Determinants of Credit Growth in Turkey: Does Size Matter? *

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Abstract

Credit growth has been an important indicator of financial stability for emerging economies in recent years. Macroprudential and monetary policies have been used to curb the growth of credit that arose with the surge in capital inflows to these countries. In this paper we use bank level data to examine the impacts of monetary and macroprudential policies on credit growth in Turkey. We do our analysis separately for big and small banks in the banking sector. Our results suggest that CBRT policy rate has a significant and negative impact on the loan growth rate of big and small banks. Although the magnitude is larger for small banks, we find no significant difference between the two. On the other hand macroprudential policies have a significant negative effect on the credit growth rate in both types of banks but the magnitude of the impact of these policies is larger in small banks. Examining different components of credit we find that in large banks, an increase in the policy rate affects consumer credit growth negatively. Macroprudential policies also curb the growth rate of consumer credit in these banks. On the other hand commercial credit growth do not react significantly to changes in monetary and macroprudential policies in these banks. In small banks monetary policy has a significant and negative impact on the commercial credit growth rate whereas macro prudential policies are more influential in curbing the growth rate of consumer credit growth.

Keywords: Credit Growth, Monetary Policy, Macroprudential Policy, Banking Sector.

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1 Introduction

Credit growth has been an important indicator of financial stability for emerging economies recently. With the onset of the financial crisis, the global economy has been shaped by the quantitative easing policies of advanced economies. This long lasting period of easy monetary policy environment resulted in a flow of funds from advanced economies to emerging ones. The surge in capital inflows in emerging economies lead to a fast growth of credit in these countries. Facing the fast heating in their economies and issues regarding financial stability policy makers in these countries put some macroprudential and monetary policies in action to curb the growth of credit in these countries.

Our objective in this paper is to analyze the impacts of both macro prudential and monetary policies on credit growth rate. We analyze the growth rate of credit extended by banks of different sizes (large and small) separately. The reason for investigating the credit growth rate of large and small banks separately is that these banks may show different asset and liability composition that might affect their financing behavior and its relation with policy changes.[1] Hence examining the banking sector as a whole may conceal possible policy reaction differences along the size dimension. Besides credit growth rate, we are also interested in how the cost of credit, i.e. loan rates are affected by changes in monetary and macro prudential policies. In particular we address the following questions: How did monetary and macro prudential policies in Turkey affect the credit growth in the banking sector? Is the lending behavior banks of different sizes affected differently from changes in policy? Have changes in policy affected the loan rates in the banking sector? Are there any differences among banks of different sizes along this dimension?

To address these questions, we use bank-level data from Turkish banking sector and estimate regressions that relate credit growth rate and loan rate to changes in the policy rate, macro prudential policies, some relevant bank-level balance sheet variables and macro variables. In order to see how different categories of credit react to changes in monetary and macro prudential policies, we run the same regressions for total credit growth as well as consumer, commercial, domestic and FX denominated credit separately.

The results from our empirical analysis suggest that the effects of monetary and macro prudential policies on credit growth vary with bank size. According to the findings from our analysis, policy rate has a significant and negative impact on the credit growth rate of large and small banks. On the other hand macro prudential policies have a significant and negative impact on the credit volume of both large and small banks but the magnitude of the impact is larger on small banks. Looking at different categories of credit, we observe that in large banks consumer credit growth is affected negatively

[1] Abbasoglu et al. (2015) document the business cycle characteristics of banks' balance sheets in Turkey conditional on size and show that big and small banks have different characteristics regarding the composition of their balance sheets as well as their cyclical behavior.

from changes in the policy rate and macro prudential policies. The commercial credit growth rate of these banks do not react significantly to changes in either of these policies. For small banks, both changes in policy rate and macro prudential policies have a negative impact on the commercial credit growth rate. For curbing the growth rate of consumer credit, macro prudential policies seem to be more effective. Another interesting result we get from our analysis is that the growth rate of loans denominated in foreign currency are not affected from changes in monetary or macro prudential policies for both size groups of banks. Our analysis for the cost of credit that examines the loan rate and its link with policy variables shows that both policy rate and upper bound of the interest rate corridor has a significant and positive impact on the average loan rate of big and small banks. Meanwhile macro prudential policies have significant negative impact on loan rate of large banks but no significant affect on the average loan rate of small banks.

The link between credit growth and policy changes have been examined in numerous empirical papers. Some studies use cross- country data to investigate credit growth rate determinants and the impact of policy on this. Aysan et al. (2015) use data on a large set of advanced and emerging economies and assess the performance of macro prudential policies in maintaining financial stability. Their measure of financial stability is credit growth. Their results suggest that macro prudential policies dampen the fast growth of credit that arose due to the recent surge capital inflows. Guo and Stepanyan (2011) examine the determinants of credit for a set of emerging economies. From their empirical analysis, they conclude that loose monetary conditions lead to more credit growth in these economies.

Besides these cross-country studies there are also papers that use disaggregated data. Two important papers by Kashyap and Stein (1995, 2000) use bank level data from the U.S. banking sector and measure the response of bank deposits and loans to changes in monetary policy. They conduct their analysis separately for small and big banks and find some differences among them. From their analysis they find no significant impact of monetary policy on large bank lending but a significant negative impact on small bank lending. A more recent paper by Alper et al. (2014) use Turkish bank level data and estimate the impact of the reserve requirement changes on bank loan growth. They find this impact to be negative. They also show that the higher the ratio of liquid assets, the smaller the impact of reserve requirements on loan growth.

2 Banking Sector, Monetary and Macro prudential Policies in Turkey

Banking Sector Developments Turkish banking sector has undergone substantial structural changes after the 2000-01 domestic banking crisis. 1990s were years where high budget deficits were mainly financed by domestic borrowing via issuing government debt. Annual interest rates on

government securities floated close to and above 100 percent, even hiked to 300 percent, during the 1990s and bank balance sheets were mainly dominated by those government securities. After the severe economic crisis brought by the collapse in the domestic banking system, Turkey signed a stand-by agreement with IMF in order to solve fundamental macroeconomic problems such as high government budget deficits.

A deliberate policy of restructuring the financial system followed these events and dramatic measures were taken in order to stabilize the financial system. As a result, the number of deposit banks went from 61 in 2000 to 32 in 2013. Banking Regulation and Supervision Agency (BRSA), newly founded started operating right after the banking crisis, has played an important role in restructuring the banking sector by resolving banks overtaken by the Savings Deposit Insurance Fund (SDIF), in restructuring state banks, and in strengthening private banks and reinforcing supervisory and regulatory framework. Moreover, the role of the Central Bank to stabilize prices was clearly defined in the Central Bank Law and the Central Bank of the Republic of Turkey was delegated instrumental independence while Monetary Policy Committee was established.

An outcome of the restructuring process, inflation and interest rates dropping to to singledigits. Moreover, the banking sector has grown rapidly since then. Bank assets almost tripled in real terms from 2000 to 2015 while total credits increased by about six fold. Assets to GDP ratio of the banking sector went up from 60 percent in 2000 to over 120 percent in 2015. Credit to GDP ratio increased to about 76 percent from 20 percent over the same course. While household credits made up less than one percent of total credits in 2002, over 30 percent of total credits went to households in 2015.

Monetary and Macro Prudential Policy Framework

Turkey switched to an explicit inflation targeting regime in 2006. From this year until 2010, the main objective of the monetary policy was to hit a preannounced annual inflation rate target using the short term interest rate as the main instrument. However with the onset of the global financial crisis, Turkey became one of the most vulnerable emerging economies. The increasing volatile flows of capital to the country resulting in excessive growth of credit alerted the policy makers. In this environment where financial stability became a serious concern, alternative policy tools were devised to maintain the stability of the financial sector mainly by controlling the growth rate of credit. In this regard reserve requirements, interest rate corridor and reserve options mechanism have been used as alternative tools after 2010 to supplement the policy framework. Since our focus is on interest rate we will provide a brief description of the interest rate corridor. [2]

Asymmetric interest rate corridor is a new tool designed by the Central Bank of the Republic of Turkey (CBRT) and it started to be used actively in the last quarter of 2010. Similar to many other

[2] See Alper et al. (2013) for detailed information on Reserve Options Mechanism and Binici et al. (2013), Kara (2013) for more information on the interest rate corridor.

central banks, CBRT uses a corridor system. The bank provides daily, weekly and monthly liquidity to banks that are in need of it. It also borrows at the O/N borrowing rate from those that have excess liquidity. Funding to banks is mostly provided through weekly repo transactions therefore the average cost of funding by the Central Bank very closely follows the one week repo funding rate.

