

Study on the Effective Operation Models of Credit Guarantee System for Small and Medium Enterprises in China

Ping Zhang

China Center for Special Economic Zone Research, Shenzhen University

Av. Nanhai 3688, Shenzhen 518060, China

Tel: 86-755-2653-8247 E-mail: pzhng@szu.edu.cn

Ying Ye

China Center for Special Economic Zone Research, Shenzhen University

Av. Nanhai 3688, Shenzhen 518060, China

Tel: 86-755-2653-8247 E-mail: vikyee@gmail.com

Abstract

The credit guarantee system for small and medium enterprises (SMEs, here in after) has been established for more than 10 years in China. There are so many problems resulting in low-effective operation of the credit guarantee system, such as the risks share and amplification multiple of guarantee determined by financial institutions and guarantee organization to reasonably are unreasonable. Aiming at these, this article gave an analysis framework of the effective operation of credit grantee system for SMEs, and then took Shenzhen as a case to analysis. Here we demonstrate that, the effective operation of credit grantee system for SMEs in China dependent on the improving of fund indemnity mechanism, especially the government should provide an institutional environment to encourage SMEs' own innovation.

Keywords: Small and medium enterprises, Credit guarantee system, Operation modes in China

1. Introduction

The difficulty of financing is always a worldwide problem faced by SMEs, which greatly hinders the development of SMEs. To solve this problem, and improve the business environment for SMEs, a series of supporting policies and measures were carried out by Chinese government. In 1999, "Guidance on pilot construction of the SME credit guarantee system" was issued by the former State Economic and Trade Commission, which basically established the framework of the credit guarantee system for SMEs in China, supporting the lending to Chinese SMEs and improving the financing environment.

It has been more than 10 years since Chinese credit guarantee system for SMEs was started in 1999. However, the system is still running in confusion and inefficiently, which makes the channel to finance for SMEs through credit guarantee unsmooth, and further severely hinders the development of SMEs in China.

As Meyer and Nagarajan (1997) argued that no comprehensive evaluation of loan guarantees in developing countries has been conducted in recent years, the effectiveness of the credit guarantee for SMEs was studied by many scholars. Some focused on whether credit guarantee is an effective instrument to promote lending to SMEs, while the standard of the effectiveness refers to reducing SME's borrowing cost and easing their financing constraints, as pointed out by Adams(1997) and Llisteri (1997), because of high loan default rates, high guarantee coverage ratios and fee levels, the credit guarantee schemes are costly. However, Zecchini and Ventura (2007) provided convincing econometric evidence that, the credit guarantee Italy's scheme is an effective instrument in reducing SME's borrowing cost and easing their financing constraints.

Some tried to evaluate the operational efficiency of the credit guarantee organizations like Cui (2009), data envelopment analysis (DEA) model is used in the article. Grahame Boocock and Mohd Noor Monhd Shariff. (2005) measured the effectiveness of the New Principal Guarantee Scheme (NPGS) offered by the Credit Guarantee Corporation (CGC) in Malaysia by investigating whether the CGC has achieved its objectives of generating finance and economic additionality and finally made a conclusion that there is insufficient evidence to demonstrate that the CGC is not meeting all of its objective.

In China, Zhang (2005) tried to find an effective operation mode for Chinese credit guarantee organizations, and

pointed out that mutual credit guarantee organizations are the most effective one to promote SMEs financing efficiency. Besides, capital sources and loss compensation mechanism and risk control are essential elements which influence the efficiency of organizations, while perfect outside environment is also needed.

This paper attempts to establish a series of measuring standard, which include amplification multiple, probability of subrogation, effectiveness of guarantee, information transfer, and funding replenishment mechanism, to evaluate the effectiveness of the operation mode of SMEs credit guarantee in China, and to discover the shortage of the current operation. As Chen and Wang (2009) observed, a capital compensation mechanism for guarantee funds is needed in perfecting the credit guarantee system of China's SMEs.

The structure of the paper is: first, the status quo of the credit guarantee system for SMEs was described in the second part. And the effectiveness of the credit guarantee's operation was analyzed in the third part. In the fourth part, there was a case studied in Shenzhen City, in which the operation mode of Shenzhen credit guarantee system for SMEs was analyzed in detail. At last, the conclusion was made.

