Study on Action and Risk of Commercial Bank: Based on Governmental Financing Platform

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Abstract. This paper researched the commercial bank’s behavior preference and decision criteria by theory of the firm of microeconomics in governmental financing platform lending activity. The results show: the commercial banks are very positive to lend the financing platform, if without administrative intervention factors, minimum default probability and maximal repay probability is one of the decision criteria for commercial banks to lend the financing platform, especially in financial or economic crisis circumstances. So commercial banks should take the effective measures to manage the financial risk.

Introduction

Governmental financing platform is the company established by the government for the infrastructure financing[1], including Urban Construction Investment Corporation, Urban Construction Development Company and so on[2].In recent years, the huge debt of the company brings risks to commercial banks, it has become a hot debate widespread in industry and academia. According to statistics, local government financing platform has loaned 7.38 trillion at the end of 2009, which equals to 20% of the GDP. 90% part of the loan came from bank credit, showing a rising trend. Such a huge debt seriously increases local financial debt levels, some local governments relied on government financing have come to their limit, local government debt rate has been 94%, in some counties the debt ratio even more than 400%. The decreasing solvency of the local government brings the suppliers safety and quality of lending banks a potential risk.

What are the behavioral characteristics when Commercial banks take part in the process of local government investment and financing? What is the foundation of the lending decision? How should we manage the financial risk in the future? The deep Analysis and research on these issues can improve the preservation of commercial bank and asset quality, and thus protect the sound operation of China's macro-financial system, which is Great theoretical and significant. This paper attempts to explain commercial bank’s behavior preference based on the theory of the firm in microeconomics. And analyzed the details of the risks faced by commercial banks and also proposed some suggestions.

The Explanation of the Behavior of Commercial Banks Participating in Financing Platform: Based on the Theory of the Firm

Commercial bank, unlike the real sector, is a business enterprise special currency, but from the perspective of economics, it still follows the manufacturer's behavioral characteristics and operational objectives. Profit maximization is one of the objectives. Therefore, treat the commercial banks as the target function helps us to analyze the behavioral preferences in a different way.

\[
\begin{align*}
\text{Max } \pi &= (1 - p_k) \sum_{k=1}^{n} i_k L_k + \sum_{j=1}^{m} r_j Q_j - \sum_{i=1}^{l} r_i D_i - (1 - \sigma) p_k L_k - FC(k, t=1;2;3...)
\end{align*}
\]

\[
st. M + Q + L = D
\]
\[ M = \beta D \]
\[ D = D^* + \alpha L \]

\( \beta \) = The statutory deposit reserve ratio;
\( D^* \) = Original Deposit
\( \alpha \) = The deposit rate is derived

Take M and D into the constraint conditions, finishing:

\[ (1 - \alpha + \alpha \beta) L + Q = (1 - \beta) D^* \]

Therefore, the target profit function and constraints described of the commercial bank can be re-expressed as follows:

\[
\begin{aligned}
\max \pi &= (1 - p_k) \sum_{k=1}^{n} i_k L_k + \sum_{j=1}^{m} r_j Q_j - \sum_{t=1}^{s} r_t D_t - (1 - \sigma) p_k L_k - FC(k, t = 1; 2; 3...) \\
\text{st.}(1 - \alpha + \alpha \beta) L + Q &= (1 - \beta) D^*
\end{aligned}
\]

Where:
\( \pi \): profit;
\( p_k \): The probability of loan default of \( k \);
\( i_k \): Rate loans of \( k \)
\( L_k \): Loan amount of \( k \)
\( r_j \): Deposit interest rates of \( j \)
\( Q_j \): Deposit amount of \( j \)
\( r_t \): Liabilities Interest rate of \( t \)
\( D_t \): Liabilities Amount of \( t \)
\( \sigma \): NPL recovery rate
\( FC \): Non-operating costs of funds
\( \alpha \): Deposit derived multiplier
\( \beta \): The statutory deposit reserve ratio

As we can seen from the objective function, profit of commercial banks comes from two parts, loan proceeds and other banks earnings. However, revenue generated from banks is relatively small, non-financial costs of operating becomes the constant term, we ignore it to facilitate the analysis. Accordingly, the above objective function can be simplified, with the same constraints.

\[
\begin{aligned}
\max \pi &= (1 - p_k) \sum_{k=1}^{n} i_k L_k + \sum_{t=1}^{s} r_t D_t - (1 - \sigma) p_k L_k (k, t = 1; 2; 3...) \\
\text{st.}(1 - \alpha + \alpha \beta) L + Q &= (1 - \beta) D^*
\end{aligned}
\]

The economic significance of the constraints means, the total amount of loans conducted by commercial banks has theoretical upper limit of liabilities.

**Preference Basis of Commercial Bank Loaning to the Platform Company**

The total amount of loans issued by commercial banks is under the constraints of the macro-control policy, which is locked and can not be adjusted. According to the analysis of the sources of income, interest income is much lower compared to the income generated by loans from banks, which explains the reason why the fierce competition appears in the lending market.

Analyzed from the simplified objective function, we can tell that commercial banks can only judge by its own experience judgment, since the loan amount is fixed every year under the principle.
of regulated liquidity, safety and profitability. Take \((\min p_k, \max \sigma)\) into conditions, the minimum loan default probability and the maximum loan repayment rate. This condition is even more important, especially in the bad domestic macroeconomic situation. \(\min p_k\) is to prevent and control of credit risk, In addition, \(\max \sigma\) should be ensured if default emerged. Thus, the conditions of \(\min p_k, \max \sigma\) become a priority among the potential borrowers for the commercial banks.

