Replication files for "Financial Technology and the Transmission of Monetary Policy: The Role of Social Networks (Zhou 2024)"

This package includes three main folders that allow a researcher to replicate the results in Zhou (2024). The contents in each folder and the instructions for replicating the results are detailed below. The author used Stata MP 18.0 to run files ending with ".do" for the empirical results and Matlab R2023b to run files ending with ".m" for the model results. The operating system is Windows. It is recommended that the researcher uses parallel computing or high-performance computing clusters to run the Matlab files.

Empirical Results (Figures 1-5 and Tables 1-7):

Note: Proprietary datasets are listed below. The author accessed the datasets through the Federal Reserve System RADAR data warehouse (except for Mintel-Comperemedia, which is stored at the Federal Reserve Bank of Dallas). Federal Reserve System employees, visiting scholars and contractors may request the access to the data. Researchers outside the Federal Reserve System need to obtain approval from the data owners to access the data. The replication package provides Stata code (in folder "Stata_Do"), non-proprietary datasets (in folder "Econdata"), and instructions below for replicating the empirical results.

- Confidential Home Mortgage Disclosure Act (CHMDA): Owned by the Federal Reserve Board of Governors
- ICE McDash Dataset (formerly Black Knight McDash): Owned by Intercontinental Exchange (ICE)
- CoreLogic Home Price Index: Owned by CoreLogic
- Equifax Consumer Credit Panel: Owned by Equifax
- Mintel-Comperemedia Mortgage Advertising Data: Owned by Mintel-Comperemedia Inc. and the Federal Reserve Bank of Dallas

Figure 1: Run Do_Figure1

Figure 2:

1. Run Do_county to obtain county.dta
2. Run Do_distance_10nb to obtain distance_10nb.dta
3. Run Do_sci_10nb to obtain sci_10nb.dta
4. Run Do_Figure2a
5. Run Do_Figure2b

Figure 3:

1. Run Do_county to obtain county.dta
2. Run Do_sci_weighted_iv to obtain sci_weighted_iv.dta
3. Run Do_Figure3

Figure 4: Run Do_Figure4

Figure 5:

1. Run Do_Figure4 to obtain call.dta
2. Run Do_IV_middlesteps to obtain beforereg_sci.dta
3. Run Do_Figure5

Tables 1, 2, 4, 5:

1. Run Do_county to obtain county.dta
2. Run Do_sci_weighted_iv to obtain sci_weighted_iv.dta
3. Run Do_Table1245 to obtain results for Tables 1(except for col. 4), 2, 4 and 5.
4. To obtain results for Table 1 Col. 4, first run Do_ distance_weighted to obtain distance_weighted.dta; then run Do_Table1_col4.

Table 3:

1. Run Do_county to obtain county.dta
2. Run Do_Table3

Table 6:

1. Run Do_ mcdash4merge to obtain mcdash4merge.dta
2. Run Do_Table1245 to obtain beforereg_sci_iv.dta
3. Run Do_Table1_col4 to obtain beforereg_distance.dta
4. Run Do_Table6

Table 7:

4. Run Do_Figure4 to obtain call.dta
5. Run Do_IV_middlesteps to obtain beforereg_sci.dta
6. Run Do_Table7

Model Results (Figures 6-9):

Figure 6:

1. Run Run_main.m to obtain simulated data for the three scenarios (no-Fintech, no-Spillover, baseline), by setting scenario='NoFin', 'Fin', and 'FinE'.
2. Run Figure 6.m

Figure 7:

1. Run Run_main.m to obtain simulated data for the three scenarios (no-Fintech, no-Spillover, baseline), by setting scenario='NoFin', 'Fin', and 'FinE'.
2. Run Figure 7.m

Figure 8:

1. Run Run_main.m and set scenario='NoFriction' and x=0 (in setpar.m) to obtain the no-friction scenario, which corresponds to the first panel in Figure 8.

2. Run Run_main.m and set scenario='NoFriction' and x=75 (in setpar.m) to obtain the lender-friction-only scenario, which corresponds to the second panel in Figure 8.
3. Run Run_main.m and set scenario='NoFin' and x=0 (in setpar.m) to obtain the consumer-friction-only scenario, which corresponds to the third panel in Figure 8.
4. Run Run_main.m to obtain simulated data for the no-FinTech scenario, the baseline scenario, and the stronger-network-effect scenario (setting p^e=0.6 in setpar.m), which correspond to the last three panels of Figure 8.
5. Run Figure8.m

Figure 9:

1. Set p^e =10:5:60 in setpar.m and run Run_main.m
2. Set e =20:10:100 in setpar.m and run Run_main.m
3. Run Figure 9.m