2. Developing status of the operation of credit grantee system for SMEs in China

2.1 Developing status quo

It has been more than 10 years since the credit guarantee system for SMEs in China was established, which has developed rapidly. According to Ministry of Industry and Information Technology, by the end of 2008, there had been 4247 credit guarantee organizations, and 233.4 billion RMB of guarantee funds in the whole China, moreover, the total guarantee amount of the loan for SMEs had reached 1.75 trillion RMB, and 907 thousand enterprises had been guaranteed totally.

The characteristics of the development of credit guarantee industry in China is that the capital scale of the guarantee organizations is obviously expanded, and the power of capital is strengthened, which plays an increasingly significant role in solving the financing problems for SMEs. According to statistics, in 2008, the registered capital of each guarantee organization established in China was 49.14 million RMB, up by 5.6% over the previous year. And during the year, the credit guarantee organization succeeds in providing 230 thousand SMEs with guarantee for the lending of 722.1 billion RMB, in which 434.08 billion RMB was newly increased. And 151 thousand enterprises were newly secured; up by 9.52% over the previous year, and the guarantee business was increased by 43%.

Among those credit guarantee organizations, the state-owned ones developed steadily, and the policy guarantee funds have played the role of directing the social funds and promoting the development of the credit guarantee industry. By the end of 2008, there had been 1245 State-holding guarantee organizations, accounting for 29.3% of the total number of organizations, and policy guarantee funds of 61.54 billion RMB, accounting for 26.3% of the whole.

With the scale of the guarantee funds and the volume of business expanding rapidly, the credit organizations still insist on providing guarantee services for SMEs, especially for small-sized enterprises. In 2008, there were 384 thousand guarantees less than 8 million RMB each, accounting for 96% of 400 thousand guarantee business, and in which there were 230 thousand businesses less than 1 million RMB, accounting for 57.6%.

At the meantime, the risk management was strengthened constantly. A number of organizations adopted advanced Computer Management Information System in order to normalize the business process, and prevent the systematic risk effectively. According to statistics, the loss of the nationwide guarantee organizations in 2008, which was caused by compensation for SMEs, just accounted for 0.08 percent of the guarantees of the year.

2.2 Operation mode of credit guarantee system for SMEs in China

2.2.1 The operation of credit guarantee organization

2.2.1.1 The Credit Guarantee Organization (CGO)

The type of CGOs for SMEs in China is usually classified into three:

- A. policy guarantee organization, which is indirectly supported by government, non-profit;
- B. mutual guarantee organization, which is organized by SMEs voluntarily, rose by membership, and service the membership, also non-profit;
- C. Commercial guarantee organization, which is invested by individuals or companies in society for the purpose of profits. Table 1 shows the types and characteristics of CGOs.

2.2.1.2 Types of Credit Guarantee

Financing guarantee for SMEs is not the only business run by the CGOs, there are usually some other business such as financial derivatives guarantee, further guarantee, entrusted loans, and so on. The reason is the CGOs cannot live long by only the tiny fees earned in the financing guarantee, and financing guarantee business is high-risk. Other guarantee business is necessary to be launched to increase the revenues of CGOs.

2.2.1.3 Guarantee Procedures

The procedure of the financing guarantee is as similar as that of bank loans: accepting guarantee program, program appraisal, decision, signing contract, program supervision, and reimbursement for SMEs, exercising the right to get paid back, and ending the project.

2.2.1.4 Guarantee Rates and Amplification Multiple

Generally, in order to reduce the cost of financing and support the SMEs, the CGOs which were funded by government, set the guarantee rates at about 1 percent.

About the amplification multiple, because of imperfection of the credit guarantee system for SMEs in China, the organization operated irregularly, and the amplification multiple of guarantee funds is very low, sometimes even less than 2.

As surveyed by the writer, the CGOs in China have not been engaged in real policy guarantee business, therefore, the operation of organizations does not reflect the policy intent: high amplification multiples, and low rates to solve the financing problems for SMEs.

