

README for the Reproducibility Package for Fiscal Multipliers in Resource-Rich Economies: Evidence from the Gulf Countries

Overview

This replication package produces the entire set of results for the paper "Fiscal Multipliers in Resource-Rich Economies: Evidence from the Gulf Countries", and includes the raw data from which the analysis has been generated.

Data Availability

Source	Dataset	Link	Access Date	Access
Global Macro Database	DATADIR/GMD_Mar2025.dta	https://www.globalmacrodata.com/data.html	Mar-25	Accessible
Oil Supply News Shocks	Kanzig_oilSupplyNewsShocks_2024M06.xlsx	https://github.com/dkaenzig/oilsupplynews	Dec-24	Accessible
Oil Demand Shocks	BaumeisterHamilton_OilDemandShocks.xlsx	https://drive.google.com/uc?export=download&id=1neFXLrIvGwggebQRwjmrWK-dfQZ9NH8	Dec-24	Accessible
Global Commodity Shocks	Kilian_IndexGlobalRealEcoActivity	https://www.dallasfed.org/research/igrea	Dec-24	Accessible
IMF International Financial Statistics	IMF_IFS_2024.xlsx	https://data.imf.org/en/news/accessing%20international%20financial%20statistics	Dec-24	Accessible
Bahrain – National Accounts	Subfolder ORIGDIR/Novel_data/Bahrain	https://www.data.gov.bh/explore/?disjunctive.theme&sort=modified&refine.theme=National+Accounts+-+Quarterly	Dec-24	Accessible
Kuwait – National Accounts	Subfolder ORIGDIR/Novel_data/Kuwait	https://www.csb.gov.kw/Pages/Statistics_en?ID=80	Dec-24	Accessible
Oman – National Accounts	Subfolder ORIGDIR/Novel_data/Oman	https://data.gov.om/zoangf/national-accounts	Dec-24	Accessible
Qatar – National Accounts	Subfolder ORIGDIR/Novel_data/Qatar	https://www.data.gov.qa/explore/?disjunctive.theme&disjunctive.features&disjunctive.modified&disjunctive.publisher&sort=modified	Dec-24	Accessible
Saudi Arabia – National Accounts	Subfolder ORIGDIR/Novel_data/SaudiArabia	https://www.stats.gov.sa/en/823	Dec-24	Accessible
UAE – National Accounts	Subfolder ORIGDIR/Novel_data/UAE	https://dp.marsa.gccstat.org/search/type/dataset	Dec-24	Accessible
Population Statistics	Population_GulfStat.xlsx	https://dp.marsa.gccstat.org/search/type/dataset	Dec-24	Accessible
National Account Decomposition (Hydrocarbon/Non-Hydrocarbon)	DF_ES_NA(1).xlsx	https://sdmx.marsa.gccstat.org/FusionRegistry/ws/public/sdmxapi/rest/data/GCCSTAT.ES,DF_ES_NA,1.0/all/all/?labels=name&format=excel	Dec-24	Accessible

Hydrocarbon Production	DF_GEETS_ENR.xlsx	https://dp.marsa.gccstat.org/dataset/energy/resource/5ac6177a-1059-4f13-8899-cfd0d11585be	Dec-24	Accessible
Labor Force Data	DF_PSS_LAB.xlsx	https://dp.marsa.gccstat.org/dataset/labor	Dec-24	Accessible
Gross Government Debt Stocks	BIS_DebtStats_COUNTRY.xlsx	https://data.bis.org/topics/DSS	Dec-24	Accessible
Bahrain – Interest Rates	Bahrain_InterestRates.xlsx	Bloomberg Terminal	Dec-24	Restricted
Kuwait – Interest Rates	cbk-inr-excel-155265_v450_tcm10-155265.xlsx	https://www.cbk.gov.kw/en/statistics-and-publication/dynamic-statistical-releases/monthly	Dec-24	Accessible
Kuwait – CPI Inflation	Kuwait_CPI.xlsx	https://data.bis.org/topics/CPI/data?data_view=table&filter=FREQ%3DA%257CM%255EUNIT_MEASURE%3D628%255EREF_AREA_TXT%3DKuwait%255ETIMESPAN%3D1660-12-31_2024-11-30	Dec-24	Accessible
Oman – Additional National Accounts Info	Oman_StatData_X.xlsx	https://data.gov.om/zoangf/national-accounts AND https://data.gov.om/search?query=National%20accounts	Dec-24	Accessible
Oman – Public Finance Data	Oman_AnnualPublicFinance.xlsx	https://www.finance.gov.om/publications/reports-and-analyses/quarterly-debt-bulletin , https://data.gov.om/OMPBFNC2016/public-finance	Dec-24	Accessible
Qatar – Statistical Data Sheets	Subfolder ORIGDIR/Novel Data/Qatar PDFs	https://www.psa.gov.qa/en/statistics1/pages/default.aspx AND https://www.data.gov.qa/explore/?disjunctive.theme&disjunctive.features&disjunctive.modified&disjunctive.publisher&sort=modified	Dec-24	Accessible
Saudi Arabia – CPI Data	Saudi_CPI.xlsx	https://data.bis.org/topics/CPI/BIS_WS_LONG_CPI.1.0/M.SA.628?	Dec-24	Accessible
International Trade in Goods	Multiple files by country	https://data.imf.org/en/Data-Explorer?datasetUrn=IMF.STA:IMTS(1.0.0)&INDICATOR=XG_FOB_USD	Dec-24	Accessible
World Development Indicators	Saudi_Debt2017.xlsx	https://databank.worldbank.org/source/world-development-indicators	Dec-24	Accessible
UAE – Sales of Oil & Gas Products	UAE_Regions_Oil Gas.xlsx	https://uaestat.fcsc.gov.ae/Terms&Conditions_en	Dec-24	Accessible
Financial Indicators – Haver Analytics	data_Xinyue.xlsx	<i>Haver Analytics (Proprietary)</i>	Dec-24	Restricted

