

FINANCE IN A NUTSHELL

A no-nonsense companion to the
tools and techniques of finance



JAVIER ESTRADA

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FINANCE IN A NUTSHELL

A No-Nonsense Companion to the Tools and Techniques of Finance

Javier Estrada, IESE Business School (Barcelona, Spain)

This is a no-nonsense companion to working with the tools of finance

Sometimes even the best professionals have long forgotten some key financial concepts, and others may never have learned them properly in the first place. Some want to broaden the scope of their financial knowledge, and many more simply need a desktop companion for quick and practical help with the tools and techniques of finance.

Whatever your role in the world of finance; student or executive, beginner or expert, this book is designed to explain and illustrate the working essentials of finance with clarity and speed.

Finance in a Nutshell deliberately combines essential theory with real-world application, using short, sharp chapters to help you find what you need and focus your attention. That way you can understand fast and implement right away. And since spreadsheets have become an indispensable tool for the business of finance, this book also shows how to implement these techniques in Excel.

Topics covered include: risk and return, total risk, optimal portfolios, diversification, systematic risk, CAPM and the cost of capital, downside risk, risk-adjusted returns, valuation models, bonds, prices & yields, default and market risk, duration and convexity, NPV and IRR, real options, corporate value creation, options, futures and forwards, currencies, statistics, normality, regression analysis and many more.

In every case, real-world examples bring the concept to life, drawing on the experience of companies such as American Express, Apple, Bank of America, Berkshire Hathaway, Boeing, Cisco, Citigroup, Coca-Cola, Dell, Disney, General Electric, General Motors, Hewlett-Packard, IBM, Intel, Johnson & Johnson, JP Morgan Chase, McDonald's, Merrill Lynch, Microsoft, Morgan Stanley, Oracle, Pepsi, Sun Microsystems, Wal-Mart, and Yahoo, among many others.

Investors, business executives and finance professionals, including investment bankers, portfolio managers, brokers and security analysts, should all find this book a valuable aid to getting up to speed on something real and relevant to their work, and MBA students will find it a helpful companion to the core concepts of Corporate Finance or Investments courses

If there's a financial concept that you find hard to understand, easy to forget or simply necessary to apply with confidence, here it is in a nutshell.

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About the author

Javier Estrada holds an M.S. in Finance and a Ph.D. in Economics both from the University of Illinois at Urbana-Champaign. He is currently an associate professor at the IESE Business School in Barcelona, Spain; the co-editor of the *Emerging Markets Review*; and a wealth management advisor at Sports Global Consulting. He has published extensively in international journals, written many cases for class discussion, and lectured throughout the world to undergraduate students, graduate students, and executives.

The author has prepared some useful tools and supporting data sets to help make *Finance in a Nutshell* a more comprehensive companion for those who wish to explore these concepts further. You can find them at: www.pearsoned.co.uk/estrada

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ENDORSEMENTS

“Javier Estrada delivers the essential concepts and tools of modern finance clearly and concisely. Estrada avoids abstract symbolism and jargon, and instead relies on insightful, practical examples, making this the perfect book for practitioners who seek an efficient and engaging learning experience. My advice: buy this book and keep it close at hand!”

Mark Kritzman, President & CEO, Windham Capital Management, LLC.

“With *Finance in a Nutshell*, Javier Estrada has succeeded in several difficult tasks: to make an investment and corporate finance guide concise *and* useful; conceptually comprehensive *and* correct, but also written in a readable and engaging style. Academics, as well as practitioners, will want to refer to this book and recommend it to others.”

Edward I. Altman, Max L. Heine Professor of Finance, NYU Stern School of Business.

“Professor Estrada has written a summary of basic financial topics that should appeal to all levels of students and practitioners. It is concise and readable, but still manages to address the key issues in finance in a manner that is both useful and insightful. As a former academic and current practitioner of finance, I will use this book and recommend it to my colleagues.”