The interest rate corridor became a unique instrument of the CBRT since the width of the corridor has been actively used in asymmetric way as a policy instrument. Unlike the conventional corridor system where interest rates are fixed between two monetary policy meetings, liquidity policy was used to respond to the volatile movements in short term capital. By adjusting the quantity and composition of funds provided through one week repo auctions the CBRT could affect interbank market rates and weighted average cost of its funding on a weekly or even daily frequency when necessary. In a way CBRT created more uncertainty regarding the interest rates which might have affected the bank loan rates. The empirical analysis of loan rates in the following section will shed light on this issue.

Similar to many emerging economies some macro prudential policies have also been used in Turkey to maintain financial stability of the economy in addition to the conventional and unconventional monetary policy tools. Aysan et al. (2015) classify these macro prudential policy measures into two. These are (i) Borrower related measures (ii)Financial institutions related measures. Borrower related measures include caps on loan to value (LTV), and debt to income ratios (DTI) ratios. Financial institutions related measures include counter-cyclical capital requirements and time-varying dynamic loan loss provisions, caps on foreign currency lending and limits on net open positions. Some prudential taxes such as capital gains tax and some other measures such as limits on credit growth or maturity mismatch are also considered as financial institutions related measures. A number of macro prudential measures such as restrictions on LTV and DTI ratios, as well as counter-cyclical capital requirements, taxes, loan loss provisions, maturity limits on consumer loans, limits to installments and cash advance in credit cards have been used in Turkey to tighten and loosen the credit conditions in recent years. In the following section we will analyze the effectiveness of these tools on the credit growth rate of banks and the average loan rate.

3 Empirical Analysis

3.1 Data

We have panel data on all banks that are active in Turkish banking sector between 2002Q4 to 2015Q2. The original frequency of our bank-level data is quarterly. We adjust the frequency of the remaining data accordingly. We exclude investment banks and banks in the Savings and Deposit Insurance Fund from our analysis. This leaves us with 27 to 32 banks in each sample period. The data we use in our analysis can be grouped into three. The first group consists of bank-level balance sheet

data, in the second group we have the policy variables (both monetary and macroprudential policy variables) and in the last group includes some macro variables that are used as controls in our regression analysis.

Our main focus is on investigating the relationship between the growth rate of total and specific type of loans with both monetary and macro prudential policy variables. In our analysis, we use the following variables:

Bank-level variables: Total Loans, Commercial Loans, Consumer Loans, Domestic Loans, FX Loans, Loan Rate, Deposit Rate (as dependent variables); Domestic Deposits, Foreign Deposits, Deposit Rate, Liquid Assets, Non-performing Loans

Policy variables: CBRT policy rate, upper bound and width of the interest rate corridor, Macro prudential policy index (total, borrower and financial institutions based)

Macro variables: Real effective exchange rate, Inflation, GDP growth, Cross-border banking inflows of BIS reporting banks.[3]

Among the policy variables macro prudential policy index is a novel one. After the global financial crisis, Turkey has experienced a large increase in its current account deficit that was mainly financed by short-term capital flows and portfolio investments. Turkey adopted a number of macro prudential policies to tackle the fragility of its economy due to these flows, such as reserve options mechanism and asymmetric interest rate corridor.[4] Aysan et al. (2015) constructs a macro prudential policy index for emerging market economies including Turkey. It is an index which increases by 1 in a given time period if a tightening measure is taken, decreases by 1 if a loosening measure is taken and does not change otherwise. They also build several sub-indexes including those based on borrower related measures (e.g. Loan-to-Value and Debt-to-Income) and financial institutions based measures (e.g. restrictions on foreign currency lending, counter-cyclical capital requirements). We use these indexes to assess the effectiveness of macro prudential policies in the empirical analysis section.

Table (1) below presents summary statistics on the balance sheet items of banks used in our sample. We construct the two size groups by first ranking banks according to their asset holdings then splitting the data into 20 groups based on asset size. Following this all banks in the bottom 90% are grouped as small banks and the remaining in the top 10% are grouped as big banks.

[3] Cross-border banking flows are constructed as in Bruno and Shin (2014) [4]For details regarding these policies see Fendoglu et al. (2014).

During our sample period there are 19 small and 11 large banks on average. Assets of small banks constitute 49 percent of the total assets while assets of large banks constitute 51% of the total assets in the banking sector. This fact shows that the banking sector concentrated in terms of asset holdings in Turkey.

We next compare some asset and liability items as a fraction of total assets for both large and small banks. Total loans are around 39% of total assets in small banks whereas this ratio rises to 43% in big banks. This difference points that big banks have more tendency to turn their sources into credit. The relative shares of domestic and foreign credit extended by small and big banks are almost equal. The other asset items such as cash and security holdings have similar shares in total assets for both size groups. The ratio of deposits to total assets being 29% for small banks and 61% for large banks displays that large banks rely more on deposit funding compared to small banks. Looking at the decomposition of deposits into domestic and foreign shows that in small banks their shares are equal however, domestic deposit funding is relatively more important in large banks. The share of equities to total assets in small banks is 29%. The same ratio being 12% for banks in the top 10% implies that small banks rely more on equity funding. Lastly nearly 40% of the total assets of small banks is liquid whereas the same ratio is 32% in large banks implying that small banks tend to hold more liquid assets.

Based on these observations we can say that the balance sheets of small and big banks differ along important asset and liability items such as the relative volume of loans, the share of deposits, equity and the liquid assets. These differences in their asset and liability structure may lead to variations in how their credit supply responds to changes in policy and other relevant variables. The next subsection explores this question. Following this we also examine if the monetary and macroprudential policies affect the loan rates charged by banks differently.

3.2 Empirical Analysis: Credit Growth

Our objective is to examine how monetary and macroprudential policies affect credit growth extended by commercial banks of different sizes. In order to measure the impacts of policy on big and small banks separately we first form two dummy variable indicating the size of a bank. Following this we interact all the right- hand side variables with these size dummies.[4] More explicitly we estimate variants of the dynamic panel model below.

[4] I_{big} is equal to 1 if the bank is big and 0 if it is small. I_{small} equal to 1 if the bank is small and 0 if it is big.

$$\Delta Credit_{i,t} = \beta_0 + \beta_1 \Delta Credit_{i,t-1} + \Big[\beta_1 \Delta polrate_{t-1} + \beta_2 MPI_{t-1} + \beta_3 (dom\_dpstshare_{i,t-1} \times \Delta dom\_dpst_{i,t}) + \beta_4 (fx\_dpstshare_{i,t-1} \times \Delta fx\_dpst_{i,t}) + \beta_5 dpstrate_{i,t-1} + \beta_6 \Delta Capflows_t + \beta_7 \Delta GDP_t\Big] \times I_{big} + \Big[\alpha_1 \Delta polrate_{t-1} + \alpha_2 MPI_{t-1} + \alpha_3 (dom\_dpstshare_{i,t-1} \times \Delta dom\_dpst_{i,t}) + \alpha_4 (fx\_dpstshare_{i,t-1} \times \Delta fx\_dpst_{i,t}) + \alpha_5 dpstrate_{i,t-1} + \alpha_6 \Delta Capflows_t + \alpha_7 \Delta GDP_t\Big] \times I_{small} + \gamma_t + u_i + \varepsilon_{i,t} \quad (1)$$

Here *i* denotes each banks and *t* denotes quarters. u_is are the bank fixed effects that capture bank-level characteristics that are invariant over time. γ_ts are the unobserved factors that affect all banks.

Some conjectures on the relation between policy and other explanatory variables and credit growth are presented in Table (2). We expect both increase in policy rate and macro prudential policies to have a negative impact on the credit growth rate.[5] Both domestic and foreign deposit growth should generate a positive impact on the growth rate of credit. Since deposit rate is the cost of credit (assuming deposits are channeled to loans), this variable is expected to have a negative impact on credit growth rate. Lastly a beneficial growth environment and an increase in the capital flows implies higher credit growth rate.

Within estimators are inconsistent given the dynamic structure of the model however they are relevant as a benchmark. Since macroprudential and monetary policy measures as well as some other bank-level variables are endogenous and can change in response to shocks affecting credit growth rate, we focus on the results of IV-based estimators. In that regard we consider ArellanoBond(1991) GMM estimator and report system GMM results using lagged levels of endogenous variables as instruments for robustness.

