Replication of the Empirical Analysis for "Information Frictions, Reputation, and Sovereign Spreads"

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Overview

The empirical analysis replication package contains three main folders. The folder "*/00_data*" contains the raw data used for all analysis, and also stores the datasets created based on that raw data. The folder "*/01_codes*" has all codes used in the main empirical analysis and appendices. The folder "*/02_SVAR*" includes files for the structural VAR of Appendix B.10. Lastly, the folder "*/03_figures_tables*" stores all the figures and tables of the paper (including those in the appendices).

Data Files

All data files are contained in the "*/00_data*" folder. Within this folder, there are three subfolders. The subfolder "/00_raw_data" contains all the datasets (stored as **.xls** files) used in the empirical analysis. From the raw data, we create different **.dta** files that are used throughout the analysis. These files are stored in the subfolder "*/01_datasets/00_inputs*". The "*/01_datasets/01_results*" folder contains temporary results that we use to create the tables and figures of the paper. Lastly, the subfolder "/02_output" stores different files with several variables and moments that we use as inputs in our quantitative analysis.

Raw Data

The datasets are stored as follows:

- **00_Arg_Bonds_Yields.xls**: Data on Argentine bonds (nominal and IIBs). Fields in the dataset are ISIN, CUSIP, Bloomberg code, security name, maturity, currency, coupon rate and frequency, inflation linked indicator, Bond_ID (our construction), Date (daily), and yields.
- **00_Arg_ExchangeRate.xls**: Argentine spot and forward exchange rates; daily frequency.
- **00_Arg_Inflation_Announcements.xls**: Official and private (alternative) measures of inflation and reporting dates; monthly frequency.
- **00_Arg_Merval.xls**: Prices of Argentine stock market index (MERVAL); daily frequency.
- **00_EMBI_Index.xls**: EMBI spreads for Argentina and other Latin American countries; daily frequency.
- **00_GlobalFactors.xl**s: Data on global factors (VIX, S&P500, EM stock prices) used in the main analysis; daily frequency.
- **00_StockIndex_LAC.xls**: Main stock indices for Latin American countries; monthly frequency.
- **01_Arg_EMAE.xls**: Index of Argentine economic activity; monthly frequency. Source: INDEC.

- **01_Arg_NationalAccounts.xls**: Argentine GDP, imports, exports, private consumption, government consumption, and investment; quarterly frequency. Source: INDEC.
- **01_Arg_Debt.xls**: Argentina's external debt-to-gdp ratio. Source: World Bank.
- **01_LAC_GDP.xlsx**: GDP for other Latin American countries; quarterly frequency; seasonally adjusted. Source: National sources and International Financial Statistics (IFS).
- **02_Arg_Deposit_Rates.xlsx**: Argentina's rates for deposits in domestic and foreign currency; monthly frequency. Source: Central Bank of Argentina.
- **02_Arg_NXR_Expectations.xlsx**: Survey expectations for Argentine nominal exchange rate; monthly frequency. Source: Central Bank of Argentina.

All the files that start with the prefix "**00_**" contain proprietary data that we have retrieved from Bloomberg and Datastream. We have left these entries empty. Files that start with the prefix "**01_**" and "**02_**" contain data that are publicly available. See Appendix B.1 for additional details on data sources.

Processed Data and Results

From the raw data, we construct the following **.dta** files that are used throughout the analysis (see next section). These files are stored in the subfolder "*/01_datasets/00_inputs*".

- **01_Arg_Bonds_Data.dta** and **01_Arg_Bonds_StaticInfo.dta**: Static information and daily bond yields of Argentina's sovereign bonds used in the empirical.
- **01_Arg_ExchangeRate.dta**: Argentine spot and forward exchange rates; daily frequency.
- **01_Arg_Inflation.dta**: Official and private (alternative) measures of inflation and reporting dates; monthly frequency.
- **01_Arg_Merval.dta**: Argentine stock price index; daily frequency.
- **01_EMBI_Data.dta**: EMBI spreads; daily frequency
- **01_GlobalFactors_Controls.dta**: Global factors; daily frequency.
- **01_NXR_weekly.dt**a: Argentine NXR; weekly frequency.
- **02_Arg_merged.dta**: EMBI spreads, Argentine inflation (official and private) and misreport, global controls, Argentina NXR and forwards; daily frequency.
- **03_BreakEvenInflation.dta**: Combines Argentine bond yields with our measure for the break-even inflation rate; daily frequency.