The datasets for Oman, Qatar, Saudi Arabia, UAE, Kuwait, and Bahrain (all named as <CountryName>.xlsx) are indeed manually assembled from the underlying Excel-Files in the folder "ORIGDIR". (mentioned above)

Statement about Rights

I certify that the author(s) of the manuscript have legitimate access to and permission to use the data used in this manuscript.

Instructions for Replicators

To replicate the results, the following files must be run in the sub-folder "_CODES":

- "master_GCC_FM.do": main data analysis, conducted in Stata. To run the code, change the directory path in line 24 to your directory. Options are ocal "run_datacleaning" and "appendix". Setting both to zero reproduces the majority of the results. Setting "run_datacleaning" to 1 runs the data preparation routine. This requires the installation of the X13-ARIMASEATS routine by the US Census Bureau and limits the length of the names of the individual data files. For further details, see the comments inside "master_GCC_FM.do" and the explanation below. Setting "appendix" to 1 runs the analysis of all VAR and LP models considered, which takes 4.5 hours to run on the tested machine.

- "plots_main.m": generates the plots appearing in the body of the paper in Matlab. Since all Stata results are pre-compiled, this file can be run independently.

- "plots_appendix.m": generates the plots appearing in the appendix of the paper in Matlab. Since all Stata results are pre-compiled, this file can be run independently.

- "gcc_specific_plots.R": generates the two plots appearing in Appendix C of the paper independently.

In each of the four mentioned files, filepaths must be changed as appropriate at the top of the document

-Note: The information required to reproduce the appendix results is restricted and therefore not included in the reproducibility package. Users will be able to fully reproduce all results in the main paper; however, the appendix scripts will not run. The main do-file has the appendix section commented out, but the code is retained for completeness and transparency.

INSTRUCTIONS FOR X13-ARIMA-SEATS:

When setting run_datacleaning = 1 in master_GCC_FM.do, the X-13 ARIMA-SEATS routine by the U.S. Census Bureau is used. Here are some brief instructions to ensure that this runs correctly in Stata:

1. Download and extract the X-13 ARIMA-SEATS routine. As of August 2025, it is available under the following link: <https://www.census.gov/data/software/x13as.X-13ARIMA-SEATS.html>. On Windows, download the "Windows executable with ASCII text file output". Extract the folder contents into a folder of your choice (the filepath of that folder is the one that must be added to the current working space using "addpath", as done in the do-file). Re-name the .exe-executable in that folder to "x12a.exe".

2. Install the "sax12" package in Stata. This can be done by typing "findit sax12", and then installing the linked package.#

3. Navigate to the sax12.ado-file and replace it with the sax12.ado-file available under the following direct download link: <https://www.statalist.org/forums/filedata/fetch?id=1459207>. This is necessary as the original sax12.ado-file has one incorrect specification; see <https://www.statalist.org/forums/forum/general-stata-discussion/general/1371278-sax12-seasonal-adjustment> for details.

4. Close and restart Stata to finish.

TROUBLESHOOTING:

If the code does not run, try to put the replication package into a folder with a short path name. This can resolve some issues related to the maximum length of the file path.

Computational Requirements

The files have been checked on a laptop computer with Windows 11 SE, running on an Intel Core i9-12900H.

Software Requirements

Required programs to run all routines are:

- Stata (tested version: Stata SE 16.0)
- Matlab (tested version: Matlab R2024b)

Additionally, for two figures in the appendix we require:

- R (tested version: R 4.3.1) (dependencies will be auto-installed if necessary by the file)