The regression results for total credit growth rate are presented in Tables (3), (4) and (5). These results show that credit growth rate of large banks are affected negatively from an increase in the policy rate and a tightening in the macro prudential policy environment. A one percentage points increase in the policy rate results in 0.27 percentage points lower credit growth rate growth rate of large banks. Looking at small banks we observe that policy rate and macro prudential policies also have a significant negative impact on their credit growth rate. The significant negative impact of the policy rate changes on credit growth is not robust across alternative estimations. (The System GMM coefficient is insignificant.) However the significant negative impact of macro prudential policies on credit growth is robust across alternative estimation methods.

In order to see if there is any significant difference between the impact of policy on small and large banks, we test the difference between the policy rate and macro prudential policy coefficient

[5] For the macro prudential policy index we estimate the impact of the total index (MPI) as well as the impact of macro prudential polices that target financial institutions (MAPP-FI) and borrowers (MAPP-BW).

for large and small banks. The results from these estimations suggest that changes in policy rate does not have a significantly different effect on the credit growth rate of small and large banks. However the impact of macro prudential policies that target financial institutions is significantly different across big and small banks and this significant difference is robust across different estimation methods. The coefficient of MAPP-FI in Table (4) shows that the credit growth rate of banks in bottom 90% are affected more negatively from macro prudential policies that target financial institutions. On the other hand the coefficient of MAPP-BW reported in Table (5) suggests that tight policies that specifically target borrowers do not have a significant impact on the loan growth rate of both type of banks. We infer from the results of these regressions that financial institutions based macro prudential policies are more effective in curbing the credit growth rate of both groups of banks compared to borrower-based policies. In addition they are more effective on the growth rate of credits extended by small banks compared to large ones.

Domestic and foreign deposit growth have a positive impact on the credit growth rate of banks in the top 10%. A 1 percentage points increase in the growth rate of domestic deposits increase the credit growth rate of large banks by 0.15 percentage points. The growth rate of credit in small banks, interestingly, is affected negatively from domestic deposit growth. For foreign deposit growth, the coefficient is insignificant in large banks. On the other hand a 1 percent increase in FX denominated deposits leads to a 0.04 percentage points increase in the credit growth rate of small banks. Capital flows affect the credit growth of small and large banks positively.

We are also interested in observing whether policy has varying impact on the growth rate of different subcategories of loans extended by banks. To see this, we run the same regression in Equation 1 using consumer and commercial credit as well as domestic and FX denominated loans separately. Tables (6), (7) and (8) below present the results for the regression where consumer credit growth rate is the dependent variable. Consumer credit growth rate of large banks is affected negatively from changes in the policy rate but in small banks we do not observe a significant impact. The magnitude of the coefficient of policy rate is -1.32 for large banks implying that a 100 basis points increase in the policy rate results in a 1.32 percentage points decline in the growth rate of consumer credit. The estimate for the macroprudential policy index also suggests that these tight macro prudential policies curb the consumer credit growth rate in both small and large banks. However their impact is not significantly different across different size groups. The system GMM estimator coefficients are similar implying that our results are robust across different moment conditions.

The same regressions run for commercial credit yields that policy variables have no impact on the commercial credit growth rate of large banks. These results are reported in Tables (9), (10), (11). On the other hand unlike consumer credit growth, commercial credit growth rate of small banks are affected negatively from changes in policy rate. The coefficient being -1.36 tells us that a 100 basis points increase in policy rate leads to a -1.36 percentage points decline in the growth rate of

commercial credit in small banks. Also tight macro prudential regulations lead to a reduction in commercial credit growth of small banks. The estimates of the policy rate change when we estimate using system GMM method but the estimate of the impact of macro prudential policies are robust.

We also decompose total credit into domestic and foreign currency denominated components and explore their determinants. The results for the TL denominated credits are presented in Tables (12), (13) and (14). Both the policy rate and macro prudential policies have a negative and significant impact on the growth rate of domestic currency credits. The magnitude of the policy rate change is -1.32 for large banks and -1.09 for small banks. These coefficients are not significantly different from each other but the estimates of MPI (-0.006 for large and -0.018 for small banks) are significantly different from each other. We can infer from this result that macro prudential policies are more affective in curbing the growth rate of TL credit in small banks. We get similar results across different estimation methods showing the robustness of the results.

Lastly we present the results of regressions where FX denominated loans are the dependent variable. These results are presented in Tables (15), (16), (17). An interesting result from these regressions is that an increase in the policy rate leads to a higher growth rate of loans denominated in foreign currency in large banks. This result is robust across different estimation methods. The coefficient of the policy rate is 0.96 implying that a 100 basis points increase in the policy rate generates a nearly 1 percentage points higher growth rate of FX denominated loans in large banks. For small banks we observe no significant impact of the monetary policy changes. Meanwhile the macroprudential policies have a negative and significant impact on the FX loan growth rate in these banks.

The only variables that have a significant impact on the growth rate of FX denominated loans are change in capital flows and deposit growth rate. An increase in capital flows leads to an increase in the growth rate of foreign currency denominated loans of small and large banks. It is noteworthy that change in capital flows had no significant impact on the total credit growth rate of small banks. This result implies that small banks use the funds they get from abroad only to extend foreign currency loans.

3.3 Empirical Analysis: Interest Rates

As mentioned above, besides the impacts of policy on credit growth rate we are also interested in how the loan rate is affected from changes in monetary and macro prudential policies. Similar to our credit growth rate regressions, we want to study whether these policies have any differential impact on the average loan rate of large and small banks. Therefore we follow the same method and multiply

all our variables of interest with size dummies. The regression we estimate to examine the determinants of loan rate is presented in Equation 2 below.

$$\begin{aligned} LoanRate_{i,t} = {} & \beta_o + \beta_1 LoanRate_{i,t-1} + \beta_2 polrate_{t-1} + \beta_2 MPI_{t-1} + \beta_4 liqasstrat_{i,t} + \beta_5 nplrat_{i,t} \\ & + \beta_6 infrate_t + \beta_7 \Delta REER_t \times I_{big} + \alpha_2 polrate_{t-1} + \alpha_3 MPI_{t-1} + \alpha_4 liqasstrat_{i,t} + \\ & \alpha_5 nplrat_{i,t} + \alpha_6 infrate_t + \alpha_7 \Delta REER_t \times I_{small} + u_i + \varepsilon_{i,t} \end{aligned} \quad (2)$$

The nature of the relation between loan rate, policy variables and other macro and bank-level variables included in the regression are presented in Table (20) and the results from dynamic panel estimations of loan rate are shown in Tables (18) and (19). In Table (18) policy rate is the monetary policy variable of interest. The results in this table show that policy rate has a positive and significant impact on the loan rate of both small and large banks. A 100 basis points increase policy rate generates a nearly 26 basis points increase in the loan rate of small banks. The rise in loan rate generated by the same magnitude of the policy rate increase is 18 basis points for the loan rate of large banks. Comparing the coefficients we see that the impact is larger for small banks. However when we test the significance of the difference between these coefficients we find that the magnitude of the impact of the policy rate on loan rate is not statistically different. Macro prudential policies also affect the loan rate of large banks, but they have no significant impact on the loan rate of small banks. Dynamic GMM estimations yield that a 1 unit tightening in the macro prudential policy index leads to a 25 basis points decline in the loan rate of large banks. System GMM estimation results are similar hence we can say that the significance of the macro prudential and monetary policy variables are robust.

The same regressions are run using the upper bound of the interest rate corridor as the monetary policy variable. The results of these regressions are reported in Table (19). The upper bound of the interest rate corridor also has a positive and significant impact on the loan rate of large and small banks similar to the policy rate but the magnitude of the coefficients are smaller. For large banks, a 100 basis points increase in the upper bound of the interest rate corridor leads to a 0.15 basis points increase in the loan rate. Similarly for small banks, the same increase in the upper bound leads to a 0.22 basis points rise in their average loan rates.

Unlike the monetary policy variables, we again find that a 1 unit contractionary macro prudential policy leads to a 24 basis points decline in the loan rate of large banks. For small banks we again find that the impact of macro prudential policies is insignificant.

4 Conclusion

Turkey among other emerging economies has been exposed to large inflows of capital since the onset of the global financial crisis. The surge in the flow of capital to the country generated a rise in the growth rate of credit in the country. Concerned with the stability of the financial sector as well as the whole economy, policy makers put into action some macroprudential and unconventional monetary policy measures in action to control the growth rate of credit. In this paper we use bank level data between 2002q4 and 2015q3 to examine the impact of monetary and macroprudential policies on the growth rate of credit and loan rate of banks of different sizes. Analyzing banks of different sizes is important since the asset and liability composition of banks vary with size. These variations may lead small and large banks to respond differently to changes in the policy.