2.2.2 Operation of Risk Share System

As a result of the imperfection of guarantee system, banks are not willing to take any risks in security, and then at the most of the time, the risks of guarantee are completely undertaken by guarantee organizations. However, there are still several banks sharing risks with organizations in proportion. The sharing percentage is decided by the level of risk in different district, generally between 10% and 50%. For example, the risks of guarantee are undertaken completely by the CGOs in Shenzhen except two policy guarantee organizations, which shared their risks with banks, with the ratio 9:1 and 8:2.

2.2.3 Replenishment mechanism

Replenishment mechanism has not been established among the CGOs in China except several organizations in Beijing and Shanghai. According to the current risk reserve policy, even if there is no compensation by guarantee organizations, it is difficult to get profit for them. Thus, many organizations developed other high yield business out of the guarantee, such as underground banks, usurious loans and so on, which led to the disorder of the guarantee industry, and a series of other problems.

3. Analysis on the effective operation of credit grantee system for SMEs

3.1 A framework of the effective operation of credit grantee system for SMEs

A. Whether the operation of credit guarantee system is effective or not, we could consider several factors:

B. whether the amplification multiple provided by banks is reasonable;

C. the probability of subrogation;

D. how easy the handling procedures are, and whether the cooperative banks loan promptly;

E. how rapid the information transfer in the whole guarantee system;

Whether the guarantee system owns strong financial support and the financial replenishment is in time. According to these, we could construct the analysis framework of the effective operation of the credit guarantee system.

3.1.1 Amplification Multiple

The amplification multiple of the credit guarantee fund is showed by the ratio of the amount of the guarantee loans to the guarantee fund of the CGOs in their business. Only a modest amplification multiple is reasonable. If the amplification multiple is much big, which means higher risk would be undertaken by the organizations, to the contrary, the organization would get out of the business as a result of the low guarantee incomes. And according to international experience, the amplification multiple is set at 10 to 30, which is reasonable.

3.1.2 Probability of Subrogation

The risk of the lending to SMEs is comparatively higher than lending to large enterprises. So it is possible for the

organizations to compensate for non-repayment of SMEs. If the compensation happens frequently, it shows that there must be some problems in the system of credit guarantee. To control the subrogation, the organizations have to take a strict investigation on the SMEs who apply for loan guarantee beforehand, and also, the organizations need the follow-up supervision and recourse debt after the compensation. However, if the probability of subrogation is very low, it does not mean the credit guarantee system runs effectively, and it is necessary to find out the further reasons.

3.1.3 Effectiveness of Guarantee

It is necessary for the organizations to speed up the guarantee procedures, after the follow-up supervision and counter-security measure is ensured. And the cooperative bank could lend the money to SMEs as quick as possible once the program is guaranteed.

3.1.4 Information Transfer

There is a convenient channel to transfer information smoothly, between the guarantee organizations and cooperative banks, guarantee organizations and re-guarantee centre, and reinsurance sectors

3.1.5 Funding Replenishment Mechanism

After the compensation, the organizations need money to supplement the funds. Therefore, it is necessary to establish funding replenishment mechanism, and the source of the funding could be diversified. It is the most important that only if the replenishment mechanism is perfect, the guarantee system will develop forward rapidly.

To sum up, with the reasonable amplification multiple, the low subrogation probability, convenient handling procedures, rapid information transfer, and perfect funding replenishment mechanism, we can say that the credit guarantee system operates effectively.

3.2 Analysis on the effective operation of credit grantee system for SMEs in China

As surveyed by the writers, currently there is no guarantee organization engaged in the real policy guarantee business in China, which means the guarantee business run by CGOs did not reach the purpose of the policy, which was drawn up to guide the flowing orientation of the funds, set up the comparatively low rates and comparatively high amplification multiple in order to solve the financing difficulties of SMEs. Then next, we try to analyze whether the current guarantee system operates effectively or not.

3.2.1 Unreasonable Amplification Multiple

According to the Chinese government policies, the amplification multiple could not be more than 10, which means 1 billion RMB loans could be secured by 100million RMB guarantee funds at most. But in other developed countries, the amplification multiple is much higher than in China. It shows the amplification multiple of credit guarantee fund in several countries in Tab. 2.

