

Corporate Types and Bank Lending in Contractionary Era: Evidence from Chinese Listed Companies

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May 14, 2020

Abstract

This paper, assuming the existence of the credit channel in China, focuses specifically on examining whether monetary policies affect the loans of companies varies based on the types of companies through empirical approaches on micro-economical evidence. The evidence elucidates that State-owned companies seem to be less affected by contractionary monetary policy. Compared to expansionary monetary policies, contractionary monetary policies are more impactful on loans. Understanding whether monetary policies impact the difficulties of getting loans for businesses from banks is critical for policy-makers to identify the intermediate targets of monetary policies and make the monetary policies more effective.

*I would like to thank Professor Emi Nakamura for all of her guidance and support throughout this process.

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1 Introduction

Monetary Transmission Mechanism is the process of how the impacts of central banks' monetary tools on intermediate targets transmit to the changes in the real productions of the economy. Since the establishment of the People's Bank of China(PBC)¹ in 1948, the transmission jam of monetary policy has always been an issue that affects the implementation results of China's monetary policy and realizations of the ultimate mandates of the central banks. As China gradually shifted its intermediate target of monetary policies from money supply to interest rate, this issue became more detrimental.

The complexity and effectiveness of the monetary transmission mechanism intrigue the enthusiasm of many scholars in academia. Mishkin synthesized and provided an overview of four main channels of the monetary transmission mechanism in one symposium: Interest Rate Channel, Exchange Rate Channel, Asset Price Channel and Credit Channel(Mishkin 1995). In this paper, we will only focus on the credit channel. As indicated by Bernanke and Gertler in their symposium, one branch of Credit Channels, Bank Balance Sheet Channel, is that the monetary (M) contraction will lead to an increase of interbank exchange rate (i), and worsen the bank's balance sheet because it costs more for banks to borrow money. This imperfection will make banks more cautious while lending their money. As a result, the loan of business will decrease, which leads to less investment (I) and to eventually decrease in production (Y). The whole process can be synthesized as the following:

$$\begin{aligned} M \downarrow \Rightarrow i \uparrow \Rightarrow \text{cash flow} \downarrow \Rightarrow \text{adverse selection} \uparrow \& \text{ moral hazard} \uparrow \\ \Rightarrow \text{lending} \downarrow \Rightarrow I \downarrow \Rightarrow Y \downarrow \end{aligned} \tag{1}$$

For this branch, Bernanke and Gertler concluded that tight monetary policies will weaken the firms' balance sheet, so it will increase the chance of moral hazard and adverse selection. Hence, it will eventually make banks more cautious about lending money to the firms (Bernanke and Gertler 1995). Inspiring by Bernanke and Gertler, this paper will focus on examining whether there exists

¹People's bank of China (PBC) is the central bank of China and is responsible for carrying out monetary policies and regulating financial institutions in China. PBC is a department of the State council, while it remains a high degree of independence.

a transmission jam in the following step and whether different types of companies could be affected differently under monetary policy shocks:

$$\text{adverse selection} \uparrow \& \text{moral hazard} \uparrow \Rightarrow \text{lending} \quad (2)$$

In other words, whether the credit of companies will impact their abilities in getting loans and whether State-owned Enterprises will have advantages during the contractionary or expansionary time.

2 Literature Reviews

2.1 Bank Loan Discrimination Against Different Types of Companies:

Loren Brandt and Hongbin Li, Robert Cull

There are mainly three types of companies in China: The first type is private firms, which are owned by wealthy individuals or families. The second type is foreign and special districts firms (Incl. Hongkong, Macau and Taiwan firms). This type of firm is owned by foreign personnel or people from Hongkong, Macau and Taiwan. The last type is State-owned Enterprises (SOEs), which is generally owned by governments or other SOEs.

There is some evidence to suggest that different types of companies are facing different difficulties in obtaining loans. Loren Brandt and Hongbin Li utilized a unique matching bank-firm dataset and concluded that there are discriminations against private firms in the formal loan market. Additionally, as a result of loan discrimination, private firms usually resort to more expensive trade credits. On the other hand, Robert Cull used 120,000 firms in China to examine how firms of various ownership extend trade credit between 1998 to 2003, and Cull found out that bank credits allocated to state-owned enterprises (SOEs) tended to be very inefficient. Meanwhile, though SOEs tend to be inefficient in using loans, they rechannel part of the bank credits to other firms in the form of trade credit. This re-channeling part of the bank credits eventually flew to private sectors at a higher price. He also found out that Private firms tend to use bank loans and trade credit as substitutes,

which indicates serious credit constraints. Hence, Cull concluded a similar result as Brandt and Li, which is that SOEs tend to have some advantages of getting loans from the banks.

2.2 Identification of Monetary Shocks: Christina Romer and David Romer, Rongrong Sun

Christina Romer and David Romer in their paper “A New Measure of Monetary Shocks: Derivation and Implications” pointed out the effect that interest rate policy shocks have on economic variables, particularly on output and inflation. By regressing changes in Federal Fund Rate in 1969 – 1996 on the existing target federal funds rate, output, inflation, and unemployment forecasts, they created a measure of a monetary policy shock that is exogenous and uncorrelated with concurrent economic conditions in the United States, which is synthesized as the following:

$$\Delta f_m = \alpha + \beta f_m + \sum_{i=-1}^2 \gamma_i \widetilde{\Delta y_{mi}} + \sum_{i=-1}^2 \lambda_i (\overline{\Delta y_{mi}} - \widetilde{\Delta y_{m-1,i}}) + \sum_{i=-1}^2 \varphi_i \widetilde{\pi_{mi}} + \sum_{i=-1}^2 \theta_i (\widetilde{\pi_{mi}} - \widetilde{\pi_{m-1,i}}) + \rho \widetilde{u_{m0}} + \varepsilon_m \quad (3)$$

Compared with dummy variables indicating Monetary shocks, the core advantage of this method is that it helps to quantify the scale of monetary shocks. This is important because small scales of monetary shocks might not be so detrimental to banks’ assets that the number of loans they lend might not change that much.

Though this method guaranteed the exogeneity of business cycle fluctuations or economic conditions in the United States, it can only be implemented if PBC follows a similar approach in Monetary policies as Federal Reserves, which is to use interest rate as an intermediate operative target. Later in this paper, there will be a section that further explains the difference between Chinese monetary approaches and US ones, which further proved this method might not be plausible to apply in China.

Considering the circumstances of China, Rongrong Sun noticed two measurement problems, which will be further explained in the later section, are constantly changing policy instruments and identification problems². Reflecting on Chinese unique situations, Rongrong Sun proposed a

²This issue is defined by Sun as “instruments are different in nature and their changes are not necessarily identical in terms of the frequency and magnitude. None of them per se can represent the behavior of all others and hereby

narrative approach: by scrutinizing Chinese Monetary Reports and Summaries of the quarterly Monetary Policy Committee’s meeting, Sun is able to successfully extract the monetary shock that is exogenous to business cycle changes and economic conditions. Sun’s measure is also proved to be more robust than traditional measures through several robustness tests. However, though this method guaranteed the occurrence time of the monetary shocks, it is limited to capture the degree of shocks.

2.3 Bank Loan Responses to Monetary Shocks: Pingui Rao

In Rao’s paper, ”The Impact of Monetary Policy on the Relationship between Bank Loans and Business Credits”(Rao 2013), Pingui Rao studies the impact of monetary policies on firm borrowing and concludes that the impact is stronger for non-state-owned firms than for State-owned Enterprises. During the contractionary monetary policy phase, non-state-owned firms are more likely to utilize net business credit to obtain alternative financing. The author specifically regressed loans and Net Commercial Reputation on Monetary policies dummies and State-owned Enterprises Dummies with other constraints, as seen as following:

$$\text{Dependentvariable} = \alpha_0 + \alpha_1 MP + \alpha_2 NSTATE_{i,t} + \alpha_3 MP \times NSTATE_{i,t} + \sum_i \gamma_i \text{Controlvariables} + \varepsilon \quad (4)$$

The dependent variables in this model are Loan and Net Commercial Reputation (NCR). The loan is defined as Bank borrowings divided by current income, and the NCR is defined as Payables minus receivables divided by current income. For the right hand side of the regression, MP is a dummy variable indicating contractionary Monetary policy occurrence. NSTATE is a dummy variable indicating whether the selected company is non-state-owned. The control variables in this model are Logarithmic total assets at the end of last year (SIZE), operating cash flow at the end of last year (CFO), ratio of stock market value to book value at the end of last year (MB), fixed

adequately reflect changes in the PBC’s policy stance”.

assets at the end of last year as a percentage of total assets (PPE), and GDP growth rate for the year (GDPGROWTH), operating profit and sales revenue ratio (PROFIT).

3 Descriptions on Data

This section will elucidate the data used in this paper for analysis purposes, including the dataset source, and any necessary transformations to prepare the data for analysis. The three main types of data used are 1. Macroeconomic Data and Monetary Shock related Data, 2. Shareholders' Information Data, and 3. Firm-level Financial Data and Stock Market Data. The Macroeconomic data used in this paper come from FRED and EPS China data. The Shibor data come from the Shanghai Interbank offering Rate's website. The firm-level corporate finance data, Stock Market Data and companies' shareholders' data come from the China Stock Market and Accounting Research Database(CSMAR) - Company Research and Stock Market Series and user's guides. All data are on a quarterly basis. Now we will describe the transformations that have been completed on each of these three types of data.

3.1 Macroeconomic Data and Monetary Shock related Data

3.1.1 Approaches to Identify Monetary Shocks

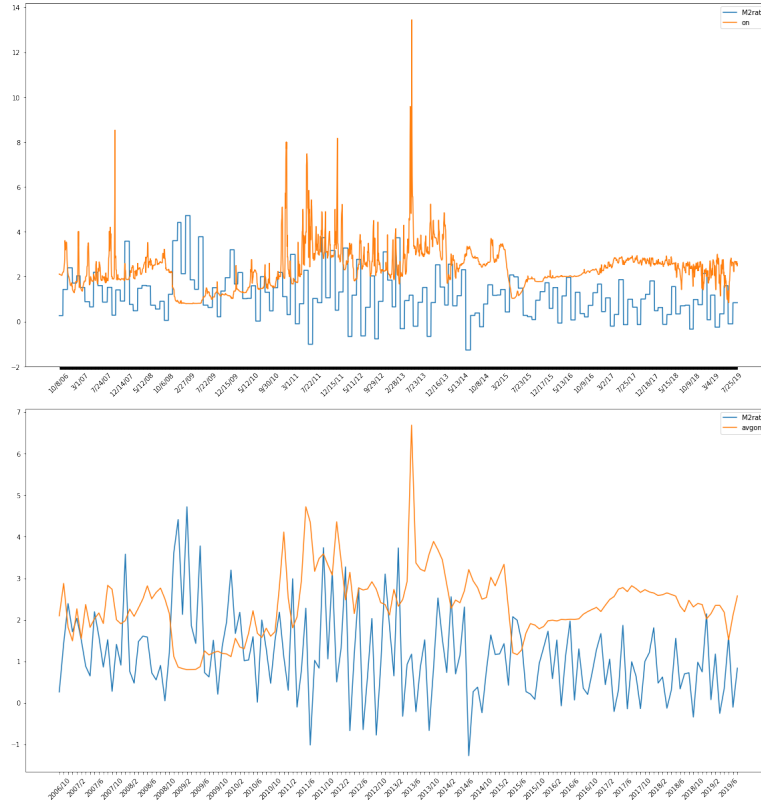
In order to implement the Monetary shock dummies (Expan and Contra), we explored the history of monetary transmission mechanisms and policies in China. The table below summarizes the monetary transmission mechanism since 1949:

	1949-1978	1979-1997	1998-2000	2001-2013	2013-2019	Transmission Process
Major Monetary Policy Tools	Credit Cash Plan	Credit Cash Plan Central Bank Loan	Central Bank Loan Interest Rate Policies Open Market Operation	Open Market Operation Central Bank Loan Discount Window Interest Rate Policies Bank Reserves	Open market Operation Bank Reserves Central Bank Loan Interest rate policies Standing Lending Facility	↓
Complementary Monetary Policy Tools	Credit Policies Interest Rate Policies	Interest Rate Policies Open Market Operation Credit Policies Discount Window Special Deposit	Bank Reserves Discount Window Guided Credit Plan Credit Policies Window Guidance	QE	Pledged Supplemental Lending Facility Medium-term Lending Facility Targeted Medium- term Lending Facility	
Operative Objective of Monetary Policy		From Loan Scale to Base Currency	Base Currency (Monitor its Liquidity)	From Base Currency to Short Term Interest Rate	From Base Currency to Short Term Interest Rate	
Intermediate Target	finance, credit, goods and foreign exchange balance	From Loan Scale to Money Supply	Money Supply (Monitor its interest rate and exchange rate)	From Money Supply to Medium- long Term Interest Rate	From Money Supply to Medium-long Term Interest Rate	
Final Target	Grow Economy and Stabilize Prices	Change from “Grow Economy and Stabilize Prices” to “Stabilize the Currency and promote the economic growth through stabilizing currency”	Stabilize Currency and promote the economic growth through stabilizing currency”	Stabilize Currency	Stabilize Currency, exchange rate and interest rate	

Since 1949, PBC has heavily relied on the money supply as the intermediate target. However, the intermediate target of monetary policies has gradually shifted from money supply to interest rate. In recent decades, PBC has adopted the dual-track interest rate system, which means that the market rate is different from the loan rate. This is because the benchmark rate of loan in China does not exactly reveal the market rate of loan or inter-bank lending rate, but rather the banks are using the benchmark rate of loan to determine its own loan rate. This dual-track interest rate system is criticized heavily by many scholars because it has hindered the transmission of effects of monetary policies to the real economy. It is an important reason why policy-driven changes in interest rates do not have sufficient impacts on the real economy. This is a core issue that needs to be urgently solved in the current market-based interest rate reform. This dual-track interest rate system also indicates that the interest rate channel of monetary transmission mechanism might not be that smooth in China because of the lag.

The current market-based interest rate reform can be traced back to 1998, when PBC starts to monitor the market interest rate. In August 17th 2019, the PBC reformed the Loan Prime Rate to be more market-based and aimed to end the dual-track interest rate system. This signals that the monetary policies' targets seemed to be switched into the interest rate. Since this reform is very recent, there is not much data for analyzing the effectiveness of it. Meanwhile, since our data is

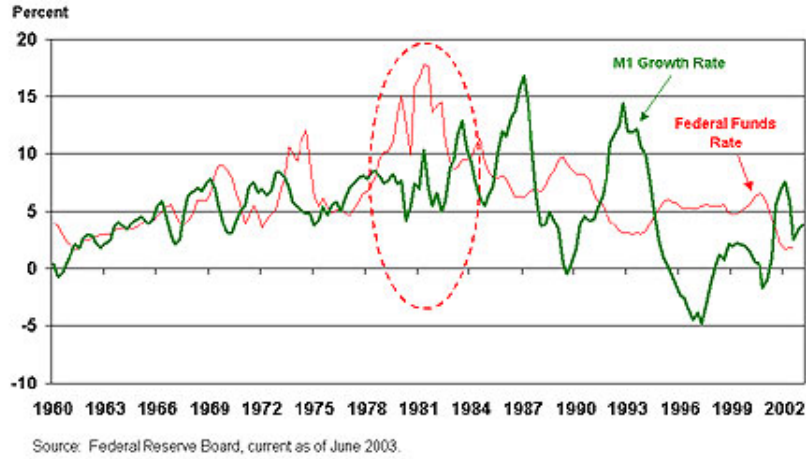
extracted between January 2006 and December 2019, this alteration seems to have little effects on our data.



The first figure is the graph of monthly M2 and daily overnight Shibor rate. The second figure is the graph of monthly M2 and Monthly overnight Shibor rate (obtained by taking the average within each month).

The Shanghai Interbank Offered Rate (or Shibor) is a daily reference rate based on the interest rates at which banks offer to lend unsecured funds to other banks in the Shanghai wholesale (or "interbank") money market. Hence, it is comparable to the Federal Fund Rate (FFR) in the United States without FFR's usage in monetary policies. From the figures above, it seems that the Shibor rate fluctuates drastically as M2 changes. This is comparable to the situation that happened in the United States in the late 1970s and early 1980s, when the United States adopted the Money growth target (Bernanke and Mishkin 1997). The figure below illustrates the volatilities of Money supply and FFR in that time period:

**The Federal Funds Rate and the M1 Growth Rate
Remained Volatile in the 1979-1982 Period**



Source: Website of Federal Reserve Bank Of San Francisco (<https://www.frbsf.org/education/publications/doctor-econ/2003/january/monetary-policy-1970s-1980s/>)

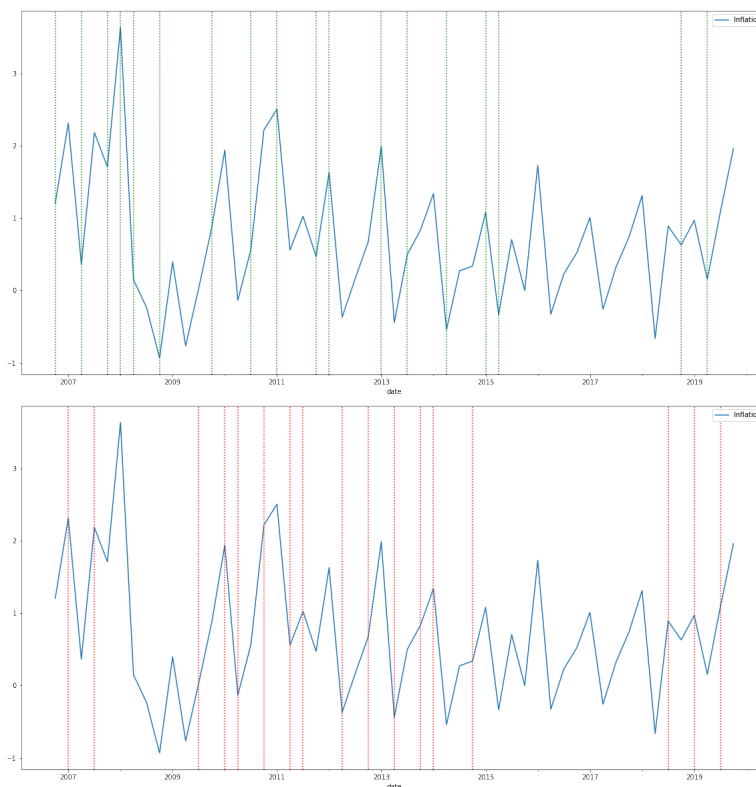
From the figure, we can notice that when the central bank uses the money supply as its target, the interest rate will be very volatile. A similar pattern can be found in the figure of Shibor before 2016 and after 2018. Hence, it is possible that China uses Money supply as its target in monetary policies.

Meanwhile, since Shibor is the interbank offered rate, and is set based on the market rate, it can reflect the tightness of the money supply in the market. In this paper, we will assume that this rate will signal changes in monetary policies given it can reflect the changes in money supply and China mainly uses money supply as its tool to regulate the economy.

With the inspiration of Romer and Romer approach (Romer and Romer 1990) and Sun's narrative approach (Sun 2012), we generate our current process of measuring monetary shocks: First, we calculate the percentage changes per day for the Shibor overnight rate. Then we calculate the mean and Standard deviation of these percentages. We assigned rates $> \text{Mean} + 1$ standard deviation as 1 and rest 0 and called it expansionary indicators first draft. Similarly, we assigned rates $< \text{Mean} - 1$ standard deviation as 1 and rest 0 and called it contractionary indicators first draft. Since all these indicators are daily, we converted them into quarterly data by taking the averages. Then based

on averaged first draft expansionary indicator ($expan.avg$) and averaged first draft contractionary indicator ($Contra.avg$), if $expan.avg > Contra.avg$, then we assigned 1 to be the expansionary indicator of that quarter, and vice versa. If both of them are the same, we assigned both expansionary indicator and contractionary indicator to be 0. The final expansionary and contractionary indicators also adjusted based on a narrative approach based on PBC's announcements.

Robustness: we checked the robustness of our monetary shock series in two ways. First, we graphed shocks with inflation rates, which calculated from quarterly CPI. Since our monetary shock indicators should be exogenous of the business cycles and economic conditions, it is important for our monetary shock indicators to be uncorrelated with the changes in inflation. In other words, it needs to be relatively unpredictable given the changes in inflation.

