

Nonstationarity Modeling of Economic and Financial Time Series

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Abstract : Traditional techniques for analyzing time series are based on the notion of stationarity of phenomena under study, but in reality most economic and financial series do not verify this hypothesis, which implies the implementation of specific tools for the detection of such behavior. In this paper, we study nonstationary non-seasonal time series tests in a non-exhaustive manner. We formalize the problem of nonstationary processes with numerical simulations and take stock of their statistical characteristics. The theoretical aspects of some of the most common unit root tests will be discussed. We detail the specification of the tests, showing the advantages and disadvantages of each. The empirical study focuses on the application of these tests to the exchange rate (USD/TND) and the Consumer Price Index (CPI) in Tunisia, in order to compare the Power of these tests with the characteristics of the series.

Keywords : stationarity, unit root tests, economic time series, ADF tests