

The book is meant for third or fourth year undergraduate students of business finance, quantitative finance and financial mathematics. Most of the universities that the book would target offer the kind of training in mathematics and statistics that would be prerequisites for the successful completion of a course using *Understanding Financial Risk Management*. Potential users include students of universities, technical schools and business schools offering courses in financial risk management.

This book offers a unique approach and represents a clear improvement on existing textbooks in the field of finance. Most textbooks on financial risk management focus on measurement or on some specific kind of risk. There is no challenge or criticism in them, and there is no drive for understanding risk management in the critical sense. That is exactly what this book will offer.

Quantitative approaches now incorporate a more critical view and contribute to a vision that does not blindly rely on numbers, but takes into account the variety of (sometimes unpredictable) situations that characterize financial markets.

Certainly, it is not an easy book, but it is a book that never abandons the reader. Even in the most complicated parts, the student is guided through the processes and given the tools he needs; nothing is cryptic.

## A reliable partner for instructors

*Understanding Financial Risk Management* is tailored mostly for in-class lectures, and it has the best effect if combined with good quality lecture slides from the instructor. Second, given its overall flexibility (a result of its simple structure), it can also be used for online learning. However, the medium-high level of difficulty of the book suggests the need for a closer relation with the instructor and the possibility of in-person explanations.

The structure of *Understanding Financial Risk Management* lends itself to a typical Swedish course of approximately six ECTS. The ten chapters, of at most 60 pages each, can fit a course design of about 14–16 lectures of 1.5 hours' effective teaching. That would also fit an overall international standard of a course with two lectures per week spanned over a two-month teaching term. The overall contents in the book can fill approximately 40–60 hours of teaching.

## Richness in content

This book is the ultimate tool for understanding the many aspects of financial risk management, and it comes with a solid theoretical set.

This first edition has been edited to help educators around the world, suiting users dealing with financial risk for the first time, as well as more advanced users looking for an innovative approach.

As a textbook, the richness in content, exercises and applications makes the book the perfect partner for the students of all areas in the world, all shaped in a book featuring:

a. 14 chapters.
b. 70 major and 126 detailed learning outcomes.
c. Numerous tasks (questions and exercises).
d. Snapshots and appendices where relevant.
e. Numerous selected references.

Every chapter follows the same structure, where the full text is complemented by snapshots relating to cutting edge research and up-to-date news. At the end of each chapter, there is an exercise section with targeted tasks.

After that, there is a list of the references that serve as a convenient bibliography and appendices, where relevant.

# Contents