

## **Code and Instructions for**

“The Smoot-Hawley Trade War” by Kris James Mitchener, Kevin Hjortshøj O’Rourke and Kirsten Wandschneider

### **Overview**

The code in this replication package can be used to estimate the results in our paper. There are four do files that generate Tables 1 through 6, Figures 1 and 2, and Appendices D and E. These are:

- Probit\_final\_short.do
- GravityQuarterly\_final.do
- Product\_regs\_final.do
- Graphs\_master\_final.do

The replicator should expect the code to run for less than 60 minutes.

A fifth do file, Extract\_Welfare\_Data.do, generates the data which are then used in an Excel file, Welfare\_Calculations.xls, to create Table 7.

There are three datafiles in csv format: Probitdata1928.csv, bilateral\_trade\_q.csv, and usa\_product\_data\_raw.csv.

Finally, there is this readme file (in both Word and pdf format) giving 11 files in all.

## **Data Availability and Provenance Statements**

### **Statement about Rights**

We certify that the authors of the manuscript have legitimate access to and permission to use the data used in this manuscript.

We certify that the authors of the manuscript have documented permission to redistribute/publish the data contained within this replication package.

## Summary of Availability

- All data **are** publicly available, except for the variables (exchange rates) drawn from Global Financial Data (2021) (<https://globalfinancialdata.com>), and the variables based on the data used in Gowa, J. and Hicks, R. (2013) 'Politics, institutions, and trade: lessons of the interwar era', *International Organization*, vol. 67(03), pp. 439-67. We have permission to use these data, and to make publicly available the variables included in this replication package.

## Details regarding each Data Source

The paper relies on the following datasets:

- 1) **Probitdata1928.csv** (provided) – compiled by the authors from the following sources:

code – country code from Gowa, J. and Hicks, R. (2013) 'Politics, institutions, and trade: lessons of the interwar era', *International Organization*, vol. 67(03), pp. 439-67

retaliator - coded by hand by the authors as described in Table 2 of the paper

protestor - coded by hand by the authors as described in Table 2 of the paper

nonretaliator - coded by hand by the authors as described in Table 2 of the paper

responder - coded by hand by the authors as described in Table 2 of the paper

MFN\_o - from *Tariff Bargaining under Most-Favored-Nation Treaties*, Letter from the Chairman of the United States Tariff Commission, U.S. Government Printing office, Washington, 1934.

year - from Gowa, J. and Hicks, R. (2013)

importsfromUSA - from Gowa, J. and Hicks, R. (2013)

exportstoUSA - from Gowa, J. and Hicks, R. (2013)

imports\_cif - from Gowa, J. and Hicks, R. (2013)

string\_o - from Gowa, J. and Hicks, R. (2013)

exports\_fob - from Gowa, J. and Hicks, R. (2013)

USexportshare - from Gowa, J. and Hicks, R. (2013)

USimportshare - from Gowa, J. and Hicks, R. (2013)

tradebalance - from Gowa, J. and Hicks, R. (2013)

tradebalance\_totrade - from Gowa, J. and Hicks, R. (2013)

tradebalanceVSUSA - from Gowa, J. and Hicks, R. (2013)

tradebalanceVSUSA\_totrade - from Gowa, J. and Hicks, R. (2013)

polity – from Marshall and Gurr (2020).

polity2- from Marshall and Gurr (2020).

- 2) **bilateral\_trade\_q.csv** (provided) – trade variables in this dataset were hand-collected by the authors from the following contemporary printed sources (also listed in Appendix B of the paper). Originals are available in the British Library, London, UK; the Bodleian Library, Oxford, UK; and the LSE Library, London, UK.

**Austria:** *Statistik des Aussenhandels*, February 1930 through January 1939, monthly

**Belgium:** *Comptes Speciaux par Pays de Provenance et de Destination: Part 1*

**Brazil:** *Foreign Trade*, 1932-1939, quarterly

**Bulgaria:** *Bulletin Statistique Mensuel*, June 1920 through December 1939, monthly

**Canada:** *Monthly Report of the Trade of Canada: Imports for Consumption and Exports*. Canada, Dominion Bureau of Statistics, January 1929 through December 1939, monthly

**Czechoslovakia:** *Monthly Summary of Foreign Trade*, April 1924 through June 1939, monthly

**Denmark:** *Handelsstatistiske Meddelelser*, January 1927 through December 1940, monthly

**Egypt:** *Foreign Trade*, January 1919 through September 1940, monthly

**Estonia:** *Eesti Statistika*, January 1923 through December 1937, monthly

**Finland:** *Ulkomaankauppa Utrikes Handel, Commerce Extérieur de la Finlande*, Finland, Tilastokeskus, Helsinki, January 1921 through August 1939, monthly

**France:** *Statistique Mensuelle du Commerce Extérieur de la France*, January 1919-December 1938, monthly

**Germany:** *Monatliche Nachweise über den auswärtigen Handel Deutschlands*, 1924 through Quarter 1 1937, quarterly; March 1937 through October 1939, monthly.

