Quantile Regression[1]

Roger Koenker
University of Illinois, Urbana-Champaign

Quantile regresson extends classical least squares methods of estimating conditional mean functions by offering a variety of methods for estimating conditional quantile functions, thereby enabling the researcher to explore heterogeneous covariate effects. The course will offer a comprehensive introduction to quantile regression methods and survey some recent developments. The primary reference for the course will be my 2005 Econometric Society monograph, but further readings are suggested below in the course outline.

Course lectures will be complemented by two computationally oriented laboratory sessions designed to give students experience with applications of the methods. These sessions will be conducted in the open-source R language, and will rely heavily on my `quantreg` package.

Tentative Topics

(1) The Basics: What, Why and How? [6, §1-2], [10]
(2) Inference [6, §3],
(3) Lab Session
(4) Computation: From the Inside and the Outside [6, §6],
(5) Nonparametric Quantile Regression [6, §7], [7],
(6) Censored QR and Survival Analysis [9, 14, 13, 8]
(7) Lab Session
(8) Quantile Autoregression [11]
(9) Risk Assessment and Choquet Portfolios [1]
(10) QR for Longitudinal Data [5, 4]
(11) Endogoneity and IV Methods [3, 2, 12]

References

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