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UNDERSTANDING FUTURES MARKETS

THIRD EDITION

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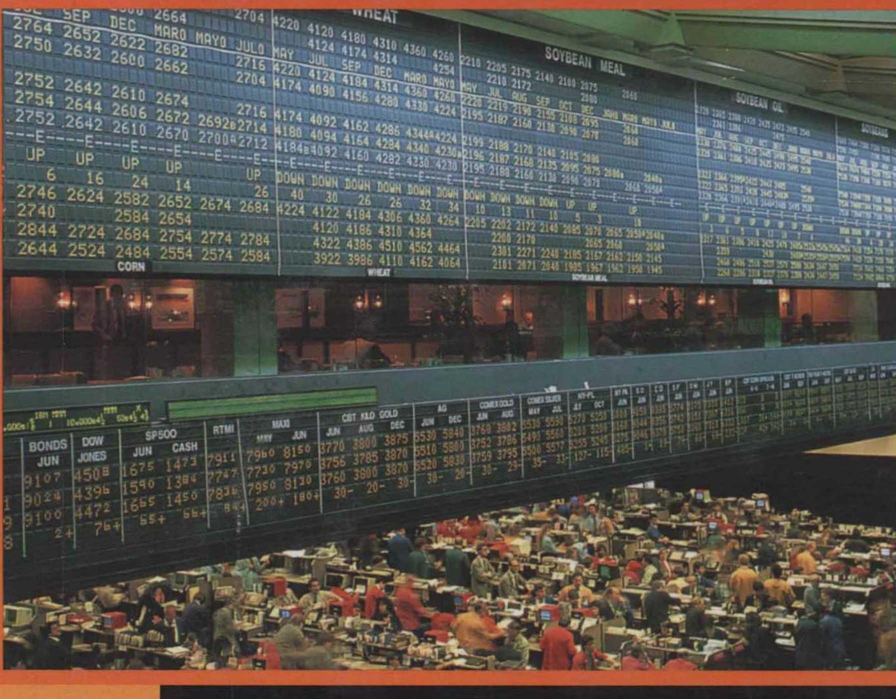

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ROBERT W. KOLB

Understanding Futures Markets

THIRD EDITION

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New York Institute of Finance

New York London Toronto Sydney Tokyo Singapore

Preface

Understanding Futures Markets surveys the broad sweep of futures markets as they exist in the United States. In the last decade, U.S. futures markets have exploded in a flowering that continued through the 1980s and promises to grow to full maturity in the 1990s. New contracts have been introduced, and entirely new possibilities have been explored.

Almost all of this activity began as recently as 1973, with the introduction of futures contracts on foreign exchange. It was followed by the start inception of interest rate futures contracts in 1975, stock index futures contracts in 1982, and options on futures contracts shortly thereafter. In many respects, these introduction innovations in futures markets have influenced all financial markets. Stock market practice and the operation of many types of financial institutions have been changed in fundamental ways due to the new activity in futures markets. Even the older futures contracts, those on agricultural and metallurgical commodities, have been put new strength into the revitalized in the process. Today, for example, a strong market for energy futures has appear emerged.

This book attempts to cover all of these developments in a manner possible to accessible to a wide range of readers. Yet the book offers an unparalleled breadth and depth of coverage. The mathematical demands placed on the reader are modest, yet sufficient mathematical detail is included to ensure a thorough treatment of pricing principles.

Realizing that not every reader will be interested in every aspect of the futures markets, the chapters are organized to facilitate access to specific futures markets. Where the book considers particular aspects of the market in detail, the material is broken into two chapters, one for the basics and a second for refinements. For example, Chapters 1 and 2 both explore the institutional features of futures markets. Chapter 1, *Futures Markets: Introduction*, presents the basic institutional background that is necessary for the development in subsequent chapters. Chapter 2, *Futures Markets: Refinements*, covers some seldom-explored institutional features of the market that are nonetheless critical for someone wishing to trade futures or to understand the markets at a deeper level.

Chapter 3, *Futures Prices*, develops the principles that govern futures prices. The Cost-of-Carry Model provides the framework for understanding the economic factors that govern futures prices. This chapter uses arbitrage arguments to show in detail how cash-and-carry and reverse cash-and-carry trading strategies regulate futures prices. Chapter 4, *Using Futures Markets*, considers how futures markets serve society and the way traders can use the markets. As the chapter explains, futures markets serve society by helping to disseminate information about the likely future direction of price and by providing a means for transferring risk.