**Great Britain:** *Accounts Relating to Trade and Navigation of the United Kingdom*. January 1920-July 1939, monthly. Sir Auckland Geddes, ordered by The House of Commons, London: Published by his majesty's stationary office.

**Greece:** *Bulletin Mensuel du Commerce Spécial*, January 1925 through August 1940, monthly

**Hong Kong:** *Trade and Shipping Returns*, April 1930 through December 1940, monthly

**Hungary:** *Statisztikai Havi Kozlemenyei*, 1925 through 1936, quarterly.

**Iceland:** *Statistical Yearbook*, July 1934 – December 1934 and May 1935 – November 1941, monthly.

**India:** *Trade and Navigation*, January 1922 through December 1940, monthly

**Ireland:** *Trade and Shipping Returns*, 1924-1942

**Italy:** *Movimento Commerciale del Regno D'Italia*, Ministero dello Finanze, Officion Trattati e Lebislazione Doganale, (1919-1935)

**Japan:** *Monthly Return of the Foreign Trade of the Empire of Japan*, 1924-1938

**Latvia:** *Commerce et Transit*, 1929 through 1938, monthly

**Lithuania:** *Bulletin Statistique*, November 1923 through August 1939, monthly

**Malaya:** *Imports and Exports*, July 1921 through December 1936, monthly

**Mexico:** *Commercio Exterior Y Navegacion*, January 1928- December 1929 and *Revista de Economia Y Edstadistica*, April 1932-February 1940, monthly.

**Netherlands:** *Handelsverkeer*, Quarter 1 1934-Quarter 3 1939, quarterly

**Norway:** *Statistiske Meddelelser*, Quarter 1 1932 through October 1939, quarterly

**Palestine:** *Commercial Bulletin*, July 1924 through October 1939, monthly

**Poland:** *Handel z Poszczególnemi Krajami*, January 1925 through May 1939, monthly starting in January 1927

**Romania:** *Commerce Exterieur*, October-December 1935 and April 1937 – January 1939, monthly

**Sierra Leone:** *Royal Gazette Trade Supplement*, January 1931 through January 1940, monthly.

**South Africa:** *Monthly Trade*, Dates: 1919 through 1934, quarterly

**Switzerland:** *Statistique Mensuelle du Commerce Exterieur*, January 1925 through December 1940, monthly

**Sweden:** *Commersiella Meddelanden*, January 1933 – September 1939, monthly

**Turkey:** *Commerce Exterieur*, 1934 through 1939, monthly

**United States:** *Monthly Summary of the Foreign Commerce of the United States* January 1917 through September 1941, monthly

The printed sources listed above and in Appendix B were used to code the following variables:

code\_1 – country code, exporter

code\_2 – country code, importer

year – year

quarter – quarter

exports\_1 – exports from country\_1 to country\_2, in country\_1 currency

exports\_2 – imports from country\_1 to country\_2, in country\_2 currency

country\_1 – country 1

country\_2 – country 2

sov1938\_2 – dummy variable indicating if country 2 is a sovereign in 1938

sov1938\_1 – dummy variable indicating if country 1 is a sovereign in 1938

Other variables were compiled from the following sources:

rate\_obstfeld\_1 – exchange rate country 1 from Obstfeld, M., Shambaugh, J. C. and Taylor, A. M. (2004). 'Monetary sovereignty, exchange rates, and capital controls: the trilemma in the interwar period', *IMF Staff Papers*, vol. 51(1), pp. 75-108.

rate\_obstfeld\_2 – exchange rate country 2 from Obstfeld et al (2004)

rate\_gfd\_1 – exchange rate country 1 from Global Financial Data (2021).

rate\_gfd\_2 – exchange rate country 2 from Global Financial Data (2021).

