

README for “Brexit Uncertainty and its (Dis)Service Effects”

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Overview

The codes and datasets in this replication package use STATA to generate the results found in the main text and the online appendix of the paper.

Data Availability Statement

All data used in the replication is obtained from publicly available sources and is presented here with the relevant links to download (these sources are also cited in the main text).

- i. Quarterly values of UK imports and exports by service type from UK Office of National Statistics <https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/datasets/uktradeinserviceesservicetypebypartnercountrynonseasonallyadjusted>
- ii. Services trade restrictiveness from OECD Services Trade Restrictiveness Index <https://stats.oecd.org/Index.aspx?DataSetCode=STRI>
- iii. Prediction market data for the “Yes” vote succeeding in the Brexit referendum. Data was originally collected by Graziano, Handley and Limão (2021) and available in the data repository associated with that paper.
- iv. Prediction market data for invoking article 50 to leave the EU. Data collected by Graziano, Handley and Limão (2021).
- v. Bilateral trade and domestic data for service industries obtained from the USITC’s International Trade and Production Database for Estimation (Version 1.0) as described in Borchert et al. (2021) <https://usitc.gov/data/gravity/index.htm>
- vi. Quarterly exchange rates from the Bank of England <https://www.bankofengland.co.uk/boeapps/database/index.asp?SectionRequired=I&first=yes&HideNums=-1&ExtraInfo=true&Travel=NIxIRx&levels=3>
- vii. Bilateral gravity variables from the USITC’s Dynamic Gravity Dataset (Version 2.0) as described in Gurevich and Herman (2018) <https://www.usitc.gov/data/gravity/dgd.htm>

For constructing the services trade restrictions index, some additional steps were performed. These included examining specific measures and consulting the original documentation for the share of discriminatory measures by each sector using <https://www.oecd.org/trade/topics/services-trade/>.

To construct the share of discriminatory measures presented in Table A2, download all papers labeled “Sector papers,” and find the “Classification of trade barriers” annex in each paper. From there, tabulate the share of measures labelled “D” in the last column of the annex tables for each category of barriers. Repeat for all sectors in the paper.

Computational Requirement

All code was run with STATA version 17. Code can be run from older versions of STATA after converting the dta files to earlier versions. User needs to install the following STATA packages to run the replication code: **hdfe**, **ftools**, **ranktest**, **reghdfe**, **ppmlhdfe**, **ivreg2**, **outreg2** and **estout**. The full replication, including data preparation, should take up to 5 minutes.

Instructions for Replication Analysis

Open STATA and set its central directory to match the replication directory created. In the “Results” folder, run the *main_text_tables_figures.do* file to generate all the main tables and figures. Next run the *appendix_tables_figures.do* file to generate the appendix tables and figures. The replication package also provides users a “Data” folder that shows how the estimation datasets were prepared from raw data sources. The contents of each folder are described in more detail below.

1. Results Folder

Do files:

1. *main_text_tables_figures.do*
Creates all of the figures and tables shown in the main text. User first needs to set the global commands at the top of the do file. The first global command sets the current working directory of the do file to the “Results” folder and the second global command saves the output from this file to the “main_tables_figures” subfolder.
2. *appendix_tables_figures.do*
Replicates tables and figures presented in appendix text. User first needs to set the global commands at the top of the do file. The first global command sets the current working directory of the do file to the “Results” folder and the second global command saves the output from this file to the “appendix_tables_figures” subfolder.

Data files:

1. *brexit_services_main_sample.dta*
2. *brexit_services_extended_sample.dta*
3. *itpd_gravity_stri.dta*

Output files:

1. *Figures 1, 2, 3, 4 and A1 (pdf)*
2. *Tables 1 to 6 (txt/xml)*
3. *Tables A3 to A15 (txt/xml)*
4. *main_text.log (log file with all STATA output for main text)*
5. *appendix.log (log file with all STATA output for appendix)*

2. Data Folder

Do files:

1. *build_brexit_services_dataset.do*
Prepares all the dta files used to estimate the tables and figures in the main text and appendix. Raw data files, except for ITPD-E and Dynamic Gravity Version 2.0, are provided in the “Data” folder. User first needs to set the global commands at the top of the do file. The first global command sets the current working directory of the do file to the “Data” folder and the second sets the output files to be stored in the “estimation_data” subfolder.

