Library : TSPD

Definition : Econometric package for Time Series and Panel Data Methods

Coverage : Unit root, co-integration & causality tests.

Author : Saban Nazlioglu ([snazlioglu@pau.edu.tr)](mailto:snazlioglu@pau.edu.tr))

Department of International Trade & Finance, Pamukkale University-Türkiye.

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| Time Series (TS) Methods | |
| SRC file | Reference |
| adf | Dickey, D.A., Fuller, W.A. (1979). Distribution of the estimators for autoregressive time series with a unit root. Journal of the American Statistical Society75, 427–431. |
| adf\_1br | Zivot, E. & Andrews, W.K. (1992). Further evidence on the great crash, the oil-price shock, and the unit root hypothesis. Journal of Business and Economic Statistics 10(3), 251-270. |
| adf\_2br | Narayan, P.K. & Popp, S. (2010). A new unit root test with two structural breaks in level and slope at unknown time. Journal of Applied Statistics, 37:9, 1425-1438. |
| lm | Schmidt, P., & Phillips, P. C. (1992). LM tests for a unit root in the presence of deterministic trends. Oxford Bulletin of Economics and Statistics, 54(3), 257-287. |
| lm\_1br | Lee, J. & Strazicich, Mark C. (2013). Minimum LM unit root test with one structural break.  Economics Bulletin 33(4), 2483-2492. |
| lm\_2br | Lee, J. & Strazicich, M.C. (2003). Minimum Lagrange Multiplier unit toot test with two structural breaks. Review of Economics and Statistics 85(4), 1082-1089. |
| kpss | Kwiatkowski, D., Phillips, P. C., Schmidt, P., & Shin, Y. (1992). Testing the null hypothesis of stationarity against the alternative of a unit root: How sure are we that economic time series have a unit root? Journal of econometrics, 54(1-3), 159-178. |
| kpss\_1br | Kurozumi, E. (2002). Testing for stationarity with a break. Journal of Econometrics, 108(1), 63-99. |
| kpss\_2br | Carrion-i-Silvestre, J. Ll. & Sansó, A. (2007). The KPSS test with two structural breaks. Spanish Economic Review, 9, 2, 105-127. |
| fourier\_adf | Enders, W. & Lee, J. (2012). The flexible Fourier form and Dickey-Fuller type unit root tests. Economics Letters, 117, 196-199. |
| fourier\_gls | Rodrigues, P. & Taylor, A.M.R. (2012). The flexible Fourier form and local GLS de-trending unit root tests. Oxford Bulletin of Economics and Statistics, 74(5), 736-759. |
| fourier\_kpss | Becker, R., Enders, W., Lee, J. (2006). A stationarity test in the presence of an unknown number of smooth breaks. Journal of Time Series Analysis, 27(3), 381-409. |
| fourier\_lm | Enders, W., and Lee, J. (2012). A Unit Root Test Using a Fourier Series to Approximate Smooth Breaks. Oxford Bulletin of Economics and Statistics,74,4(2012),574-599. |
| gls | Elliott, G., Rothenberg, T.J., Stock, J.H. (1996). Efficient tests for an autoregressive unit root. Econometrica 64,813–836. |
|  | Ng, S., Perron, P. (2001). Lag length selection and the construction of unit root tests with good size and power. Econometrica 69,1519–1554. |
| rals\_adf | Im, K. S., Lee, J., & Tieslau, M. A. (2014). More powerful unit root tests with non-normal errors. In Festschrift in Honor of Peter Schmidt (pp. 315-342). Springer New York. |
| rals\_lm | Meng, M., Im, K. S., Lee, J., & Tieslau, M. A. (2014). More powerful LM unit root tests with non-normal errors. In Festschrift in Honor of Peter Schmidt (pp. 343-357). Springer New York. |
| qr\_adf | Koenker, R. & Xiao, Z. (2004). Unit root quantile autoregression inference, Journal of the American Statistical Association, 99(467), 775-787. |
| coint\_cissanso | Carrion-i-Silvestre, J.L., Sanso, A. (2006). Tests the null of cointegration with structural breaks. Oxford Bulletin Economics and Statistics, 68(5), 623-646. |
| coint\_egranger | Engle, R.F. & Granger, C.W.J. (1987). Co-integration and error correction: representation, estimation, and testing, Econometrica 55, 251-276. |
