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| 1. Record Nr.           | UNINA9910139721303321   |
| Autore                  | Pankratz Alan <1944->   |
| Titolo                  | Forecasting with dynamic regression models [[electronic resource] /] / Alan Pankratz  |
| Pubbl/distr/stampa      | New York, : John Wiley & Sons, 1991   |
| ISBN                    | 1-283-44612-X<br>9786613446121<br>1-118-15052-X<br>1-118-15078-3  |
| Descrizione fisica      | 1 online resource (410 p.)  |
| Collana                 | Wiley series in probability and mathematical statistics. Applied probability and statistics, , 0271-6356  |
| Disciplina              | 519.5/5<br>519.55   |
| Soggetti                | Time-series analysis<br>Regression analysis<br>Prediction theory<br>Electronic books.   |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Note generali           | "A Wiley-Interscience publication."   |
| Nota di bibliografia    | Includes bibliographical references and index.  |
| Nota di contenuto       | Forecasting with Dynamic Regression Models; Contents; Preface; Chapter 1 Introduction and Overview; 1.1 Related Time Series; 1.2 Overview: Dynamic Regression Models; 1.3 Box and Jenkins' Modeling Strategy; 1.4 Correlation; 1.5 Layout of the Book; Questions and Problems; Chapter 2 A Primer on ARIMA Models; 2.1 Introduction; 2.2 Stationary Variance and Mean; 2.3 Autocorrelation; 2.4 Five Stationary ARIMA Processes; 2.5 ARIMA Modeling in Practice; 2.6 Backshift Notation; 2.7 Seasonal Models; 2.8 Combined Nonseasonal and Seasonal Processes; 2.9 Forecasting; 2.10 Extended Autocorrelation Function<br>2.11 Interpreting ARIMA Model Forecasts Questions and Problems; Case 1 Federal Government Receipts (ARIMA); Chapter 3 A Primer on Regression Models; 3.1 Two Types of Data; 3.2 The Population Regression Function (PRF) with One Input; 3.3 The Sample Regression Function (SRF) with One Input; 3.4 Properties of the Least-Squares |

Estimators; 3.5 Goodness of Fit ( $R^2$ ); 3.6 Statistical Inference; 3.7 Multiple Regression; 3.8 Selected Issues in Regression; 3.9 Application to Time Series Data; Questions and Problems; Case 2 Federal Government Receipts (Dynamic Regression); Case 3 Kilowatt-Hours Used

Chapter 4 Rational Distributed Lag Models 4.1 Linear Distributed Lag Transfer Functions; 4.2 A Special Case: The Koyck Model; 4.3 Rational Distributed Lags; 4.4 The Complete Rational Form DR Model and Some Special Cases 163; Questions and Problems; Chapter 5 Building Dynamic Regression Models: Model Identification; 5.1 Overview; 5.2 Preliminary Modeling Steps; 5.3 The Linear Transfer Function (LTF) Identification Method; 5.4 Rules for Identifying Rational Distributed Lag Transfer Functions; Questions and Problems; Appendix 5A The Corner Table

Appendix 5B Transfer Function Identification Using Prewhitening and Cross Correlations Chapter 6 Building Dynamic Regression Models: Model Checking, Reformulation and Evaluation; 6.1 Diagnostic Checking and Model Reformulation; 6.2 Evaluating Estimation Stage Results; Questions and Problems; Case 4 Housing Starts and Sales; Case 5 Industrial Production, Stock Prices, and Vendor Performance; Chapter 7 Intervention Analysis; 7.1 Introduction; 7.2 Pulse Interventions; 7.3 Step Interventions; 7.4 Building Intervention Models; 7.5 Multiple and Compound Interventions; Questions and Problems Case 6 Year-End Loading Chapter 8 Intervention and Outlier Detection and Treatment; 8.1 The Rationale for Intervention and Outlier Detection; 8.2 Models for Intervention and Outlier Detection; 8.3 Likelihood Ratio Criteria; 8.4 An Iterative Detection Procedure; 8.5 Application; 8.6 Detected Events Near the End of a Series; Questions and Problems; Appendix 8A BASIC Program to Detect AO, LS, and IO Events; Appendix 8B Specifying IO Events in the SCA System; Chapter 9 Estimation and Forecasting; 9.1 DR Model Estimation; 9.2 Forecasting; Questions and Problems

Appendix 9A A BASIC Routine for Computing the Nonbiasing Factor in (9.2.24)

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### Sommario/riassunto

One of the most widely used tools in statistical forecasting, single equation regression models is examined here. A companion to the author's earlier work, *Forecasting with Univariate Box-Jenkins Models: Concepts and Cases*, the present text pulls together recent time series ideas and gives special attention to possible intertemporal patterns, distributed lag responses of output to input series and the auto correlation patterns of regression disturbance. It also includes six case studies.

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