

Readme file for “How Do Mortgage Rate Resets Affect Consumer Spending and Debt Repayment? Evidence from Canadian Consumers” by Katya Kartashova and Xiaoqing Zhou

Data provided:

Data for Figures 1 to 5.

Monthly Canadian new motor vehicle sales, Jan 2009-Aug 2019. Source: Statistics Canada.

Proprietary data sets:

TransUnion account and consumer-level data: TransUnion data includes consumer account level characteristics and consumer credit report characteristics that are aggregated by TransUnion from account level characteristics for the purposes of credit scoring. TransUnion data is being received by the Bank of Canada under the Agreement Concerning the Disclosure of Anonymized Data for research purposes since 2017. The data used in this project include the monthly data files provided by TransUnion going back to 2009. The data are accessible to the Bank of Canada staff and under the external consultant agreement to external researchers. Access to the data requires undergoing secret level clearance assessment and privacy training.

Canadian Office of Superintendent of Financial Institutions (OSFI) loan-level data: The dataset contains confidential, loan-level mortgage data from OSFI on the mortgage originations and renewals of federally regulated financial institutions (FRFIs), as reported by FRFIs to OSFI. The data are shared by OSFI with the Bank of Canada for policy and research purposes. It includes information on the characteristics of mortgage contracts, as they pertain to the lender, borrower, property, and loan. The data are available at monthly frequency starting in 2014. The data are accessible to the Bank of Canada staff and under the external consultant agreement to external researchers. Access to the data requires undergoing secret level clearance assessment and privacy training.

The Canadian Survey of Consumer Expectations (CSCE) gathers respondents’ views on inflation, the labour market and household finances. It is conducted by the market research firm Nielsen on behalf of the Bank of Canada. The data collection started in 2014 and is ongoing. The data used in the project covers the period from 2015q1 to 2019q2. The data are accessible to the Bank of Canada staff and under the external consultant agreement to external researchers.

Program and code:

Folder “For_Plot” contains Stata and Matlab code for generating figures 1-5, given the results in Data.xls.

Folder “For_Results” contains Stata code for generating results in the paper. All the files are written for Stata16.

The do-files are labeled by the figure/table they are used to reproduce, either in the main text or in the appendices. For tables/figures that include results for both expansionary and contractionary period, a qualifier _decrease or _increase, respectively, is added to the name of the file. For tables that include both loan and consumer-level results, a qualifier _loan or _borrower, respectively, is added to the name of the file.

For the expansionary period, results for different terms pertain to the same period and therefore results for different mortgage terms can be produced using the same code within each file. For the contractionary period, the results involving different mortgage terms are obtained using different sub-periods, and therefore the results for each period have their own code within each file.

Below is the correspondence between figures/tables and their respective do-files:

Main text:

1. Figure 2: Figure2.do
2. Figure 3: Figure3.do
3. Figure 4: Figure4_decrease.do, Figure4_increase.do
4. Table 1: Table1.do
5. Table 2: Table2.do for borrower characteristics, Table2_mortgage_stats.do for loan characteristics.
6. Table 3: Table3_decrease.do, Table3_increase.do
7. Table 5: Table5.do
8. Table 6: Table6_decrease.do, Table6_increase.do
9. Table 7: Table7.do
10. Table 8: Table8_decrease.do, Table8_increase.do
11. Table 9: Table9.do
12. Table 10: Table10.do
13. Table11: Table11_mort_decrease.do for results on mortgage delinquencies in the expansionary period, Table11_mort_increase.do for results on mortgage delinquencies in the contractionary period, Table11_nonmort_decrease.do for results on non-mortgage delinquencies in the expansionary period, Table11_nonmort_increase.do for results on non-mortgage delinquencies in the contractionary period.
14. Table 12: Table12.do

Appendices:

1. Figure B1: FigureB1_TU.do for the TU series on the figure.
2. Figure B2: FigureB2.do
3. Table C1: TableC1.do
4. Table D1: TableD1_decrease.do, TableD1_increase.do
5. Table D2: TableD2_decrease.do, TableD2_increase.do
6. Table D3: TableD3_decrease.do, Table D3_increase.do
7. Table D4: TableD4_loan_decrease.do for loan-level results, including mortgage delinquencies, in the expansionary period; TableD4_loan_increase.do for loan-level results, including mortgage delinquencies, in the contractionary period; TableD4_borrower_decrease.do for borrower-level results in the expansionary period; TableD4_borrower_increase.do for borrower-level results in the contractionary period.
8. Table D5: TableD5_loan_decrease.do for loan-level results, including mortgage delinquencies, in the expansionary period; TableD5_loan_increase.do for loan-level results, including mortgage delinquencies, in the contractionary period; TableD5_borrower_decrease.do for borrower-level results in the expansionary period; TableD5_borrower_increase.do for borrower-level results in the contractionary period.