Our regression results support our view on differential impacts of policy on banks of different sizes. The credit growth rate of small banks are affected more negatively from a tightening in credit conditions due to macroprudential policies. On the other hand policy rate curbs the growth of credit in similar magnitude in both types of banks. Our analysis for the different sub-components of credit show that consumer lending rate of large banks is sensitive to changes in the policy rate however small banks' lending to consumers is not affected from changes in the policy rate. Macroprudential policies are effective in decreasing the growth of consumer credit in both size groups. Commercial credit growth rate turns out to be affected neither from monetary nor from macroprudential policies in large banks. The analysis we did for loan rates indicate that increasing the policy rate generates a rise in the average loan rate of both large and small banks. Macroprudential policies, however decreases the average loan rate of big banks and does not have a significant impact on the loan rate of small banks.

These results show that credits extended by small and big banks respond differently to macroprudential and monetary policies. The sensitivity of sub-components of credit also vary with size and policy. These results should be taken into account and policies should be tailored according to the target group.

Table 1: Summary Statistics

	Small Banks [0,90] %	Big Banks [90,100]%
No. of Banks	23	4
Fraction of total system assets	48.7%	51.3%
	Fraction of total assets in size category (in %)	
Total loans	38.6	42.8
Domestic loans	29.3	28.5
FX Loans	9.3	14.3
Cash	0.49	0.72
Securities	46.2	42.6
Deposits	28.9	61.5
Domestic Deposits	15.3	37.6
Foreign Deposits	13.6	23.9
Equity	29.6	12.1
Other assets	10.7	9.1
Reserves	2.07	1.68
Liquid Asset Ratio	40.6	32.2

Table 2: Expected relation between credit growth and its determinants

Explanatory Variables	Expected Sign
Change in CBRT Policy Rate	-
Macroprudential Policy Index	-
Dom. deposit growth x Dom.Deposit/Credit	+
FX deposit growth x FX Deposit/Credit	+
Lagged Deposit Rate	-
Lagged GDP growth	+
Change in Capital Flows	+

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small
Table 3: Dependent Variable: Total Credit Growth						
Lagged Credit Growth	-0.1310	-0.1310	-0.1878**	-0.1878**	-0.1211	-0.1211
	(0.1078)	(0.1078)	(0.0918)	(0.0918)	(0.1058)	(0.1058)
Domestic Deposit Growth X Deposit/Credit	0.1598***	-0.0226***	0.1517***	-0.0199***	0.1739***	-0.0181***
	(0.0368)	(0.0055)	(0.0354)	(0.0041)	(0.0394)	(0.0049)
FX Deposit Growth X FX Deposit/Credit	-0.0597	0.0461*	-0.0640	0.0393**	-0.0767	0.0445**
	(0.1369)	(0.0235)	(0.1317)	(0.0179)	(0.1355)	(0.0199)
Change in Capital Flows	0.3466***	0.2449***	0.3544***	0.2432***	0.3297***	0.3345***
	(0.0277)	(0.0375)	(0.0259)	(0.0382)	(0.0362)	(0.0780)
Lagged GDP Growth	0.5758***	0.2913	0.6158***	0.3490	0.5023***	0.3300
	(0.1510)	(0.4421)	(0.1469)	(0.4709)	(0.1574)	(0.4508)
Lagged Deposit Rate	-0.0540	-0.0070	0.0010	-0.0121	-0.2895	-0.0277*
	(0.2678)	(0.0097)	(0.2611)	(0.0080)	(0.3403)	(0.0145)
Change in CBRT Policy Rate	-0.3102**	-0.6992**	-0.2739*	-0.8272**	-0.3528**	-0.2411
	(0.1456)	(0.3363)	(0.1420)	(0.3828)	(0.1768)	(0.4152)
MPI	-0.0024**	-0.0088***	-0.0025**	-0.0126**	-0.0031***	-0.0068**
Number of groups						
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES
Robust standard errors in parentheses						

***

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

Table 4: Dependent Variable: Total Credit Growth

	(0.0010)	(0.0023)	(0.0010)	(0.0052)	(0.0011)	(0.0033)
Constant	0.0208	0.0208	0.0222	0.0222	0.0108	0.0108
	(0.0158)	(0.0158)	(0.0196)	(0.0196)	(0.0186)	(0.0186)
Observations	1,423	1,423	1,386	1,386	1,423	1,423
R-squared	0.276	0.276				
	37	37	35	35	37	37

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 5: Dependent Variable: Total Credit Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big		Big		Big	Small
				Small		Small
Lagged Credit Growth	-0.1322	-0.1322	-0.1890**	-0.1890**	-0.1221	-0.1221
	(0.1079)	(0.1079)	(0.0923)	(0.0923)	(0.1060)	(0.1060)
Domestic Deposit Growth X Deposit/Credit	0.1526***	-0.0226***	0.1432***	-0.0199***	0.1653***	-0.0181***
	(0.0343)	(0.0055)	(0.0328)	(0.0041)	(0.0371)	(0.0049)
FX Deposit Growth X FX Deposit/Credit	-0.0530	0.0461*	-0.0585	0.0392**	-0.0668	0.0445**
	(0.1397)	(0.0234)	(0.1347)	(0.0180)	(0.1380)	(0.0199)
Change in Capital Flows	0.3399***	0.2438***	0.3484***	0.2367***	0.3227***	0.3325***
	(0.0282)	(0.0375)	(0.0266)	(0.0388)	(0.0373)	(0.0788)
Lagged GDP Growth	0.5120***	0.1278	0.5503***	0.1563	0.4289***	0.2071
	(0.1455)	(0.4500)	(0.1423)	(0.4875)	(0.1575)	(0.4631)
Lagged Deposit Rate	-0.1071	-0.0065	-0.0454	-0.0116	-0.3361	-0.0275*
Number of groups						
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES
Robust standard errors in parentheses						

***

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

Table 6: Dependent Variable: Total Credit Growth

	(0.2618)	(0.0095)	(0.2558)	(0.0080)	(0.3361)	(0.0145)
Change in CBRT Policy Rate	-0.3042**	-0.6057*	-0.2654*	-0.7812**	-0.3397*	-0.1822
	(0.1445)	(0.3465)	(0.1409)	(0.3888)	(0.1741)	(0.4140)
MaPP-FI	-0.0055***	-0.0177***	-0.0057***	-0.0247***	-0.0068***	-0.0138**
	(0.0020)	(0.0037)	(0.0021)	(0.0076)	(0.0022)	(0.0056)
Constant	0.0370**	0.0370**	0.0420**	0.0420**	0.0230	0.0230
	(0.0175)	(0.0175)	(0.0209)	(0.0209)	(0.0219)	(0.0219)
Observations	1,423	1,423	1,386	1,386	1,423	1,423
R-squared	0.278	0.278				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES
Lagged Credit Growth	-0.1290	-0.1290	-0.1857**	-0.1857**	-0.1198	-0.1198
	(0.1083)	(0.1083)	(0.0920)	(0.0920)	(0.1062)	(0.1062)
Domestic Deposit Growth X Deposit/Credit	0.1652***	-0.0226***	0.1589***	-0.0199***	0.1821***	-0.0181***
	(0.0409)	(0.0055)	(0.0398)	(0.0041)	(0.0437)	(0.0049)
FX Deposit Growth X FX Deposit/Credit	-0.0674	0.0461*	-0.0702	0.0393**	-0.0881	0.0444**
	(0.1344)	(0.0234)	(0.1289)	(0.0178)	(0.1336)	(0.0199)
Change in Capital Flows	0.3550***	0.2438***	0.3620***	0.2495***	0.3389***	0.3354***

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small
Table 7: Dependent Variable: Total Credit Growth						
	(0.0274)	(0.0378)	(0.0254)	(0.0377)	(0.0350)	(0.0773)
Lagged GDP Growth	0.6349***	0.4790	0.6771***	0.5763	0.5756***	0.4705
	(0.1585)	(0.4199)	(0.1535)	(0.4076)	(0.1592)	(0.4147)
Lagged Deposit Rate	0.0326	-0.0072	0.0787	-0.0117	-0.2096	-0.0276*
	(0.2736)	(0.0099)	(0.2671)	(0.0078)	(0.3418)	(0.0146)
Change in CBRT Policy Rate	-0.3241**	-0.8862**	-0.2917**	-0.9544**	-0.3774**	-0.3618
	(0.1480)	(0.3324)	(0.1445)	(0.3815)	(0.1833)	(0.4284)
MaPP-BW	-0.0020	-0.0107*	-0.0022	-0.0171	-0.0032**	-0.0085
	(0.0013)	(0.0056)	(0.0014)	(0.0120)	(0.0015)	(0.0073)
Constant	-0.0009	-0.0009	-0.0047	-0.0047	-0.0055	-0.0055
	(0.0151)	(0.0151)	(0.0187)	(0.0187)	(0.0165)	(0.0165)
Observations	1,423	1,423	1,386	1,386	1,423	1,423
R-squared	0.272	0.272				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES
Robust standard errors in parentheses						

