

Research on the Influence of Debt Financing on the Operating Performance of Listed Companies

Miao Tian

Wuhan Technology and Business University, School of Management,
Wuhan430065, Hubei, China
1549201578@qq.com

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Abstract: Debt financing and equity financing are two complementary financing modes for listed companies in China. Disregard of financing structure hinders the development of enterprises, but at present listed companies in China prefer equity financing to debt financing. Moreover, debt financing exist a soft constraint of governance. As a result, debt financing cannot play its positive role. How to let the listed companies weigh the two financing structures, realize the importance of creditor's rights financing, and realize the sustained and steady development of enterprise's operating performance through creditor's rights financing is an urgent problem to be solved at present. This paper selects A - share listed companies in Shanghai and Shenzhen as the research object, empirically studies the impact of debt financing on the operating performance of listed companies, and puts forward the research prospect based on the research conclusion.

1. Introduction

With the rapid development of China's capital market and the continuous improvement of systems and laws and regulations, people's understanding of equity financing and creditor's rights financing has been continuously strengthened and gradually become the two most important financing channels in the capital market. However, in reality, enterprises design corporate governance frameworks and mechanisms more from the perspective of safeguarding the interests of equity holders, thus ignoring the interests of creditors and the role of creditors in corporate governance[1]. On the one hand, creditor's rights financing has the function of tax reduction, which can reduce the financing cost of the company to a certain extent; On the other hand, the demand for debt financing, repayment of principal and interest, to a certain extent, inhibits managers from blindly controlling surplus funds of enterprises and improves the efficiency of the use of funds[2]. Thus, the contribution of creditor's rights financing to the enterprise has gradually become prominent, and the connection between creditor's rights financing and the company's performance will gradually become an important consideration in the decision-making of the enterprise, constituting a landmark factor for external investors and creditors to measure the core competitiveness of the enterprise. Domestic and foreign scholars' research on the impact of debt financing on the operating performance of listed companies is mostly limited to a certain industry or a certain province. This article takes all Shenzhen and Shanghai listed companies as the research object, just filled this gap.

2. Research assumptions

The positive impact of creditor's rights financing on company performance is mainly manifested in the following aspects: First, debt financing has the function of tax shield. The interest on the right financing debt, as an expense related to production and operation, is deducted from the taxable income amount paid for enterprise income tax; Second, debt financing has bankruptcy costs. Bankruptcy pressure will make shareholders pay more attention to the production, operation and management, and creditors will urge the company's management to maintain good management efficiency, thus making managers work harder. Third, debt financing reduces free cash flow agency costs. The cash outflow generated by the company's choice of creditor's rights financing and interest payment will

not only restrict the personal interest expenses of managers, but also improve the efficiency of fund use and effectively reduce the agency cost of free cash flow[3]. Although the impact of debt financing on the company's operating performance is positive. But there are also many factors that hinder the positive role of debt financing: First, the absolute holding position of state-owned shares will not weaken the position of the company's managers due to the expansion of share capital. Moreover, the decision-making power of dividend policy rests with listed companies, so most listed companies are unwilling to borrow money. Second, most of the creditor's rights financing of state-owned enterprises comes from loans from state-owned banks. The managers of state-owned banks only pay attention to whether the tasks assigned by their superiors are completed, and will not actively participate in the governance of listed companies. Therefore, there will be soft constraints on the governance of creditor's rights of listed companies[4]. Based on the above theoretical analysis, this paper proposes the research hypothesis that debt financing has a negative impact on the operating performance of listed companies.

3. Research design

3.1 Measurement index

3.1.1 Company Performance Measurement Indicators

There are many methods for selecting company performance indicators. Generally, several representative indicators are selected to be measured separately. In this paper, return on total assets (ROA) is selected as the indicator to measure the company performance. This indicator is used to measure the company's ability to use all its assets to obtain income. It is the simplest and clearest method to measure the change of the company's operating performance.

