Assessment for the Uncollateralized Consumer Loans in Russia - Discussion

Identification and measurement of macroprudential policies effect,
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Introduction I

- Recent working paper by Irina Kozlovtceva, Henry Penikas, Ekaterina Petreneva, Yulia Ushakova (Nov 2020)
- Aim is to estimate the effect of macroprudential measures on consumer lending in Russia
- Research question is relevant because consumer lending constitutes 10% of banks assets ans has been rising in the past years
- Authors use a comprehensive panel data set (615 banks, 2015-2019)
- Authors carefully construct indices on the macroprudential measures (announcemnet vs application, sensitivity, in period when 60 changes have been introduced to the banking system in Russia)

Introduction II

- In the absence of counterfactuals, a good identification strategy is needed to estimate causal effects.

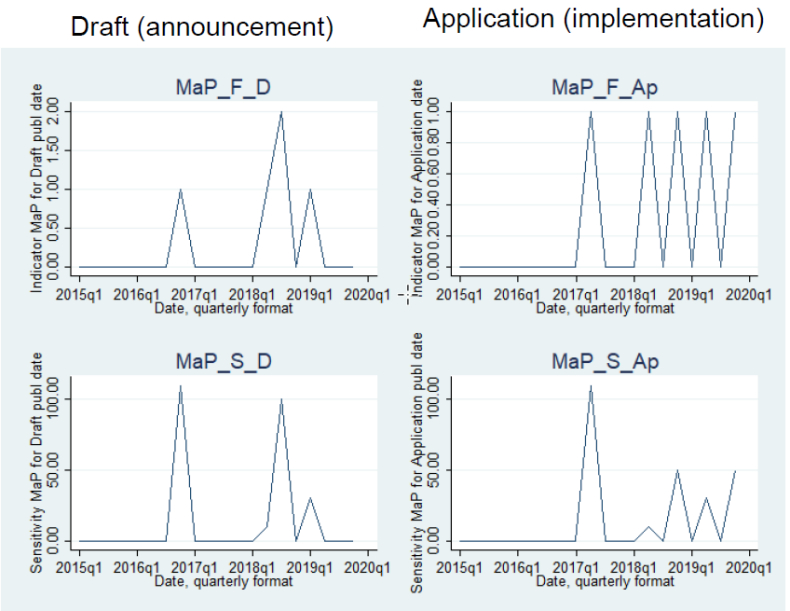
- Authors apply different econometeric methods (BIS approach, dynamic factor models, difference-in-differences)

- Preliminary findings
  - BIS: banks reduce credit growth in the short run, but increase it in the long run (hard to find statistical significant effects)
  - DiD: negative effects on lending growth rates

- Focus today: which specification fits best for Russia?

Macroprudential measures

- Aim is to limit growth in uncollateralised consumer lending
- Mark-ups on risk-weights have been stepwise increased
  - Five increases between 2015Q1-2019Q4
  - Time span between announcement and implementation
- How are the quarters in between modelled? Should they take the value of zero?
- Should the rw add-ons add on when measuring intensity?
- Time span between dates different



BIS approach: Gambarcota and Murcia in (JFMI)

- Aim is to summarise experience of different countries using a meta-analysis approach
- Standardise approach using the same methodology and the same data
- Main equation is

$$\Delta Log\ Credit_{bft} = \delta_f + \sum_{j=1}^{4} \beta_j \Delta \text{Macropru}_{t-j} + \sum_{j=1}^{4} \beta'_j \Delta \text{Macropru}_{t-j} * \tilde{X}_{bt-j} + controls_{bft} + quarter_t + \varepsilon_{bft}$$

- Inclusion of interaction to find out whether responses to macropru depends on type of bank (capital cushions, size, liquidity)
- Test is on overall significance of β and β'

BIS approach:

Should not be zero after 2017Q1

Do bank characteristics substantially change every quarter?