3.2.2 Low Probability of Subrogation

According to the statistics, the loss of subrogation of nationwide CGOs only accounted for 0.08% of the whole guarantee during the year 2008; the percentage indicated that the probability of subrogation was rather low. The reason for this is, in fact, the guarantee organizations were not working in the real policy guarantee business, but engaged in bank credit supplementary services, making use of the inadequacy of the bank market, and the risk of this business could be controlled. So the low probability of subrogation of CGOs does not come out of the truly loan guarantee.

3.2.3 Funding Replenishment

Funding replenishment mechanism has not been established among the CGOs in China, which is the main reason why the organizations had no choice but to run business making use of inadequacy of the bank market.

According to the current risk reserve policy, even if there is no compensation by guarantee organizations, it is difficult to get profit for them. Thus, many organizations developed other high yield business out of the guarantee, such as underground banks, usurious loans and so on, which led to the disorder of the guarantee industry, and a series of other problems.

4. A Case: credit grantee system for SMEs in Shenzhen

4.1 Developing status of the operation of credit grantee system for SMEs in Shenzhen

By the end of 2008, there had been 256 registered organizations in Shenzhen, two of which were funded completely by local government, with the registered capital 1.24billion RMB; and 254 commercial organizations,

with the registered capital 13.96 billion RMB.

In 2008, there was 22.5 billion RMB of guarantee business; the amount of guarantee was 13.2 billion RMB for each lending below 8 million RMB, accounting for 58.6% of the whole guarantee business. The average rates of guarantee is 2.2% of the loans, and the amplification multiple is 6.7. As to the risk shares, two policies guarantee organizations in Shenzhen shared their risk with cooperative bank 8:2 and 9:1 respectively, while others took the whole risks by themselves.

4.2 Discuss on the Effective Operation of the Credit Guarantee System for SMEs in Shenzhen

A case of Shenzhen High Tech Investment & Guaranty CO., LTD was studied in this section to analyze the operation of the credit guarantee system for SMEs in Shenzhen.

4.2.1 Developing status of credit guarantee in Shenzhen

Since 1993, the CGOs have emerged gradually in the whole China. In Fig. 1, we can see that, compared with the traditional bank credit market, the credit guarantee market confronts high risks, and not yet mature enough.

4.2.2 The Operation of Shenzhen High Tech Investment & Guaranty CO., LTD

4.2.2.1 Funding sources

After the company was founded, Shenzhen Bureau of Finance and State-owned Assets Management Committee has increased capitals into the company several times. Meanwhile, the company attracted lots of venture capitals, foreign investment and other social funds. In addition, the company developed equity investment, and the earnings from investment is an important complement of company revenues.

4.2.2.2 Business and Revenue Structure

The company's business is composed of guarantee, investment and consults service, and the loan guarantee is the main one provided by the company. The financing guarantee is the main source of company's revenue, accounting for 20% of the whole.

4.2.2.3 Guarantee Fee and Subrogation

In 2004, the revenue from guarantee fee arrived at 15.47 million RMB; in 2008, the number arrived at 56.45 million RMB, and the trend was going upward gradually. As to the compensation for SMEs, the organizations compensated 50.07 million RMB in year 2005, higher than any other years, and in the year 2007, the organizations compensated 2.65 million RMB less than others. According to the statistics in 2009, the revenue from guarantee service was as high as 72.04 million RMB, and subrogation, 19.54 millions, the organization got repaid from the SMEs 21.61 million RMB.

4.2.2.4 Amplification multiple

By the year 2004, more than 600 high-tech enterprises and 1760 high-tech programs in Shenzhen had been serviced by the company, with the total secured loans 7 billion RMB. Meanwhile, the company attracted VCs, foreign capital and other capitals totally more than 9 billion RMB into these high-tech enterprises. So the company led more than 14.5 billion capitals into the enterprises, which was 30 times more than the capitals that were supplied by Shenzhen government to Shenzhen High Tech Investment & Guaranty CO., LTD, who set up a golden bridge between the enterprises and financial institutions, bringing in enormous social benefits.

4.2.2.5 Risk share

The company cooperated with the most of the commercial bank, they undertook 90% of the loan principal, interest, and overdue interest, and the bank 10% (8:2 shared with National Development Bank).

