THE UNIVERSITY OF CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Quantile Curve Estimation for Non-stationary Time Series

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ABSTRACT

There is an increasing interest in studying the non-stationary time series and their time-varying quantiles. In this article, both parametric and nonparametric quantile curve estimation methods are discussed and a data-driven procedure for the selection of smoothing parameters is used in order to addressing the problem of quantile curve estimation for a wide class of non-stationary and/or non-Gaussian process. A Mote Carlo simulation is done to illustrated the method; and an application about the air pollution issue in Beijing is done to show the importance of analyzing quantiles.