3.1.2 Debt Financing measurable indicator

In this paper, Debt Asset ratio (DAR) is selected to measure the debt financing level of enterprises. Debt Asset ratio is the ratio of the net book value of the total liabilities of the enterprise to the net book value of the total assets, indicating how much proportion of the total assets of the enterprise is composed of liabilities.

3.1.3 Control variable - a measure of company size

The strategic decision of the company's leadership will be affected by the Size of the company, thus affecting the company's operating performance. However, the size of the company is not the research object of this paper, so it is taken as a control variable and measured by Ln (total assets).

3.1.4 Control variable - growth ability measurement index

Growth ability will affect the company's operating performance, but growth ability is not the research object of this paper, so it is taken as a control variable and measured by the growth rate of main business income.

3.2 Sample selection

This paper selects all listed companies in Shanghai and Shenzhen in 2017 as the research object. In order to ensure the comparability, availability and validity of data, the selection and screening of samples follow the following principles:

- (1) Delete ST, *ST and PT companies with abnormal financial status.
- (2) Delete companies that issue A shares, B shares and H shares at the same time, because their data will be affected by B shares and H shares.
- (3) Delete financial companies because their financial accounting and indicators are special and may affect the analysis results.
- (4) Delete companies that have experienced financial anomalies in the past three years.

After the above screening, 3283 listed companies are selected for research. The sample data in this paper are all from the database of Guotai'an.

3.3 Model building

According to the previous theoretical analysis, in order to further study the impact of debt financing

on the operating performance of listed companies, a regression model is established as follows:

$$Y = \alpha + X_1DAR + X_2Ln(Size) + X_3Growth + \varphi \quad (1)$$

Among them: α is a constant term, φ represents a random interference term.

4. Empirical research

4.1 Empirical analysis

Table 1. Variable coefficient and significance test table

Mode 1		Non - standardized coefficient		Standard coefficient	t	Sig.	Collinearity statistics	
		B	Standard error	Beta			tolerance	VIF
1	(Constant)	.461	.016		6.438	.000		
	Debt Asset ratio	-.713	.009	-.134	-2.616	.002	.723	1.085
	Company size	.430	.001	.146	3.789	.001	.958	1.069
	Growth ability	.635	.004	.117	2.109	.004	.682	1.006

Table 2. Goodness of Fit and Dobbin Test Table

Mode 1	R	R ²	Adjusted R ²	Standard deviation of estimation	Change statistics					Durbin-Watson
					R ² change	F change	df1	df2	Significant F change	
1	0.981(a)	.962	.969	242.78250	.987	10134.7	4	16	.000	1.892

Table 3. Table of significance test for equation

Model		Sum of squares	df	mean square	F	Sig.
1	Regression	18796312.7	7	3178375.01	45.127	.000 ^a
	residual	1686587.6	28	64604.40		
	Total	2501287.0	35			

From the results of linear regression, the regression equation is as follows:

$$Y = 0.461 - 0.713 X_1 + 0.430 X_2 + 0.635 X_3 \quad (2)$$

4.2 Inspection

4.2.1 Economic significance test

The coefficient of X_1 in Table 1 is negative, indicating that the asset-liability ratio is negatively related to operating performance, the hypothesis is true. The coefficients of X_2 and X_3 are positive, which indicates that the company size, the company's growth ability and the company's operating performance are positively related, and conform to the economic significance.

4.2.2 Statistical test

(1) Test of goodness of fit

In table 2, R^2 is 0.962 and the adjusted R^2 is 0.969, which shows that the fitting degree of the equation is very good.

(2) Variable significance test

From Table 1, we can see that the sig values of Debt Asset ratio, company size and growth capacity are 0.002, 0.001 and 0.004 respectively, and all the variable significance tests have passed.

(3)Significance test of equation

The sig value in Table 3 is 0.000, and the significance of the equation holds.

4.2.3Econometric test

(1)Sequence correlation test

The test value of D.W in table 2 is 1.892. $du=1.633$ and $dl=1.715$ can be obtained by querying the DW distribution table. since $du < 1.892 < 4-du$ and DW value is close to 2, there is no autocorrelation in the equation.

