ASYMPTOTIC DISTRIBUTION OF UNBIASED LINEAR ESTIMATORS IN THE PRESENCE OF HEAVY-TAILED STOCHASTIC REGRESSORS AND RESIDUALS

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Abstract: Under the symmetric α-stable distributional assumption for the disturbances, Blattberg and Sargent [3] consider unbiased linear estimators for a regression model with non-stochastic regressors. We study both the rate of convergence to the true value and the asymptotic distribution of the normalized error of the linear unbiased estimators. By doing this, we allow the regressors to be stochastic and disturbances to be heavy-tailed with either finite or infinite variances, where the tail-thickness parameters of the regressors and disturbances may be different.

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