

Abstract

We propose a method to estimate a treatment effect for a regression discontinuity design that violates an identifying testable restriction. We employ a classification algorithm to identify the identifiable subsample that satisfies the identifying restriction. We provide consistent estimators for the identifiable subset and the average treatment effect within the identifiable subset. We further show that the treatment effect estimator attains the same convergence rate as the subset estimator. We apply our procedure to study the impact of changes in *care-needs levels* on expenditure in public long-term care insurance in Japan.