

The fourth chapter deeply deals with nonlinear models, and illustrates a series of examples and applications, some of them having their corresponding RATS/S-plus files in the end-chapter appendixes. The first of these provides two RATS programs to estimate nonlinear volatility models (appendix A); the second offers S-plus commands for neural networks (appendix B).

Chapters 5–7 complete the second section. The first two treat high-frequency data analysis (the 5th), and continuous time models (the 6th), respectively. On the other hand, Chapter 7, dealing with the calculation of value at risk by mean of “extreme values theory,” is probably the most interesting among them because of the novelty of the approach.

Chapter 8 opens the section—just two chapters, as mentioned—about multivariate analysis; vector autoregressive (VAR) and vector moving-average (VMA) models are illustrated here, together with the generalization of ARMA *versus* vector-ARMA. Cointegration and principal component/factor analysis close the chapter.

The last chapter (the 10th) consists of a “stand-alone” section, the third, suggesting a series of financial applications of the Markov chain Monte Carlo methodology, fast developing in the recent years.

We have explored the Web site suggested in the preface in order to get data sets and programs: a good choice, if compared with the possibility of including a CD with the text, which is now usual for most of the textbooks dealing with quantitative themes and applications. This allows in fact a continuous upgrading of contents by the author. In the Web (whose right address is now <http://gsbwww.uchicago.edu/fac/ruey.tsay/teachingfts/>), one can find a magnificent store of data sets, either used in the textbook or needed for proposed exercises, and some other downloadable files (the *errata corrige* of the book, for instance), which are a precious support to readers interested in putting in practice the explained methods. Instructors may even request solutions to exercises by e-mail.

Statistics and econometrics are the needed background, whereas a profound financial basis is not, and the most examples are friendly structured.

In conclusion, I was happy to receive this work “free of charge,” for reviewing, but I would recommend it on a pay-for basis as well.

The Science of Financial Market Trading, by Don K. Mak, Singapore: World Scientific Publishing Co.

Reviewer: Rafiqul Bhuyan, Ph.D., College of Business Administration, Midwestern State University

The Science of Financial Market Trading by Don K. Mak is an advanced-level book that addresses several methodologies related to technical analysis in trading. The audience for the book may include (1) Institutional investment analysts with graduate level academic background, (2) Fund managers, who use many external sources for trading, (3) Graduate students in the field of finance and financial economics who want to find

a career in financial market trading, and (4) Ph.D. students who want to research in technical analysis.

The book is written to draw audiences from both practitioners and academicians and manages to keep the readers away from too much mathematical derivations. However, mathematical derivations are left in the appendix for those who are interested in understanding the details.

The author very briefly introduces models of the financial markets, such as chaos, wave model, time-series analysis, neural network, fractal geometry, fuzzy logic, and wavelet analysis. To discuss various tools for technical analysis, the author introduces several indicators, such as:

1. **Signals and Indicators:** This chapter introduces several tools such as stochastic indicator and momentum indicator to extract information and to process the information so that a specific informative signal can be developed for trading in the financial market.
2. **Trending Indicators:** In this chapter, author discusses several techniques such as Simple Moving Average, Exponential moving average, and Adaptive Moving Average to help identify certain trends processing the raw input data. The author points out that these trending indicators are lagging indicators as they depend on past financial data.
3. **Oscillator Indicators:** These indicators are improved indicators as they incorporate high-frequency data and remove low-frequency data so that more precise indicators can be designed and indicators are developed through a measured rate of change of data over time. These indicators help determine the turning points of the market trends. Several techniques include parabolic velocity indicator, parabolic acceleration indicator, cubic velocity and acceleration indicators, and different class of divergences.
4. **Vertex Indicators:** These indicators are improved versions of the oscillator indicators. To identify the turning point of the market more accurately, it is better to understand the movement of the market. In a slow market, the trend sometimes turns slowly, and it takes a long time for the velocity of the price data to show the turning point. To help determine more accurately when exactly the market is going to turn, vertex indicators such as parabolic vertex indicators and cubic vertex indicators are introduced, as they show what time the market has turned and more importantly what time in the future the market will turn.
5. **Wavelet Analysis:** This analysis uses a flexible time window and special mathematically designed waves that can be stretched and translated in both frequency and time. The wavelets narrow while focusing on high-frequency signals, and widens while searching for low-frequency background. The wavelet approach is particularly appropriate in handling very irregular nonstationary data series. It deals well with signals of short duration, such as bubbles and crashes.

Even though the author writes the text of the book avoiding much theoretical developments, yet it is perhaps mathematically too strong for practitioners. Even with

graduate degrees, only those whose have a degree in mathematical finance, or who have strong mathematics background may greatly benefit from the book.

The book is technically sound. The author, however, does not suggest any mechanism for risk management or trading strategies. The author focuses strictly on the topic of discussion and its technical details, instead of giving a first-hand knowledge of its application. In that sense, it is a theoretical book and not an applied book on financial market trading.

Overall, the book is well written from the beginning to the end, and chapters are well developed and well connected.

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