

Testing for fundamental nonlinearities in time series data using the method of surrogates

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The disparate strands of the literature on testing by means of surrogate data are drawn together to yield a thorough account of the testing strategy. For the first time the empirical size and power of the method are thoroughly examined and the resultant implications for its correct implementation documented. To illustrate its practicality the method is applied to daily exchange rate data for the three currencies for the period 1975 to 1998. The robust conclusion of this research is that this testing method will be a useful addition to detecting fundamental nonlinearities in time series data, but that it cannot be regarded as an unambiguously superior alternative to all existing tests.

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