

This folder contains codes and data necessary to reproduce main results in the published version of

"Stock Market Spillovers via the Global Production Network: Transmission of U.S. Monetary Policy" by Julian di Giovanni and Galina Hale

Working paper version is available at :

https://julian.digiovanni.ca/Papers/diGiovanni_Hale_StockGlobalNetwork.pdf

The codes for the Internet Appendix results are available upon request.

Linear regressions were implemented in Stata.

SAR regressions were implemented in Matlab.

Note on SAR: the matrices loaded are quite large and the bootstrap procedure with 500 replications take multiple hours to complete on the multi-core server

Content (referencing Figure and Table numbers in the paper):

Important note: Precession of data matrices was reduced in order to keep them to manageable size for sharing.

This leads to small discrepancies between the results in the paper and the replication results.

Figure 1. Distribution of Weighted Outdegree for WIOD

Code: figure1.m which loads the following data and calls the following functions

Data: A_GO.mat

Functions: matextract_fn.m
plfit.m
plplot_noslope.m

Figure 2. Closeness to U.S. Consumers

Code: figure2.m which loads data

Data: consusa.mat

Figure 3. Correlation of Stock Returns over the Entire Sample

Code: figure3.m which loads data

Data: A_GO.mat
y_mi_raw.mat

Figure 4. WIOD Network Distance of Supply Linkages and the Correlation of Stock Returns

Code: figure3.m which loads the following data and calls the following functions

Data: A_GO.mat
y_mi_raw.mat

Functions: matextract_fn.m
distance_bin.m

Figure 5. Distribution of Direct and Network Effects across Country-Sectors

Code: Results_hist.m uses

Data: Output file T3.mat (to be run after T3_share.m)

- also produces distribution of betas and rhos in the Internet Appendix

Figure 6. Distribution of Direct and Network Effects across Countries and Sectors

Code: figure6.do which loads

Data: figure6.dta

Table 1. Least-Squares Regression Estimation: Full Sample

Code: Table1_2_9_share.do which uses

Data: Table1_share.dta

Table 2. Least-Squares Regression Estimation: International and United States Sub-Samples

Code: Table1_2_9_share.do which uses
Data: Table1_share.dta

Table 3. Heterogeneous Spatial Autoregression Panel Estimation: Baseline Specification and Decompositions

Code: T3_share.m which calls
Functions: spregs_prep_fn.m
 spregs_run_fn.m which calls
 fn_ml_Npsi_NKbeta_Nsgmsq.m
 fn_varml_sandwich_Npsi_NKbeta_Nsgmsq.m
 decomposition_vec_fn.m
 spregs_bs_fn.m
m-files: sample_prep.m which loads the following data
 Data: data_spatial_new.mat
 A_IC.mat
 A_GO.mat
 TAU_sec.mat (not used for
 benchmark results)

Table 4. Comparing effects by United States' consumption to country-sector output ratio

Code: group_decompositions.m which loads the results (to be run
after T3_share.m) and control variables
Data: T3.mat
 xsection_for_matlab.mat
Functions: group_decompositions_fn.m

Table 5. Total Impact of U.S. Monetary Policy Shocks: Baseline vs. Autarkic Scenario Empirical Counterfactuals

Code: master_autarky.m which calls the following codes and functions
Functions: spregs_autarky_prep_fn.m
 spregs_autarky_run_fn.m
 spregs_autarky_bs_fn.m
 tausec_extract_fn.m
 decomposition_vec_autarky_fn.m
 matextract_fn.m
m-files: tables_autarky.m
 winsorising.m
 fn_ml_Npsi_NKbeta_Nsgmsq.m
 fn_varml_sandwich_Npsi_NKbeta_Nsgmsq.m
 sample_autarky_prep.m which loads the
 following data
 Data: data_spatial_new.mat
 A_IC.mat
 A_GO.mat
 TAU_sec.mat (not used for
 benchmark results)

Table 6. Heterogeneous Spatial Autoregression Panel Estimation: Varying Sample Period and Weighting Matrix

Code: T4Wavg.m
 T4_16.m
 T4_16Wavg.m
 T4_16no08.m
 T4_16no08Wavg.m
 T4_16no09.m
 T4_16no09Wavg.m
 - all files call the same set of functions and m-files and
 data as T3_share

Table 7. Heterogeneous Spatial Autoregression Panel Estimation: Robustness to Returns and Shock Measures

Code: T6nT2y.m

T7DC.m
 T7rDC.m
 T7OW.m
 T7NS.m
 T7BRW.m
 - all files call the same set of functions and m-files and
 data as T3_share, except
 Function: spregs_prep_X_fn.m (for T6nT2y.m)

Table 8. Heterogeneous Spatial Autoregression Panel Estimation: Summary
Results for Foreign Monetary Policy Shocks

Code: T8ECB.m
 T8BOE.m
 T8For.m
 - all files call the same set of functions and m-files and
 data as T3_share

Table 9. Least-Squares Panel Estimation: Controlling for Global Financial
Cycle Covariates

Code: Table1_2_9_share.do which uses
 Data: Table1.dta

Table 10. Heterogeneous Spatial Autoregression Panel Estimation: Conditioning
on the Global Financial Cycle

First stage (Stata):

Code: FirstStage_share.do which uses
 Data: FirstStage_share.dta

Second stage (Matlab):

Code: T6nMG.m
 - all files call the same set of functions and m-files and
 data as T3_share, except
 Function: spregs_prep_MG_fn.m

Tables A1 and A2.

Data: data_spatial_new.dta
 The tables are obtained by tabulating raw data "if y_mi~=."