

Unconditional Quantile Partial Effects via Conditional Quantile Regression

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Abstract

This paper develops a semi-parametric procedure for estimation of unconditional quantile partial effects using quantile regression coefficients. The estimator is based on an identification result showing that, for continuous covariates, unconditional quantile effects are a weighted average of conditional ones at particular quantile levels that depend on the covariates. We propose a two-step estimator for the unconditional effects where in the first step one estimates a structural quantile regression model, and in the second step a nonparametric regression is applied to the first step coefficients. We establish the asymptotic properties of the estimator, say consistency and asymptotic normality. Monte Carlo simulations show numerical evidence that the estimator has very good finite sample performance and is robust to the selection of bandwidth and kernel. To illustrate the proposed method, we study the canonical application of the Engel's curve, i.e. food expenditures as a share of income.