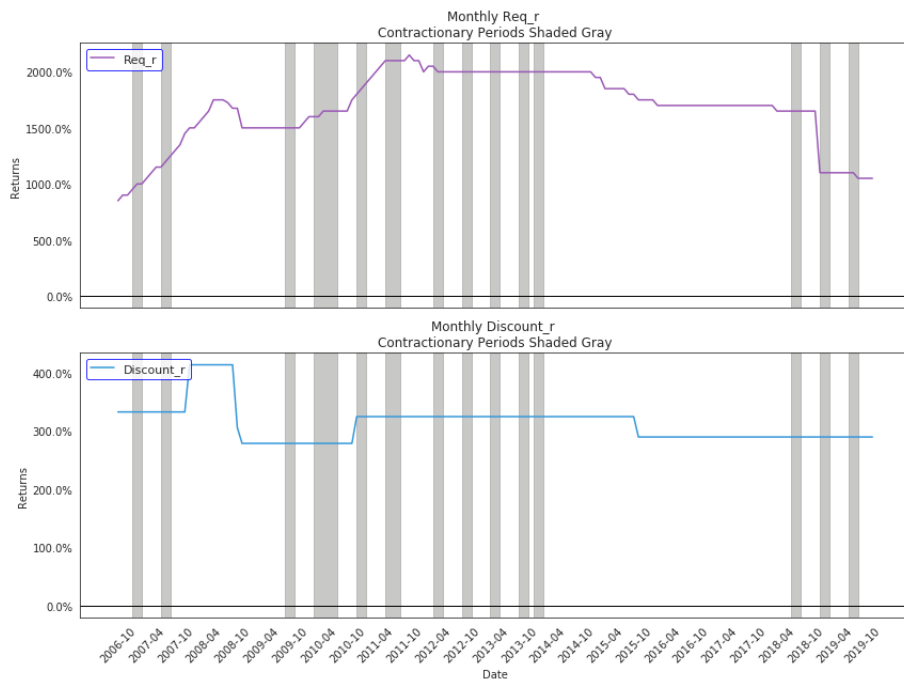


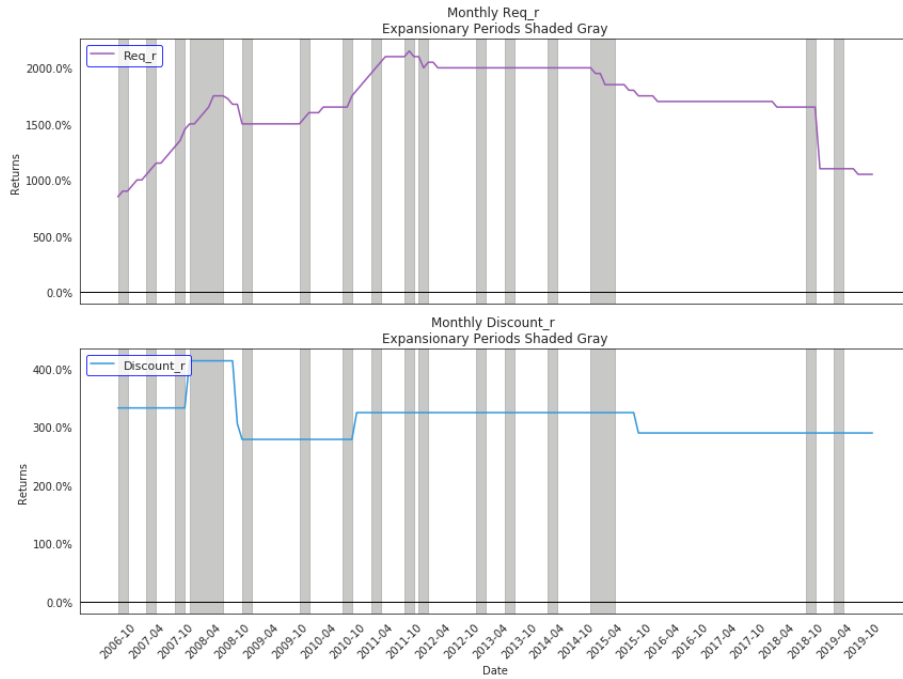
The first picture shows the launching time of expansionary policy against the inflation rate, and the second picture illustrates the launching time of contractionary policy against the inflation rate.

As we observed from the pictures above, our monetary indicators do not have a pattern that

can be traced from inflation rates. Hence, it is relatively robust by this test.

Second, we want to use two other tools PBC used in monetary policies, Deposit Reserve ratio and Discount rate to ensure that our indicators could relatively reflect the general trends and directions of monetary policies. The higher the Deposit Reserve ratio and Discount rate are, the more contractionary the policies are. However, since these two rates are not updated that often, it can only represent the direction of policies partially. Meanwhile, since PBC uses several tools together, though it might look relatively contractionary if we only look at these two rates, due to its lagged nature, the real monetary policies' shocks might be completely different.





From the four figures above, we notice that our monetary policies indicators are relatively robust at capturing the directions of monetary policies.

3.2 Shareholders' Information Data

For the Shareholders' Information, we used China Stock Market and Accounting Research Database(CSMAR) user's guides and its Company Research and Stock Market Series to identify whether a company is state-owned or not. For the simplicity of identifying shareholders, this dataset excludes companies with changes in major Shareholders. This paper classified one company as a state-owned enterprise if it contains any of the following 4 types of shareholders: State-owned Enterprises (1100), Administrative agencies and institutions (2000), Central agency (2100), and local agency (2120). After identifying a list of stock codes that correspond to SOEs, we created a Stateown dummy that is 1 if it is a state-owned Enterprise and a Nstate dummy that is 1 if it is not a State-owned Enterprise. We noticed that the stock codes in this dataset surpass the amount in Firm-level Financial Data due to delisting or missing data.

3.3 Firm-level Financial Data and Stock Market Data

For the firm level data, we obtained from China Stock Market and Accounting Research Database(CSMAR) - company research series. We carefully chose features that could possibly mimic the decision making process of bank lending. We utilized the stock codes for banks on Ping An Banks' website to help us to remove listed banks from the dataset because their balance sheets work differently with other companies and bank loans from other banks are not their ways of financing themselves. We also removed all the NaN values for the simplicity of regressions.

This dataset, before aggregating financial data by Macroeconomic Data, Monetary Shock Related Data and Shareholder's Information Data, has a total of 172,908 observations, across 3,890 unique companies with 893 of them being State-owned Enterprise. Once aggregated by Macroeconomic Data and Monetary Shock Related Data, loan types and remove all rows with empty values for the simplicity of regression, the number of observations drops to 59614 across 2676 unique companies with 630 state-owned companies quarterly from 2006 until 2019.

4 Descriptions on Models

We recap that Rao's Model is the following:

$$\begin{aligned} \text{Dependentvariable} &= \alpha_0 + \alpha_1 MP + \alpha_2 NSTATE_{i,t} + \alpha_3 MP \times NSTATE_{i,t} + \\ &\sum_i \gamma_i \text{Controlvariables} + \varepsilon \end{aligned} \tag{5}$$

There are several issues for Rao's approach. For Rao's variable MP, he took a narrative approach with checking the changes in the interbank offered rate. However, his dummy is yearly. If there is a change in Monetary Policy at the end of the year, then capturing it in that year is not effective. In our model, we used quarterly dummies with three quarters lag. These dummies will better capture the effects of contractionary monetary policies. Additionally, his MP variable assumes that any periods other than contractionary periods are expansionary periods. It is plausible to use this approach if

the data are on the yearly basis. However, since we changed our data to be the quarterly basis, it is possible to have no monetary shocks in some quarters. Therefore, instead of using MP dummies, we add dummies for both contractionary and expansionary monetary policies for comparison purposes. Second, his model failed to capture the time effect of the data. The corporate finance data of the company at the end of that year does not necessarily only affect the loan it can get at that year, but it might affect the loan it can get the year after. Meanwhile, it might affect the next year's loan more than this year's loan since the yearly financial data are finished by the end of December each year and the auditing period usually ends around February of the year after. Hence, we must consider the time effect of the data. Additionally GDP and Monetary policies also affect the whole economy in a time-lagged manner, because it takes time for Monetary policies to transmit through the channels and it takes time for the government to adjust fiscal policies based on previous year's GDP. Lastly, Rao's choices of variables did not capture the risks created by borrowing too much compared to owner's equity and assets.

By noticing this model's limitation on capturing the lagged effects, the definition of Monetary Dummies, omitted variables and addressing other types of companies, We changed the model above as following:

Regression without lagged Variables:

$$\begin{aligned} \text{Logloan} = & \alpha_0 + \alpha_1 \text{Contra}(\text{or Expan}) + \alpha_2 \text{Stateown}(\text{or Nstate})_{i,t} + \alpha_3 \text{Contra}(\text{or Expan}) \\ & \times \text{Stateown}(\text{or Nstate})_{i,t} + \sum_{j=1}^{14} \gamma_{ij} \text{Controlvariables} + \varepsilon \end{aligned} \quad (6)$$

$$\begin{aligned} \text{Log_St_Loan} = & \alpha_0 + \alpha_1 \text{Contra}(\text{or Expan}) + \alpha_2 \text{Stateown}(\text{or Nstate})_{i,t} + \alpha_3 \text{Contra}(\text{or Expan}) \\ & \times \text{Stateown}(\text{or Nstate})_{i,t} + \sum_{j=1}^{14} \gamma_{ij} \text{Controlvariables} + \varepsilon \end{aligned} \quad (7)$$

Regression with 3 quarters lagged Variables:

$$\begin{aligned} \text{Logloan} = & \alpha_0 + \alpha_1 \text{Contra}(\text{or Expan}) + \alpha_2 \text{Stateown}(\text{or Nstate})_{i,t} + \alpha_3 \text{Contra}(\text{or Expan}) \\ & \times \text{Stateown}(\text{or Nstate})_{i,t} + \sum_{i=1}^3 \sum_{j=1}^{14} \gamma_{ij} \text{Controlvariables} + \varepsilon \end{aligned} \quad (8)$$

$$\begin{aligned} \text{Log_St_loan} = & \alpha_0 + \alpha_1 \text{Contra}(\text{or Expan}) + \alpha_2 \text{Stateown}(\text{or Nstate})_{i,t} + \alpha_3 \text{Contra}(\text{or Expan}) \\ & \times \text{Stateown}(\text{or Nstate})_{i,t} + \sum_{i=1}^3 \sum_{j=1}^{14} \gamma_{ij} \text{Controlvariables} + \varepsilon \end{aligned} \quad (9)$$

Dependent Variables are Logloan, Log_St_Loan, Log_Lt_Loan and Log_Notes_payables. Logloan in this model is the logarithmic value of the sum of short term loan, long term loan and notes payable. Most of these three things indicate borrowing from the bank under the Accounting Standard. Instead of simply capturing the results under contractionary monetary policies, We also include the dummy variable for expansionary monetary policies. We include both a dummy for indicating State-owned Enterprises (Stateown) and a dummy for indicating Non-state-owned companies(Nstate). The control variables evaluate four things: first, Ability to pay debt (Captured by Cash and Cash Equivalents(cce),total liabilities, total owners equity, Net Cash Flow From Operational Activities, Debt to Asset, Debt to Equity) ; Second, Ability to Gain(profit margin, Earnings Per Share); Third, the reputation of the company and risks (Captured by Goodwill, Total Assets and Fixed Asset Ratio), which is similar to how banks evaluate companies when lending loans, and fourth, the other macroeconomic factors such as Average M2, Nominal GDP, and the other monetary policies dummy (If we run regression against Expan, then it will be Contra, and vice versa). We also include three quarters lag for all independent variables and control variables except Stateown and the intersect between Monetary policy variable and Stateown.

5 Empirical Analysis and Conclusions

All Regression Results are in 8. Appendix.

5.1 Difference in Differences Approach

For this approach, we need to state one key assumption, Parallel assumptions. In other words, we need to assume that the change in loans will follow similar trends before any monetary interventions.