- 3) **usa\_product\_data\_raw.csv** (provided) – the variables in this dataset were hand-collected by the authors from the U.S. Department of Commerce's *United States Monthly Summary of Foreign Commerce*

group – product category from U.S. Department of Commerce’s *United States Monthly Summary of Foreign Commerce*  
 subgroup – product category subgroup from U.S. Department of Commerce’s *United States Monthly Summary of Foreign Commerce*  
 product\_id – product ID from U.S. Department of Commerce’s *United States Monthly Summary of Foreign Commerce*  
 product\_name – product name from U.S. Department of Commerce’s *United States Monthly Summary of Foreign Commerce*  
 country – importing country from U.S. Department of Commerce’s *United States Monthly Summary of Foreign Commerce*  
 exportJul1926-exportjun1932 – US export data from U.S. Department of Commerce’s *United States Monthly Summary of Foreign Commerce, several years.*

## Data Files

Probitdata1928.csv (provided)

bilateral\_trade\_q.csv (provided)

usa\_product\_data\_raw.csv (provided)

## Dataset List

Data file	Source	Provided
Probitdata1928.csv	All listed above	Yes
bilateral_trade_q.csv	All listed above	Yes
usa_product_data_raw.csv	All listed above	Yes

## Software Requirements

Stata - code was last run with version 16.1

Excel for Mac, Version 16.54

Install the following Stata packages before replicating:

```
ssc install outreg2
ssc install ppmlhdfc
ssc install reghdfe
```

ssc install ftools

## Memory and Runtime Requirements

The code was last run on a MacBook Pro 2.3 GHz Dual-Core Intel Core i5

16 GB 2133 MHz LPDDR3, MAC OS Big Sur Version 11.5.2.

Replicators should expect the code to run in under 60 minutes

## Description of programs/code

### Code - Do Files

- **GravityQuarterly\_final.do** – main do file that produces the results for Tables 4 and 5 and Appendices D and E

Uses file "bilateral\_trade\_q.csv"

Creates the following output files:

Baseline.txt (Table 4)

Sovereign.txt (Table 5)

Robust\_both\_check2(BOC MEX ESP ITA FRA CUB CHE CAN ARG).txt (9 separate output tables, 1 for each retaliator that include the information contained in Appendix D)

Robust\_interact (Appendix E)

- Generates datafile mergeddata\_q.dta that is used in the Product.do file and in Extract\_Welfare\_Data.do

- **Probit\_final\_short.do**

Uses file "probitdata1928.csv"

Generates output file probit\_clean.txt (Table 3)

- **Product\_regs\_final.do**

Uses mergeddata\_q.dta from GravityQuarterly\_final.do

Uses usa\_product\_data\_raw.csv

Generates output files

1928KWtop.txt (Table 6 - Panel A)

1928KW\_autoDIFF.txt (Table 6 – Panel B)

- **Graphs\_master\_final.do**

Uses bilateral\_trade\_q.csv

Generates Figures 1 and 2

- **Extract\_Welfare\_Data.do**

Uses mergeddata\_q.dta from GravityQuarterly\_final.do

Generates xls file Welfare\_Quarterly\_USD.xls. This file contains columns A-F which are to be pasted into the corresponding columns of Welfare\_Calculations.xls

- **Welfare\_Calculations.xls** – builds on the above created xls file and explains and calculates numbers displayed in Table 7 – no code, just Excel formulae!  
Welfare\_Calculations.xls contains a separate readme sheet with explanations on the calculations in a separate tab (explanations also included below for the sake of completeness).

The sheet entitled "Welfare Analysis" generates the results shown in Table 7. These are not econometric estimates, rather based on hard numbers – thus no code is necessary for tabulations, just standard Excel formulae – all calculations are transparently shown on the spreadsheet and are as described below. Sources are listed in the accompanying readme sheet and are also indicated below.

Columns A-F are where you paste columns A-F of Welfare\_Quarterly\_USD.xls. Those show quarterly trade data, with all variables coming from the file bilateral\_trade\_q.csv. Sources are listed in the accompanying readme file.



Column G shows GDP in USD with data from Mitchell (1975, 1993, 1995) ), converted into USD using exchange rates from League of Nations Statistical Yearbooks (League of Nations, various years).

Column H calculates the import penetration ratio using the formula shown in the cell.

Column I is the domestic expenditure share, calculated using the formula shown in the cell.

Column J uses the assumed value of the elasticity of imports (positively signed) from Jacks, Meissner, and Novy (2011).

Column K lists tariff revenue as a share of GDP using data sources listed below and in the text.

Column L computes the gains from trade including tariffs under the Krugman/Perfect Competition (KPC) model assumption,  $\delta\eta = 0$  (formula in cell)

Column M computes the gains from trade including tariffs under the Melitz model assumption,  $\delta\eta = 0.65$  (formula in cell)

Column N computes the change in welfare between 1929-1930, KPC model (percentage pts)

Column O computes the change in welfare between 1929-1931, KPC model (percentage pts)

Column P computes the **percentage change** in welfare between 1929-1930, KPC model

Column Q computes the **percentage change** in welfare between 1929-1931, KPC model

Columns R-V, rows 2-10 produce the top panel of Table 7, KPC assumption, by averaging across groups as defined in the text (Table 2).

