



WORKSHOP ON AUTOREGRESSIVE DISTRIBUTED LAG (ARDL) AND NON-LINEAR ARDL 7 - 8 May 2018

INTRODUCTION

The “Autoregressive-Distributed Lag” (ARDL) and asymmetric ARDL models have been shown to provide a very valuable method for testing the presence of relationships between time-series especially the sample size is small.

This workshop aims to demonstrate how the ARDL and asymmetric ARDL models can be used to test for cointegration, and estimate non—linear long-run and short-run dynamics, even when the variables may include the mixture of stationary and non-stationary time series.

This will be achieved through a combination of short lectures and computer lab sessions, with greater emphasis on giving participants hands-on experience in handling small sample datasets.

AT THE END OF THE WORKSHOP, PARTICIPANTS WILL

1. Estimate the ARDL and asymmetry ARDL models in modeling short time-series data.
2. Derive the error-correction term and short-run dynamic model from long-run cointegration model.
3. Analyze the relationship using single equation
4. Interpret the results of ARDL and asymmetry ARDL modeling approaches

TOPICS INCLUDE

ARDL Cointegration Bounds Test

- Unrestricted Error-Correction Model (UECM)
- Determine the appropriate Lag Structure (Uniform Lagged and General to Specific Criteria)
- Model Diagnostic Checks: Autocorrelation and Stability
- Bounds Test
- Hand-on Session I

ARDL Level Relation

- ARDL Model
- Optimal Lag Length Selection
- Model Diagnostic Checks: Autocorrelation and Stability
- Long-run Relation
- Mathematical Derivation of Short-run Dynamic Model
- Short-run Error-Correction Representation

Asymmetry ARDL Model

- ARDL Model with Asymmetry Components
- Determine the appropriate Lag Structure using General to Specific Criterion
- Joint Significance of lagged level variables (i.e. cointegration)
- Long-run Relation with Asymmetry Effects
- Short-run Error-Correction Representation
- Model Diagnostic Checks: Autocorrelation and Stability