Table 5.1: Univariate comparative analysis - Contractionary Shocks

Dependent Variables	State-owned Enterprises			Non-State-owned Companies			Difference in Differences
	Non-Contratationary Period	Contratationary Period	Difference	Non-Contratationary Period	Contratationary Period	Difference	
Logarithmic Loans	20.8775	20.8335	-0.04407	20.2752	20.1707	-0.1044	-0.0604
Logarithmic Short Term Loans	19.9927	20.0798	-0.08711	19.4807	19.6125	-0.1318	-0.0446

Table 5.2: Univariate comparative analysis - Expansionary Shocks

Dependent Variables	State-owned Enterprises			Non-State-owned Companies			Difference in Differences
	Non-Expansionary Period	Expansionary Period	Difference	Non-Expansionary Period	Expansionary Period	Difference	
Logarithmic Loans	20.9709	20.6729	-0.2980	20.3169	20.0901	-0.2268	0.0711
Logarithmic Short Term Loans	20.1321	19.9078	-0.2243	19.6276	19.4535	-0.1741	0.0503

From Table 5.1, we noticed that contractionary monetary shocks result in decrements in both loans and short loans for both State-owned enterprises and non-state-owned ones. For State-owned companies, there are on average 4.4 percent of decrements in Logarithmic loans comparing both contractionary periods and other periods. Additionally, for state-owned Enterprises, the short term loans experienced larger decrements than the combination of short term loans, long term loans and payable notes. We observed on average 8.71 percent of decrements in Logarithmic short term loans. A similar circumstance also happened to non-state-owned companies. For logarithmic loans, we observed on average 10.44 percent of decreases in contractionary periods for non-state-owned companies. Furthermore, for the short-term loans, we noticed on average 13.18 percent of decrements under contractionary monetary shocks. Based on these results, contractionary monetary shocks seem to decrease the loans and especially short time loans for companies.

Then we can compare the differences in loan deduction in both company types. We observed that State-owned companies decreased less in loans than non-state-owned companies for both logarithmic

loans and logarithmic short time loans by 6 percent and 4 percent each. Therefore, Difference in Differences Approach seems to be consistent with our expectation that the state-owned Enterprises have some slight advantages on borrowing from the banks during the contractionary monetary periods.

This result could possibly be explained by two things: first, during the contractionary period, companies are more likely to switch to other funding sources that cost less. As Meltzer concluded in his research "Mercantile credit, monetary policy and the size of firms", firms with direct access to the capital market, might quickly switch the source of funding when encountering difficulties in borrowing from the banks, thereby mitigating the effect of the policy tightening on real activity (Meltzer 1960). Therefore, the contractionary policies might lead to the decrements in loans for companies. Second, companies might need fewer loans simply because of better financial situations and overall economic situations. Contractionary shocks usually happen to prevent the economy from overheating. This might make companies desire fewer loans because the overall economy is not bad and their financial situation requires fewer loans.

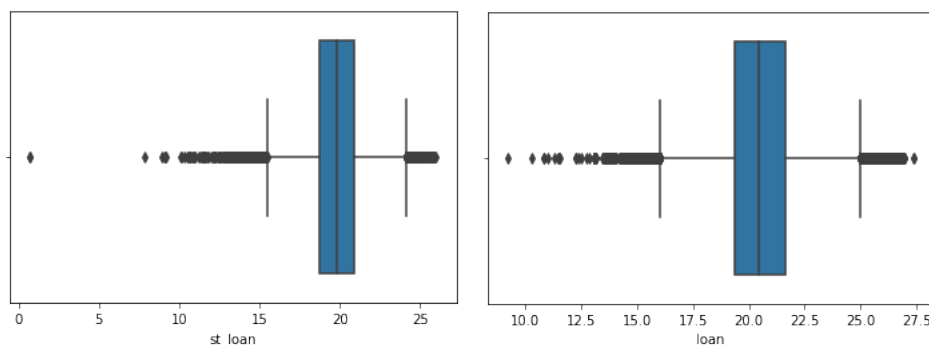
From table 5.2, we notice that expansionary shocks result in even more decrements in loans for both short term loans and loans in general. For State-owned companies, there are on average 29.8 percent of decrements in Logarithmic loans comparing both expansionary periods and other periods. Additionally, for state-owned Enterprises, the short term loans experienced larger decrements than the combination of short term loans, long term loans and payable notes. We observed on average 22.43 percent of decrements in Logarithmic short term loans. A similar circumstance also happened to non-state-owned companies. For logarithmic loans, we observed on average 22.68 percent of decreases in expansionary periods for non-state-owned companies. Furthermore, for the short-term loans, we noticed on average 17.41 percent of decrements under expansionary monetary shocks. Based on these results, expansionary monetary shocks seem to decrease the loans and especially short time loans for companies.

Then we can compare the differences in loan deduction in both company types. Different from contractionary monetary shocks, this time We observed that non-state-owned companies decreased fewer in loans than state-owned companies for both logarithmic loans and logarithmic short time loans by 7.11 percent and 5.03 percent each. Therefore, Difference in Differences Approach seems

to be consistent with our expectation that the non-state-owned Enterprises seem to be better-off on borrowing from the banks during the expansionary monetary periods.

One possible explanation for this result is that the expansionary shocks stimulate the whole economy, so it is more likely for the listed companies to get funds from other methods instead of relying on bank loans to get through the financial difficulties, which usually occurs in a contractionary period. Meanwhile, the expansionary monetary policies might also come with expansionary fiscal policies. The government might directly fund some companies, especially state-owned companies. Therefore, the number of loans from the bank are desired fewer for these companies and state-owned companies seem to have more loan decrements than non-state-owned companies. Second, the expansionary monetary policies usually come after a recession. During these times, businesses are usually impacted by the overall economic situation. Therefore, their financial indicators or terms might not allow them to get as much loans as they can get if there is no recession. Third, the data we used are all listed companies, whereas the most impacted companies by monetary shocks are small companies. The expansionary shocks might mainly boost the loans of small companies. Therefore, the conclusions might not be that robust for expansionary shocks.

Robustness: In order to validate my results from this section, I have re-rerun my analysis to test whether the outliers could possibly influence the estimates and conclusions that I have obtained.



Based on the boxplots of the logarithmic short time loans and loans, we restricted the dataset, where entries with Short Term Loan ≥ 8 and $12 \leq \text{loan} \leq 27$ to be retained.

Table 5.3: Univariate comparative analysis - Contractionary Shocks

Dependent Variables	State-owned Enterprises			Non-State-owned Companies			Difference in Differences
	Non-Contractionary Period	Contractionary Period	Difference	Non-Contractionary Period	Contractionary Period	Difference	
Logarithmic Loans	20.8778	20.8317	-0.0461	20.2779	20.1739	-0.1040	-0.0578
Logarithmic Short Term Loans	20.0807	19.9916	-0.0891	19.6157	19.4849	-0.1307	-0.0416

Table 5.4: Univariate comparative analysis - Expansionary Shocks

Dependent Variables	State-owned Enterprises			Non-State-owned Companies			Difference in Differences
	Non-Expansionary Period	Expansionary Period	Difference	Non-Expansionary Period	Expansionary Period	Difference	
Logarithmic Loans	20.9703	20.6729	-0.2974	20.3203	20.0919	-0.2284	0.0689
Logarithmic Short Term Loans	20.1324	19.9078	-0.2246	19.6314	19.4565	-0.1749	0.0497

Comparing the results of table 5.3 and 5.4 with table 5.1 and 5.2, we noticed that there are very little differences in the final results of the Difference in Differences method. Therefore, this result is fairly robust. In order to further prove the robustness of these results, we will run ordinary least square regressions to figure out the underlying correlations between monetary shocks and loans.

5.2 Ordinary Least Square Regressions

We will now state some key assumptions for this regression:

1. We assume two premises for the credit channel in this paper: First, in assets of the banks, the loan and equity cannot be substituted with each other. Second, in liabilities of the firms, the loans from the banks and non-bank funding sources cannot be replaced by one or another. These two premises are significant because it ensures us to attribute the changes in loans to be the effects of monetary shocks.
2. We assume that various changes or progressions in objective targets of Chinese monetary policies will not affect the regression results. It is not possible to conclude the result from the observations if we don't have this assumption to assume the changes in targets to be exogenous.
3. The dataset used in this analysis, financial data of each company are not fully available. Hence, we removed all empty rows for the simplicity of calculations. Meanwhile, the data itself could be very volatile. Meanwhile, some macroeconomic data in China is not as complete or easy to find as in the United States. These issues add a lot of noise to the analysis and prevent us from getting direct conclusions. Additionally, we noticed that the proxy that we used to

calculate the monetary policy shocks are not that accurate, but it still mostly demonstrates the trend and directions of monetary policies.

5.2.1 Ordinary Least Square Regressions for Contractionary Monetary Shocks

Utilize the formula 6 and formula 7 in Section 4: Descriptions on Models, we first regress Loans and Short term loans on variables without considering the lagged effects. First, we need to examine and to analyze the estimates for logarithmic total loans. The estimates for key variables are summarized in the table below:

Table 5.5: OLS total loan on contractionary monetary policies Dummy and Company types Dummy without lagged effects

	(1)	(2)
	Logarithmic loan	Logarithmic loan
Constant	17.3285*** (0.0242)	17.2172*** (0.0233)
Contractionary Monetary Policy Shock	0.0322** (0.0160)	-0.0624*** (0.0126)
Intersect between Types of Companies and Monetary Shock	-0.0943*** (0.0201)	0.0945*** (0.0201)
Non-state-owned Companies Dummy	-0.1129*** (0.0120)	
State-owned Enterprises Dummy		0.1127*** (0.0120)
N	59614	59614
R2	0.62	0.62

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

In order to understand the effects of contractionary monetary shocks and whether company types determine the number of loans they will get from the banks, this section will focus on analyzing the coefficients on the intersect variable. From the table above, if we don't consider the timing effects of the variables, we can observe that within contractionary monetary periods, if the company is not a state-owned enterprise, then there will be a decrement of 9.43 percent in logarithmic total loans. This decrement is statistically significant at 0.99 level. However, within similar periods, if the company is a state-owned enterprise, then the logarithmic total loans they got would not decrease. Additionally, we observed an increment of 9.45 percent, which is also statistically significant at 0.99 level. These estimates suggest that if the timing effects do not exist, the contractionary monetary

shocks tend to have more detrimental impacts on loans of non-state-owned companies, which aligns with our expectation that non-state-owned companies will experience more decrements in loans during contractionary shocks.

Second, we try to examine and to analyze the estimates for logarithmic Short term loans. The estimates for key variables are summarized in the table below:

Table 5.6: OLS Short term loan on contractionary monetary policies Dummy and Company types Dummy without lagged effects

	(1)	(2)
	Logarithmic Short Term loan	Logarithmic Short Term loan
Constant	17.0187*** (0.0268)	16.9999*** (0.0259)
Contractionary Monetary Policy Shock	-0.0252 (0.0185)	-0.1005*** (0.0147)
Intersect between Types of Companies and Monetary Shock	-0.0751*** (0.0234)	0.0752*** (0.0234)
Non-state-owned Companies Dummy	-0.0200 (0.0138)	
State-owned Enterprises Dummy		0.0199 (0.0138)
N	59614	59614
R2	0.47	0.47

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

Based on our findings, we noticed that without considering the timing effects of independent variables, if the company is not state-owned, then given the shock to be contractionary, they will likely to experience on average 7.51 percent of decrements in their logarithmic short-term loans, which is statistically significant under 0.99 level. On the other hand, for the state-owned companies, the short term loans are not affected by contractionary shocks. Additionally, they experienced 7.52 percent of increments in their logarithmic short term loans, which is statistically significant under 0.99 level. These suggest that without considering the time effects, the short term loans are also going to decrease only for non-state-owned companies.

