README for "**Rate Caps on Revolving Credit Lines**," by Gajendran Raveendranathan, Georgios Stefanidis, and Guillaume Sublet.

The following programs were used

- SAS 9.4
- Fortan90 on Intel compiler 2020 with openmpi/4.0.3
- Microsoft Excel 365
- Note: The Digital Research Alliance of Canada platform was used to run the FORTRAN code. Configuration Details
    - Processor: Intel E5-2683 v4 Broadwell @ 2.1GHz
    - Operating System: Linux
    - Memory: 128 GB
    - Number of processors: 32

Data Availability Statements and Provenance Statements

SCF

- These data are public.
- The SCF micro data files from 2019 were downloaded here: https://www.federalreserve.gov/econres/scf_2019.htm
- These data were copied into .\empirics\SCF

ABI

- These data are public.
- These were downloaded here: https://abi-org.s3.amazonaws.com/Newsroom/Bankruptcy_Statistics/Total-Business-Consumer1980-Present.pdf
- These data were copied into .\empirics\Bankruptcy_filings.xlsx

GRID

- These data are public.
- These were downloaded here: GRID: https://www.grid-database.org/
- These data were copied into .\empirics\earnings_process\life_cycle_component.xlsx

Federal Reserve Economic Data (FRED)

- These data are public.
- We downloaded series TERMCBCCALLNS, AAA, CORCCACBN, FEDFUNDS.
- These were downloaded here: https://fred.stlouisfed.org/
- These data were copied into .\empirics\charge_off_rate.xlsx and .\empirics\average_spread.xlsx

FRB G19

- These data are public.

- These were downloaded here: https://www.federalreserve.gov/datadownload/Download.aspx?rel=G19&series=3920d79fee9f30ea26db96ab708f311b&filetype=csv&label=include&layout=seriescolumn&from=01/01/1943&to=12/31/2019
- These data were copied into .\empirics\credit.xlsx

Instructions to Replicators

The following files must be run:

- SAS code in ./empirics/SCF/code_card_act8_rate_cap_revision_25
- FORTRAN code in ./empirics/earnings_process/stochastic_components/test.sh
- FORTRAN codes in subfolders in ./model/main_text/... with "test.sh" files
- FORTRAN codes in subfolders in ./model/online_appendix/... with "test.sh" files

Note: You must edit file paths for each of the test.sh files. The ".sh" files are files that are run using SBATCH on a supercomputer. To compile the FORTRAN codes in "model" individually, for each subfolder a ".sh" files has been included. This file contains additional compiling instructions. The time, memory, and number of processors required for each code is specified in the "test.sh" files.

Exception: FORTRAN codes in subfolders in ./model/main_text/objective_functions and in ./model/main_text/rate_cap_organize. For the FORTRAN codes in this folder, the instruction to compile is mpif90 params.f90 main.f90 -o ./main and 1 processor is sufficient for execution. For the main.f90 files in these subfolders, you must edit the path as well.

List of figures and tables

Figure 1

- Code: .\model\main_text\uniform_cap and uniform_cap_pe, .\model\rate_cap_organize\uniform_cap_new_issuance and uniform_cap_new_issuance_pe
- Output: .\model\excel_files\fig_1a_1d.xlsx
- Note: Run listed codes in order and then copy output_table_uniform_cap_credit_statistics.txt in the second two listed folders into .\model\excel_files\fig_1a_1d.xlsx

Figure 2

- Code: .\model\main_text\uniform_cap_existing and .\model\rate_cap_organize\uniform_cap_existing
- Output: .\model\excel_files\fig_2a_2b.xlsx
- Note: Run codes in order and then copy output_table_uniform_cap_welfare.txt in the second listed folder into .\model\excel_files\fig_2a_2b.xlsx

Figure 3

- Code: .\model\main_text\transition
- Output: .\model\excel_files\fig_3a_3c.xlsx
- Note: Copy output_transition_CC.txt in subfolders of listed code folders into .\model\excel_files\fig_3a_3c.xlsx

Figure 4

- Code: .model\main_text\calibration
- Output: .\model\excel_files\fig_4a_4b.xlsx

Figure 5

- Code: .\model\main_text\transition\existing
- Output: .\model\excel_files\fig_5a_5e.xlsx
- Note: Copy output_welfare_distribution_contemporaneous_income.txt in listed code subfolder to fig_5a_5e.xlsx

Figure 6

- Code: .\model\main_text\constrained_efficiency_new_results\constrained_efficiency_existing_only
- Output: .\model\excel_files\fig_6.xlsx
- Note: Copy output_ststbeg_spread_distribution.txt and output_ststbeg_spread_distribution_constrained_efficiency.txt in listed code subfolder to fig_6.xlsx

Figure 7

- Code: .\model\main_text\objective_functions
- Output: .\model\excel_files\fig_7.xlsx
- Note: Copy output txt files into fig_7.xlsx

Table 1

- Code: n/a (external parameters)

Table 2

- Code: .\empirics\earnings_process\stochastic_components
- Output: .\empirics\earnings_process\stochastic_components (slurm file if ".sh" is used)

Table 3

- Code: .model\main_text\calibration
- Output: .model\main_text\calibration (slurm file if ".sh" is used)

Table 4

- Code: .model\main_text\calibration and .model\main_text\access_cap_existing\cap=.09_.02
- Output: output_ststend_CC.txt in the two folders

Table 5

- Code: .\model\main_text\access_cap_existing and .\model\rate_cap_organize\access_cap_existing
- Output: .\model\rate_cap_organize\access_cap_existing\output_table_access_welfare.txt

Table 6

- Code: .\model\main_text\access_cap_existing,.\model\main_text\access_cap_new and .\model\rate_cap_organize\access_cap_existing,.\model\rate_cap_organize\access_cap_new
- Output: .\model\rate_cap_organize\access_cap_existing\output_table_access_welfare.txt and .\model\rate_cap_organize\access_cap_new\output_table_access_welfare.txt

Tables 7 and 8

- Code: .\model\main_text\constrained_efficiency
- Output: output_t_input_welfare.txt in each code folder