

Abstract: In this study, we explore the identification and estimation of the quantile treatment effects (QTE) using panel data. We generalize the change-in-changes (CIC) model proposed by Athey and Imbens (2006) and propose a tractable estimator of the QTE. The CIC model allows for the estimation of the potential outcomes distribution and captures the heterogeneous effects of the treatment on the outcomes. However, the CIC model has the following two problems: (1) there lacks a tractable estimator in the presence of covariates and (2) the CIC estimator does not work when the treatment is continuous. Our model allows for the presence of covariates and continuous treatment. We propose a two-step estimation method based on a quantile regression and minimum distance method. We then show the consistency and asymptotic normality of our estimator. Monte Carlo studies indicate that our estimator performs well in finite samples. We use our method to estimate the impact of an insurance program on quantiles of household production.