| coint\_ghansen | Gregory, A.W. & Hansen, B., (1996). Residual-based tests for co-integration in models with regime shifts. Journal of Econometrics 70, 99-126. |
| coint\_hatemiJ | Hatemi-J (2008). Tests for cointegration with two unknown regime shifts with an application to ﬁnancial market integration. Empirical Economics, 35, 497-505. |
| coint\_pouliaris | Phillips, P. C. B. & Ouliaris, S. (1990). Asymptotic properties of residual based tests for co-integration. Econometrica 58 (1): 165–193. |
| coint\_shin | Shin, Y. (1994). A Residual-Based Test of the null of cointegration against the alternative of no cointegration. Econometric Theory, 10(1), 91-115. |
| coint\_tsongetal | Tsong, C.C., Lee, C.F., Tsai, L.J., & Hu, T.C. (2016). The Fourier approximation and testing for the null of cointegration. Empirical Economics, 51(3), 1085-1113. |
| Panel Data (PD) Methods | |
| PD\_cips | Pesaran, M.H. (2007). A simple unit root test in the presence of cross-section dependence. Journal of Applied Econometrics, 22 (2), 265-312. |
|  | Westerlund, J., & Hosseinkouchack, M. (2016). Modified CADF and CIPS Panel Unit Root Statistics with Standard Chi‐squared and Normal Limiting Distributions. Oxford Bulletin of Economics and Statistics, 78(3), 347-364. |
| PD\_panic | Bai, J. & Ng, S. (2004). A PANIC attack on unit roots and cointegration. Econometrica, 72, 1127–78. |
|  | Westerlund, J., & Larsson, R. (2009). A note on the pooling of individual PANIC unit root tests. Econometric Theory, 25(6), 1851-1868. |
|  | Bai, J., & Ng, S. (2010). Panel unit root tests with cross-section dependence: a further investigation. Econometric Theory, 26(4), 1088-1114. |
|  | Reese, S., & Westerlund, J. (2016). PANICCA: PANIC on Cross‐Section Averages. Journal of Applied Econometrics, 31(6), 961-981. |
|  | Bai, J., & Ng, S. (2002). Determining the number of factors in approximate factor models. Econometrica, 70(1), 191-221. |
| PD\_ILTlevel | Im, K., Lee, J., Tieslau, M. (2005) Panel LM Unit-root Tests with Level Shifts, Oxford Bulletin of Economics and Statistics 67, 393–419. |
| PD\_LTtrend | Lee, J., & Tieslau, M. (2017). Panel LM unit root tests with level and trend shifts. Economic Modelling 80, 1–10. |
| PD\_nkarul | Nazlioglu, S., & Karul, C. (2017). A panel stationarity test with gradual structural shifts: Re-investigate the international commodity price shocks. Economic Modelling, 61, 181-192. |
| TS & PD Causality Methods | |
| GC\_tests | Granger, C.W.J. (1969). Investigating causal relations by econometric models and cross-spectral methods. Econometrica 37, 424–438. |
|  | Toda, H.Y. & Yamamoto, T. (1995). Statistical inference in vector autoregression with possibly integrated processes. Journal of Econometrics 66,225–250. |
|  | Enders, W., & P. Jones. (2016). Grain prices, oil prices, and multiple smooth breaks in a var. Studies in Nonlinear Dynamics & Econometrics 20 (4):399-419. |
|  | Nazlioglu, S., Gormus, A. & Soytas, U. (2016). Oil prices and real estate investment trusts (REITs): gradual-shift causality and volatility transmission analysis”. Energy Economics 60(1): 168-175*.* |
|  | Gormus, A., Nazlioglu, S. & Soytas, U. (2018). High-yield bond and energy markets. Energy Economics69: 101-110. |
|  | Nazlioglu, S., Soytas, U. & Gormus, A. (2019). Oil prices and monetary policy in emerging markets: structural shifts in causal linkages”. Emerging Markets Finance and Trade. 55:1, 105-117. |
| PDcaus\_Fisher | Emirmahmutoglu, F., Kose, N. (2011). Testing for Granger causality in heterogeneous mixed panels, Economic Modelling 28 (2011) 870–876. |
| PDcaus\_Zhnc | Dumitrescu, E., Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels, Economic Modelling 29 (2012) 1450–1460. |
| PDcaus\_SURwald | Kónya, L. (2006) Exports and growth: Granger causality analysis on OECD countries with a panel data approach, Economic Modelling, 23 (6), pp. 978-992. |