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Abstracts of Short Communications and Posters

Section:

12. Probability and Statistics

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When Do Polynomial Regressions of Nonstationary Fractionally Integrated Processes Make Sense?
The limiting distribution of a polynomial trend regression estimated by ordinary least squares (OLS) and disturbed by nonstationary fractionally integrated errors of any order is derived. Appropriate normalization implies: Consistency requires that the stochastic trend does not dominate the trend regressor. The limiting distributions of related OLS statistics are obtained. Sense or nonsense of polynomial regressions depend on whether the true deterministic trend is dominated by the stochastic trend or not. Only in the first case nonsense regressions with spurious significance arise. The square of the multiple correlation coefficient is discussed as a simple test statistic to separate spurious from sensible regressions. Additionally, the limiting distributions in case of stationary fractionally integrated errors are obtained.