***

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

Table 8: Dependent Variable: Total Credit Growth

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 9: Dependent Variable: Personal Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small
Lagged Personal Loan Growth	0.0702***	0.0702***	-0.0022	-0.0022	0.0214	0.0214
	(0.0211)	(0.0211)	(0.0219)	(0.0219)	(0.0175)	(0.0175)
Domestic Deposit Growth X Deposit/Credit	0.3015***	0.0122***	0.2662***	0.0095**	0.2955***	0.0108***
	(0.0779)	(0.0028)	(0.0659)	(0.0040)	(0.0778)	(0.0030)
FX Deposit Growth X FX Deposit/Credit	-0.0989	0.0249	-0.1008	0.0240	-0.1042	0.0277
	(0.1410)	(0.0212)	(0.1133)	(0.0177)	(0.1314)	(0.0194)
Change in Capital Flows	0.0913	-0.0038	0.1285**	-0.0527	0.1120**	-0.0398
	(0.0574)	(0.1589)	(0.0545)	(0.2086)	(0.0550)	(0.1748)
Lagged GDP Growth	0.1944	-1.0295*	0.3349*	-1.1812*	0.2812	-1.1116**
	(0.2000)	(0.5330)	(0.1904)	(0.6766)	(0.1950)	(0.5577)
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

Table 10: Dependent Variable: Personal Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small			Big	Small
Lagged Personal Loan Growth						
Lagged Deposit Rate	-0.9054	0.0563***	-0.4586	0.3584***	-0.7386	0.1447***
	(0.8681)	(0.0022)	(0.6219)	(0.0084)	(0.7446)	(0.0044)
Change in CBRT Policy Rate	-1.3695***	0.1849	-1.3213***	0.3378	-1.3833***	0.1913
	(0.4580)	(0.6842)	(0.4564)	(0.6937)	(0.4419)	(0.6817)
MPI	-0.0086***	-0.0169***	-0.0080***	-0.0330*	-0.0084***	-0.0220**
	(0.0022)	(0.0060)	(0.0015)	(0.0196)	(0.0018)	(0.0099)
Constant	0.0893**	0.0893**	0.0895*	0.0895*	0.0936***	0.0936***
	(0.0432)	(0.0432)	(0.0474)	(0.0474)	(0.0348)	(0.0348)
Observations	1,334	1,334	1,299	1,299	1,334	1,334
R-squared	0.031	0.031				
			YES	YES		
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES			YES	YES
Quarter Dummies	YES	YES			YES	YES
Robust standard errors in parentheses						

***

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

Table 11: Dependent Variable: Personal Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small
Lagged Personal Loan Growth			YES	YES		
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES
Robust standard errors in parentheses						

***

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

Table 12: Dependent Variable: Personal Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small			Big	Small
Lagged Personal Loan Growth	0.0688***	0.0688***	-0.0042	-0.0042	0.0191	0.0191
	(0.0218)	(0.0218)	(0.0232)	(0.0232)	(0.0180)	(0.0180)
Domestic Deposit Growth X Deposit/Credit	0.2806***	0.0121***	0.2454***	0.0094**	0.2761***	0.0109***
	(0.0700)	(0.0028)	(0.0585)	(0.0040)	(0.0706)	(0.0030)
FX Deposit Growth X FX Deposit/Credit	-0.0783	0.0248	-0.0859	0.0239	-0.0837	0.0276
	(0.1422)	(0.0211)	(0.1181)	(0.0178)	(0.1333)	(0.0195)
Change in Capital Flows	0.0757	-0.0110	0.1146**	-0.0722	0.0976*	-0.0510
	(0.0574)	(0.1629)	(0.0540)	(0.2181)	(0.0551)	(0.1806)
Lagged GDP Growth	0.0276	-1.2805**	0.1736	-1.5449*	0.1166	-1.4036**
	(0.2160)	(0.6272)	(0.1957)	(0.8330)	(0.2054)	(0.6647)
Lagged Deposit Rate	-0.9997	0.0567***	-0.5532	0.3566***	-0.8303	0.1448***
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES			YES	YES
Quarter Dummies	YES	YES			YES	YES
Robust standard errors in parentheses						

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 13: Dependent Variable: Personal Loan Growth

Lagged Personal Loan Growth						
	(0.8880)	(0.0019)	(0.6425)	(0.0075)	(0.7626)	(0.0047)
Change in CBRT Policy Rate	-1.3583***	0.2798	-1.3105***	0.3212	-1.3627***	0.2577
	(0.4522)	(0.6615)	(0.4510)	(0.6954)	(0.4371)	(0.6668)
MaPP-FI	-0.0172***	-0.0311**	-0.0162***	-0.0570*	-0.0169***	-0.0395**
	(0.0040)	(0.0119)	(0.0027)	(0.0318)	(0.0033)	(0.0174)
Constant	0.1135**	0.1135**	0.1244**	0.1244**	0.1206***	0.1206***
	(0.0536)	(0.0536)	(0.0608)	(0.0608)	(0.0454)	(0.0454)
Observations	1,334	1,334	1,299	1,299	1,334	1,334
R-squared	0.033	0.033				
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

Table 14: Dependent Variable: Personal Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small			Big	Small
Lagged Personal Loan Growth						
			Big	Small		
	0.0739***	0.0739***	0.0051	0.0051	0.0275	0.0275
	(0.0210)	(0.0210)	(0.0223)	(0.0223)	(0.0178)	(0.0178)
Domestic Deposit Growth X Deposit/Credit	0.3239***	0.0123***	0.2886***	0.0097**	0.3160***	0.0108***
	(0.0905)	(0.0028)	(0.0774)	(0.0039)	(0.0891)	(0.0030)
FX Deposit Growth X FX Deposit/Credit	-0.1259	0.0246	-0.1181	0.0236	-0.1299	0.0274
	(0.1413)	(0.0212)	(0.1076)	(0.0175)	(0.1304)	(0.0193)
Change in Capital Flows	0.1140*	0.0037	0.1473***	-0.0196	0.1325**	-0.0252
	(0.0579)	(0.1547)	(0.0555)	(0.1902)	(0.0550)	(0.1668)
Lagged GDP Growth	0.3825*	-0.6786	0.5090***	-0.5943	0.4638**	-0.6817*
	(0.1907)	(0.4245)	(0.1922)	(0.4008)	(0.1910)	(0.3987)
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES			YES	YES
Quarter Dummies	YES	YES			YES	YES
Robust standard errors in parentheses						

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 15: Dependent Variable: Personal Loan Growth

Lagged Personal Loan Growth						
Lagged Deposit Rate	-0.7152	0.0562***	-0.2797	0.3572***	-0.5561	0.1442***
	(0.8200)	(0.0029)	(0.5731)	(0.0111)	(0.6991)	(0.0044)
Change in CBRT Policy Rate	-1.4088***	-0.0778	-1.3561***	0.1805	-1.4288***	-0.0564
	(0.4719)	(0.7301)	(0.4655)	(0.7251)	(0.4528)	(0.7253)
MaPP-BW	-0.0111***	-0.0266***	-0.0100***	-0.0568	-0.0109***	-0.0362**
	(0.0035)	(0.0091)	(0.0025)	(0.0373)	(0.0030)	(0.0178)
Constant	0.0512	0.0512	0.0262	0.0262	0.0476**	0.0476**
	(0.0305)	(0.0305)	(0.0275)	(0.0275)	(0.0201)	(0.0201)
Observations	1,334	1,334	1,299	1,299	1,334	1,334
R-squared	0.028	0.028				
			YES	YES		
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES
Robust standard errors in parentheses						

***

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

Table 16: Dependent Variable: Personal Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small			Big	Small
Lagged Personal Loan Growth			YES	YES		
Number of groups	33	33	33	33	33	33
Fixed Effect	YES	YES			YES	YES
Quarter Dummies	YES	YES			YES	YES

Robust standard errors in parentheses

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 17: Dependent Variable: Commercial Loan Growth

