Documentation for "Business Cycle Dynamics of the Wealth Distribution"

Background information

Authors: Joe Briggs, Jesse Bricker, Sarah Friedman, and Kamila Sommer. For publication in the *Journal of Political Economy Macroeconomics*.

Code for the construction of the DFAs:

The official, publicly available DFAs code that researchers can use for the construction of the DFAs can be located on the DFAs website (public version of the DFA code). The version of the code that was used to prepare the distributional data used in our paper were generated using the set of files in the "**DFAs_construction_code**" folder.

- **tempdisagg_032022_updated.R** is the main file that reads in Z.1 Financial Accounts series as SCF/FA reconciled wealth shares and CPS input data (available in the "Inputs" folder) to a useable output data files (which are printed into the "Outputs" folder).
    - The code can be used to produce various version of the DFAs, with the versions varying in granularity of the wealth groups and the type of temporal disaggregation method (i.e., Fernandez, Kalman, Litterman, Chow-Lin.) In our paper, we set the "agg_level = bus_cycle2" to produce six granular wealth groups, and we use "tempdisagg_method = "Fernandez," but you can select the "Kalman" option if you would rather use that. To generate the DFAs using both the Fernandez method and the Kalman method, you will need to run the script twice (sequentially).
    - The code reads in many data series from the Financial Accounts of the United States. Each can be downloaded from the public FA data. The code also reads in the indicator series data. Furthermore, the code also read the SCF/FA reconciled wealth shares, which are read in from the "Inputs" folder (dfa_scf_fa_nw_buscycle_detail.xlsx).
    - Finally, the code for the construction of this SCF/FA reconciliations file is available on the DFAs public website: public version of the DFA code.

There are several auxiliary files that are called in from the "tempdisagg_032022_updated.R" code.

- **functions.R** is an auxiliary file that defines several functions needed for the tempdisagg_032022_updated.R file.
- **kalman.R** is code used to Kalman filter the data.
- **tempdisagg_hhcount.R** reads in Current Population Survey data and finds quarterly household counts. This script calls another input files from the CPS which is stored under "Inputs" and is called "networth_cps_hh.csv". This is used to transform the data from group-aggregates to per-household levels for each group.
- **tempdisagg_standard_errors.R** is read in by the tempdisagg_032022_updated.R to produce standard errors of the wealth levels for each group.

We also include the code for construction of the SCF/FA reconciliation table (Table 1 in the published manuscript):

- **reconciliation_table.R**

Code for the construction of the Gini coefficient:

"**Gini_code**" folder includes the code for construction of the GINI coefficients that underlies that the GINI data in Figures 12 and 13 in the published manuscript:

- **gini_updated.R**
  In order to get the best results from the Gini script, make sure that you have run tempdisagg using agg_level = "low" which will give the most granular distribution. This file sources **dfa_functions_for_gini.R**.

Code for the construction of figures in the paper:

1. **The set of files that produce Figures 1-11, Appendix Figures 15-18, 24-27 are stored in the subfolder "Non_IRF_Figures" in the "Figures" folder:**

- **figures_businesscycle.R**. This script sources both **dfa_plot_funcs.R** and the **get_businesscycle_data.R** script, which reads in all the data necessary to create the figures. In turn, the get_businesscycle_data.R script sources the **get_dfacomp_data.R** script. The code sources the DFAs level and shares files which were produced using the code described above in the section "*Code for the construction of the DFAs."* Specifically, figures_businesscycle.R reads **dfa_networth_bus_cycle2_levels.csv** and **dfa_networth_bus_cycle2_shares.csv** which are stored in the "Outputs" folder. Please, note that these two .csv files contain the DFAs data used for most analysis in our paper, which are based on FA data through 2022 and SCF data through 2019.
- **appendix_figures.R** can be used to create Appendix Figures 15-18, and 24-27. Again, these figures are produced based on the DFAs levels and shares data stored in **dfa_networth_bus_cycle2_levels.csv** and **dfa_networth_bus_cycle2_shares.csv**.

2. **The file that produces the SCF data shown in Figure 7 is also stored in the subfolder "Non_IRF_Figures" in the "Figures" folder:**

- The **panel_assets_debt_for_replication.do** Stata code will produce the output needed for the SCF panel columns of Figure 7. The output is stored in the subfolder Figures\Non_IRF_Figures\output under the name "figure 7 with SEs.xlsx."

  This code takes the 2007-09 SCF panel data and aligns it with Financial Accounts aggregates. Note: the main DFA data take data from the *triennial* Survey of Consumer Finances (SCF), the Financial Accounts of the United States (FA), and several additional quarterly economic data series to create a quarterly disaggregated time series of household balance sheets in the United States. The main DFA data do not use the 2009 panel data collected from the 2007 SCF respondents. The questionnaire for the 2009 SCF panel collected some account information at a

higher level of aggregation than did the 2007 SCF. As such, the main code that creates the DFA data needs to be changed to get the 2009 SCF panel to align to the FA data.

Several publicly available input data are needed, with links and description here:

- A public version of the raw 2007-09 SCF panel data, a public version of the bulletin extract version of the 2007-09 SCF panel data, a public version of the SCF panel bootstrap replicate weights—needed for standard error calculations, a public version of the raw 2007 SCF data, and a public version of the bulletin extract version of the 2007 SCF data.
- Several Financial Accounts data files (b101h_annual.csv, fa_data.csv, payout_annuities.dta, and payout_annuities_sp.dta) are provided at the public version of the DFA code.

3. **The set of files that produces the impulse response functions for Figures 12-14 and Appendix figures 19-23, stored in the "\Figures\IRF_Figures".**

- The file **ReplicationCode_Figure12.R** (in the Figure 12 folder), **ReplicationCode_Figure13_14.R** (in the Figures13_14 folder)**,** and **appendixfigures_replicate.R** (in the AppendixFigure folder) produces these figures. The code reads in auxiliary data found in the folder "InputData", including from Gertler and Karadi (2015), and Nakamura and Steinsson (2018) in the data file upload_shocks_june2023.csv as well as various aggregate time-series data used in the analysis. The DFAs shares and GINI data are stored in the "InputData" folder in "dfa_shares_bus_cycle2_networth_2019q3.csv" and "dfa_gini_networth_low.csv" and are based on the FA and SCF data through 2019q3.

4. **Table 1, 2, 3**

Table 1:

We refer to the table in the draft titled "The Ratio of the Reconciled SCF Household Balance Sheet to B.101.h" as the reconciliation table. The code for constructing this table was provided above, under "Code for the construction of the DFAs".

Table 2:

The code for constructing Table 2 can be found in the folder "Tables/Table2/code" in **fama_frenchApr2024.R**. The input data are pulled from the subfolder "Tables/Table2/data".

Table 3:

The code for constructing Table 3 can be found in the folder "Tables/Table2/code" in "**table3_gini.do**" and "**table3_panelB.do**".