The subfolder "*/01_datasets/01_results*" contains temporary results from the heteroskedasticity-based analysis, OLS regressions, and event study. We use these files to construct the tables and figures of the paper. The suffix of these files denotes alternative definitions for event and nonevent windows (denoted by XX) and years (denoted by YY). As explained in Section 3.3 of the paper, we considered 4 different windows for the empirical analysis: $XX = 0$ (baseline) is a 2-day window for events and all other days for nonevents; $XX = 1$ is a 3-day window for events and all other days for nonevents; $XX = 2$ and $XX = 3$ are analogous to $XX = 1, 2$ but with 4-day windows for nonevents. As for the years, $YY = 2007$ and $YY = 2010$ denote the pre- and post-GFC samples, respectively.

- **10_VarianceTest_Window_XX_Year_YY.dta**: Results for the variance tests; Appendix Table B.3.
- **20_IVReg_EMBI_ARG_Change_Window_XX.dta**: Heteroskedasticity-based regression for Argentine EMBI spreads; Table 2.

- **20_Bootstrap_EMBI_ARG_Change_Window_XX.dta**: Bootstrap to construct the CIs; Table 2.
- **20_IVReg_Merval_Change_Window_XX.dta**: Heteroskedasticity-based regression for Argentine stock returns; Table 3.
- **20_Bootstrap_Merval_Change_Window_XX.dta**: Bootstrap to construct the CIs; Table 3.
- **30_OLS_Regression_FullSample_Window_XX_Year_YY.dta**: OLS regression of changes in spreads onto changes in the BE rate; Appendix Table B.4.
- **40_EventStudy_Window_XX_Year_YY.dta**: Results for the event study; Appendix Table B.5.

Description of the Codes (.do files)

All codes for the empirical analysis (aside from the SVAR, see Appendix B.10 of the paper) are contained in the folder "*/01_ codes*". The files are:

- **_Run.do**: Master file that calls and runs all the codes within the subfolder. The user cannot run this code without the proprietary data files in the folder "*/00_ data*".
- **00_CreateWindows_fx.do**: Generates event and nonevent windows.
- **10_CreatingDatasets.do**: Imports spreadsheets in "00_data/00_raw_data" and process them to produce the **.dta** files (stored in "00_data/01_datasets/00_inputs").
- **11_Create_BE_Dataset.do**: Computes the break-even inflation rate.
- **12_Moments_DataModel.do**: Computes targeted and untargeted moments to be used in the quantitative analysis.
- **21_Heterosk_Analysis.do**: Heteroskedasticity-based empirical analysis.
- **22_OLS_EventStudy.do**: OLS regressions and event study.
- **31_Main_Figures_Tables.do**: Constructs figures and tables in the main sections of the paper.
- **32_Appendix_Figures.do**: Constructs figures for the Appendix.
- **33_Appendix_Tables.do**: Constructs tables for the Appendix.

10_CreatingDatasets.do

Input files: 00_EMBI_Index.xls; 00_GlobalFactors.xls; 00_Arg_Exchange_Rate.xls; 00_Arg_Merval.xls; 00_Arg_Inflation_Announcements.xls; 00_Arg_Bonds_Yields.xls.

Output files: 01_EMBI_Data.dta; 01_GlobalFactors_Controls.dta; 01_Arg_ExchangeRate.dta; 01_Arg_Merval.dta; 01_Arg_Inflation.dta; 02_Arg_merged.dta; 01_Arg_Bonds_StaticInfo.dta; 01_Arg_Bonds_Data.dta; 01_NXR_weekly.dta

11_Create_BE_Dataset.do

Input files: 01_Arg_Bonds_Data.dta, 01_Arg_ExchangeRate.dta and 02_Arg_merged.dta. The first file has data on bond prices and yields for Argentina. The second file has data on NXR forwards. The third file has data on Argentina exchange rate, and dates in which government reported the inflation.

Output file: 03_BreakEvenInflation.dta.