Jack D. Glen, Lead Portfolio Officer, Corporate Portfolio Management Department, International Finance Corporation (IFC).

“This is a valuable companion for the practising manager and student. In one brief volume we have a succinct presentation of the important tools and concepts of modern finance. The discussion is direct and practical. Estrada is to be commended for translating deep economic ideas into terms that are immediately usable, compelling, and valuable.”

Robert F. Bruner, Distinguished Professor of Business Administration, Darden Graduate School of Business Administration, University of Virginia.

“In exceptionally clear and concise language, Javier Estrada explains the concepts of modern finance. Each chapter is up-to-date, well-presented and contains useful problem sets. I recommend this book to practitioners and students alike.”

George Hoguet, CFA, FRM Global Investment Strategist, State Street Global Advisors .

“This is a compact handbook of the key concepts that we teach in finance. You can dip into any chapter for a quick briefing or a fast refresher. This is corporate finance served in bite-sized and digestible portions.”

Elroy Dimson, BGI Professor of Investment Management, London Business School.

PREFACE

I always thought I'd write a book but never quite knew when or on what topic. I never felt the need of doing it, and to be honest, I never set it as a goal for myself. But eventually I got to a point when I decided to surrender to the evidence: Too many people were asking for the same thing, and the market, in my opinion, had not delivered. So I thought I'd deliver myself.

1. A Brief History of This Book

It happened many times. During the course of an executive education program, I'd come in to give a few sessions on finance topics. After finishing those sessions, someone would come to me and say something like "Listen, this was very interesting, and though my job is only marginally related to finance, I'd like to know more about it. What would you advice me to read?" Or something like "Hey, I work in finance but my job is so specialized that I feel I need to refresh my knowledge of the basics. Can you recommend some book that covers a wide range of essential topics?"

Depending on the topic I had discussed in the program and the request of the participant, I usually did one (or both) of the following: Recommend a few short books that, when put together, would cover a wide range of topics; or recommend a textbook, which as you are well aware usually contains between 600 and 900 pages and chapters no less than 20 pages long. Often, I would show the recommended references to the inquiring participant.

And that's when I started getting the two standard replies. If I recommended the few short books, the reply would be something like "Well, all these books look very interesting, but isn't there *one* book that tackles all these topics?" If I recommended the textbook, the reaction would be something like "Listen, I'm sure this book is very good, but I really have no time to read these many pages, or even half of them. Plus, you don't expect me to carry this book with me, do you? They'd charge for excess baggage at the airport!" (OK, I'm dramatizing a bit.) I can't really tell how many times I went through similar exchanges, but I do know that eventually there was a straw that broke the camel's back.

But wait, it wasn't then that I decided to write this book. In fact, it was then that I decided to do something that would take a lot less of my time: I decided to look for a book I could recommend to all these people. I made a mental list of the characteristics that were in high demand and started my search. And to my surprise such book didn't exist. Or may be I didn't find it. Either way, it was then, and only then, that I thought I had to write this book.

2. Distinctive Features

The stylized story above happened many times, give or take a few details, in many executive programs. It also happened many times while teaching in MBA and executive MBA programs. And it happened often while talking with former students that needed to refresh or broaden their knowledge of finance. After failing in my search for a book to recommend, and starting to think that may be I should write the book myself, I thought long and hard about the characteristics of the book the market had, in my opinion, failed to deliver. This was, more or less, my list:

- ☞ *The book needs to be comprehensive.* It doesn't have to address a few issues in depth; rather, it should cover a wide variety of topics, concepts, and tools that professionals forget, find hard to understand, and need or would like to know more about.
- ☞ *The book needs to be easy to read.* Professionals are put off by academic books written in academic style. There is a need for a book written in a way that sounds pretty much like having an instructor talking right in front of them.
- ☞ *The book needs to be relatively short.* Not an 800-page, 5-pound book but one that could be easily taken around from the office to home, and from the hotel to the airport. Something that could be always at hand, like a desktop companion.
- ☞ *The book needs to have relatively short chapters.* Most professionals dislike starting a chapter and not being able to finish it after two or three sittings. There is a need for a book with short chapters that could be read in one sitting. Short chapters would also make it easy for readers to quickly grasp the essentials of a concept or tool.
- ☞ *The book needs to contain some elementary theory and many real-world examples.* It's a lot easier to understand and remember concepts and tools when they are discussed putting together an elementary conceptual framework and its application right away. And if the application is not hypothetical but about an actual situation the reader can quickly identify with, even better.
- ☞ *The book needs to explain how to implement things in Excel.* Spreadsheets have become an inseparable tool for finance, and the book needs to show how to implement in Excel all the concepts and tools discussed.
- ☞ *The book needs to have a few short problems at the end of each chapter.* Many books have them, to be sure, but this book would have just two or three that would go to the heart of the issues discussed in the chapter.
- ☞ *The book needs to be self-contained.* Other than some elementary math, no other previous knowledge should be required.

Well, that's a long list! But I promised to myself that I wouldn't start writing a book before making sure I could deliver one that had *all* of the characteristics above. I trust the book you have in your hands does. So, if I had to define this book in one paragraph, it would be this:

Many professionals have long forgotten some key financial concepts or tools; others never learned them properly; others need to broaden the scope of their financial knowledge; others need a desktop companion for quick reference; and most of them have neither the time nor the motivation to either dig into several books or into an 800-page textbook. This book solves all these problems in 30 short, easy-to-read, very practical chapters full of real-world examples and applications in Excel.

3. Target Audience and Intended Use

Let me tell you first what this book is *not*. First, it is not a textbook; I didn't write it as a required reference for a specific course. Second, it is not a specialized book; I didn't write it for those who want to acquire a deep knowledge of one or two topics. And third, it is not a cookbook; I didn't write it for those who want to blindly follow a few steps to solve a problem without understanding what's going on. If you're looking for a book to satisfy any of the previous three needs, you picked the wrong one.

The distinctive features of this book outlined above should give you an idea of who this book is for. Again, it was born as an answer to the demand of professionals that wanted to broaden their knowledge of finance; refresh their memory of some topics; learn some other topics from scratch; or simply have a light desktop companion covering a wide range of essential topics in finance. And all that subject to the constraints of a limited time and lack of patience to read an academic textbook.

I firmly believe that executives, professionals, and practitioners in different areas unrelated to finance will find this book useful. Their need to understand financial concepts and tools at the user level was constantly in my mind as I wrote this book. I also firmly believe that finance professionals such as investment bankers, portfolio managers, brokers and security analysts will find this book valuable. Their need for a reference book to quickly get back at speed on many different issues was also in my mind as I wrote this book. In this regard, participants of executive education programs, MBA and executive MBA students, and former students, all of them in both finance and non-finance jobs, provided invaluable feedback.

I also trust the individual investor will find this book valuable. It provides the tools to value assets, assess risk, diversify and optimize portfolios, evaluate performance, and invest for retirement, to name just a few issues interesting to investors and covered in the book. And it discusses these and many other issues basically beginning from scratch, and showing how to implement everything in Excel.

Finally, I think that academics in finance and economics will find this book useful. It could be used as a complementary or recommended reference in many general courses such as Corporate Finance or Investments; or in more specific courses dealing with asset pricing, stocks, bonds, and portfolio analysis, among other topics. I also think academics themselves will find the book useful as a personal desktop companion, a reference book to consult on a wide range of finance topics.

4. Organization of the Book

The book is divided into four parts. The first, entitled "Risk and Return," covers a wide range of issues that deal with different definitions of returns, different ways of assessing risk, different ways to put risk and return together, and the optimization of portfolios.

The second part, entitled "Valuation," focuses on stocks and bonds. It covers different models of stock valuation, including several versions of the DCF model, reverse valuation, and relative valuation. It also covers issues related to fixed-income securities, including pricing, sources of risk, duration, and convexity.

