

README for Supplementary Materials

Overview

This supplementary package contains the data and supporting materials used in the empirical analysis reported in the manuscript. The package enables editors and referees to verify the estimation procedures and reproduce the empirical results.

The supplementary materials consist of the following files:

1. Raw_Data.xlsx
2. LatinAmerica_OilShocks_ARDL_NARDL.wf1 (EViews workfile)
3. README.pdf

File 1: Raw_Data.xlsx

This Excel workbook contains the original monthly data used in the study.

The workbook includes:

- * Real effective exchange rates for Brazil, Chile, Colombia, Mexico, and Peru
- * Global real economic activity index
- * Oil market variables used to identify structural oil market shocks
- * Geopolitical Risk (GPR) index
- * Derived oil market shocks used in the empirical analysis

The data are organized chronologically and correspond to the sample period used in the manuscript.

File 2: LatinAmerica_OilShocks_ARDL_NARDL.wf1

This EViews workfile contains all data series required to reproduce the empirical analysis reported in the manuscript. The workfile includes the original variables, transformed variables, and generated series used in the estimation procedures.

(A) Data Preparation

The workfile contains:

- Original monthly data for all variables used in the study;
- Generated variables required for the empirical analysis; and
- Dummy variables representing the Global Financial Crisis (GFC) and the COVID-19 pandemic.

The variables are maintained in their original forms. Where logarithmic transformations are required, they are applied directly within the estimation commands using the EViews LOG() function (e.g., LOG(rer) and LOG(GFR)).

(B) Structural VAR (SVAR)

The first stage of the analysis follows Kilian (2009) to identify three structural oil market shocks.

To replicate this stage:

1. Estimate a three-variable recursive Structural VAR using:

- * Global oil production,
- * Global real economic activity, and
- * The real price of oil.

2. Use 24 monthly lags, consistent with Kilian (2009).

3. Recover the structural innovations corresponding to:

- * Oil supply shocks,
- * Aggregate demand shocks, and
- * Oil-specific demand shocks.

The resulting quarterly shock series (SR, YR, and PR) are used in the second-stage ARDL and NARDL analyses.

(C) Linear ARDL Models

Each country (Brazil, Chile, Colombia, Mexico, and Peru):

1. Use the quarterly structural oil market shocks (SR, YR, and PR) generated from the SVAR.
2. Estimate the ARDL model using the specification reported in the manuscript.
3. Apply logarithmic transformations within the estimation command where appropriate (e.g., LOG(Brazil) and LOG(Gfr)).
4. Select the optimal lag structure using the Akaike Information Criterion (AIC).
5. Conduct the ARDL Bounds Test for cointegration.
6. Estimate the long-run coefficients and the associated error-correction model.
7. Perform the diagnostic and stability tests reported in the manuscript.

(D) Nonlinear ARDL (NARDL) Models

For each country:

1. Decompose each structural oil market shock into positive and negative partial sums following Shin et al. (2014).
2. Estimate the NARDL specification using the decomposed variables.
3. Apply logarithmic transformations within the estimation command where appropriate.
4. Conduct the ARDL Bounds Test for cointegration.
5. Estimate the long-run and short-run asymmetric effects.
6. Perform Wald tests for long-run and short-run asymmetry.
7. Conduct the diagnostic and stability tests reported in the manuscript.

The empirical results reported in the manuscript can be reproduced using the variables contained in this workfile by following the estimation procedures described above.

Variable Definitions

The definitions and descriptions of all variables used in the empirical analysis are provided in the accompanying Excel file.

All variables in both the Excel file and the EViews workfile are stored in their original (level) form. Where logarithmic transformations are required for estimation, the natural logarithm should be applied within the EViews estimation command using the `LOG()` function (e.g., `Log(Brazil)` and `log(gfr)`), as specified in the manuscript.

Replication

The empirical results reported in the manuscript can be reproduced directly from the EViews workfile.

No additional programming scripts are required because all estimations were conducted using EViews.

Software

The empirical analysis was performed using:

EViews 14

Opening the supplied workfile in EViews reproduces the estimation objects and reported results contained in the manuscript.