Lagged Commercial Loan Growth	-0.0383	-0.0383	-0.0905	-0.0905	-0.0047	-0.0047
	(0.0724)	(0.0724)	(0.0702)	(0.0702)	(0.0536)	(0.0536)
Domestic Deposit Growth X Deposit/Credit	0.1622***	-0.0206***	0.1528***	-0.0197***	0.1764***	-0.0170***
	(0.0241)	(0.0050)	(0.0241)	(0.0045)	(0.0297)	(0.0043)
FX Deposit Growth X FX Deposit/Credit	-0.1079	0.0347	-0.1038	0.0341*	-0.1271	0.0332*
	(0.1809)	(0.0226)	(0.1762)	(0.0205)	(0.1792)	(0.0191)
Change in Capital Flows	0.4196***	0.4243***	0.4233***	0.3864***	0.3984***	0.5065***
	(0.0361)	(0.0995)	(0.0344)	(0.0809)	(0.0423)	(0.1123)
Lagged GDP Growth	0.5307***	0.2839	0.5626***	0.3834	0.4397***	0.3369
	(0.1187)	(0.4380)	(0.1215)	(0.4341)	(0.1224)	(0.4273)
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 18: Dependent Variable: Commercial Loan Growth

Lagged Commercial Loan Growth						
Lagged Deposit Rate	-0.2702	-0.0269**	-0.2025	-0.0253**	-0.5160	-0.0496***
	(0.3135)	(0.0115)	(0.3048)	(0.0120)	(0.3549)	(0.0122)
Change in CBRT Policy Rate	-0.1941*	-1.0231***	-0.1396	-1.3647***	-0.2728**	-0.6876
	(0.1139)	(0.3523)	(0.1168)	(0.4932)	(0.1235)	(0.4306)
MPI	-0.0002	-0.0065***	-0.0002	-0.0099***	-0.0010	-0.0041*
	(0.0011)	(0.0021)	(0.0012)	(0.0026)	(0.0012)	(0.0023)
Constant	-0.0128	-0.0128	-0.0194	-0.0194	-0.0275	-0.0275
	(0.0204)	(0.0204)	(0.0220)	(0.0220)	(0.0236)	(0.0236)
Observations	1,415	1,415	1,377	1,377	1,415	1,415
R-squared	0.279	0.279				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

Table 19: Dependent Variable: Commercial Loan Growth

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small
Lagged Commercial Loan Growth	-0.0386	-0.0386	-0.0914	-0.0914	-0.0051	-0.0051
	(0.0724)	(0.0724)	(0.0701)	(0.0701)	(0.0535)	(0.0535)
Domestic Deposit Growth X Deposit/Credit	0.1590***	-0.0206***	0.1490***	-0.0196***	0.1716***	-0.0170***
	(0.0240)	(0.0050)	(0.0242)	(0.0045)	(0.0298)	(0.0043)
FX Deposit Growth X FX Deposit/Credit	-0.1053	0.0347	-0.1032	0.0339*	-0.1216	0.0331*
	(0.1843)	(0.0226)	(0.1799)	(0.0205)	(0.1824)	(0.0191)
Change in Capital Flows	0.4163***	0.4226***	0.4205***	0.3790***	0.3942***	0.5049***
	(0.0374)	(0.0992)	(0.0359)	(0.0799)	(0.0438)	(0.1126)
Lagged GDP Growth	0.5027***	0.1866	0.5337***	0.2174	0.4003***	0.2688
	(0.1166)	(0.4300)	(0.1202)	(0.4456)	(0.1257)	(0.4336)
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 20: Dependent Variable: Commercial Loan Growth

Lagged Commercial Loan Growth						
Lagged Deposit Rate	-0.3013	-0.0265**	-0.2342	-0.0250**	-0.5459	-0.0494***
	(0.3052)	(0.0114)	(0.2978)	(0.0123)	(0.3492)	(0.0123)
Change in CBRT Policy Rate	-0.1877	-0.9810***	-0.1326	-1.3270***	-0.2623**	-0.6587
	(0.1158)	(0.3472)	(0.1189)	(0.4890)	(0.1236)	(0.4202)
MaPP-FI	-0.0014	-0.0120***	-0.0014	-0.0206***	-0.0028	-0.0081*
	(0.0024)	(0.0037)	(0.0025)	(0.0049)	(0.0025)	(0.0043)
Constant	-0.0039	-0.0039	-0.0017	-0.0017	-0.0208	-0.0208
	(0.0218)	(0.0218)	(0.0206)	(0.0206)	(0.0254)	(0.0254)
Observations	1,415	1,415	1,377	1,377	1,415	1,415
R-squared	0.280	0.280				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 21: Dependent Variable: Commercial Loan Growth

Lagged Commercial Loan Growth	-0.0370	-0.0370	-0.0884	-0.0884	-0.0038	-0.0038
	(0.0727)	(0.0727)	(0.0705)	(0.0705)	(0.0539)	(0.0539)
Domestic Deposit Growth X Deposit/Credit	0.1625***	-0.0206***	0.1536***	-0.0197***	0.1795***	-0.0170***
	(0.0253)	(0.0050)	(0.0253)	(0.0045)	(0.0310)	(0.0043)
FX Deposit Growth X FX Deposit/Credit	-0.1085	0.0347	-0.1033	0.0341*	-0.1316	0.0331*
	(0.1779)	(0.0226)	(0.1728)	(0.0206)	(0.1766)	(0.0191)
Change in Capital Flows	0.4226***	0.4250***	0.4258***	0.3933***	0.4025***	0.5078***
	(0.0350)	(0.1000)	(0.0332)	(0.0817)	(0.0409)	(0.1120)
Lagged GDP Growth	0.5439***	0.4147	0.5752***	0.5557	0.4678***	0.4175
	(0.1224)	(0.4435)	(0.1247)	(0.4210)	(0.1206)	(0.4210)
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 22: Dependent Variable: Commercial Loan Growth

Lagged Commercial Loan Growth						
Lagged Deposit Rate	-0.2261	-0.0272**	-0.1616	-0.0250**	-0.4730	-0.0495***
	(0.3263)	(0.0118)	(0.3160)	(0.0115)	(0.3614)	(0.0122)
Change in CBRT Policy Rate	-0.2008*	-1.1310***	-0.1480	-1.4622***	-0.2873**	-0.7515*
	(0.1121)	(0.3658)	(0.1144)	(0.5023)	(0.1265)	(0.4489)
MaPP-BW	0.0014	-0.0101**	0.0014	-0.0122***	0.0002	-0.0055
	(0.0014)	(0.0039)	(0.0015)	(0.0045)	(0.0016)	(0.0040)
Constant	-0.0269	-0.0269	-0.0409*	-0.0409*	-0.0368*	-0.0368*
	(0.0192)	(0.0192)	(0.0243)	(0.0243)	(0.0221)	(0.0221)
Observations	1,415	1,415	1,377	1,377	1,415	1,415
R-squared	0.278	0.278				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 23: Dependent Variable: Turkish Lira (TL) Loan Growth

Lagged TL Loan Growth	-0.1406**	-0.1406**	-0.2165***	-0.2165***	-0.1443**	-0.1443**
	(0.0578)	(0.0578)	(0.0389)	(0.0389)	(0.0579)	(0.0579)
Domestic Deposit Growth X Deposit/Credit	0.1739***	-0.0181***	0.1559***	-0.0163***	0.1754***	-0.0164***
	(0.0564)	(0.0054)	(0.0562)	(0.0047)	(0.0578)	(0.0056)
FX Deposit Growth X FX Deposit/Credit	-0.2805***	0.0393*	-0.2910***	0.0329*	-0.2986***	0.0407*
	(0.0588)	(0.0216)	(0.0561)	(0.0189)	(0.0632)	(0.0214)
Change in Capital Flows	0.1890***	0.0403	0.2060***	0.0275	0.1852***	0.0694
	(0.0490)	(0.0990)	(0.0462)	(0.1096)	(0.0481)	(0.0898)
Lagged GDP Growth	0.6681**	0.1107	0.7535***	0.1638	0.6601**	0.0767
	(0.2640)	(0.3466)	(0.2689)	(0.3820)	(0.2610)	(0.3557)
Lagged Deposit Rate	-0.7029**	0.0174***	-0.5231*	0.0919***	-0.7873**	0.0218***
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 24: Dependent Variable: Turkish Lira (TL) Loan Growth