4.2.3 Risk control

4.2.3.1 The risk

All the risks that were faced by the company are shown in table 3. in the year 07-09, the rate of subrogation was 0.57%, and the loss rate, 0.03%. The amount of risk management of guarantee programs is 192.96 million RMB, with 131.29 million RMB was repaid by the organization for the enterprises but still not got paid back, accounting for 68%. The risk project of cooperative bank on guarantee reached 51.57 million RMB accounting for 27%, and the risk project of government on guarantee, 10.1 million RMB, accounting for 5%.

4.2.3.2 Risk Aversion and Prevention

The company has to check the program strictly once the financing guarantee is applied and makes its efforts to manage it in the late period, in order to averse the risk.

As to risk prevention, the company adopted such approaches:

A. Credit risk diversification. In one hand, the company diversified the risk of high-tech enterprises by diversifying the fields which guarantee business was involved in; in another hand, the company could reduce each sum of guarantee, and increase the total number of guarantee enterprises.

B. Credit risk transfer. The organizations mainly transfer their credit risk to guaranteed enterprises by mortgage counter-guarantee and counter-guarantee pledge. Once the risk happens, the organizations could deal with the mortgaged and pledged property to reduce the loss. In addition, the guarantee company could choose to share their risk with banks.

C. Credit risk compensation. First, Shenzhen High Tech Investment & Guaranty CO., LTD set aside a risk reserve fund at 0.1% of the closing guarantees for the year annually and 50% of guarantee fees for risk reserve. Second, the company innovated in its business to ask the guaranteed firms for compensation, such as "security dividend" and "security-for-Option". The third is to seek compensation from the government. In December of 2005, the municipal government wrote off the loss of the company more than 76 million RMB.

4.2.4 Contribution to the credit guarantee in Shenzhen

Shenzhen High Tech Investment & Guaranty CO., LTD has contributed to the development of high-tech industrials greatly.

A. Obvious effect on amplification of funds

As is mentioned above, more than 600 high-tech enterprises and 1760 high-tech programs in Shenzhen had been serviced by the company, with the total secured loans 7 billion RMB. Meanwhile, the company attracted VCs, foreign capital and other capitals totally more than 9 billion RMB into these high-tech enterprises. So the company led more than 14.5 billion capitals into the enterprises.

B. Support a large number of enterprises

BYD, Kingdee, and other famous enterprises were supported by the company, some of them succeeded in listing abroad or in domestic stock market.

4.2.5 Shenzhen Experience

In this paper, we paid a visit on Shenzhen High Tech Investment & Guaranty CO., LTD to investigate the operation of the credit guarantee system for SMEs in Shenzhen. Through the investigation, we realized that if the credit guarantee wants to operate effectively, it is crucial to establish a perfect funding replenishment mechanism, especially the governmental fund plays an important role in the operation of CGOs, and promoting the development of the credit guarantee system. Only if the governments supply complementary funds in time to the guarantee system, the efficiency of the whole guarantee industry will be improved greatly, and the problems of financing difficulty for SMEs will be solved greatly.

From the case of Shenzhen High Tech Investment & Guaranty CO., LTD, it reflects that the operation of the credit guarantee system in Shenzhen is comparatively effective; however, there are still many problems. As known by the writers, it is very tiny for Shenzhen High Tech Investment & Guaranty CO., LTD to get the governmental funding replenishment, so there are not many truly financing guarantee for SMEs, what the company usually do is to provide the bank credit supplementary services.

5. Conclusion

Currently, the credit guarantee system for SMEs in China does not operate effectively, to a large extent, the CGOs were not working in the truly policy guarantee business, but engaged in bank credit supplementary services, making use of the inadequacy of the bank market. While the system is planned to direct the funds to solve the financing difficulties of SMEs, the credit guarantee should be standardized constantly.

