

Research on Capital Structure under Ideal Balance Sheet Model

—A Case Study of Shipbuilding Industry

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Abstract—The problem of capital structure and its optimization is a classic topic in financial management, which reflects the proportion of debt financing and equity financing, which is of great significance to the development of enterprises. The ideal balance sheet model is to explore a method of optimal capital structure, as the industry difference, this paper selects the ship of China's manufacturing industry in the manufacturing industry, the shipbuilding industry in 2014 the actual financial ratios with the ideal balance sheet financial models were compared under the benchmark rate, find out the actual financial ratio difference with the ideal the ratio, and then analyzes the causes of the differences, and according to the present situation of manufacturing industry put forward amendments to the ideal model.

Keywords—capital structure; Ideal balance sheet model; Shipbuilding Industry; Asset liability ratio

I. INTRODUCTION

The optimization and adjustment of capital structure is necessary for the development of enterprises, the reasonable proportion of debt is conducive to play the role of financial leverage, and not to the enterprise in debt pressure is too large. The ideal balance sheet model is an effective way to perfect the capital structure of enterprise. [1]The shipbuilding industry is an important part of the manufacturing industry, which bears the dual responsibility of people's livelihood and national defense. It is of great significance to study the capital structure and the present situation of shipbuilding industry in order to optimize the financing structure and improve the capital structure. We choose the ideal balance sheet model to explore the capital structure of shipbuilding industry.

Here, we choose the ideal balance sheet analysis to analyze the capital structure of listed companies. The optimal capital structure under the ideal balance sheet analysis is shown in the following table I:

TABLE I. IDEAL BALANCE SHEET SAMPLE

Ideal balance sheet	
Asset	Equity
Current assets 60%	Liabilities 40%
Quick assets 30%	Current liabilities 30%
Inventory assets 30%	Non-current liabilities 10%
Non-current assets 40%	Shareholders' equity 60%
	Equity 20%
	Retained earnings 40%
Total 100%	Total 100%

In an ideal balance sheet model, asset liability ratio accounted for between 40% to 60%, lead to increased business risk. It also enable enterprises to bear the high cost of capital, while low debt makes the leverage effect cannot give full play to bring greater benefits. Considering the robustness and the cost of debt, we set the optimal asset liability ratio of 40%. In the equity part, we set the share capital accounted for 20%, retained earnings accounted for 40%, this is because the number of retained earnings to prove the profitability of the enterprise, but also reflects the ability of enterprises to deal with risks. In terms of assets, we believe that the non-current assets of the enterprise is less than its own capital, which can ensure that the company does not auction long-term assets to maintain the operation, in line with the accounting on the assumption of continuing operations. In terms of current assets, to maintain the current ratio of 2:1 and quick ratio of 1:1 to ensure the short-term solvency of enterprises, so that enterprises in a year or a business cycle with the ability to fund liquidity. This is the basic model of the ideal balance sheet analysis.[2]

II. CASE OF USE

A. Application

Ship manufacturing industry is a heavy industry has an important impact on national security and economic development of the enterprise, so we choose A shares in listed companies of the three representative of the shipbuilding

industry, the capital structure analysis, explore the capital structure and the ideal balance sheet structure of the existing similarities and differences.

The three listed companies are: Chinese Ship Heavy Industry Co. Ltd. (Chinese heavy), Chinese Ship Industry Co. Ltd. (Chinese ship), Guangzhou Shipyard International Limited by Share Ltd (ship defense).

TABLE II. COMPARISON WITH IDEAL MODE

	Ideal mode	Chinese heavy	Chinese ship	ship defense
Current ratio	2	1.4536	1.6395	1.0408
Quick ratio	1	1.051	1.0415	0.7435
Long-term debt ratio	10%	13.96%	16.09%	13.76%
Equity ratio	66.67%	215.01%	148.37%	309.03%
Asset liability ratio	40%	69.78%	62.17%	76.04%
Equity	33.33%	37.02%	7.03%	18.16%

B. Presentation

- In addition to the defense of the ship, the speed ratio is basically the same as the ideal model. Long term debt ratio is higher than the benchmark rate, but little difference. The current ratio is generally less than the current ratio in the ideal model.
- There is a big difference between the equity ratio and the asset liability ratio, which is mainly reflected in the proportion of debt to total assets is much higher than the benchmark model requirements of 40%, and reached a high of up to 70%.
- The proportion of equity in the proportion of shareholders, in addition to China heavy industry, the other two listed companies have maintained a high ratio of retained earnings, equity in the proportion of shareholders' equity is smaller.

III. COMPARATIVE ANALYSIS

We can see from the data, three shipbuilding listed company's asset liability ratio is far higher than the ideal model in 40%, and reached about 70%, this ratio has exceeded the upper limit of 60% ideal balance sheet debt ratio in the model. Listed companies have such a high debt ratio; there may be the following reasons:

A. Industry nature

From the nature of the industry, we have chosen the three ship manufacturing enterprises, there are two state-owned enterprises, the other is a state-owned holding enterprises. [3]Backed by state-owned enterprises, there is a strong credit support and policy support, which means that debt is not difficult for three companies. In China, corporate debt mainly by bank loans, bank lending will naturally choose good credit, the default risk of small enterprises, state-owned enterprises in

the national financial resources to support national strength as the backing, naturally favored by banks.