After we analyzed the estimates without considering the time effects, we will now utilize the formula 8 and formula 9 in Section 4: Descriptions on Models, to regress Loans and Short term loans on variables with considering the lagged effects. First, we need to examine and to analyze the estimates for logarithmic total loans. The estimates for key variables are summarized in the table below:

Table 5.7: OLS total loan on contractionary monetary policies Dummy and Company types Dummy with lagged effects

	(1)	(2)
	Logarithmic loan	Logarithmic loan
Constant	0.0407*** (0.0005)	0.0464*** (0.0005)
Contractionary Monetary Policy Shock	-0.1905*** (0.0236)	-0.1751*** (0.0220)
Intersect between Types of Companies and Monetary Shock	-0.0843*** (0.0207)	0.0472*** (0.0159)
Non-state-owned Companies Dummy	-0.1364*** (0.0211)	
State-owned Enterprises Dummy		0.3507*** (0.0194)
N	59614	59614
R2	-0.51	-0.48

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

We extract the key variables' coefficients from the regression tables, which could be found in the appendix. Similar to results without timing effects, at the 0.99 level of statistical significance, for non-state-owned companies, we observed on average 8.43 percent of decreases in logarithmic loans, but for state-owned companies, we observe a 4.72 percent increase in logarithmic loans. This suggests a very similar conclusion as the regression without the lagged variables, which is that contractionary monetary shocks tend to have more effects on loans for non-state-owned companies.

Second, we try to examine and to analyze the estimates for logarithmic Short term loans. The estimates for key variables are summarized in the table below:

Table 5.8: OLS Short term loan on contractionary monetary policies Dummy and Company types Dummy with lagged effects

	(1)	(2)
	Logarithmic Short Term loan	Logarithmic Short Term loan
Constant	0.0392*** (0.0005)	0.0431*** (0.0005)
Contractionary Monetary Policy Shock	-0.2346*** (0.0237)	-0.2116*** (0.0222)
Intersect between Types of Companies and Monetary Shock	-0.0832*** (0.0209)	-0.0070 (0.0160)
Non-state-owned Companies Dummy	-0.0139 (0.0214)	
State-owned Enterprises Dummy		0.2548 (0.0198)
N	59614	59614
R2	0.47	-0.6

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Based on our findings, we noticed that with time lagged independent variables, if the company is not state-owned, then given the shock to be contractionary, they will likely to experience on average 8.32 percent of decrements in their logarithmic short-term loans, which is statistically significant under 0.99 level. However, for the state-owned companies, the estimates' signs changed. The logarithmic short term loans received are on average decreasing by 0.7 percent. However, since this coefficient is not statistically significant and the number is very close to zero. it is still possible to conclude similarly as previous regressions. These also suggest that even with considering the time effects, the short term loans are also going to decrease only for non-state-owned companies.

Robustness:

The robustness check consists of two parts. First, within regression methods, we compared the estimates of different regressions. Second, we compared the results and conclusions we got from this method to the results and analysis of the difference in differences method. First, we notice that our findings are consistent between regressions with lagged variables and those without lagged variables. The coefficients do not have substantial changes between two regressions. Especially for coefficients related to the intersect between "contra" and "Stateown" variables, the coefficients stayed positive across different regressions. This suggests that contractionary shocks do not impact the loans or short term loans of the state-owned companies negatively. Instead, it is slightly easier for state-owned companies to get loans from the bank during contractionary periods. This could be possibly

explained by the fact that as the cost of loans increases, the banks wish to find more stable companies to mitigate the risks of the high cost of loans, so they chose to lend only to large companies and most of these companies are state-owned. On the other hand, we can see the coefficients of intersects in regressions of non-state-owned companies stay negative and have little variations across different regressions. Hence, by comparing different regressions, our results seem pretty robust.

Second, comparing our results with the ones from difference in differences method, our results and conclusions are similar. They both indicate that state-owned companies have some advantages in getting loans during contractionary periods. Our findings also echo with Cull's finding that SOEs seems to have some advantages when they borrow money. Hence, our results seem to be robust.

5.2.2 Ordinary Least Square Regressions for Expansionary Monetary Shocks

Utilize the formula 6 and formula 7 in Section 4: Descriptions on Models, we first regress Loans and Short term loans on variables without considering the lagged effects under expansionary shocks. First, we need to examine and to analyze the estimates for logarithmic total loans. The estimates for key variables are summarized in the table below:

Table 5.9: OLS loan on expansionary monetary policies Dummy and Company types Dummy without lagged effects

	(1)	(2)
	Logarithmic loan	Logarithmic loan
Constant	17.3083*** (0.0255)	17.1754*** (0.0246)
Expansionary Monetary Policy Shock	0.0528*** (0.0161)	0.0210 (0.0128)
Intersect between Types of Companies and Monetary Shock	-0.0319 (0.0202)	0.0320 (0.0202)
Non-State-owned Companies Dummy	-0.1332*** (0.0120)	
State-owned Enterprises Dummy		0.1333*** (0.0120)
N	59614	59614
R2	0.62	0.62

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

By looking at the coefficients of intersect, assuming there are no time effects, we noticed that for non-state-owned companies, they were facing on average 3.19 percent of decreases in logarithmic

loans. For State-owned enterprises, there is a 3.2 percent of increments in their logarithmic loans. Comparing to the coefficients with contractionary shocks, we can notice that the number of loans that businesses can get increased. The statistically significant levels of these results are not high, but the results do correspond with our expectation that during the expansionary time, businesses are relatively easier to get loans from the bank. Meanwhile, for the total loans of the businesses, it seems that State-owned companies also have advantages in getting loans when encountering expansionary shocks.

Table 5.10: OLS short term loan on expansionary monetary policies Dummy and Company types Dummy without lagged effects

	(1)	(2)
	Logarithmic Short Term loan	Logarithmic Short Term loan
Constant	16.9799*** (0.0283)	16.9493*** (0.0273)
Expansionary Monetary Policy Shock	0.0620*** (0.0185)	0.0213 (0.0149)
Intersect between Types of Companies and Monetary Shock	-0.0408* (0.0233)	0.0409* (0.0233)
Non-state-owned Companies Dummy	-0.0311** (0.0139)	
State-owned Enterprises Dummy		0.0312** (0.0139)
N	59614	59614
R2	0.47	0.47

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Second, we will closely inspect the effects of expansionary shocks on short term loans without considering the time effects. For non-state-owned companies, we observe a 4.08 percent decrease in logarithmic short term loans. However, for state-owned companies, there is 4.09 percent of increase in logarithmic short term loans.

If we simply look at the results in these two regressions above, it seems that expansionary policies only boosts the loans for State-owned companies. However, if we compare these two regressions with the regressions for contractionary shocks, we can notice that the decreasing situation in loans for non-state-owned companies improved in expansionary periods though it is still a decreasing trend. However, as stated before, one possible explanation for this decreasing trend is that previous economic situation and financial circumstances confound our finding. Therefore, we will lag our constraints by three quarters in order to capture time effects.

Table 5.11: OLS loan on expansionary monetary policies Dummy and Company types Dummy with lagged effects

	(1)	(2)
	Logarithmic loan	Logarithmic Loan
Constant	0.0375*** (0.0004)	0.0455*** (0.0004)
Expansionary Monetary Policy Shock	0.0748*** (0.0252)	-0.0237 (0.0232)
Intersect between Types of Companies and Monetary Shock	0.0063 (0.0278)	0.1820*** (0.0239)
Non-state-owned Companies Dummy	-0.3060*** (0.0231)	
State-owned Enterprises Dummy		0.2634*** (0.0213)
N	59614	59614
R2	-0.52	-0.48

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

After considering the time effects, we observed that under expansionary shocks both state-owned Enterprises and non-state-owned companies benefit from the shocks and were able to get more loans from the bank. Coefficients on the intersects are positive for both types of companies. For state-owned companies, the increment is 18.2 percent which is pretty large. For non-state-owned companies, the increment is 0.63 percent. Therefore, it seems that expansionary policies have positive effects on loans that businesses can get from the bank.

Table 5.12: OLS short term loan on expansionary monetary policies Dummy and Company types Dummy with lagged effects

	(1)	(2)
	Logarithmic Short Term loan	Logarithmic Short Term loan
Constant	0.0360*** (0.0004)	0.0421*** (0.0005)
Expansionary Monetary Policy Shock	0.0638** (0.0255)	0.0237 (0.0236)
Intersect between Types of Companies and Monetary Shock	0.0219 (0.0279)	0.1587*** (0.0238)
Non-state-owned Companies Dummy	-0.1595*** (0.0235)	
State-owned Enterprises Dummy		0.1625*** (0.0216)
N	59614	59614
R2	-0.63	-0.60

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

Similarly, for the short term loans, we can also see under expansionary shocks both state-owned Enterprises and non-state-owned companies benefited from the shocks and were able to get more from the bank. It is also interesting to notice that non-state-owned businesses seem to have more increments in short-term loans than total loans in general. The number of logarithmic short term loans that non-state-owned companies borrowed increased by 2.19 percent, and for state-owned companies, this number is 15.87 percent at 0.99 level of statistical significance.

From the estimates of both logarithmic loans and short loans, we can conclude a positive relationship between expansionary monetary policies and bank loans. Meanwhile, this trend is especially noticeable for state-owned companies.

Robustness: The robustness check consists of two parts. First, within regression methods, we compared the estimates of different regressions. Second, we compared the results and conclusions we got from this method to the results and analysis of the difference in differences method. Comparing the results we got from all OLS regressions with or without the lagged variables, we can notice that the coefficients for the intersect of state-owned enterprises are always positive for both loans and short term loans. Additionally, the estimates for coefficients with lagged variables are at 0.99 level of statistical significance. Grantly, with the time effects, the magnitude of increments definitely increases a lot. This might be an overestimate due to the fact that state-owned firms usually have more assets or better financial terms. The overall trend of state-owned companies' loans under expansionary periods is relatively robust. However, we observed that the coefficients on the intersect for non-state-owned companies are changing between lagged ones and non-lagged ones. Additionally, compared to short and long regressions in the appendix. The coefficients on the intersect for non-state-owned companies are not as robust as the ones for state-owned companies.

Second, we compared our conclusion in this section with previous results in the difference in differences section. We acknowledged that they suggest two completely different relationships. For our regression estimates, we concluded that state-owned companies still have advantages in the expansionary era, but difference in differences method informs the other way around. However, considering that difference in differences method might have omitted variable bias and more importantly the parallel assumptions might not be as robust as we believed, it seems it is more plausible for companies loans to have a more positive trend along with expansionary policies. However, we

recognized the limitations on the robustness of our expansionary policies' regressions.

6 Conclusion

Using a robust and exogenous measure of monetary policy shocks, we analyze the effect of monetary policy on the loans between State-owned Enterprises and other companies with constraints of financial terms. we show that even though monetary policies especially contractionary monetary policies lead to more decrease in loans for non-stateowned companies than State-owned enterprises, which aligned with our expectation of loan discrimination based on company types.

We firstly used the difference in differences method to analyze the general trends of loans under monetary shocks. We expected that during the contractionary period, both SOEs and non SOEs will get negative impacts on loans. Additionally, SOEs have slight advantages on getting loans during this time. On the other hand, we expect expansionary policies to have no positive effects on helping companies get loans.

