Superior Estimation and Inference Avoiding Heteroscedasticity and Flawed Pivots: R-example of Inflation Unemployment Tradeoff

H. D. Vinod E-Mail: Vinod@fordham.edu Professor of Economics, Fordham University, Bronx, New York 10458

Abstract

We use a new solution to heteroscedastic regression problem while avoiding so-called incidental parameters (inconsistency) problem by using recently discovered maps from time domain to numerical values domain and back. This involves a parsimonious fit for sorted logs of squared fitted residuals. Dufour (1997) showed that inference based on Fisher's pivot (dividing by standard errors) can be fundamentally flawed for deep parameters of genuine interest to policy makers. Hence, we use Godambe's (1985) pivot, which is always a sum of T items and asympotically subject to the central limit thory. We provide R functions to implement the ideas using the Phillips curve trade off between inflation and unemployment for illustration.