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Nota di contenuto	Quantile Regression: Theory and Applications; Copyright; Contents; A. 2.2 Summary statistics; Preface; Acknowledgments; Introduction; Nomenclature; 1 A visual introduction to quantile regression; Introduction; 1.1 The essential toolkit; 1.1.1 Unconditional mean, unconditional quantiles and surroundings; 1.1.2 Technical insight: Quantiles as solutions of a minimizationproblem; 1.1.3 Conditional mean, conditional quantiles and surroundings; 1.2 The simplest QR model: The case of the dummy regressor; 1.3 A slightly more complex QR model: The case of a nominal regressor 1.4 A typical QR model: The case of a quantitative regressor1.5 Summary of key points; References; 2 Quantile regression: Understanding how and why; Introduction; 2.1 How and why quantile regression works; 2.1.1 The general linear programming problem; 2.1.2 The linear programming formulation for the QR problem; 2.1.3 Methods for solving the linear programming problem; 2.2 A set of illustrative artificial data; 2.2.1 Homogeneous error models; 2.2.2 Heterogeneous error models; 2.2.3 Dependent data error models; 2.3

How and why to work with QR; 2.3.1 QR for homogeneous and heterogeneous models  
2.3.2 QR prediction intervals  
2.3.3 A note on the quantile process; 2.4 Summary of key points; References; 3 Estimated coefficients and inference; Introduction; 3.1 Empirical distribution of the quantile regression estimator; 3.1.1 The case of i.i.d. errors; 3.1.2 The case of i. ni.d. errors; 3.1.3 The case of dependent errors; 3.2 Inference in QR, the i.i.d. case; 3.3 Wald, Lagrange multiplier, and likelihood ratio tests; 3.4 Summary of key points; References; 4 Additional tools for the interpretation and evaluation of the quantile regression model; Introduction; 4.1 Data pre-processing  
4.1.1 Explanatory variable transformations  
4.1.2 Dependent variable transformations; 4.2 Response conditional density estimations; 4.2.1 The case of different scenario simulations; 4.2.2 The case of the response variable reconstruction; 4.3 Validation of the model; 4.3.1 Goodness of fit; 4.3.2 Resampling methods; 4.4 Summary of key points; References; 5 Models with dependent and with non-identically distributed data; Introduction; 5.1 A closer look at the scale parameter, the independent and identically distributed case; 5.1.1 Estimating the variance of quantile regressions  
5.1.2 Confidence intervals and hypothesis testing on the estimated coefficients  
5.1.3 Example for the i.i.d. case; 5.2 The non-identically distributed case; 5.2.1 Example for the non-identically distributed case; 5.2.2 Quick ways to test equality of coefficients across quantiles in Stata; 5.2.3 The wage equation revisited; 5.3 The dependent data model; 5.3.1 Example with dependent data; 5.4 Summary of key points; References; Appendix 5.A Heteroskedasticity tests and weighted quantile regression, Stata and R codes  
5.A.1 Koenker and Basset test for heteroskedasticity comparing two quantile regressions

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## Sommario/riassunto

A guide to the implementation and interpretation of Quantile Regression models This book explores the theory and numerous applications of quantile regression, offering empirical data analysis as well as the software tools to implement the methods. The main focus of this book is to provide the reader with a comprehensive description of the main issues concerning quantile regression; these include basic modeling, geometrical interpretation, estimation and inference for quantile regression, as well as issues on validity of the model, diagnostic tools. Each methodological asp

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