We then used ordinary least square regressions to show how loans quantitatively react to different kinds of monetary shocks. Based on our findings, loans and short-term loans are expected to fall only for non-state-owned companies following a contractionary monetary policy shock. Specifically, for one unit of increase in the possibility of contractionary monetary policy, we expect the loans for non-state-owned companies to fall by 9.43 percent, without lagged variables. Additionally, we expect the Short term loans for non-state-owned companies to fall by 8.32 percent, without lagged variables. On the other hand, we expect the loans for state-owned companies to increase by 9.45 percent, without lagged variables. Additionally, we expect the Short term loans for state-owned companies to increase by 7.52 percent, without lagged variables.

This effect is little lessened when we re-ran my analysis with lagged variables, where we expect the loans and short term loans for state-owned companies in the economy to increase by 4.72 percent and -0.7 percent respectively, after the shock occurs. Additionally,we expect the loans and short term loans for non-state-owned companies in the economy to fall by 8.43 percent and 7.51 percent respectively. This diminishment might be attributed to the economic situations prior to the shocks and the time effects of financial terms.

After testing the validity of this result by comparing the results from both methods and among regressions, we found that our trend is at least robust for the fact that there exist loan discrimination towards non-state-owned companies during the contractionary time.

We used a similar approach to analyze the effects of expansionary shocks on loans for business. We found out that the expansionary result is not that robust compared to the contractionary result. Our results by different methods yield different trends. Thus, it is hard to conclude there are any impacts from expansionary policies on business loans.

7 Citation

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8 Appendix

Table 8.1: Identification Code for Shareholders

Code	Shareholders
1100	State-owned Enterprises
1210	Shareholder collective ownership
1200	Private Enterprise
1220	Hong Kong, Macao and Taiwan-funded enterprises
1230	foreign enterprises
2000	Administrative agencies and institutions
2100	Central agency
2120	Local agency
2500	social group
3000	Natural personnel
3110	Domestic personnel
3120	Hong Kong, Macao and Taiwan personnel
3200	Foreign personnel
9999	other

Table 8.2: Stock Identification Code for Listed Banks

Stock Code	Banks
1	Ping An Bank
600000	Shanghai Pudong Development Bank
600016	Minsheng Bank
600036	China Merchants Bank
600015	HSBC Bank
601988	Bank of China
601398	ICBC
601166	Industrial Bank
601998	CITIC Bank
601328	Bank of Communications
2142	Bank of Ningbo
601009	Bank of Nanjing
601169	Bank of Beijing
601939	Construction Bank
601288	Agricultural Bank of China
601818	China Everbright Bank
600919	Bank of Jiangsu
601997	Guiyang Bank
2807	Jiangyin Bank
600908	Wuxi Bank
601128	Changshu Bank
600926	Hangzhou Bank
601229	Shanghai Bank
603323	Wujiang Bank
2839	zhangjiagang Bank
601838	Bank of Chengdu

Table 8.3: Summary Statistics

	count	mean	std	min
Cash and Cash Equivalents	59614.0	2.315923e+09	1.185425e+10	0.000000e+00
Goodwill	59614.0	1.837711e+08	1.159638e+09	-6.288488e+05
Total Assets	59614.0	1.856100e+10	1.098635e+11	2.860816e+06
Short Term Loan	59614.0	1.697114e+09	5.951655e+09	2.000000e+00
Long Term Loan	59614.0	1.955263e+09	1.067165e+10	0.000000e+00
Total Liability	59614.0	1.204290e+10	8.108247e+10	-3.371267e+06
Total Owner's Equity	59614.0	6.517389e+09	3.973245e+10	-1.106515e+10
Notes Payable	59614.0	6.790148e+08	5.506957e+09	0.000000e+00
Net Cash Flow From Operating Activities	59614.0	4.279450e+08	6.956579e+09	-9.811670e+10
Debt to Asset	59614.0	5.391855e-01	1.200252e+00	-8.268000e-03
Debt to Equity	59614.0	3.377939e-01	2.056692e-01	-1.135000e-03
Earnings Per Share	59614.0	1.846489e-01	3.810116e-01	-2.186000e+01
Fixed Asset Ratio	59614.0	2.435558e-01	1.734250e-01	0.000000e+00
Profit Margin	59614.0	-1.739276e-01	4.365084e+01	-1.053070e+04
State-owned Enterprises Dummy	59614.0	3.702821e-01	4.828842e-01	0.000000e+00
Average M2	59614.0	1.061282e+14	3.900102e+13	4.206460e+13
Nominal GDP	59614.0	1.426083e+13	4.284839e+12	6.880000e+12
Expansionary Monetary Policy Shock	59614.0	3.449861e-01	4.753677e-01	0.000000e+00
Contractionary Monetary Policy Shock	59614.0	3.297380e-01	4.701218e-01	0.000000e+00

Continued

	25%	50%	75%	max
Cash and Cash Equivalents	1.982373e+08	4.712554e+08	1.198689e+09	5.668130e+11
Goodwill	0.000000e+00	8.792478e+04	3.178971e+07	4.609700e+10
Total Assets	1.644049e+09	3.552678e+09	9.265896e+09	5.296560e+12
Short Term Loan	1.348000e+08	4.060000e+08	1.173571e+09	1.969130e+11
Long Term Loan	0.000000e+00	8.000000e+07	5.513249e+08	3.294610e+11
Total Liability	6.562760e+08	1.692719e+09	5.261558e+09	4.815950e+12
Total Owner's Equity	8.547832e+08	1.726925e+09	3.863339e+09	1.415250e+12
Notes Payable	0.000000e+00	5.569486e+07	2.874942e+08	4.985600e+11
Net Cash Flow From Operating Activities	-5.461018e+07	2.581771e+07	1.868021e+08	3.666550e+11
Debt to Asset	3.607987e-01	5.093295e-01	6.538230e-01	1.032354e+02
Debt to Equity	1.717945e-01	2.999985e-01	4.790245e-01	3.257996e+00
Earnings Per Share	2.700000e-02	1.100000e-01	2.779750e-01	1.344000e+01
Fixed Asset Ratio	1.082020e-01	2.093735e-01	3.478335e-01	9.709210e-01
Profit Margin	1.156425e-02	5.380650e-02	1.209760e-01	3.448602e+02
State-owned Enterprises Dummy	0.000000e+00	0.000000e+00	1.000000e+00	1.000000e+00
Average M2	7.427160e+13	1.063620e+14	1.356650e+14	1.899060e+14
Nominal GDP	1.050000e+13	1.440000e+13	1.690000e+13	2.540000e+13
Expansionary Monetary Policy Shock	0.000000e+00	0.000000e+00	1.000000e+00	1.000000e+00
Contractionary Monetary Policy Shock	0.000000e+00	0.000000e+00	1.000000e+00	1.000000e+00

Table 8.4: OLS Types of Loan on State-owned Enterprises Dummy

	(1)	(2)	(3)	(4)
	Logarithmic Loan	Logarithmic Short Term Loan	Logarithmic Long Term Loan	Logarithmic Notes Payable
Constant	21.09*** (0.01)	20.30*** (0.01)	19.16*** (0.02)	18.82*** (0.01)
State-owned Enterprises Dummy	0.57*** (0.02)	0.44*** (0.02)	0.78*** (0.03)	0.35*** (0.02)
N	31703	31703	31703	31703
R2	0.03	0.02	0.03	0.01

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8.5: OLS Total Loan on contractionary monetary policies Dummy

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Constant	20.4968*** (0.0091)	19.7844*** (0.0090)
Contractionary Monetary Policy Shock	-0.0774*** (0.0159)	-0.1116*** (0.0156)
N	59614	59614
R2	0.00	0.00

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

Table 8.6: OLS Total loan on contractionary monetary policies Dummy and Stateown Companies Dummy

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	20.2752*** (0.0109)	19.6125*** (0.0111)
Contractionary Monetary Policy Shock	-0.1044*** (0.0194)	-0.1318*** (0.0194)
Intersect between Types of Companies and Monetary Shock	0.0604* (0.0329)	0.0447 (0.0322)
State-owned Enterprises Dummy	0.6024*** (0.0190)	0.4673*** (0.0187)
N	59614	59614
R2	0.03	0.02

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8.7: OLS Total loan on contractionary monetary policies Dummy and non-Stateown Companies Dummy

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	20.8775*** (0.0156)	20.0798*** (0.0151)
Contractionary Monetary Policy Shock	-0.0441* (0.0266)	-0.0871*** (0.0257)
Intersect between Types of Companies and Monetary Shock	-0.0604* (0.0329)	-0.0447 (0.0322)
Non-state-owned Companies Dummy	-0.6024*** (0.0190)	-0.4673*** (0.0187)
N	59614	59614
R2	0.03	0.02

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8.8: OLS Total loan on contractionary monetary policies Dummy and Stateown Companies Dummy without Lagged Effects

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Constant	17.2172*** (0.0233)	16.9999*** (0.0259)
Contractionary Monetary Policy Shock	-0.0624*** (0.0126)	-0.1005*** (0.0147)
Intersect between Types of Companies and Monetary Shock	0.0945*** (0.0201)	0.0752*** (0.0234)
State-owned Enterprises Dummy	0.1127*** (0.0120)	0.0199 (0.0138)
Cash and Cash Equivalents	0.0000*** (0.0000)	0.0000*** (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1363*** (0.0187)	-0.1061*** (0.0145)
Debt to Equity	6.2163*** (0.0331)	5.3094*** (0.0326)
Earnings Per Share	0.5808*** (0.0304)	0.2942*** (0.0196)
Fixed Asset Ratio	1.0989*** (0.0291)	1.1993*** (0.0346)
Profit Margin	0.0002*** (0.0000)	0.0002*** (0.0000)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	-0.0000*** (0.0000)	-0.0000*** (0.0000)
N	59614	59614
R2	0.62	0.47

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Table 8.9: OLS Total loan on contractionary monetary policies Dummy and non-Stateown Companies Dummy without Lagged Effects

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	17.3285*** (0.0242)	17.0187*** (0.0268)
Contractionary Monetary Policy Shock	0.0322** (0.0160)	-0.0252 (0.0185)
Intersect between Types of Companies and Monetary Shock	-0.0943*** (0.0201)	-0.0751*** (0.0234)
Non-state-owned Companies Dummy	-0.1129*** (0.0120)	-0.0200 (0.0138)
Cash and Cash Equivalents	0.0000*** (0.0000)	0.0000*** (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1363*** (0.0187)	-0.1061*** (0.0144)
Debt to Equity	6.2162*** (0.0332)	5.3093*** (0.0328)
Earnings Per Share	0.5808*** (0.0304)	0.2943*** (0.0197)
Fixed Asset Ratio	1.0993*** (0.0292)	1.1996*** (0.0348)
Profit Margin	0.0002*** (0.0000)	0.0002*** (0.0000)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	-0.0000*** (0.0000)	-0.0000*** (0.0000)
N	59614	59614
R2	0.62	0.47

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Table 8.10: OLS Total loan on contractionary monetary policies Dummy and Stateown Companies Dummy with other constraints