Lagged TL Loan Growth						
	(0.3446)	(0.0063)	(0.3077)	(0.0156)	(0.3324)	(0.0057)
Change in CBRT Policy Rate	-1.3405***	-0.8161*	-1.3219***	-1.0912*	-1.4283***	-0.5663
	(0.4346)	(0.4817)	(0.4544)	(0.6137)	(0.4002)	(0.5517)
MPI	-0.0061***	-0.0144***	-0.0061***	-0.0182***	-0.0064***	-0.0124***
	(0.0013)	(0.0031)	(0.0013)	(0.0058)	(0.0013)	(0.0035)
Constant	0.0556***	0.0556***	0.0372	0.0372	0.0528***	0.0528***
	(0.0171)	(0.0171)	(0.0286)	(0.0286)	(0.0149)	(0.0149)
Observations	1,420	1,420	1,382	1,382	1,420	1,420
R-squared	0.176	0.176				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 25: Dependent Variable: Turkish Lira (TL) Loan Growth

Lagged TL Loan Growth	-0.1442**	-0.1442**	-0.2199***	-0.2199***	-0.1478**	-0.1478**
	(0.0574)	(0.0574)	(0.0387)	(0.0387)	(0.0576)	(0.0576)
Domestic Deposit Growth X Deposit/Credit	0.1563***	-0.0181***	0.1366***	-0.0163***	0.1577***	-0.0164***
	(0.0484)	(0.0054)	(0.0480)	(0.0047)	(0.0498)	(0.0056)
FX Deposit Growth X FX Deposit/Credit	-0.2634***	0.0393*	-0.2751***	0.0328*	-0.2788***	0.0407*
	(0.0627)	(0.0216)	(0.0594)	(0.0189)	(0.0665)	(0.0215)
Change in Capital Flows	0.1753***	0.0381	0.1929***	0.0186	0.1716***	0.0659
	(0.0489)	(0.0985)	(0.0463)	(0.1097)	(0.0487)	(0.0893)
Lagged GDP Growth	0.5298**	-0.1250	0.6127**	-0.0954	0.5171**	-0.1295
	(0.2519)	(0.3767)	(0.2561)	(0.4177)	(0.2496)	(0.3806)
Lagged Deposit Rate	-0.7934**	0.0182***	-0.6067*	0.0917***	-0.8716**	0.0220***
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 26: Dependent Variable: Turkish Lira (TL) Loan Growth

Lagged TL Loan Growth						
	(0.3544)	(0.0060)	(0.3191)	(0.0165)	(0.3431)	(0.0058)
Change in CBRT Policy Rate	-1.3265***	-0.6964	-1.3042***	-1.0358*	-1.4038***	-0.4743
	(0.4263)	(0.4793)	(0.4462)	(0.6084)	(0.3941)	(0.5463)
MaPP-FI	-0.0132***	-0.0277***	-0.0132***	-0.0347***	-0.0137***	-0.0244***
	(0.0027)	(0.0056)	(0.0027)	(0.0093)	(0.0026)	(0.0062)
Constant	0.0791***	0.0791***	0.0642**	0.0642**	0.0732***	0.0732***
	(0.0186)	(0.0186)	(0.0279)	(0.0279)	(0.0160)	(0.0160)
Observations	1,420	1,420	1,382	1,382	1,420	1,420
R-squared	0.181	0.181				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 27: Dependent Variable: Turkish Lira (TL) Loan Growth

Lagged TL Loan Growth	-0.1347**	-0.1347**	-0.2098***	-0.2098***	-0.1391**	-0.1391**
	(0.0586)	(0.0586)	(0.0397)	(0.0397)	(0.0584)	(0.0584)
Domestic Deposit Growth X Deposit/Credit	0.1902***	-0.0181***	0.1752***	-0.0163***	0.1929***	-0.0164***
	(0.0678)	(0.0054)	(0.0679)	(0.0047)	(0.0693)	(0.0056)
FX Deposit Growth X FX Deposit/Credit	-0.3006***	0.0390*	-0.3091***	0.0326*	-0.3216***	0.0403*
	(0.0564)	(0.0217)	(0.0537)	(0.0187)	(0.0617)	(0.0214)
Change in Capital Flows	0.2072***	0.0392	0.2222***	0.0368	0.2031***	0.0713
	(0.0495)	(0.0999)	(0.0465)	(0.1097)	(0.0479)	(0.0905)
Lagged GDP Growth	0.8068***	0.4052	0.8908***	0.4841	0.8048***	0.3239
	(0.2785)	(0.3154)	(0.2834)	(0.3268)	(0.2742)	(0.3287)
Lagged Deposit Rate	-0.5397	0.0169**	-0.3811	0.0902***	-0.6387**	0.0214***
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 28: Dependent Variable: Turkish Lira (TL) Loan Growth

Lagged TL Loan Growth						
	(0.3223)	(0.0069)	(0.2845)	(0.0134)	(0.3104)	(0.0057)
Change in CBRT Policy Rate	-1.3754***	-1.0846**	-1.3645***	-1.2625**	-1.4765***	-0.7689
	(0.4478)	(0.4840)	(0.4666)	(0.6217)	(0.4104)	(0.5586)
MaPP-BW	-0.0064***	-0.0201***	-0.0063***	-0.0255**	-0.0069***	-0.0164**
	(0.0017)	(0.0051)	(0.0016)	(0.0109)	(0.0017)	(0.0064)
Constant	0.0216	0.0216	-0.0014	-0.0014	0.0240	0.0240
	(0.0163)	(0.0163)	(0.0296)	(0.0296)	(0.0149)	(0.0149)
Observations	1,420	1,420	1,382	1,382	1,420	1,420
R-squared	0.167	0.167				
Number of groups	37	37	35	35	37	37
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 29: Dependent Variable: FX Loan Growth

Lagged FX Loan Growth	-0.0971	-0.0971	0.0044	0.0044	-0.0061	-0.0061
	(0.1077)	(0.1077)	(0.0453)	(0.0453)	(0.0575)	(0.0575)
Domestic Deposit Growth X Deposit/Credit	0.1165	-0.0539***	0.1477*	-0.0599***	0.2058***	-0.0513***
	(0.0965)	(0.0061)	(0.0895)	(0.0074)	(0.0769)	(0.0088)
FX Deposit Growth X FX Deposit/Credit	0.3187**	0.1809***	0.3544***	0.2095***	0.3700***	0.2345***
	(0.1252)	(0.0351)	(0.1008)	(0.0509)	(0.1052)	(0.0647)
Change in Capital Flows	0.5853***	0.7020***	0.5782***	0.5504***	0.6273***	0.6628***
	(0.0666)	(0.1318)	(0.0676)	(0.1173)	(0.0795)	(0.1316)
Lagged GDP Growth	0.6740	0.8900	0.6495	0.4600	0.7240*	0.4601
	(0.4527)	(0.5367)	(0.4081)	(0.3088)	(0.4389)	(0.3005)
Number of groups	35	35	35	35	35	35
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 30: Dependent Variable: FX Loan Growth

Lagged FX Loan Growth						
Lagged Deposit Rate	0.5267	-0.0724***	0.7904	-0.1113***	0.7544	-0.1206***
	(0.7021)	(0.0149)	(0.7162)	(0.0163)	(0.6725)	(0.0171)
Change in CBRT Policy Rate	0.9440***	-0.4831	0.9612***	-0.9164	1.0637***	-0.2479
	(0.2401)	(0.4721)	(0.2571)	(0.5668)	(0.2858)	(0.5826)
MPI	0.0007	-0.0030	0.0018	-0.0089**	0.0025	-0.0036
	(0.0020)	(0.0024)	(0.0018)	(0.0042)	(0.0020)	(0.0024)
Constant	-0.0305	-0.0305	-0.0268	-0.0268	-0.0381*	-0.0381*
	(0.0244)	(0.0244)	(0.0216)	(0.0216)	(0.0229)	(0.0229)
Observations	1,372	1,372	1,333	1,333	1,372	1,372
R-squared	0.204	0.204				
Number of groups	35	35	35	35	35	35
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 31: Dependent Variable: FX Loan Growth

Lagged FX Loan Growth	-0.0968	-0.0968	0.0046	0.0046	-0.0060	-0.0060
	(0.1075)	(0.1075)	(0.0455)	(0.0455)	(0.0574)	(0.0574)
Domestic Deposit Growth X Deposit/Credit	0.1194	-0.0538***	0.1523*	-0.0598***	0.2129***	-0.0512***
	(0.0990)	(0.0061)	(0.0906)	(0.0074)	(0.0776)	(0.0088)
FX Deposit Growth X FX Deposit/Credit	0.3144**	0.1806***	0.3452***	0.2084***	0.3600***	0.2342***
	(0.1258)	(0.0352)	(0.1029)	(0.0511)	(0.1077)	(0.0648)
Change in Capital Flows	0.5876***	0.7013***	0.5815***	0.5449***	0.6327***	0.6614***
	(0.0680)	(0.1318)	(0.0685)	(0.1170)	(0.0820)	(0.1317)
Lagged GDP Growth	0.6945	0.8727	0.6783	0.3176	0.7743	0.4146
	(0.4866)	(0.5600)	(0.4414)	(0.3135)	(0.4790)	(0.3126)
Number of groups	35	35	35	35	35	35
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 32: Dependent Variable: FX Loan Growth