9. Table D6: TableD6_loan_decrease.do for loan-level results, including mortgage delinquencies, in the expansionary period; TableD6_loan_increase.do for loan-level results, including mortgage delinquencies, in the contractionary period; TableD6_borrower_decrease.do for borrower-level results in the expansionary period; TableD6_borrower_increase.do for borrower-level results in the contractionary period.
10. Table D7: TableD7_loan_decrease.do for loan-level results, including mortgage delinquencies, in the expansionary period; TableD7_loan_increase.do for loan-level results, including mortgage delinquencies, in the contractionary period; TableD7_borrower_decrease.do for borrower-level results in the expansionary period; TableD7_borrower_increase.do for borrower-level results in the contractionary period.

TU list of variables:

tu_consumer_id – consumer id
 tu_trade_id – account id
 rep_mon – date as of which data are reported (ym format)
 month – date to which data corresponds in TU system
 open_mon – date of account opening (ym format)
 terms_amt – amount of required payment
 current_balance – amount outstanding as of reported month
 mat_mon – end of term date in ym format
 age – age of the consumer
 cscore – consumer credit score corresponding to the reported month
 fsa – forward sortation area or the first three digits of the postal code
 by33 – total balances on lines of credit
 by28 – total limit on lines of credit
 bc33 – total balances on credit cards
 bc28 – total limit on credit cards
 bcy33 – total limit on credit cards and lines of credit
 newauto – new autoloan balances
 newauto_ba – indicator for at least one new autoloan
 newinstall – new installment balances
 newinstall_ba – indicator for at least one new installment loan
 ai65_60 – indicator for at least one auto loan with 60-day delinquency
 ai65_90 – indicator for at least one auto loan with 90-day delinquency
 in65_60 – indicator for at least one auto loan with 60-day delinquency
 in65_90 – indicator for at least one auto loan with 90-day delinquency
 by65_60 – indicator for at least one line of credit with 60-day delinquency
 by65_90 – indicator for at least one line of credit with 90-day delinquency
 bc65_60 – indicator for at least one credit card with 60-day delinquency
 bc65_90 – indicator for at least one credit card with 90-day delinquency
 mop – payment status

CSCE list of variables:

Q2_3 – “How would you say interest rates on things such as mortgages, bank loans and savings have changed over the last 12 months?”
 Q2_4 – “What do you think is the percent chance that 12 months from now the average interest rate on things such as mortgages, bank loans and savings will be [higher/lower] than it is now?”

Q6_1 – age
Q6_2 – gender
Q6_3 – education
Q6_5 – marital status
Q6_8 – “How many years have you lived at your primary residence?”
Q6_13 – “Does your mortgage have a fixed or variable interest rate?”
Q2_5A – “At what level do you think that interest rates on things such as mortgages, bank loans and savings will be in 1 year”
Q2_5B – “At what level do you think that interest rates on things such as mortgages, bank loans and savings will be in 1 year”
Q2_5C – “At what level do you think that interest rates on things such as mortgages, bank loans and savings will be in 1 year”
Q2_6 – “Which, if any, of the following actions are you taking, or planning to take, in light of your expectations for interest rates? Bring forward major purchases (such as furniture or appliances); postpone major purchases; cut back spending and save more; pay debt; take no action”
panelistid
resp_status – returning, new survey respondent

Datasets used in do-files:

data.dta – initial mortgage data for the lender of interest
auto.dta – all auto loan accounts for borrowers with the lender of interest
loc.dta – all line of credit accounts for borrowers with the lender of interest
install.dta – all installment loan accounts for borrowers with the lender of interest
cc.dta – all credit card accounts for borrowers with the lender of interest
mortgage_statistics_dataset_rate_increase.dta – dataset for loan-level analysis in the rate increase period
mortgage_statistics_dataset_rate_decrease.dta – dataset for loan-level analysis in the rate decrease period
borrower_statistics_dataset_rate_increase.dta – dataset for borrower-level analysis in the rate increase period
borrower_statistics_dataset_rate_decrease.dta – dataset for borrower-level analysis in the rate decrease period
nonrenewed_accounts_increase.dta – dataset with consumers who did not renew their mortgages in the rate increase period matched to mortgage accounts
nonrenewed_accounts_decrease.dta – dataset with consumers who did not renew their mortgages in the rate decrease period matched to mortgage accounts