ARDL.flex (data.input = df.now, y = "Movement", max.p = 3, max.q = 3, write.output = FALSE, path.output = "ARDL-output.Rds", by.var = "Country")

## Description

ARDL.flex estimates ARDL(p,q) models flexibly, and automates model selection based on a variety of statistical criteria and in line with good econometric practice.

In its current form, it estimates models of different lag lengths specified with *max.p* and *max.q* and selects based on the Bayesian Information Criterion (BIC) among those models that pass the Breush-Godfrey test for serial autocorrelation in the error term; it is designed to carry out this operation for any number of units, e.g. countries or cities (specified using *by.var*).

It returns a list with the following objects:

summary A data.frame summarising for each observational unit the model chosen, the underlying criteria, and key parameters (e.g. long run coefficient).

bic A list of matrices collecting the BIC for all considered models for each country.

bg.test A list of matrices collecting the p-value of the Breush-Godfrey test for all considered models for each country

model The selected model for each country (ardlDlm object)

## Arguments

Red = still currently hard-coded.

|  |  |
| --- | --- |
| data.input | The data.frame to be used for estimation.  Note: The function doesn’t currently do the differencing of the data, this needs to be done beforehand and the variables must currently still be called diff.Movement (y) and diff.StringencyIndex (x).  See test-ARDL\_fun.R for functional code chunk to prepare data. |
| y | Dependent variable |
| max.p | Maximum number of lags to be considered for the independent variable (at least 1). |
| max.p | Maximum number of (autoregressive) lags to be considered for the dependent variable (at least 1). |
| write.output | Logical indication whether or not to save key results in separate dataset. |
| path.output | If write.output == TRUE, where to save it. |
| by.var | Which variable determines the observational unit in data.input? E.g., Country or City. |