

Research on Bank–Enterprise Relationship and SMEs Financing

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Abstract. This paper analyzes the correlation between bank-enterprise relationship and SME financing. With the small and medium enterprises in the wholesale and retail industry listed on the Shenzhen Stock Exchange in 2008-2018 as samples, the characteristic variables affecting corporate financing constraints and SME financing are comprehensively considered, including enterprise scale, cash ratio, fixed assets-net value, asset-liability ratio and profitability. The study finds that both bank-enterprise relationships have significantly positively affected their corporate finance. The conclusions of this paper have certain reference value for understanding the impact of bank-enterprise relationship on SME financing. The study finds that both bank-enterprise relationships have significantly positively affected their corporate finance. The conclusions of this paper have certain reference value for understanding the impact of bank-enterprise relationship on SME financing.

1. Introduction

As SMEs account for a larger proportion of the national economy, the role of SMEs in economic development in China has also become larger and larger. However, due to the SMEs themselves and outside factors, SMEs generally have difficulties in external financing. Bank-enterprise relationships and the financing of SMEs have always been important topics in corporate finance research. Throughout the existing research, whether the bank-enterprise relationship eases corporate financing constraints and whether it affects the efficiency of bank credit allocation are the main research contents. By creating a favorable financial ecological environment, it is intended to advance the production and management capabilities of SMEs with improving the efficiency of financial capital operations so as to promote the national economy.

2. Literature review and research hypothesis

Qu Jin and Gao Shenghao (2015) ^[1] believe that the establishment of a bank-enterprise relationship by private companies can alleviate the lack of investment and help to improve the investment efficiency of enterprises. Jiang Hui and Zhu Yujie (2018) ^[2] hold that the closer the relationship between banks and enterprises, the higher the solvency of enterprises; the correlation between the length and scale of bank-enterprise relationship and the total factor productivity of enterprises show certain significant positiveness, which means that banks can effectively obtain information about the future quality of enterprises through bank-enterprise relationships during credit screening, thus improving credit screening efficiency. Zhu Enwei, Wu Hao and Liu Hongyu (2019) ^[3] deem that a good bank-enterprise relationship can significantly improve the credit availability of enterprises for small-scale or weakly profitable enterprises; in particular, bank-enterprise relationships can help them increase credit availability or reduce credit financing costs. Yin Zhichao, Qian Long and Wu Yu (2015) ^[4] think that the relationship between banks and enterprises has a significant positive impact on the cost of borrowing for SMEs, while the competition in the banking industry has a significant negative impact on the cost of borrowing.

3. Research sample and model design

3.1 Research samples and data sources

This paper takes SMEs in the wholesale and retail industry listed on the Shenzhen Stock Exchange in 2008-2018 as research samples, and adopts annual cross-sectional data and time series data. It also excludes listed companies such as ST and *ST. A total of 1452 sample values are collected by processing the above data. The enterprise feature data used in this paper is derived from the WIND database developed by Shanghai Wind.

3.2 Model design

The model for setting up SME financing is as follows:

$$\text{Financing}_{it} = c + \beta_1 \text{ESO}_{it} + \beta_2 \text{EST}_{it} + \beta_3 \text{CR}_{it} + \beta_4 \text{NVR}_{it} + \beta_5 \text{ALR}_{it} + \beta_6 \text{PRO}_{it}$$

Financing stands for financing for SMEs. According to the previous literature, the characteristic variables that affect corporate financing constraints and SME financing are considered including enterprise scale, cash ratio, fixed assets-net value, asset-liability ratio and profitability.

Table 1 Variable definition

Variable	Abbreviation	Definition
Enterprise scale one	ESO	LOG Value of Employee Number in Enterprise
Enterprise scale two	EST	LOG Value of Total Assets of Enterprises
Cash ratio	CR	Ratio of cash and cash equivalents balance to current liabilities
Net Value Ratio of Fixed Assets	NVR	Ratio of Fixed Assets to Total Assets of Enterprises
Asset-liability ratio	ALR	Total end-of-period liabilities of an enterprise divided by total assets
Profitability	PRO	The ratio of after-tax profits to total assets of enterprises

4 Empirical results and analysis

4.1 Descriptive statistical analysis

In order to have a clearer understanding of the sample selection, the maximum, minimum, mean and sample distribution of each variable, a descriptive statistical analysis of the sample is required.