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	0.0464*** (0.0005)	0.0431*** (0.0005)
Contractionary Monetary Policy Shock	-0.1751*** (0.0220)	-0.2116*** (0.0222)
Intersect between Types of Companies and Monetary Shock	0.0472*** (0.0159)	-0.0070 (0.0160)
State-owned Enterprises Dummy	0.3507*** (0.0194)	0.2548*** (0.0198)
Cash and Cash Equivalents	-0.0000 (0.0000)	0.0000 (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000 (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	0.0000*** (0.0000)	0.0000 (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.0981 (0.0706)	-0.0729 (0.0651)
Debt to Equity	1.6226*** (0.0165)	1.3372*** (0.0165)
Earnings Per Share	0.2217*** (0.0285)	0.1114*** (0.0263)
Fixed Asset Ratio	0.2959*** (0.0133)	0.3322*** (0.0135)
Profit Margin	0.0002 (0.0009)	0.0002 (0.0010)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	0.0000*** (0.0000)	0.0000*** (0.0000)

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Assets with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Short Term Loan with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Long Term Loan with 1 Quarter Lag	0.0000 (0.0000)	-0.0000** (0.0000)
Total Liability with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity with 1 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Notes Payable with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Debt to Asset with 1 Quarter Lag	0.1051 (0.0667)	0.0723 (0.0599)
Debt to Equity with 1 Quarter Lag	1.6444*** (0.0164)	1.3544*** (0.0163)
Earnings Per Share with 1 Quarter Lag	0.1838*** (0.0213)	0.0915*** (0.0197)
Fixed Asset Ratio with 1 Quarter Lag	0.2868*** (0.0129)	0.3249*** (0.0132)
Profit Margin with 1 Quarter Lag	0.0003 (0.0017)	0.0002 (0.0019)
Average M2 with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 1 Quarter Lag	-0.0637*** (0.0235)	-0.0598** (0.0237)
Contractionary Monetary Policy Shock with 1 Quarter Lag	0.0369 (0.0255)	-0.0243 (0.0255)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Total Assets with 2 Quarter Lag	-0.0000*** (0.0000)	0.0000 (0.0000)
Short Term Loan with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Long Term Loan with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
Total Owner's Equity with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
Notes Payable with 2 Quarter Lag	-0.0000*** (0.0000)	-0.0000** (0.0000)
Net Cash Flow From Operating Activities with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Debt to Asset with 2 Quarter Lag	-0.1498*** (0.0286)	-0.1039*** (0.0288)
Debt to Equity with 2 Quarter Lag	1.5894*** (0.0157)	1.3064*** (0.0155)
Earnings Per Share with 2 Quarter Lag	0.2246*** (0.0171)	0.1264*** (0.0169)
Fixed Asset Ratio with 2 Quarter Lag	0.2744*** (0.0127)	0.3140*** (0.0130)
Profit Margin with 2 Quarter Lag	0.0002 (0.0030)	0.0004 (0.0034)
Average M2 with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Nominal GDP with 2 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 2 Quarter Lag	0.1164*** (0.0220)	0.1222*** (0.0225)
Contractionary Monetary Policy Shock with 2 Quarter Lag	0.0306 (0.0219)	-0.0341 (0.0222)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Goodwill with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000* (0.0000)
Total Assets with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Short Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Long Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Owner's Equity with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Notes Payable with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 3 Quarter Lag	0.0000** (0.0000)	0.0000 (0.0000)
Debt to Asset with 3 Quarter Lag	0.1221*** (0.0306)	0.1240*** (0.0307)
Debt to Equity with 3 Quarter Lag	1.5084*** (0.0194)	1.2358*** (0.0190)
Earnings Per Share with 3 Quarter Lag	0.3005*** (0.0276)	0.1877*** (0.0270)
Fixed Asset Ratio with 3 Quarter Lag	0.2612*** (0.0125)	0.3014*** (0.0127)
Profit Margin with 3 Quarter Lag	-0.0000 (0.0004)	-0.0001 (0.0004)
Average M2 with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Nominal GDP with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 3 Quarter Lag	-0.0274 (0.0210)	-0.0098 (0.0215)
Contractionary Monetary Policy Shock with 3 Quarter Lag	-0.1172*** (0.0141)	-0.1258*** (0.0142)
N	59614	59614
R2	-0.48	-0.60

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

Table 8.11: OLS Total loan on contractionary monetary policies Dummy and Non-Stateown Companies Dummy with other constraints

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	0.0407*** (0.0005)	0.0392*** (0.0005)
Contractionary Monetary Policy Shock	-0.1905*** (0.0236)	-0.2346*** (0.0237)
Intersect between Types of Companies and Monetary Shock	-0.0843*** (0.0207)	-0.0832*** (0.0209)
Non-state-owned Companies Dummy	-0.1364*** (0.0211)	-0.0139 (0.0214)
Cash and Cash Equivalents	-0.0000 (0.0000)	0.0000 (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000 (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	0.0000** (0.0000)	0.0000 (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1109 (0.0768)	-0.0820 (0.0697)
Debt to Equity	1.5808*** (0.0160)	1.2972*** (0.0159)
Earnings Per Share	0.2443*** (0.0294)	0.1312*** (0.0267)
Fixed Asset Ratio	0.2735*** (0.0132)	0.3059*** (0.0135)
Profit Margin	0.0001 (0.0009)	0.0001 (0.0010)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	0.0000*** (0.0000)	0.0000*** (0.0000)

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Assets with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Short Term Loan with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Long Term Loan with 1 Quarter Lag	0.0000 (0.0000)	-0.0000** (0.0000)
Total Liability with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity with 1 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Notes Payable with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Debt to Asset with 1 Quarter Lag	0.1328* (0.0730)	0.0970 (0.0653)
Debt to Equity with 1 Quarter Lag	1.6065*** (0.0161)	1.3182*** (0.0160)
Earnings Per Share with 1 Quarter Lag	0.1780*** (0.0222)	0.0873*** (0.0203)
Fixed Asset Ratio with 1 Quarter Lag	0.2696*** (0.0130)	0.3030*** (0.0133)
Profit Margin with 1 Quarter Lag	0.0004 (0.0017)	0.0002 (0.0019)
Average M2 with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 1 Quarter Lag	0.0337 (0.0213)	0.0172 (0.0216)
Contractionary Monetary Policy Shock with 1 Quarter Lag	0.0861*** (0.0236)	0.0352 (0.0237)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Total Assets with 2 Quarter Lag	-0.0000*** (0.0000)	0.0000 (0.0000)
Short Term Loan with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Long Term Loan with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
Total Owner's Equity with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
Notes Payable with 2 Quarter Lag	-0.0000*** (0.0000)	-0.0000** (0.0000)
Net Cash Flow From Operating Activities with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Debt to Asset with 2 Quarter Lag	-0.1590*** (0.0315)	-0.1125*** (0.0310)
Debt to Equity with 2 Quarter Lag	1.5802*** (0.0157)	1.2948*** (0.0155)
Earnings Per Share with 2 Quarter Lag	0.2384*** (0.0174)	0.1377*** (0.0172)
Fixed Asset Ratio with 2 Quarter Lag	0.2618*** (0.0128)	0.2961*** (0.0130)
Profit Margin with 2 Quarter Lag	-0.0000 (0.0031)	0.0002 (0.0034)
Average M2 with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Nominal GDP with 2 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 2 Quarter Lag	0.1134*** (0.0218)	0.1076*** (0.0223)
Contractionary Monetary Policy Shock with 2 Quarter Lag	-0.0230 (0.0193)	-0.0717*** (0.0196)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Goodwill with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000* (0.0000)
Total Assets with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Short Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Long Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Owner's Equity with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Notes Payable with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 3 Quarter Lag	0.0000** (0.0000)	0.0000* (0.0000)
Debt to Asset with 3 Quarter Lag	0.1242*** (0.0337)	0.1245*** (0.0333)
Debt to Equity with 3 Quarter Lag	1.5301*** (0.0179)	1.2509*** (0.0177)
Earnings Per Share with 3 Quarter Lag	0.3060*** (0.0286)	0.1925*** (0.0276)
Fixed Asset Ratio with 3 Quarter Lag	0.2555*** (0.0126)	0.2895*** (0.0128)
Profit Margin with 3 Quarter Lag	-0.0000 (0.0004)	-0.0001 (0.0004)
Average M2 with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Nominal GDP with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 3 Quarter Lag	-0.0023 (0.0215)	0.0091 (0.0220)
Contractionary Monetary Policy Shock with 3 Quarter Lag	-0.1020*** (0.0146)	-0.1110*** (0.0147)
N	59614	59614
R2	-0.51	-0.62

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01

Table 8.12: OLS Total Loan on expansionary monetary policies Dummy

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	20.5525*** (0.0093)	19.8094*** (0.0092)
Expansionary Monetary Policy Shock	-0.2355*** (0.0155)	-0.1790*** (0.0153)
N	59614	59614
R2	0.00	0.00

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8.13: OLS Total loan on expansionary monetary policies Dummy and Stateown Companies Dummy

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	20.3169*** (0.0112)	19.6276*** (0.0113)
Expansionary Monetary Policy Shock	-0.2268*** (0.0190)	-0.1741*** (0.0190)
Intersect between Types of Companies and Monetary Shock	-0.0711** (0.0321)	-0.0503 (0.0315)
State-owned Enterprises Dummy	0.6540*** (0.0195)	0.5045*** (0.0192)
N	59614	59614
R2	0.03	0.02

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8.14: OLS Total loan on expansionary monetary policies Dummy and Non-State-owned Companies Dummy

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Constant	20.9709*** (0.0160)	20.1321*** (0.0155)
Expansionary Monetary Policy Shock	-0.2980*** (0.0259)	-0.2243*** (0.0250)
Intersect between Types of Companies and Monetary Shock	0.0711** (0.0321)	0.0503 (0.0315)
Non-state-owned Companies Dummy	-0.6540*** (0.0195)	-0.5045*** (0.0192)
N	59614	59614
R2	0.03	0.02

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8.15: OLS Total loan on Expansionary monetary policies Dummy and Stateown Companies Dummy without Lagged Effects

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Constant	17.1754*** (0.0246)	16.9493*** (0.0273)
Expansionary Monetary Policy Shock	0.0210 (0.0128)	0.0213 (0.0149)
Intersect between Types of Companies and Monetary Shock	0.0320 (0.0202)	0.0409* (0.0233)
State-owned Enterprises Dummy	0.1333*** (0.0120)	0.0312** (0.0139)
Cash and Cash Equivalents	0.0000*** (0.0000)	0.0000*** (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1362*** (0.0188)	-0.1058*** (0.0145)
Debt to Equity	6.2150*** (0.0330)	5.3059*** (0.0326)
Earnings Per Share	0.5810*** (0.0304)	0.2946*** (0.0197)
Fixed Asset Ratio	1.0998*** (0.0290)	1.2017*** (0.0346)
Profit Margin	0.0002*** (0.0000)	0.0002*** (0.0000)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	-0.0000*** (0.0000)	-0.0000*** (0.0000)
N	59614	59614
R2	0.62	0.47

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Table 8.16: OLS Total loan on Expansionary monetary policies Dummy and non-Stateown Companies Dummy without Lagged Effects