Table 7: Regression with and without interactions of bank control and macroprudential measure (Int)

VARIABLES	(1) FE without Int	(2) FE with Int	(3) GMM without Int	(4) GMM with Int
$\Sigma_{j=0}^{3}\beta_j \Delta MaP_{t-j}$	2.414	-12.73	-1.688	5.258
MaP_t	-0.8259	-4.3813	-2.1655	-28.0192
MaP_{t-1}	-1.7832	-8.4057	-2.7715	16.0796
MaP_{t-2}	1.6695	1.0971	0.7967	24.9208
MaP_{t-3}	3.3538***	-1.0415	2.4525**	-7.7231
$\Sigma_{j=0}^{3}\delta_j MaP_{t-j} SIZE_{t-1}$		1.171		-2.414
$\Sigma_{j=0}^{3}\delta_j MaP_{t-j} LIQ_{t-1}$		0.0610		-0.786
$\Sigma_{j=0}^{3}\delta_j MaP_{t-j} CAP_{t-1}$		-0.0149		-0.0215
$\Sigma_{j=0}^{3}\delta_j MaP_{t-j} DEP_{t-1}$		0.0164		0.680
$\Sigma_{j=0}^{3}\delta_j MaP_{t-j} CtA_{t-1}$		-0.111		0.241
$SIZE_{t-1}$	-1.4526	-1.9004	10.0339**	15.7699***
LIQ_{t-1}	-0.0075	-0.0166	0.0174	0.3947**
CAP_{t-1}	-0.0139	-0.0112	-0.0435	-0.0413
DEP_{t-1}	0.0479	0.0369	-0.1461	-0.7135**
CtA_{t-1}	-0.6921***	-0.6866***	-0.1150	0.2339
Oil_growth_{t-1}	0.0126	0.0120	0.0200	0.0339**
Δkey_rate_{t-1}	-0.8571***	-0.8458***	-0.8114***	-0.6936**
GDP_growth_{t-1}	0.2099	0.2360	0.2808	0.0267
$\Delta REER_{t-1}$	0.0033	-0.0029	0.0934	0.0515
Q1	-3.9232***	-3.8611***	-5.5412***	-5.4927***
Q2	-3.3465***	-3.3720***	-3.9532***	-3.7350***
Q3	1.5315	1.5953	0.5170	0.6726
Y_{t-1}			0.0461	0.0134
Constant	17.1075	22.8948	-101.9451***	-147.8330***
Observations	8024	8024	8011	8011
Groups	649	649	648	648
R^2_{overall}	0.000438	0.000422		
R^2_{between}	0.0186	0.0214		
R^2_{within}	0.0234	0.0259		
Sargan p-value			0	0
Hansen p-value			0.198	0.151
N of instrument			55	205
AR(1)			0	1.35e-07
AR(2)			0.844	0.393

*** p<0.01, ** p<0.05, * p<0.1

BIS approach: 46 specifications in 11 tables

- Authors use various econometric specifications and are transparent about results.
- Authors find often insignificant effects on consumer loan growth.
- One explanation could be that BIS approach is not the best fit for the research setting. (One size does not fit all.)
- Questions to consider:
  - How to model the treatment timing?
  - Which banks are more affected than others? E.g. specialised in consumer loans and few capital buffers
  - => leads to a DiD framework

DiD –results

Total lending growth rate for the mpru *announcement date*,
deciles in columns by the share of consumer lending in total assets , consider mpru intensity

