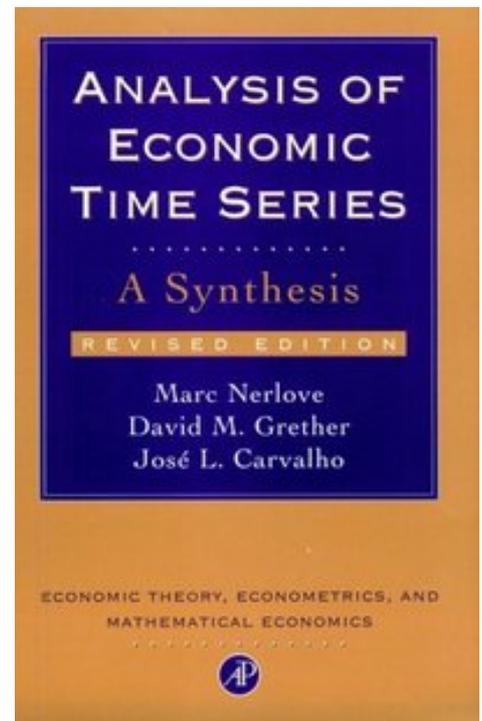# Analysis of Economic Time Series

A Synthesis

Economic Theory, Econometrics, and Mathematical Economics

About the Book

In this edition which has been reprinted with corrections, Nerlove and his co-authors illustrate techniques of spectral analysis and methods based on parametric models in the analysis of economic time series. The book provides a means and a method for incorporating economic intuition and theory in the formulation of time-series models useful in forecasting, in the formulation and estimation of distributed lag models, and in other applications, such as seasonal adjustment. "Analysis of Economic Time Series" is a useful primary text for graduate students and an attractive reference for researchers. It presents a self-contained treatment of Fourier Analysis and complex variables, as well as Spectral Analysis of time series. It includes a detailed treatment of unobserved-components (UC) models and their time-series properties by means of covariance-generating transforms. It provides the formulation and maximum-likelihood estimation of ARMA and UC models in both time and frequency domains. It integrates several topics in time-series analysis: The formulation and estimation of distributed-lag models of dynamic economic behavior; The application of the techniques of spectral analysis in the study of behavior of economic time series; Unobserved-components models for economic time series and the closely related problem of seasonal adjustment; The complimentarities between time-domain and frequency-domain approaches to the analysis of economic time series; and historical contributions extending from the time of Charles Babbage and the Edinburgh Review to the present. It treats spectral analysis and Box-Jenkins models for an intuitive but rigorous point of view. It shows how these two types of analysis may be synthesized so that they complement one another. It describes a new type of model, based on a superposition of Box-Jenkins models, that captures the essential idea of the unobserved-components models long used in the analysis of economic time series. It applies multiple time-series techniques to the estimation of a novel dynamic model of the US cattle industry.