Table 2 Descriptive statistics

	ESO	EST	CR	NVR	ALR	PRO
Mean	4599.472	9.53E+09	0.773559	0.138771	48.74018	0.054125
Median	2153.5	3.52E+09	0.437	0.1106	49.879	0.0532
Maximum	39031	1.99E+11	11.6052	0.4742	230.2393	0.28
Minimum	53	1.61E+08	0.0414	0.0013	5.03	-1.5771
Std. Dev.	6230.126	2.28E+10	1.191667	0.109181	21.79004	0.122208
Skewness	2.395705	5.554288	5.534636	0.963949	2.518553	-11.21743
Kurtosis	9.479541	38.13154	43.52575	3.393963	24.0378	151.2905
Jarque-Bera	573.6549	11992.36	15589.64	34.20266	4133.66	198691.6
Probability	0	0	0	0	0	0
Sum	975088	2.02E+12	163.9946	29.4195	10332.92	11.4744
Sum Sq. Dev.	8.19E+09	1.10E+23	299.6348	2.515213	100184	3.151223
Observations	212	212	212	212	212	212
Cross sections	22	22	22	22	22	22

The statistical characteristics of SME characteristic variables are listed in Table 2. Listed SME financing companies have larger corporate scales and higher ROE.

4.2 Model estimation results

Before using panel data for analysis, in order to prevent spurious regression, the panel data is tested

for stationarity. ESO and EST are phase 1, and others are phase 0. After generating the feasible region of variable ESO and EST, the unit root test is performed again, and the result is shown as a stationary sequence.

The Hausman test is used to determine whether the regression model in this paper uses a random effect model or a fixed effect model. The original hypothesis is a stochastic model and the results are shown in Figure 1. The P value of Hausman Test is >0.05 , and the null hypothesis is agreed under the 5% test, so a random effects model should be established.

Correlated Random Effects - Hausman Test
Pool: POOL01
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.180314	6	0.6523

Figure 1 Hausman test results

Table 3 Random effect panel model results

Financing	Coefficient	Std. Error	t-Statistic	Prob.
ESO	-1301.783	650.4002	-2.00151	0.0470
EST	4.44E-08	7.30E-09	6.091923	0.0000
CR	160.95	118.3271	1.360212	0.1756
NVR	1675.5	1540.903	1.087349	0.2785
ALR	19.96082	9.602976	2.078608	0.0392
PRO	2124.378	1235.488	1.719464	0.0174

From the random effect panel regression results in Table 3, the P value of the ALR is 0.0392, and its coefficient is positive, which indicates it under the 5% significance level. The ALR has a significant positive impact on Financing of SMEs, showing that there is a positive correlation between bank-enterprise relationships and Financing for SMEs. Good bank-enterprise relationships can help improve the possibility of financing. This is also consistent with Dong Youde and Song Fangyu (2017) [5], which has positively affected its corporate finance. In addition, the P value of the enterprise scale 1 ESO and the enterprise scale 2 EST are both less than 0.05, and all of them can pass the test at the 5% significance level. Specifically, the enterprise scale 1 ESO and enterprise scale 2 EST have a significant positive impact on SME financing. This signifies that the larger the enterprise scale 1 (the LOG value of the number of employees) and the larger the enterprise scale 2 EST (the LOG value of the total assets of the enterprise), the more financing the SMEs will have. The CR and NVR are not below the 5% significance level, meaning that the NVR has no significant positive impact on SME financing. Therefore, the enterprise that conducts corporate financing is not the enterprise with higher NVR or CR. Enterprises use so called “relationship” to obtain resources from banks or governments for corporate financing. The PROP has a value of 0.0174 and its coefficient is positive, which tells that at the 5% significance level, the PROP is positively affecting corporate financing.

5 Conclusion

This paper analyzes the relationship between banks and enterprises and the financing of SMEs. The empirical study finds that the relationship between banks and enterprises is significantly affecting and has a significant impact on the financing of SMEs, and the marginal effect is also more influential. Under the background of incomplete marketization system in China, SMEs tend to improve corporate financing by expanding their scale, positive asset-liability ratio and profitability. Through the establishment of a fine bank-enterprise relationship, it is enabled to ease credit discrimination from the bank and obtain government support in resources and policies. In this way,

this promotes the financing of SMEs and thus facilitates the better development of SMEs.

Author brief introduction

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