Manual for the data and code used in the paper 'Bank Market Power and Transmission of Monetary Policy'

Stepan Novikov

1 Code Structure

- 01_Parcing.ipynb access the Central Bank web-site, gathers banks information from forms 802 and 803 and saves it into Excel files: bankdata/bankdata_(year)_(month).xlsx.
- 02_Preprocessing_RealVars.ipynb process the gathered data extracting required variables from the reports, corrects for inflation with consumer price index (CPI) and save into datasets for further regression analysis in STATA. The datasets are saved into Excel files bankdata_(period)_var.xlsx and csv files bankdata_(period)_var.csv. The main datasets include:
  - Quarterly deaccumulated panel data: var/bankdata_201709-202109_q_var.xlsx
  - Same but also corrected for inflation: var/bankdata_201709-202109_q_var_real.xlsx
- 02A_Ruonia_KeyRate.ipynb takes the files generated in 02_Preprocessing_RealVars.ipynb and adds RUONIA and Key rate data (geometric means) to the dataset. The main generated file is var/bankdata_201709-202109_q_var_real_ruo.xlsx
- 02B_Winsorizing.ipynb takes the files generated in 02A_RUONIA_KeyRate.ipynb and Winsorize them from 1% to 99% and saves into var/bankdata_201709-202109_q_var_real_ruo_wins.xlsx.
  It also provides summary statistics for the variables before and after winsorising into bankdata_201709-202109_q_var_real_ruo_stat.xlsx
- 03_CPI_GDP_data.ipynb prepares annual CPI and GDP growth data and saves into external_data/CPI_yearly.xlsx and external_data/GDP_growth.xlsx
- 04_data_prep.do contains STATA script to prepare the datasets in dta format for further regresion analysis, expanding Excel data with CPI and GDP growth:

  - initial data var/bankdata_201709-202109_q_var_real_ruo.dta
  - winsorized data var/bankdata_201709-202109_q_var_real_ruo_wins.dta

  also creating auxiliary data files

  - CPI data external_data/cpi_quarterly.dta
  - GDP growth data external_data/gdp_growth.dta

- 05_markups.do contains STATA script to run regressions replicating the tables in the paper for cost function estimation and caclulating corresponding credit and deposit markups. The results are saved into:

  - var/bankdata_201709-202109_q_var_real_ruo_wins_markups.dta for winsorized data
  - var/bankdata_201709-202109_q_var_real_ruo_markups.dta for initial data
  - var/bankdata_201709-202109_q_var_result.dta for merged results, extended with HHI data and IQR outlier flag
  - reg_res/reg_markups_wins.tex for tex table with cost function estimation results

- 06_Graphs_SummaryStats.ipynb provides tables with summary statistics on markup estimates and other variables (Excel files in folder summary_stat). It also calculates Herfindahl-Hirschman Index (HHI) and plots trends and scatterplots, used in the paper, and provides graphs for number of banks and asset concentration for introduction section (data from excel file bank_number.xlsx).

- 06_graphs.do and 06a_summary stat and graphs.do are auxiliary files that provide some graphs and summary statistics on the results but are not included in the paper.

- 07_transmission.do prepares variables and runs all the regressions to capture effect of markups on transmission of monetary policy used in the paper and appendices (all types of data, markups, dependent variables and number of leads and lags in specifications). The results are saved into latex tables in separate files in folder reg_res/main.

2 Data Structure

- Folder bankdata contains a set of excel files bankdata_YYYY_MM.xlsx with data loaded from the website of the Bank of Russia as is.

- Folder external_data contains data on CPI and GDP growth. Subfolder original contains original files downloaded from sources (for CPI, GDP growth, Key rate and RUONIA).
- Folder ruonia_key is an auxiliary folder that contains formatted data on key interest rate and RUONIA.
- Folder var contains datasets ready for calculating the markups and the results with markups for further analysis.
- Folder reg_res contains the tex files with regression results.

3 Variables description

Name	**Description**
Total_assets	Total assets
Net_worth	Net worth
Net_income	Net income
Loans	Total loans
Admin_expenses	Administrative expenses
Rel_Admin_expenses	Admin_expenses / Total_assets
Securities	Total securities holdings
NIE	Non-interest expenses
NII	Non-interest income
II_Loans	Interest income on loans
IE_Deposits	Interest expenses on deposits
Leverage	Net_worth / Total_assets
Safe_funds	Money in other banks
Safe_funds_income	Income from deposits in other banks
Safe_rev	Safe_funds_income / Safe_funds
Sales	Total interest income + Commissions income