"The Return to Protectionism"
Replication Instructions

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This document contains background information and instructions for reproducing all tables and figures from "The Return to Protectionism" in *The Quarterly Journal of Economics.*

I Hardware and Software

Programs were implemented on a Linux operating system using STATA 16 and MATLAB 9.6. Given the large size of the datasets, implementing the programs may require substantial computing resources. Users may also need to install supplemental STATA packages. Some of these packages may include:

- gtools
- reghdfe
- maptile (+ 2014 county shapefile available here via Chieko Maene and Michael Stepner)
- blindschemes (to replicate figure formatting)

II Code

The replication materials are comprised of a single STATA do-file for each table and figure in the main text and in the Online Appendix. The program **rtp/code/rtp_replicate.do** executes these programs and reproduces the results; see the instructions in Section V of this document. Tables are output in CSV format and figures are output in PDF format.

Model simulation results were produced using MATLAB; see instructions in Section VI of this document.

III Datasets

A Analysis Datasets

Analysis datasets are saved in **rtp/data/analysis/.**

1. Trade datasets
   - **m_flow_hs10_fm_new.dta.** Workhorse estimation dataset for analyses of U.S. imports. Monthly panel of variety-level trade and tariff variables. Observations are unique by country-HS10-month-year.
   - **x_flow_hs10_fm_new.dta.** Workhorse estimation dataset for analyses of U.S. exports. Monthly panel of variety-level trade and tariff variables. Observations are unique by country-HS10-month-year.
   - **master_panel_hs10.dta.** Includes variety-level trade data for both U.S. imports and exports. Observations are unique by country-HS10-month-year.
   - **census_trade_annual_panel_hs2.dta.** Trade data aggregated by country-HS2-year.

2. Industry- and product-level datasets

    - **industry_naics4.dta.** Monthly panel of NAICS4-level sector variables such as MPI, XPI, PPI, and production.
    - **tariffs_naics.dta.** Tariff variables aggregated to NAICS sector codes.
    - **census_asm.dta.** Monthly sector-level panel from Census American Survey of Manufacturers.
    - **qladders.dta.** Quality ladders from Khandelwal (2010)
    - **markups.dta.** Markups from DeLoekcer et al. (2016)
    - **bw_sigma.dta.** Demand elasticities from Broda and Weinstein (2006)
    - **bw_omega.dta.** Supply elasticities from Broda, Limao, and Weinstein (2008)
    - **caliendo_parro.dta.** Demand elasticities from Caliendo and Parro (2015)
    - **sticky_prices.dta.** Price stickiness from Nakamura and Steinsson (2008)
    - **contract_intensity.dta.** Contract intensity from Nunn (2007).
    - **upstreamness.dta.** Upstreamness fom Antras et al. (2012)
    - **contributions.dta.** Political contributions data from Center for Responsive Politics.

3. County datasets

    - **master_county.dta.** Measures of tariff exposure and demographic and political variables at the county level.

4. Crosswalk datasets

    - **cpi_hs6x.dta** – manually constructed crosswalk between HS6 codes and BLS CPI final goods.
    - **naics_labels.dta** – concordance between NAICS codes and descriptions.
    - **hs6_bec.dta** – concordance between HS6 and BEC codes.
    - **hs10_codes.dta** – concordance between HS10 codes and descriptions.

B Intermediate Datasets

Intermediate datasets are reproduced by other programs in the course of replicating the full set of results, as indicated below. As the programs run, these datasets will be saved in **rtp/data/analysis/.**

- **tmp_sigma*.dta** – variety-level import dataset used to estimate sigma and omega*, produced by **rtp/code/main/tab_04_sigma_omega.do.**
- **sigma_omega*.dta** – variety-level import dataset including estimated residual demand shocks, used then to estimate the product elasticity eta. Produced by **rtp/code/main/tab_04_sigma_omega.do.**
- **tmp_eta_stat*.dta** – product-level import dataset used to estimate eta, produced by **rtp/code/main/tab_05_eta.do.**
- **eta_stat*.dta** – product-level import dataset including estimated residual demand shocks, used then to estimate the sector elasticity kappa. Produced by **rtp/code/main/tab_05_eta.do.**
- **tmp_simga_star*.dta** – variety-level export dataset used to estimate sigma* and omega. Produced by **rtp/code/main/tab_07_simgastar.do.**
- **cfactual*.csv** – output from Matlab simulations, including model-based predictions of real tradeable wage changes by county. See Section VI of this document.

C Temporary datasets

Temporary datasets are saved in **rtp/data/tmp/**

IV Output

- Results from the main text of the paper are output in **rtp/results/main/**
- Results from the Online Appendix are output in **rtp/results/appendix/**

V Replication Instructions

1. Set the root directory path in two places:
   (a) Line 21 of **rtp/code/rtp_replicate.do**
   (b) Line 14 of **rtp/code/set_directories.do**
2. Check that the STATA packages denoted in lines 31-36 of **rtp/code/set_directories.do** are installed. (These packages may not be exhaustive of all the required supplemental packages, and users may need to install additional ones when implementing the replication.)
3. Users who wish only to replicate a subset of the paper's figures and tables, or who wish to execute all programs simultaneously in parallel batch mode, must first download the **intermediates.zip** folder, unzip it, and copy the included .dta files into **rtp/data/analysis/**.
4. Run the replication:
   (a) To execute *all* programs and reproduce *all* tables and figures, run **rtp/code/rtp_replicate.do**. This program may be executed so that all subsequently called programs are implemented in parallel batch mode (faster; the default) or so that each program is implemented sequentially (much slower, but requires less advanced computing resources).
   (b) Alternately, to reproduce only a subset of all figures and tables, first run **rtp/code/set_directories.do**, and then implement the corresponding programs in **rtp/code/main/** and/or **rtp/code/appendix/** (for example, **rtp/code/main/tab_01_sumstats.do)**.

VI Simulations in MATLAB

To reproduce the model simulation results:

1. Run the STATA program **rtp/simulation/simdata/save_to_csv.do** — note the root folder must be adjusted at the top of the program. This program prepares the data used for the simulation.
2. Run the MATLAB program **rtp/simulation/master.m.**
3. Simulation results are output in the folder **rtp/simulation/outcomes_csv/**