12_Moments_DataModel.do

Input files: 00_EMBI_Index.xls, 01_Arg_Debt.xls, 01_Arg_NationalAccounts.xls.
The code computes targeted moments in Table 5 of the paper, and untargeted moments in Tables 6 and 7. It also computes the persistence and volatility for the endowment process, and provides the dynamics for output and spreads used in Figure 8 and Appendix Figure C.8.

21_Heterosk_Analysis.do

Input files: 03_BreakEvenInflation.dta; 01_GlobalFactors_Controls.dta
Output files: 20_IVReg_EMBI_ARG_Change_Window_XX; 20_Bootstrap_EMBI_ARG_Change_Window_XX; 20_IVReg_Merval_Change_Window_XX; 20_Bootstrap_Merval_Change_Window_XX.
The code computes Table 1 of the paper. It also computes the variance test and runs the heteroskedasticity-based instrumented regressions. These results are saved in the output files, and later uploaded by 31_Main_Figures_Tables.do, 32_Appendix_Figures.do, and 33_Appendix_Tables.do to compile figures and tables.

22_OLS_EventStudy.do

Input files: 03_BreakEvenInflation.dta; 01_GlobalFactors_Controls.dta.
Output files: 30_OLS_Regression_FullSample_Window_XX_Year_YY; 40_EventStudy_Window_XX_Year_YY.
The file produces the rolling OLS estimates in Figure 5. It also produces data for Appendix Tables B4 and B5, which is uploaded by 33_Appendix_Tables.do.

31_Main_Figures_Tables.do

Input files: 02_Arg_merged.dta; 20_IVReg_EMBI_ARG_Change_Window_XX;
20_IVReg_Merval_Change_Window_XX; 20_Bootstrap_EMBI_ARG_Change_Window_XX;
20_Bootstrap_Merval_Change_Window_XX.
Output: Tables 1-3; Figures 3-4.

32_Appendix_Figures.do

Input files: 01_Arg_Bonds_Data.dta; 03_BreakEvenInflation.dta; 01_Arg_Inflation.dta.
Output: Figures B.1-B.6; Table B.2.

33_Appendix_Tables.do

Input files: 10_VarianceTest_Window_XX_Year_YY; 30_OLS_Regression_FullSample_Window_0_Year_YY.
Output: Table B.1, Tables B.3-B.5.

SVAR Analysis

All codes for the SVAR analysis are in the folder "*/02_SVAR*". That folder contains the following subfolders.

- "*/00_data*": Datasets on Argentine spreads, break-even inflation, misreport, and an index on Argentine economic activity. Monthly frequency. Data is proprietary (except for economic activity).
- *"/01_codes*": Stata and Matlab codes for the SVAR analysis (see below).
- *"/02_figures*": Figure B.7 of the Appendix.

The subfolder "*/01_codes*" contains the file "**00_CreateDataset_SVAR.do**", which produces the data that we then import into our SVAR. The subfolder also contains some Matlab code files that estimate the SVAR and produce the impulse response function. These codes are somewhat modified from the original version obtained from Gertler and Karadi (AEJ: Macro, 2015).[1] The files are the following:

- AA_Import_Data.m
- AB_doProxySVAR_single.m
- AC_doProxySVARbootstrap_single.m
- AD_doCholSVAR_single.m
- AE_doCholSVARbootstrap_single.m
- BA_doVAR.m
- BB_plot_figure_sep.m
- VAR_main_RunMe.m

Source Code for Figures and Tables

Tables

- Tables 1-3: 31_Main_Figures_Tables.do
- Table B.1, Tables B.3-B.5: 33_Appendix_Tables.do
- Table B.2: 32_Appendix_Figures.do

Figures

- Figures 3 and 4: 31_Main_Figures_Tables.do
- Figure 5: 22_OLS_EventStudy.do
- Figures B.1-B.6: 32_Appendix_Figures.do
- Figure B.7: VAR_main_RunMe.m

Compilation

- All figures and tables can be compiled by running "**compile_figures_tables.tex**" inside the "*/03_figures_tables/03_Compilation*" folder.

[1] Link: *https://www.aeaweb.org/articles?id=10.1257/mac.20130329.*