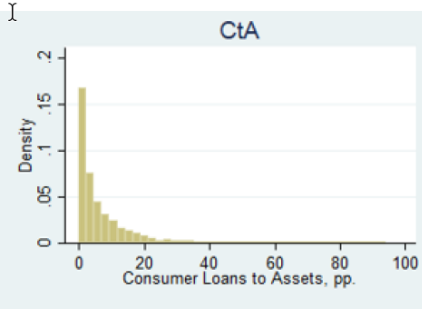
Variable	OLS2_1	OLS2_2	OLS2_3	OLS2_4	OLS2_5	OLS2_6	OLS2_7	OLS2_8	OLS2_9
D_time	0.001	0.002	0.004	0.011**	0.016***	0.019***	0.028**	0.009	-0.001
D_treat	2.784***	2.496***	2.244***	2.011***	2.421***	2.812***	4.704***	6.052***	(omitted)
D_TT	-0.024***	-0.019***	-0.019***	-0.026***	-0.030***	-0.031***	-0.037***	-0.013	(omitted)
SIZE_L1	0.511***	0.538***	0.537***	0.537***	0.550***	0.569***	0.626***	0.649***	0.501***
LIQ_L1	-0.038*	-0.037	-0.036	-0.038*	-0.036	-0.036	-0.033	-0.03	-0.045**
DEP_L1	0.056**	0.054**	0.052**	0.052**	0.051**	0.049**	0.041*	0.031	0.056**
CAP_L1	0	0.001	0.001	0	0.001	0.002	0.004	0.001	0
key_rate_L1	0.379**	0.387**	0.385**	0.379**	0.384**	0.381**	0.379**	0.370**	0.372**
GDP_L1	41.131**	41.428**	42.355**	42.464**	42.996**	42.376**	41.504**	41.203**	40.278**
REER_L1	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016
oil_gr_L1	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007	-0.007
IRB	2.185*	1.682	0.767	1.167	1.134	1.096	0.807	1.004	1.943*
Q1	-3.171***	-3.191***	-3.178***	-3.160***	-3.162***	-3.171***	-3.177***	-3.199***	-3.184***
Q2	-4.543***	-4.549***	-4.553***	-4.543***	-4.543***	-4.552***	-4.579***	-4.574***	-4.542***
Q3	-1.173*	-1.192*	-1.195*	-1.182*	-1.196*	-1.185*	-1.192*	-1.164*	-1.154
_cons	-11.081***	-11.570***	-11.703***	-11.790***	-12.418***	-13.062***	-15.236***	-16.686***	-10.412***
N	13235	13235	13235	13235	13235	13235	13235	13235	13235
r2	0.016	0.017	0.017	0.017	0.017	0.018	0.02	0.02	0.016
r2_a	0.015	0.016	0.016	0.016	0.016	0.017	0.019	0.019	0.015

D_time: Not sure about resampling time periods
D_treat: whether in a certain decile of consumer loan/ capital cushion distribution
D_tt: quite homogenous
No need to include lags of banking characteristics
not sure about quarter dummies

Exploit heterogeneity among banks and timing/intensity of measures

- Define treated banks as having high CtA, low CB buffer or preferable both
- Compare their average outcomes to banks in the control group
- Pull out marginal effects over time

Share of consumer loans in assets



Capital Buffer over CAR

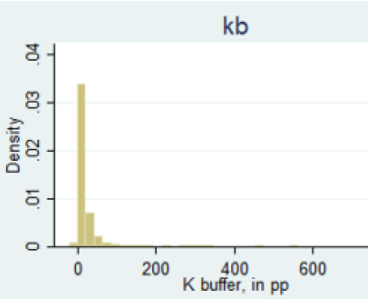


Table 4 Marginal effects of **LTV treatment group (continuous)** ov

VARIABLES	(1) LTV_over_90	(2) LTV_80_90	(3) LTV_66_80	(4) .TV_under_6(
20113#LTV	-0.05	0.51	-0.17	-0.29
	(0.29)	(0.38)	(0.33)	(0.22)
20114#LTV	-0.31	0.48	0.15	0.15
	(0.20)	(0.32)	(0.48)	(0.35)
20121#LTV	-0.20	0.42	-0.59	0.37
	(0.22)	(0.37)	(0.38)	(0.29)
20122#LTV	-0.50**	-0.11	0.55*	0.05
	(0.23)	(0.25)	(0.28)	(0.29)
20123#LTV	-0.82***	0.34	-0.01	0.49*
	(0.25)	(0.24)	(0.42)	(0.24)
20124#LTV	-1.04***	0.19	-0.02	0.86*
	(0.21)	(0.23)	(0.45)	(0.48)
20131#LTV	-0.95***	0.11	0.25	0.59
	(0.20)	(0.38)	(0.56)	(0.37)
20132#LTV	-0.76***	0.23	0.33	0.21
	(0.16)	(0.45)	(0.51)	(0.42)
20133#LTV	-0.84***	-0.31	0.70	0.46
	(0.17)	(0.41)	(0.52)	(0.41)
20134#LTV	-1.07***	-0.00	0.44	0.64*
	(0.25)	(0.40)	(0.44)	(0.32)
2013q1#CCyB	-0.36***	-1.72***	2.11***	-0.03
	(0.09)	(0.33)	(0.45)	(0.35)
Observations	275	275	275	275
R-squared	0.60	0.62	0.52	0.75

Conclusion

- A lot of data work, a good overview on macropru measures
- Relevant research question
- Encourage authors to deviate from BIS approach
- Next steps: try a different definition of treatment in DiD and estimate marginal effects over time

Thank you for your attention!

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