References

- Grahame, B., & Mohd, N. M. S. (2005). Measuring the Effectiveness of Credit Guarantee Schemes. *International Small Business Journal*, Vol. 23(4), 427-454
- Information Office of the State Council. (2004). China's Social Security and Its Policy, Information Office of the State Council
- Japan International Cooperation Agency (JICA) and Department of Trade and Industry (DTI). (2003). *Interim Report for Support Program for SME Development Plan in the Republic of the Philippines*. Tokyo: UNICO International Corporation. July

Kimura, F. (2001). *Subcontracting and the Performance of Small and Medium Firms in Japan*. Washington, D.C.: The International Bank for Reconstruction and Development/The World Bank

Llisterri, J.J. (1997). Credit guarantee systems: preliminary conclusions. *The Financier*, 4(1-2), Feb/May

Meyer, R.L., & Nagarajan, G. (1997). Comment on Gudger. *The Financier*, 4(1-2), 100-4

Ronald, T., Frances, J., & Cielito H. (2004). Small and Medium Enterprise Development Experience and Policy in Japan and the Philippines: Lessons and Policy Implications. Philippine Institute for Development Studies, discussing paper, NO. 2004-30

S. Zecchini & M. Ventura. (2009). The Impact of Public Guarantees on Credit to SMEs. *Small Bus Econ*, 32,191-206

Vogel, R.C., & Adams, D.W. (1997). Costs and benefits of loan guarantee programs. *The Financier*, 4(1-2), Feb/May

Xiaoling Cui & Tianli Zhong. (2009). The DEA Operational Efficiency Evaluation of Credit Guarantee Institutions, 2009 International Conference on Business Intelligence and Financial Engineering, pp.822-825

Yurong Chen & Weixing Wang. (2009). On Perfecting the Credit Guarantee System of China's Small & Medium-Sized Enterprises. *International Business Research*, Vol.2, No.3

Zhuolin Zhang. (2005). Research on Effective Operation Mode of Credit Guarantee Organizations for Small and Medium-Sized Enterprises, Changsha: Central South University, PhD thesis

Table 1. Modes of CGO and Its Operational Characteristics

Type	Funding Source	Operational Characteristics
Policy CGO	government budget, state-owned land and asset allocation, private capital and social collection, government credit guarantee funds, further guarantee reserve, member risk margin, domestic and foreign donations	simple security procedures; low fees; the loss of CGOs is partly compensated by public budget
Mutual CGO	member shares, private capital and member risk margin, domestic and foreign donations	simple security procedures and low fees in membership; the loss is amortized by the whole members annually
Commercial CGO	funded by enterprises or individuals, state-owned only	fees are completely decided by negotiation

Table 2. The amplification multiple of credit guarantee fund

Country	U.S.A	Japan	Korea	China
Amplification Multiple	50	60	20	<10

Table 3. The total risk

Year	Risk
1995-1999	No compensation
2000-2005	Lots of compensation
2006 till now	A few compensation

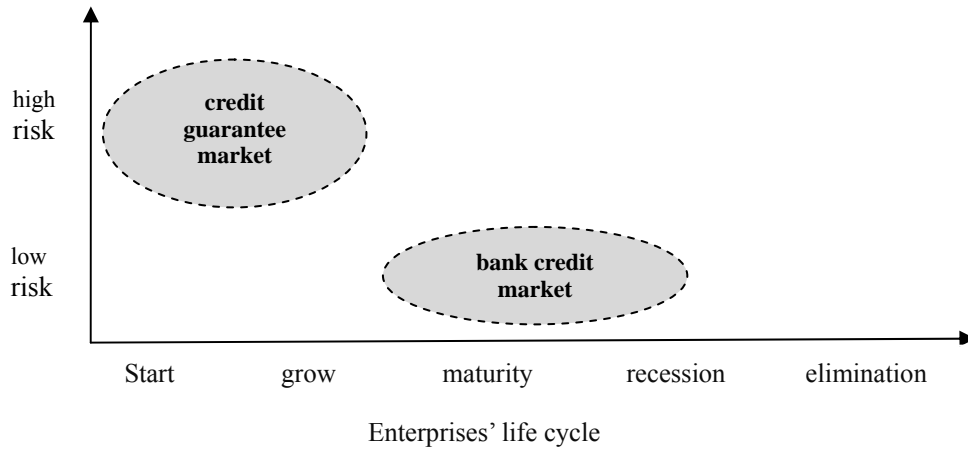


Fig 1. Credit guarantee market for SMEs in Shenzhen