Chapter 5, *Agricultural and Metallurgical Futures Contracts*, begins the exploration of specific markets. Because these commodities are so diverse, they illustrate many different principles involved in understanding futures markets. For example, Chapter 5 explains how the Cost-of-Carry Model provides a very good understanding of prices for precious metals, and it explains why adjustments to the model are necessary for other goods, such as grains.

Chapters 6-8 focus on interest rate futures, one of the most exciting vibrant segments of the futures markets. Chapter 6, *A Bond Primer*, provides the background necessary to understand futures pricing and the use of interest rate futures in risk transference. For readers with a good grasp of investment principles, Chapter 6 may be read as a brief review of the most important points. Some readers will be able to skip Chapter 6 altogether. Chapters 7 and 8 focus on interest rate futures directly. Chapter 7, *Interest Rate Futures: Introduction*, covers the most important points about interest rate futures, including pricing and hedging. Chapter 8, *Interest Rate Futures: Refinements*, extends the discussion to consider the specialized issues necessary for a deeper understanding. With this division into two chapters, Chapter 7 gives a comprehensive grasp of interest rate futures and provides the background necessary for Chapter 8.

Chapter 9, *Stock Index Futures: Introduction*, and Chapter 10, *Stock Index Futures: Refinements*, divide the analysis of stock index futures into the general and the detailed. Chapter 9 covers all the basic issues in stock index futures, including pricing, hedging, index arbitrage and program trading. Chapter 10 explores much of the same area territory, but with particular attention to the a slight delicate difference nuances. For example, Chapter 10 considers program trading in detail and explains some of the difficulties that make program trading much more difficult than it might at first appear.

Chapter 11, *Foreign Exchange Futures*, explores futures trading of foreign currencies. In a time when the international scene is becoming ever more important, the foreign exchange markets have been prospering, and they show promise of further development. The chapter begins with a background discussion of the principles of foreign exchange pricing, such as Interest Rate and Purchasing Power Parity. The analysis soon turns to foreign exchange futures themselves, including pricing issues and risk-transference techniques.

Chapters 12 and 13 both focus on options and options on futures. Chapter 12, *An Options Primer*, provides the necessary background for understanding options. The discussion focuses on the no-arbitrage conditions that govern option prices and includes an analysis of the Black-Scholes option pricing model. Relying on the background provided by Chapter 12, Chapter 13, *Options on Futures*, concentrates strictly on options written on futures contracts. The chapter covers a wide range of issues, such as American versus European futures option pricing, using futures options to create made by human synthetic positions, and portfolio insurance with options on futures.

Improvements in the Third Edition

While attempting to support maintain the goodness virtues of previous editions, the third edition is greatly expanded and completely rewritten. Particularly important and entirely new features include:

- End of chapter questions and problems

- Much greater institutional detail on issues such as GLOBEX, dual trading, front running, the Chicago trials, and the struggle between the CFTC and the SEC

- Summary boxes to focus attention on key issues

- a very small object containing medicine which you swallow
  Research literature capsules to provide a highly accessible guide to the academic research on many issues

- A bibliography List of name

All of these features are intended to make the book more useful to its diverse audience. First, the summary boxes help to focus the reader's attention on the truly important issues. For example, Chapter 3 on pricing contains many summary boxes to illustrate the arbitrage bounds that result from the Cost-of-Carry Model. Second, the literature summary boxes quickly summarize the research on a particular issue. As an example, the research literature capsule on normal backwardation (Chapter 3, p. 126) captures the key results of 13 different studies. I believe that these research capsules will be very valuable both to readers approaching the futures market for the first time and to readers well acquainted with the market. Finally, Chapter 2 contains almost entirely new institutional material that is extremely current. I hope that exploring the institutional features of the market in detail will bring the market closer to the student and provide a glimpse into the inner workings of futures trading.

a quick look

Acknowledgments the act of accepting or admitting

In writing a book of this type, one must rely on a large set of one's colleagues. As the book appears in successive editions, my debt of thanks becomes ever more extensive. I would like to thank all of the following people for their comments and suggestions for improvement:

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I have used the various editions and manuscripts for the book in classes over the years. I would like to thank my students, who allowed me to experiment upon them with different versions of the manuscript. I believe the book is stronger for the comments it has received and from its class testing.

The preceding list of my debts is long. Producing a book is a long and involved process that requires the efforts of many. The contributions of everyone mentioned above helped to make the book possible. To all of the organizations and people who helped product the books I extend my sincerest thanks. Of course, I alone am responsible for any remaining deficiencies.

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