From the perspective of corporate law, government financing platform is a separate legal entity, it has independent accounting. When local governments injecting financing platform by land, housing and other public assets, and repaying commitments by financial subsidies, it actually It reflects a government credit, which meets the above conditions of loan, \(\min p_k, \max \sigma\). Therefore, as long as the state power exist, local government can pay the bank debt by transferring the land. As for commercial banks, financing platform there is a small probability of default even zero. The biggest problem they faced is the length of time.

According to the empirical evidence, external demand reduction factors make macroeconomic situation grim. China’s economic grows slowly, business uncertainty increases, the proportion of stocks significantly increased, the risk of situation deteriorated after the global financial crisis in 2008, thereby causing a reduction in corporate demand for funds, bank even can not loans money. However, the gap of the funds falls on the shoulders of the company’s platform, which is driven by 4 trillion economic stimulus policies. Because of the government credit and a low level of risk, platform became the main customers of the major commercial banks. The scale of loans has enlarged rapidly between the cooperation, as the potential risks has not been fully recognized and estimated.

Through the comprehensive analysis of the theoretical and empirical aspects, it is believed that commercial banks actively participate in the process of investment and financing in local government financing platform, and the activity has significant preferences [3]. If not considering the factor of administrative intervention, \((\min p_k, \max \sigma)\) condition is an important decision criteria for commercial banks to lend loan to local government financing platform. Especially in the severe macroeconomic circumstances, such as the economic crisis, financial crisis, etc.

**The Risk Emerged When Commercial Bank Lending to Local Government Financing Platform**

Although loaning to local government financing platform advantageously promote local economic development and urban construction [4], boost the expansion of domestic demand during the financial crisis. However, a massive increase of loan brings concentration risks, banks also have to face greater guarantee repayment risk.

**Loan Concentration Risk**

By the end of 2009, local government financing platform loans 7.38 trillion, 90% of the loan, 6.64 trillion, comes from bank loans. Since loans are the most important part of the assets of commercial banks, loan concentration risk is the biggest risk for the banks. Thus, large-scale commercial banks to provide funding to local government financing platform, may raise the loan concentration, leading to large single exposures. It not only increases the difficulty of dispersing credit risk, but also bring negative impact to the economic capital of the bank.

**Guarantee Risk**

Currently, local government financing platform loan from banks mainly relying on the government financial guarantees, however, this form has little force of law, it is more like a kind of “instrument tool” to cope with the risk. On the one hand, the debt guarantee of government does not belong to budget constraints, and is not open to the public, therefore the transform of government leadership
makes the guarantee contracts invalid. On the other hand, local government debt ratio is generally above 100%, most of the financing platform’s debt ratio is also 80% or even higher. High debt ratio and the lack of capital will make the actual compensation debt capacity greatly impaired, when the guarantee contract expiration. Therefore, the vulnerability of local government guarantee makes commercial banks face a huge guarantee risk.

**Repayment Risk**

In fact, it is the platform company takes a loan from the bank, so the main responsibility is very vague. Construction unit use the credit, most of the building projects and specific funds have no management authority, the ultimate benefit does not belong to the company platform, either. Bank loans to local financing platform according to the government project, in fact, the loan is completely out of the company's monitor. Additionally, government guarantee is lack of legal effect, and part of the funds such as steel, building materials and other excessive industries result the lack of effective platform for the company. The probability of full recovery of loans is greatly reduced, under the influence of various factors. Once the local government does not have enough financial resources, the loan will eventually become a part of the non-performing assets of commercial banks [5].

**Suggestions for Commercial Banks to Strengthen Risk Management**

The CBRC issued a new notice requiring commercial banks to strictly examine existing loan projects, and classify the loan, because of the potential risk, which is brought by the local government financing platform. It is an important issue to strengthen the risk management of the local financing platform, prevent and control various types of financial risk, and ensure the safety of assets in order to construct a sound management.

First, we should improve the access of the local government financing platform and reduce customer concentration. Commercial banks should increase scrutiny of applications and improve access conditions and thresholds of platform company[6].This includes setting up the maximum gearing ratio, analyze the debt repayments. As for the unqualified platform company, we should filter them to avoid the exposure of single risk, which is customer concentration risk.

Second, we should strictly review the loan approval material, ensure the effectiveness of collateral tools. Examine the approval materials, particularly collateral materials of the loan platform company, in order to avoid taking the financial subsidies as collateral, to increase the proportion of the entity's mortgage assets, land use rights, buildings, etc., and effectively prevent a Guarantee risk.

Finally, analyze the repayment source of platform, in order to reduce the risk of repayment. We should focus on the first repayment source of the platform, and track their cash flow dynamically. Pay attention to the second source of repayment such as collateral periodically, if the market price fell severely, we should take active measures to deal with it, such as requiring additional security to ensure that the platform has a stable and sustainable ability.

**Conclusion**

Overall, the commercial bank has a significant preference feature to the platform, this is because the low probability of default and a high probability of repayment. However, it is not as good as imagine, since the limitations of the platform company. Therefore, commercial banks should earnestly implement debt requirements from the People's Bank, China Banking Regulatory Commission (CBRC). Reinforce the risk management and improve the asset quality as well as the operating capacity, contribute to the China's macro-financial stability.
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