Robust centering in the fixed effect panel data model

ABSTRACT

In recent years, robust estimators for fixed effect panel data model have been developed to provide alternatives to the least square estimates in the presence of outliers. The robust adaptation involves transformation of data by the median instead of the mean in order to eliminate any unobserved effect. Median centering is chosen due to its robustness, simple derivation and possesses min max property. However, the procedure introduces non-linearity in the data and causes some robust estimators to lose their regression equivariance property. This study proposed MM-centering to provide robust solutions to the Within Group parameter estimates. The numerical results indicate that the proposed methods are more efficient than the existing method.

Keyword: Robust centering; Panel data model; Fixed effect model