(2)Multiple collinearity test

Table 4. Variable Correlation Test Table

		Return on total assets	Debt Asset ratio	Company size	Growth ability
Pearson Correlation	Return on total assets	1.000	.142	.034	.167
	Debt Asset ratio	.142	1.000	.230	.068
	Company size	.034	.230	1.000	.014
	Growth ability	.167	.068	.014	1.000

It can be seen from Table 4 that the correlation coefficient between each variable is less than 0.7, indicating that there is no obvious collinearity between independent variables.

5. Research conclusions and prospects

5.1 Research conclusions

5.1.1Debt financing is negatively related to operating performance

The coefficient of X_1 is - 0.713, and has passed the significance test. It can be seen that the asset-liability ratio has a negative correlation with the return on total assets. The increase of the debt financing ratio not only cannot promote the improvement of the company's operating performance, but also has a restraining effect. This is the result of the comprehensive effect of the soft constraint of the listed company's debt governance and the equity financing bias.

5.1.2Company size and growth ability are positively correlated with operating performance

The coefficient of X_2 is 0.430, and the coefficient of X_3 is 0.635. Both of them have passed the significance test. It can be seen that the company size and growth ability have a positive correlation with return on total assets, and the improvement of the company size and growth ability can promote the improvement of the company's operating performance. Large - scale or high-growth companies will have more disposable cash flow and higher return on net assets in operation, making it easier for them to obtain rights issue and additional issuance qualifications for further investment activities, thus improving operating performance.

5.2 Research Prospect

5.2.1Vigorously develop debt financing market

The biggest reason why listed companies choose equity financing or state-owned bank financing is that China's bond market is underdeveloped. An orderly and healthy bond market is the premise for listed companies to conduct debt financing[5].The development of China's bond market can no longer be coordinated with the optimization process of the capital structure of listed companies. Therefore, we should vigorously develop the bond market at this stage:First, adopt a loose bond policy and increase the types and quantity of bonds to stimulate market investment; Secondly, the market access restrictions will be relaxed so that small and medium-sized investors in our country can not only invest in the secondary market, but also in the primary market. The protection of the interests of small and medium-sized investors will be implemented in order to stimulate the investment enthusiasm of small and medium-sized investors. Finally, further relax interest rate restrictions.

5.2.2Properly restrict the equity financing market

Listed companies can finance through equity financing and creditor's rights financing. If there is

imbalance between the two, there will be great risks[6]. However, listed companies in our country are too fond of equity financing and neglect creditor's rights financing. In order to find the balance between the two, the equity financing market should be appropriately restricted: First, the supervision of the stock market should be strengthened and its supervision ability should be improved. Speculation is rampant in China's stock market. Once listed, enterprises will have no cost to take possession of shareholders' funds, resulting in excessive "cash - pocketing" of listed companies. Therefore, the regulatory authorities should strictly control the supervision and implement supervision at the beginning of equity financing so as to keep the financing preference of enterprises within a rational range. Secondly, listed companies can possess public funds without cost because dividends and bonuses are not mandatory terms for listed companies, which makes equity financing without any cost constraints. Therefore, it is necessary to establish relevant laws and regulations to allow listed companies to distribute dividends under certain conditions, thus increasing the cost of equity financing for enterprises.

5.2.3 Pay attention to the growth and scale of listed companies

The growth of the company needs tangible assets, but also intangible assets. The promotion of intangible assets can bring potential positive effects to the company in many aspects, thus improving the operating performance. Whether it is a high-growth company or a low-growth company, debt financing should be treated rationally: The operating performance of low-growth companies is not very good in itself. If too much debt financing will further increase their financial costs; High - growth companies use too much creditor's rights financing and face more investment opportunities as well as greater operational risks. At the same time, companies can also take mergers and acquisitions, the introduction of foreign capital and other ways to enhance their technological capabilities and expand the size of the company, to make full use of the scale effect.

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