Data files used as inputs:

1. *UK quarterly imports by services type.xlsx* (raw quarterly UK services trade data by sector and partner)
2. *OECD STRI detailed.csv* (raw OECD STRI data)
3. *OECD EEA stri.csv* (raw OECD EEA STRI data)

4. *passport_dummy.dta* (passporting risk indicator, constructed by the authors. To replicate, first go to the OECD's Policy Simulator (<https://sim.oecd.org/>), select the appropriate sector and country then click "view". Open the "Restrictions on foreign entry tab" and scroll to question 1.16.1. If the answer to this question is "Yes", repeat these steps using the "Intra-EEA Services Trade Restrictiveness Index" to view the EU-specific response to question 1.16.1. If the answer is "No", the passporting risk measure is coded as 1. If the answers are both "Yes" or both "No", the passporting risk measure is coded as 0.)
5. *twotothreeISO.dta* (dataset matching 2 digit and 3 digit country iso codes)
6. *BoE exchange rates.xlsx* (exchange rates from the Bank of England)
7. *predictIT_brexit_daily.dta* (daily data from PredictIT measuring daily contract prices related to the probability of Brexit)
8. *predictwise_art50_daily_format.dta* (daily data from PredictWise measuring daily contract prices related to the probability of invoking article 50)

Data files used as inputs but not included in the replication folder due to large file sizes:

9. *ITPD_E_R01.csv* (user downloads from https://www.usitc.gov/data/gravity/itpd_e_r01.zip and then saves it to the "Data" folder)
10. *release_2.0_2000_2016.csv* (user downloads from <https://www.usitc.gov/data/gravity/dgd.htm> and then saves it to the "Data" folder)

Output files:

1. *brexit_services_main_sample.dta* (main data file)
2. *brexit_services_extended_sample.dta* (extends sample data to non-EU countries without FTAs with the EU and is used for results in Tables 4, A9 and A14)
3. *itpd_gravity_stri.dta* (gravity data with STRI used for results in Table A15)

Data Citations:

Bank of England. 2016-2018. "Interest & Exchange Rates Data."

<https://www.bankofengland.co.uk/boeapps/database/index.asp?SectionRequired=I&first=yes&HideNums=-1&ExtraInfo=true&Travel=NlXlRx&levels=3> (accessed Aug 1, 2021).

Borchert, Ingo, Mario Larch, Serge Shikher, and Yoto Yotov. 2021. "The International Trade and Production Database for Estimation (ITPD-E)." *International Economics*, 166, 140–166.

Gurevich, Tamara, and Peter Herman. 2018. "The Dynamic Gravity Dataset: 1948-2016." USITC Working Paper 2018-02-A.

Office for National Statistics. 2016-2018. "UK trade in services: service type by partner country, non-seasonally adjusted."

<https://www.ons.gov.uk/businessindustryandtrade/internationaltrade/datasets/uktradeinserviceesservicetypebypartnercountrynonseasonallyadjusted> (accessed May 1, 2020).

Organization for Economic Co-operation and Development. 2016. "Services Trade Restrictiveness Index." <https://stats.oecd.org/Index.aspx?DataSetCode=STRI> (accessed May 31, 2020).

PredictIt. 2016. "Will the UK vote to leave the EU by year-end 2016?"

<https://www.predictit.org/markets/detail/1413/Will-the-UK-vote-to-leave-the-EU-by-year-end-2016> (accessed April 1, 2020).

PredictWise. 2017.