Testing for Causality

Granger Causality Tests

Granger causality tests are commonly used to test for causality between two variables in time series analysis. There are several different versions of the Granger causality test, including the Phillips-Ouliaris (PO) test, the Johansen test, and the Engle-Granger test.

Phillips-Ouliaris (PO) Test

The Phillips-Ouliaris (PO) test is a test for causality that is based on the Engle-Granger test. It is designed to test for causality in the presence of unit roots in the time series data.

Johansen Test

The Johansen test is a test for cointegration that is often used to test for causality in a multivariate time series. It is designed to test the null hypothesis that there are no cointegrating relationships between the variables.

Engle-Granger Test

The Engle-Granger test is a test for cointegration that can also be used to test for causality between two variables. It involves running a regression of one variable on the other, and then testing the residuals for stationarity using the ADF or PP tests.

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