B. Industry characteristics

In terms of shipbuilding industry, companies tend to borrow to meet financing needs. When the financing needs of enterprises, according to the pecking order theory, the first choice for enterprise internal funds, followed by debt, again is equity financing, debt to meet the financing needs of enterprises in accordance with the requirements of this theory. In addition, compared with equity financing, debt financing will not dilute the equity, companies need to pay a fixed interest, the creditors of the residual income of the enterprise does not have the right to claim, it will not affect the return of major shareholders.

C. Debt structure

From the analysis of the internal structure of liabilities, long-term liabilities accounted for the entire debt ratio is relatively small, long-term debt ratio of three listed companies in about 15%, that is to say, in the internal debt, short-term debt accounted for over 3/4 of the position. Which is the same with the bank, because of China's capital market is not perfect, the overall stock market volatility significantly, and this economic environment, banks tend to issue short-term debt in order to ensure the timely recovery of loans, resulting in short-term debt in the proportion of high debt.

D. Internal structure of shareholder equity

In the internal structure of shareholders, we found that in the three listed companies, and perfect the structure of the balance sheet equity shareholders should account for the proportion of 1/3 compared with the two listed companies equity proportion is far less than 1/3 of shareholders' equity. For this, there are two explanations, the first one is that we can be found through the financial report, China ship and ship defense has retained high undistributed profits, enterprises operating in good condition; second is because the Chinese ship and ship defense have higher capital reserves, that is to say, there may be cases of high equity premium, shares issued after the premium is low in China's stock market phenomenon, which also caused the enterprise, equity proportion is lower than the ideal model in proportion.

IV. MODEL MODIFICATION

In terms of China's ship manufacturing industry, the optimal asset structure may be different and the capital structure in the model, this is due to various factors such as the nature of the industry of China's shipbuilding industry, because the ideal models of asset structure is a comprehensive and general mode, therefore does not have universality. If we want to make the optimal asset structure adapt to the requirements of China's shipbuilding industry, we should optimize and revise the optimal asset structure on the basis of the original. Therefore, I summed up the following two points:

- One is that the asset liability ratio can be higher than 40% of the model, up to up and down, at present, in the capital structure of the developed countries, the ratio of

debt to reach up to 70% on the next 60%. Ship manufacturing industry in China are mainly state-owned enterprises, its assets has good stability and is also very high, the credit rating at the same time, because these enterprises operating in good condition, not short-term insolvency or bankruptcy liquidation, raise the ratio of debt to further play the role of financial leverage, promote the further the development of production and operation of enterprises.[4]

- Second, the ratio of long-term liabilities should be further improved in the internal structure of debt. At present, in the shipbuilding industry, debt is mainly short-term debt; long-term debt ratio is less than 20% of the total debt. In fact, compared with short-term debt, long-term debt has certain advantages, this is mainly due to long-term debt and no short-term repayment pressure, the short term will not bring the burden to the enterprise, to a certain extent, but also to avoid the pressure of financial fraud. At the same time, although the cost of long-term debt is higher than short-term debt capitals, but the use of funds for longer time, have the opportunity to earn more profits. Model modification

V. CONCLUSION AND PROSPECT

A. Enterprises

For this type of ship manufacturing industry in heavy industry, we hope that the enterprise can improve its internal debt, long-term debt to play the role of reducing the proportion of short-term debt, reduce short-term debt brings to the enterprise debt pressure, to enable enterprises to have more capital into long-term, high-quality project. At the same time, due to their advantages such as short debt especially, short-term debt interest rates lower, lower cost of debt capital, so if the enterprise can repay the debt can be calculated according to the business cycle period, in order to take short-term loans, it is also beneficial for enterprises. The key lies in the enterprise can be reasonable planning, not only reduce the debt service pressure, but also reduce the cost of capital.

B. State and capital markets

In terms of the state and the capital market, we hope to promote the development of corporate bonds, improve the mechanism of corporate bonds, the formation of relevant laws. At present, our main source of debt financing for bank deposits, which not only allow enterprises to enjoy the advantages of corporate bonds, also brings great pressure to the bank, corporate bonds as a way of financing, bond is more flexible than the country, but also can better reflect the perfection of the capital market development. But for now, China's corporate bond market is almost zero state of development, enterprise credit has become one of the important factors restricting the development of corporate bond, promoting China's corporate

bond market is an important means to promote the development of China's enterprise credit, therefore, to promote the development of corporate bonds in China is imperative.

C. Social mass

The lack of understanding and cognition of corporate bonds is an important factor that leads to the development of corporate bonds in china. Due to the general public's trust and recognition of the national public trust, the State bonds and the state-owned bank loans have become an important factor to restrict or promote the development of enterprises. The capital structure of an enterprise depends heavily on the loan from the bank or the purchase of bonds issued by the state. The public does not choose to buy corporate bonds, making it difficult to subscribe for corporate bonds, which has become a factor restricting the development of corporate bonds in china.

The ideal balance sheet model constructs a comparison model for optimizing the capital structure of enterprises, through the analysis we found that the difference with the current economic environment and the change of industry characteristics, the ideal model of asset liability has different forms in different industries, in terms of ship manufacturing, we carried out the revision of the model, hoping to promote the optimization of enterprise capital structure, realize the development of enterprise scale and strength.[5]

VI. SUMMARY

From the above we can clearly find that ideal balance sheet mode has a great impact in practical use, especially in industrial enterprises. We can see that in ship manufacturing industry, both enterprises and government have something to improve. At the same time, what we should do is to modify our economic mode, complete our capital system, giving enterprises' more choices.

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