Column W computes the change in welfare between 1929-1930, KPC model (percentage pts)

Column X computes the change in welfare between 1929-1931, KPC model (percentage pts)

Column Y computes the **percentage change** in welfare between 1929-1930, KPC model

Column Z computes the **percentage change** in welfare between 1929-1931, KPC model

Columns AA-AE, rows 1-10 produce the bottom panel of Table 7 (Melitz assumption) by averaging across groups as defined in the text (Table 2).

Figures for revenue as a share of GDP are from Mitchell (1975, 1993, 1995), Arroyo Abad and Maurer (2017), and Bank of Japan (1966).

## Instructions

1. Change pathname.
2. If necessary, install the following:  
ssc install outreg2  
ssc install ppmlhdfc  
ssc install reghdfe  
ssc install ftools
3. Run all do files in the order listed below:  
GravityQuarterly\_final.do  
Probit\_final\_short.do  
Product\_regs\_final.do  
Graphs\_master\_final.do  
Extract\_Welfare\_Data.do

4. Copy and paste columns A-F from Welfare\_Quarterly\_USD.xls into columns A-F of Welfare\_Calculations.xls

### List of Tables and Programs

Figure/Table #	Program	Output file
Table 1	GravityQuarterly_final.do	TopUSImports.xlsx, TopUSExports.xlsx
Table 2	GravityQuarterly_final.do	TradeDrop.log
Table 3	Probit_final_short.do	probit_clean.txt
Table 4	GravityQuarterly_final.do	Baseline.txt
Table 5	GravityQuarterly_final.do	Sovereign.txt
Table 6	Product_regs_final.do	1928KWtop.txt (Table 6 - Panel A)  1928KW_autoDIFF.txt (Table 6 – Panel B)
Table 7	Extract_Welfare_Data.do	Welfare_Quarterly_USD.xls
	Welfare_Calculations.xls	Welfare_Calculations.xls
Figure 1	Graphs_master_final.do	USExportslinebyretaliator.pdf  USImportslinebyretaliator.pdf
Figure 2	Graphs_master_final.do	RetaliatorSummary.pdf ThreatenerSummary.pdf
Appendix D	GravityQuarterly_final.do	robust_both_check2`var'.xls where var= ARG CAN CHE CUB FRA ITA ESP MEX BOC
Appendix E	GravityQuarterly_final.do	robust_interact.xls

## References:

- Arroyo Abad, L. and Maurer, N. (2017). 'Could Europe run Greece? Lessons from U.S. fiscal receiverships in Latin America, 1904-34', Working Paper.
- Bank of Japan. (1966). *Hundred-year Statistics of the Japanese Economy*. Bank of Japan: Tokyo, Japan.
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- League of Nations (various years). *Statistical Yearbook*, Geneva: League of Nations.
- Mitchell, B.R. (1975). *European Historical Statistics, 1750-1970*, London: Macmillan Press, pp.716-26.
- Mitchell, B.R. (1993). *International Historical Statistics: The Americas 1750-1988*, 2nd edition, London : Macmillan Press, pp.672-4.
- Mitchell, B.R. (1995). *International Historical Statistics: Africa, Asia & Oceania, 1750-1988*, London: Macmillan Press, pp.905, 909, 914.
- Obstfeld, M., Shambaugh, J. C. and Taylor, A. M. (2004). 'Monetary sovereignty, exchange rates, and capital controls: the trilemma in the interwar period', *IMF Staff Papers*, vol. 51(1), pp. 75-108.
- Tariff Bargaining under Most-Favored-Nation Treaties*, Letter from the Chairman of the United States Tariff Commission, U.S. Government Printing office, Washington, 1934.
- United States. Department of Commerce. Bureau of Statistics (various years). *United States Monthly Summary of Foreign Commerce*, Washington D.C.
- Databases:
- Global Financial Data (2021). *Global Financial Data* [database]. San Juan Capistrano, CA: Global Financial Data. Data available at <https://www.globalfinancialdata.com/>.
- Marshall, M. G. and Gurr, T.R. (2020). *POLITY5 Project, Political Regime Characteristics and Transitions, 1800-2018* [database]. Vienna, VA: Center for Systemic Peace. Data available at <http://www.systemicpeace.org/inscrdata.html>