The third part, entitled “Other Important Topics,” puts together several issues that no book of finance essentials could ignore. These include project evaluation through NPV, IRR, and real options, as well as derivatives such as options, futures, and forwards.

Finally, the fourth part, entitled “Statistical Background,” contains a refresher of essential statistical topics for practitioners, including summary statistics, the calculation of probabilities with the normal and lognormal distributions, and regression analysis. The discussion includes the implementation of all these concepts and tools in Excel.

5. How To Read This Book

I wrote the book thinking of professionals that needed to jump in for a specific issue. As a result, I wrote the chapters as independent from each other as possible. This means that this is not a book that you need to start reading in chapter 1 and finish in chapter 30. Some readers will not need to read the statistical background and some others will find it essential reading. Some readers will be interested in stocks and some others in bonds. Some readers may want to focus on issues related to investing and others on issues related to corporate finance. Again, I wrote the book so that readers could jump right into the topic they want to know more about.

Every chapter concludes with an Excel Section and a Challenge Section. The Excel sections aim to show how to implement in Excel the concepts and tools discussed in the chapter. These sections range from discussing some elementary functions, such as logs and exponentials, to more complex implementations, such as multiple regression analysis and portfolio optimization programs. If you’re not fully familiar with Excel, I think you will find these sections essential. And if you are familiar with Excel, these sections probably will take you a few steps further.

The Challenge sections aim to test the essential concepts and tools discussed in each chapter. The problems are few, short, and go straight to the key points. Most of them are based on data from well-known companies so that you can not only test what you’ve learned but also learn a bit about the companies too. Some people may find these sections useful and some others will probably ignore them. Your choice.

Finally, if you want to reproduce precisely all the calculations discussed in the book, it is important that you use the data in the accompanying Excel file. I have performed all calculations in Excel, which “remembers” many more decimals than would be wise to report in a book. That’s why you may find “rounding errors,” particularly in calculations based on previous calculations, that are not such. Similarly, if you go over the problems in the Challenge sections, you may want to use the data in the accompanying Excel file rather than that provided in the exhibits.

Take a good look at the index and a quick look at the rest of the book. I trust you will find the scope comprehensive, the chapters short, the style engaging, the approach practical, and the discussions easy to follow. You will also find loads of information on many companies that are household names, which are used throughout to keep your feet firmly on the ground.

6. Acknowledgments

My deepest gratitude goes to the long list of participants in executive education programs, MBA students, executive MBA students, and former students that directly or indirectly encouraged me to write this book. Most of them have not actually asked me to write a book; but their search for a book that the market had not provided was the main reason for writing this one.

I'm also indebted to my research assistant, Alfred Prada, who read every chapter, checked every formula, double checked every table, and triple checked every calculation. He put up with all my demands, which were not few, and delivered every time he had to. Needless to say, he is in no way responsible for any errors that may remain in this book. Those are, of course, my sole responsibility.

Finally, I want to dedicate this book to my dad, who was alive when I started writing it but did not live to see me finishing it. I know he would have been even prouder than I am for having written this, my first book. I'm sure he would have read it just because I wrote it, and I'm sure he would have told me that even he could understand what I was writing about. And of course, I also dedicate this book to my mom, who will most likely not read it, but will proudly and insistently show it to every single person that passes by within a mile from her house.

7. A Final Word

Time will tell whether I have delivered the book that so many people seem to have been looking for. I certainly hope so. And yet I'm also sure it can be improved. For this reason, if you have any comments or suggestions, feel absolutely free to send me an email at jestrada@iese.edu. I would be more than glad to know your opinion.

This concludes what for me has been a long journey. And as much as I wanted to finish, I now realize that I'll miss working on this book. It was, above all, a whole lot of fun. I certainly hope you enjoy reading it as much as I enjoyed writing it.

Barcelona. March, 2005.

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