Recent Advances in Directional Multiple-Output Quantile Regression

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The standard single-response quantile regression (?) has already become a powerful tool for econometric data analysis. Its extension for vector responses is, therefore, highly desirable because the reality tends to be hopelessly multivariate. A few such multiple-output generalizations has already been proposed by means of various approaches, usually based on projections, ellipsoids, hyperspherical coordinates or measure transportation.

The presentation highlights some recent achievements in the research of the two directional multiple-output quantile regression methods of ? and ?, e.g., some properties of their weighted and local polynomial generalizations (?), their use for defining process capability indices (??) and promising inferential statistics (?), and their software implementation in Octave (??) and R (?), based on the algorithms described in ? and ?.

References