Lagged FX Loan Growth						
Lagged Deposit Rate	0.5388	-0.0722***	0.7916	-0.1107***	0.7722	-0.1206***
	(0.6901)	(0.0148)	(0.7035)	(0.0168)	(0.6630)	(0.0170)
Change in CBRT Policy Rate	0.9395***	-0.4937	0.9545***	-0.9027	1.0528***	-0.2387
	(0.2335)	(0.4852)	(0.2508)	(0.5622)	(0.2763)	(0.5806)
MaPP-FI	0.0018	-0.0042	0.0034	-0.0182**	0.0051	-0.0064
	(0.0040)	(0.0043)	(0.0036)	(0.0080)	(0.0042)	(0.0043)
Constant	-0.0298	-0.0298	-0.0124	-0.0124	-0.0340	-0.0340
	(0.0258)	(0.0258)	(0.0231)	(0.0231)	(0.0247)	(0.0247)
Observations	1,372	1,372	1,333	1,333	1,372	1,372
R-squared	0.204	0.204				
Number of groups	35	35	35	35	35	35
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 33: Dependent Variable: FX Loan Growth

Lagged FX Loan Growth	-0.0973	-0.0973	0.0053	0.0053	-0.0061	-0.0061
	(0.1078)	(0.1078)	(0.0450)	(0.0450)	(0.0575)	(0.0575)
Domestic Deposit Growth X Deposit/Credit	0.1133	-0.0539***	0.1413	-0.0600***	0.1971**	-0.0513***
	(0.0962)	(0.0060)	(0.0920)	(0.0073)	(0.0796)	(0.0088)
FX Deposit Growth X FX Deposit/Credit	0.3236**	0.1809***	0.3646***	0.2099***	0.3820***	0.2344***
	(0.1244)	(0.0350)	(0.0978)	(0.0507)	(0.1020)	(0.0646)
Change in Capital Flows	0.5830***	0.7030***	0.5739***	0.5565***	0.6202***	0.6644***
	(0.0646)	(0.1321)	(0.0659)	(0.1177)	(0.0761)	(0.1315)
Lagged GDP Growth	0.6572	0.9403*	0.6131	0.6137*	0.6686	0.5260*
	(0.4361)	(0.5215)	(0.3900)	(0.3183)	(0.4142)	(0.2941)
Number of groups	35	35	35	35	35	35
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big	Small	Big	Small	Big	Small

Table 34: Dependent Variable: FX Loan Growth

Lagged FX Loan Growth						
Lagged Deposit Rate	0.5148	-0.0723***	0.7818	-0.1124***	0.7216	-0.1205***
	(0.7079)	(0.0152)	(0.7242)	(0.0156)	(0.6762)	(0.0172)
Change in CBRT Policy Rate	0.9544***	-0.4989	0.9781***	-0.9818*	1.0884***	-0.2859
	(0.2552)	(0.4555)	(0.2713)	(0.5784)	(0.3042)	(0.5861)
MaPP-BW	0.0005	-0.0068	0.0025	-0.0112	0.0031	-0.0059
	(0.0036)	(0.0053)	(0.0032)	(0.0071)	(0.0034)	(0.0048)
Constant	-0.0347	-0.0347	-0.0452**	-0.0452**	-0.0451**	-0.0451**
	(0.0232)	(0.0232)	(0.0230)	(0.0230)	(0.0222)	(0.0222)
Observations	1,372	1,372	1,333	1,333	1,372	1,372
R-squared	0.204	0.204				
Number of groups	35	35	35	35	35	35
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses

***

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

Table 18: Dependent Variable: Loan Rate

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big		Big		Big	
Small				Small		Small
Loan Rate(lagged)	-0.2803	-0.2803	-0.3051	-0.3051	-0.0574	-0.0574
	(0.299)	(0.299)	(0.2504)	(0.2504)	(0.1093)	(0.1093)
Policy Rate	0.1765***	0.2417***	0.1800***	0.2597***	0.1687***	0.5133*
	(0.043)	(0.073)	(0.0391)	(0.0779)	(0.0241)	(0.2635)
MPI	-0.0024*	-0.00156*	-0.0025**	-0.0009	-0.0018*	0.0009
	(0.0012)	(0.0008)	(0.0011)	(0.0009)	(0.0009)	(0.0017)
Liq. ratio	0.0044	-0.0010	0.0044	0.0003	-0.0011	0.0010
	(0.0203)	(0.0013)	(0.0203)	(0.0012)	(0.0136)	(0.0020)
Inflation	-0.0316	-0.0994	-0.0298	-0.0912	-0.0303	-0.2329
	(0.169)	(0.155)	(0.1508)	(0.1428)	(0.1395)	(0.2348)
Δ REER	0.0232	-0.0120	0.0247	-0.0032	0.0154	0.0106
	(0.0187)	(0.0239)	(0.0178)	(0.0197)	(0.0226)	(0.0526)
NPL ratio	-0.0581**	-0.0006***	-0.0593**	-0.0005**	-0.0413	0.0001
	(0.026)	(0.0002***)	(0.0259)	(0.0002)	(0.0338)	(0.0001)
Req.Reserve Rat.	-0.0517*	-1.39E-06	-0.0536*	0.0000	-0.0584	0.0000
	(0.0298)	(3.01E-06)	(0.0292)	(0.0000)	(0.0370)	(0.0000)
Constant	0.1436***	0.1436***	0.1375***	0.1375***	0.0801***	0.0801***
	(0.0090)	(0.0090)	(0.0265)	(0.0265)	(0.0292)	(0.0292)
Observations	1,428	1,428	1,390	1,390	1,428	1,428

Number of groups	38	38	36	36	38	38
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 19: Dependent Variable: Loan Rate

VARIABLES	WithinEstimator		Arellano-Bond		SystemGMM	
	Big		Big		Big	
Small				Small		Small
Loan Rate(lagged)	-0.2802	-0.2802	-0.3052	-0.3052	-0.0564	-0.0564
	(0.300)	(0.300)	(0.2506)	(0.2506)	(0.1093)	(0.1093)
Int. rate (upper bound)	0.0015***	0.0021***	0.0015***	0.0022***	0.0015***	0.0044*
	(0.0004)	(0.0006)	(0.0003)	(0.0007)	(0.0002)	(0.0022)
MPI	-0.0024**	-0.0015**	-0.0024**	-0.0008	-0.0017*	0.0010
	(0.0012)	(0.0008)	(0.0011)	(0.0009)	(0.0009)	(0.0018)
Liq. ratio	0.0046	-0.001*	0.0046	0.0003	-0.0012	0.0010
	(0.0203)	(0.0013)	(0.0202)	(0.0012)	(0.0135)	(0.0020)
Inflation	-0.0269	-0.0921	-0.0254	-0.0837	-0.0252	-0.2112
	(0.169)	(0.155)	(0.1513)	(0.1425)	(0.1404)	(0.2244)
Δ REER	0.0183	-0.0184	0.0197	-0.0101	0.0107	-0.0007
	(0.0197)	(0.022)	(0.0187)	(0.0193)	(0.0231)	(0.0502)
NPL ratio	-0.0559**	-0.0006***	-0.0570**	-0.0005**	-0.0393	0.0001
	(0.0269)	(0.0002)	(0.0267)	(0.0002)	(0.0347)	(0.0001)

Req.Reserve Rat	-0.05*	-1.12E-06	-0.0517*	0.0000	-0.0560	0.0000
	(0.03)	(3.03E-06)	(0.0286)	(0.0000)	(0.0369)	(0.0000)
Constant	0.1402***	0.1402***	0.1339***	0.1339***	0.0738**	0.0738**
	(0.026)	(0.026)	(0.0257)	(0.0257)	(0.0318)	(0.0318)
Observations	1,428	1,428	1,390	1,390	1,428	1,428
Number of groups	38	38	36	36	38	38
Fixed Effect	YES	YES	YES	YES	YES	YES
Quarter Dummies	YES	YES	YES	YES	YES	YES

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 20: Expected relation between loan rate and its determinants

Explanatory Variables	Expected Sign
CBRT Policy Rate	+
Macroprudential Policy Index	+
NPL Ratio	+
Liquid Assets/Total Credit Ratio	-
Change in Exchange Rate	-

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