

**Package Name:** LSUNIT

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**Date:** 2018.01.05

**Add-in Type:** Series

**Default Proc Name:** lsunit

**Default Menu Text:** Lee Strazicich unit root test

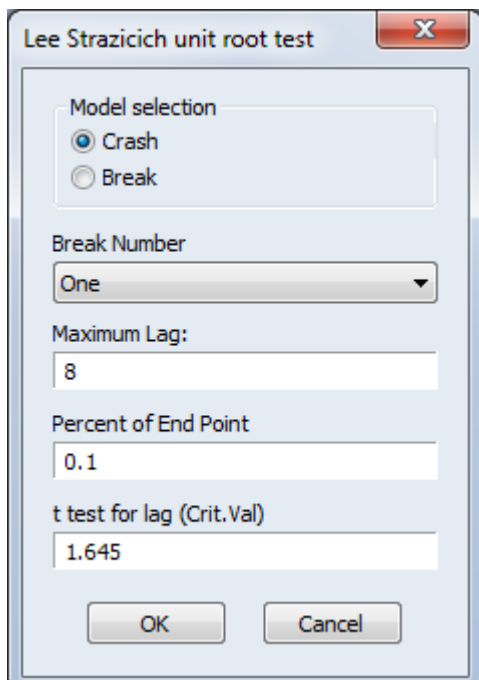
**Interface:** Dialog and command line

## Description

This package estimates Minimum Lagrange multiplier unit root test with one or two structural breaks. In order to correct for serial correlations by including  $k$  first differenced lagged terms, the package first determines the optimal lag length ( $k$ ) at each break (combination of two breaks). The optimal lag length is determined by a general to specific procedure. Starting with the maximum number of lags, the  $t$ -statistic on the maximum lagged term is examined to see if significant at the asymptotic level (default is 10%). If not, the maximum lagged term is dropped and the test is repeated until the maximum lagged term is significant, or no lags are found. Once the optimal lag length at each break (combination of two breaks) is determined, the program searches for the one(two) break points where the unit root test statistic is minimized (i.e., the most negative). Model "Crash" includes one (two) changes in intercept. Model "Break" includes one (two) changes in intercept and trend slope.

## Dialog

Upon running the add-in from the menus, a dialog will appear:



Lee Strazicich unit root test

Model selection

☒ Crash

☐ Break

Break Number

One

Maximum Lag:

8

Percent of End Point

0.1

t test for lag (Crit.Val)

1.645

OK Cancel

**Command line:**

lwage.ljsunit(model=2, break=2, maxk=8, end=0.1, crit=1.645)

**References:**

Lee, Junsoo, and Mark C. Strazicich, 2003, "Minimum Lagrange Multiplier Unit Root Test with Two Structural Breaks." *The Review of Economics and Statistics*, 85(4): 1082-1089.

Lee, Junsoo, and Mark C. Strazicich, 2013, "Minimum LM Unit Root Test with One Structural Break." *Economics Bulletin*, 33(4): 2483-2492.