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Constant	17.3083*** (0.0255)	16.9799*** (0.0283)
Expansionary Monetary Policy Shock	0.0528*** (0.0161)	0.0620*** (0.0185)
Intersect between Types of Companies and Monetary Shock	-0.0319 (0.0202)	-0.0408* (0.0233)
Non-state-owned Companies Dummy	-0.1332*** (0.0120)	-0.0311** (0.0139)
Cash and Cash Equivalents	0.0000*** (0.0000)	0.0000*** (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1362*** (0.0188)	-0.1058*** (0.0145)
Debt to Equity	6.2150*** (0.0331)	5.3060*** (0.0327)
Earnings Per Share	0.5810*** (0.0304)	0.2946*** (0.0197)
Fixed Asset Ratio	1.0997*** (0.0291)	1.2016*** (0.0347)
Profit Margin	0.0002*** (0.0000)	0.0002*** (0.0000)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	-0.0000*** (0.0000)	-0.0000*** (0.0000)
N	59614	59614
R2	0.62	0.47

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Table 8.17: OLS Total loan on expansionary monetary policies Dummy and Stateown Companies Dummy with other constraints

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	0.0455*** (0.0004)	0.0421*** (0.0005)
Expansionary Monetary Policy Shock	-0.0237 (0.0232)	0.0237 (0.0236)
Intersect between Types of Companies and Monetary Shock	0.1820*** (0.0239)	0.1587*** (0.0238)
State-owned Enterprises Dummy	0.2634*** (0.0213)	0.1625*** (0.0216)
Cash and Cash Equivalents	-0.0000 (0.0000)	0.0000 (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000 (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	0.0000*** (0.0000)	0.0000 (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1200 (0.0747)	-0.0907 (0.0671)
Debt to Equity	1.6736*** (0.0174)	1.3774*** (0.0173)
Earnings Per Share	0.1749*** (0.0286)	0.0710*** (0.0268)
Fixed Asset Ratio	0.3056*** (0.0135)	0.3417*** (0.0138)
Profit Margin	0.0001 (0.0009)	0.0001 (0.0010)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	0.0000*** (0.0000)	0.0000*** (0.0000)

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Assets with 1 Quarter Lag	0.0000** (0.0000)	0.0000*** (0.0000)
Short Term Loan with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Long Term Loan with 1 Quarter Lag	0.0000 (0.0000)	-0.0000** (0.0000)
Total Liability with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity with 1 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
notes_payable with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Debt to Asset with 1 Quarter Lag	0.1289* (0.0669)	0.0943 (0.0594)
Debt to Equity with 1 Quarter Lag	1.6936*** (0.0173)	1.3936*** (0.0172)
Earnings Per Share with 1 Quarter Lag	0.2163*** (0.0233)	0.1241*** (0.0220)
Fixed Asset Ratio with 1 Quarter Lag	0.2914*** (0.0133)	0.3305*** (0.0136)
Profit Margin with 1 Quarter Lag	0.0004 (0.0017)	0.0003 (0.0019)
Average M2 with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 1 Quarter Lag	-0.0535** (0.0221)	-0.0515** (0.0225)
Contractionary Monetary Policy Shock with 1 Quarter Lag	0.0101 (0.0223)	-0.0443** (0.0224)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Total Assets with 2 Quarter Lag	-0.0000*** (0.0000)	0.0000 (0.0000)
Short Term Loan with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Long Term Loan with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
Total Owner's Equity with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
notes_payable with 2 Quarter Lag	-0.0000*** (0.0000)	-0.0000** (0.0000)
Net Cash Flow From Operating Activities with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Debt to Asset with 2 Quarter Lag	-0.1387*** (0.0303)	-0.0957*** (0.0294)
Debt to Equity with 2 Quarter Lag	1.6082*** (0.0157)	1.3219*** (0.0155)
Earnings Per Share with 2 Quarter Lag	0.2386*** (0.0166)	0.1418*** (0.0167)
Fixed Asset Ratio with 2 Quarter Lag	0.2747*** (0.0132)	0.3166*** (0.0135)
Profit Margin with 2 Quarter Lag	0.0000 (0.0031)	0.0002 (0.0034)
Average M2 with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Nominal GDP with 2 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 2 Quarter Lag	0.2014*** (0.0216)	0.1876*** (0.0221)
Contractionary Monetary Policy Shock with 2 Quarter Lag	0.0591*** (0.0206)	-0.0233 (0.0208)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Goodwill with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000* (0.0000)
Total Assets with 3 Quarter Lag	-0.0000** (0.0000)	-0.0000*** (0.0000)
Short Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Long Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 3 Quarter Lag	0.0000** (0.0000)	0.0000*** (0.0000)
Total Owner's Equity with 3 Quarter Lag	0.0000** (0.0000)	0.0000*** (0.0000)
notes_payable with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 3 Quarter Lag	0.0000** (0.0000)	0.0000 (0.0000)
Debt to Asset with 3 Quarter Lag	0.1017*** (0.0287)	0.1052*** (0.0282)
Debt to Equity with 3 Quarter Lag	1.5044*** (0.0192)	1.2350*** (0.0188)
Earnings Per Share with 3 Quarter Lag	0.2833*** (0.0281)	0.1670*** (0.0278)
Fixed Asset Ratio with 3 Quarter Lag	0.2557*** (0.0132)	0.2997*** (0.0135)
Profit Margin with 3 Quarter Lag	0.0000 (0.0004)	-0.0001 (0.0004)
Average M2 with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Nominal GDP with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 3 Quarter Lag	0.0046 (0.0199)	0.0202 (0.0205)
Contractionary Monetary Policy Shock with 3 Quarter Lag	-0.1157*** (0.0138)	-0.1346*** (0.0139)
N	59614	59614
R2	-0.48	-0.60

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Table 8.18: OLS Total loan on expansionary monetary policies Dummy and Non-State-owned Companies Dummy with other constraints

	(1) Logarithmic loan	(2) Logarithmic Short Term Loan
Constant	0.0375*** (0.0004)	0.0360*** (0.0004)
Expansionary Monetary Policy Shock	0.0748*** (0.0252)	0.0638** (0.0255)
Intersect between Types of Companies and Monetary Shock	0.0063 (0.0278)	0.0219 (0.0279)
Non-state-owned Companies Dummy	-0.3060*** (0.0231)	-0.1595*** (0.0235)
Cash and Cash Equivalents	-0.0000 (0.0000)	0.0000 (0.0000)
Goodwill	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Assets	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Liability	-0.0000 (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity	0.0000*** (0.0000)	0.0000 (0.0000)
Net Cash Flow From Operating Activities	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Debt to Asset	-0.1027 (0.0735)	-0.0742 (0.0675)
Debt to Equity	1.5686*** (0.0155)	1.2800*** (0.0153)
Earnings Per Share	0.2966*** (0.0317)	0.1753*** (0.0277)
Fixed Asset Ratio	0.3010*** (0.0136)	0.3232*** (0.0138)
Profit Margin	0.0000 (0.0009)	0.0000 (0.0010)
Average M2	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP	0.0000*** (0.0000)	0.0000*** (0.0000)

Standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Assets with 1 Quarter Lag	0.0000** (0.0000)	0.0000*** (0.0000)
Short Term Loan with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Long Term Loan with 1 Quarter Lag	0.0000 (0.0000)	-0.0000** (0.0000)
Total Liability with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Total Owner's Equity with 1 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
notes_payable with 1 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 1 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Debt to Asset with 1 Quarter Lag	0.1544** (0.0746)	0.1147* (0.0661)
Debt to Equity with 1 Quarter Lag	1.5957*** (0.0157)	1.3021*** (0.0155)
Earnings Per Share with 1 Quarter Lag	0.1757*** (0.0237)	0.0804*** (0.0216)
Fixed Asset Ratio with 1 Quarter Lag	0.3014*** (0.0135)	0.3247*** (0.0137)
Profit Margin with 1 Quarter Lag	0.0006 (0.0017)	0.0004 (0.0019)
Average M2 with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Nominal GDP with 1 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 1 Quarter Lag	0.0685*** (0.0202)	0.0483** (0.0206)
Contractionary Monetary Policy Shock with 1 Quarter Lag	0.0758*** (0.0224)	0.0261 (0.0224)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Goodwill with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Total Assets with 2 Quarter Lag	-0.0000*** (0.0000)	0.0000 (0.0000)
Short Term Loan with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Long Term Loan with 2 Quarter Lag	0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
Total Owner's Equity with 2 Quarter Lag	0.0000 (0.0000)	-0.0000 (0.0000)
notes_payable with 2 Quarter Lag	-0.0000*** (0.0000)	-0.0000** (0.0000)
Net Cash Flow From Operating Activities with 2 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Debt to Asset with 2 Quarter Lag	-0.1790*** (0.0308)	-0.1308*** (0.0298)
Debt to Equity with 2 Quarter Lag	1.5909*** (0.0155)	1.3019*** (0.0152)
Earnings Per Share with 2 Quarter Lag	0.2543*** (0.0179)	0.1528*** (0.0173)
Fixed Asset Ratio with 2 Quarter Lag	0.2976*** (0.0134)	0.3222*** (0.0136)
Profit Margin with 2 Quarter Lag	-0.0004 (0.0031)	-0.0001 (0.0035)
Average M2 with 2 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Nominal GDP with 2 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 2 Quarter Lag	0.0840*** (0.0209)	0.0867*** (0.0214)
Contractionary Monetary Policy Shock with 2 Quarter Lag	-0.0210 (0.0190)	-0.0820*** (0.0191)

Standard errors in parentheses. * p < 0.1, ** p < 0.05, *** p < 0.01

Continued

	(1)	(2)
	Logarithmic loan	Logarithmic Short Term Loan
Cash and Cash Equivalents with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000 (0.0000)
Goodwill with 3 Quarter Lag	-0.0000 (0.0000)	-0.0000* (0.0000)
Total Assets with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Short Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Long Term Loan with 3 Quarter Lag	-0.0000 (0.0000)	0.0000 (0.0000)
Total Liability with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Total Owner's Equity with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
notes_payable with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Net Cash Flow From Operating Activities with 3 Quarter Lag	0.0000** (0.0000)	0.0000 (0.0000)
Debt to Asset with 3 Quarter Lag	0.1101*** (0.0379)	0.1146*** (0.0346)
Debt to Equity with 3 Quarter Lag	1.5632*** (0.0170)	1.2827*** (0.0166)
Earnings Per Share with 3 Quarter Lag	0.3251*** (0.0298)	0.2076*** (0.0284)
Fixed Asset Ratio with 3 Quarter Lag	0.2960*** (0.0131)	0.3207*** (0.0134)
Profit Margin with 3 Quarter Lag	0.0000 (0.0004)	-0.0000 (0.0004)
Average M2 with 3 Quarter Lag	-0.0000*** (0.0000)	-0.0000*** (0.0000)
Nominal GDP with 3 Quarter Lag	0.0000*** (0.0000)	0.0000*** (0.0000)
Expansionary Monetary Policy Shock with 3 Quarter Lag	-0.0272 (0.0205)	-0.0029 (0.0209)
Contractionary Monetary Policy Shock with 3 Quarter Lag	-0.0903*** (0.0146)	-0.1067*** (0.0146)
N	59614	59614
R2	-0.52	-0.63

Standard errors in parentheses. * p < 0.1, ** p < 0.05, ***p < 0.01