Capital Structure and Risk Analysis of Listed Companies Expected To Bonus Issue and Transferring

Yue Lin[a], Guanghua Xu[b]

School of Economic and Management, Nanjing University of Science and Technology, Nanjing 210094, China

[a]linyue_199588@126.com, [b]xgh9007286@163.com

Keywords: Prospective Bonus issue and Transferring, listed company, capital structure, risk analysis

Abstract: Based on the relevant theories of corporate capital structure and risk analysis, this paper selects 27 listed companies with prospective bonus issue and transferring in the fiscal year of 2014, 2015 and 2016 as samples, sets the capital structure as explanatory variables to provides explanations for risk variables. In the case of hypothesis proposal and relationship model setting, the selected variable data is fitted to the model to complete the regression analysis and the conclusion is drawn: The increase in asset-liability ratio brings about an increase in corporate risk; The increase in the current debt ratio reduces the risk to some extent; and the impact of non-current debt ratios on risk control is limited.

1. Introduction

The dividend policy promotes the balance of interests of equity stakeholders and affects the sustainable development of enterprises. Western equity capital expansion is usually three kinds of stock dividends, stock splits and cash dividends, corresponding to China's securities market, it is bonus issue, transferring and cash dividends. Without changing the shareholders' rights and without cash outflow, bonus issue and transferring increase the scale of the company's stock, and they will not affect the actual profitability of the company.

In recent years, the stock market's pursuit of the theme of “Prospective Bonus issue and Transferring” has caused the price of the corresponding theme stocks to rise dramatically, even if the brokers issue cautious investment announcements. The drastic changes in corporate capital structure brought about by this radical dividend policy affect corporate value. Whether the expected behavior of “Bonus issue and Transferring” has some connection with the capital structure of the company, and thus hides the potential risks to the business operation; and does the company unilaterally pursue the expansion of asset scale, ignoring the impact of asset structure on business operations, leading to structural imbalances and burying financial risks for the company's future growth?

Therefore, based on the capital structure and risk theory related to the dividend policy, this paper studies companies with prospective bonus issue and transferring, in order to optimize the capital structure, standardize the operation of funds, and promote the healthy development of enterprises.

2. Theoretical analysis and research hypothesis

Combined with the theoretical analysis of capital structure, the revised MM theory (Miller, Modiglian,1958) believes that the total value of enterprises is affected by the capital structure, and the change of financing methods such as debt management will play a tax-saving effect ;Signal transmission theory (Bacattaya,1979) thinks that due to the existence of serious information asymmetry, external investors usually use the debt ratio to judge the quality of investment projects, and capital structure and dividend policy can signal investors about corporate value and project risk; The theory of superior order financing (Meyers Magilov,1984) believes that due to the asymmetry of information transmission, the higher return on investment of investors also increases the financing

cost of the company and affects the overall value of the company.

On this basis, this paper breaks down the risk relationship into three parts: asset-liability ratio, non-current liabilities and current liabilities.

2.1 Risk and asset-liability ratio

In the decade from 2004 to 2014, compared with the asset-liability ratio of national average, which was stable at 55% to 60%, the listed companies with prospective bonus issue and transferring were gradually lower, between 32% and 38% in 2014. On the one hand, this is because listed companies can use the method of issuing additional shares and distributing stocks to raise capital. Compared with the passive debt financing methods of non-listed companies, the total liabilities and asset-liability ratio of listed companies will be low; on the other hand, the concept enterprises are mostly in the rising period, their investment ratio is higher than other enterprises' assets. Therefore, the lower asset-liability ratio caused by future investment may bring enterprise risks.

In summary, the following assumptions are made:

Hypothesis 1: The increase in asset-liability ratio leads to a decline in accounting profit, which affects the growth of investment yield, which leads to an increase in corporate financial risk.

2.2 Risk and non-current liabilities

Due to China's unique ownership structure, the concentration of the listed corporate equity is high. Therefore, major shareholders may bring the overall risk in order to maximize their own interests. At the same time, external financing is favored by management with the advantages of channel, time and so on. The rapid growth of equity financing scale leads to the dilution of control rights and the risk of business decision-making, which leads to the imbalance of equity financing and bond financing, and the risk control mechanism of debt financing cannot be fully utilized.

In summary, the following assumptions are made:

Hypothesis 2: The increase in the proportion of long-term liabilities may lead to an increase in the market value of the enterprise, and the corresponding rate of return on equity investors may increase the risk.

2.3 Risk and current liabilities

In 2004-2014, the average national ratio of liabilities to total assets fluctuated slightly around 44%. However, the current liabilities of the listed companies with prospective bonus issue and transferring were as high as 94.5%, although there is a trend of retreat after 2010, its overall ratio is still around 90%, far higher than the national average. This shows that due to the lack of cash flow, the normal operation of the enterprise requires more short-term liabilities. This implies that the concept industry may face liquidity risks that cannot be offset due to short-term debt repayment pressure.

In summary, the following assumptions are made:

Hypothesis 3: The impact of current liabilities on risks: The increase in the market value of enterprises brought about by the increase in the proportion of current liabilities, due to information transfer or debt governance mechanisms, increase the equity returns and thus reduce risks.

3. Research design

3.1 Sample design

This paper screens the listed companies in the “Prospective Bonus issue and Transferring” concept sector from the Eastern Fortune Network in 2014-2016, and removes the missing data, ST, *ST companies, and finally selects 648 observations from 27 expected companies for empirical research.

3.2 Models and variables

Based on the assumptions presented above, the three parts of the explained variables, explanatory variables and control variables are designed. Among them, the selected risk variable Tobin Q value

(TQ) and return on equity (ROE) are explained variables, asset-liability ratio (AD), non-current debt-to-liability ratio (LD) and current debt-to-liability ratio (SD). The capital structure variables are explanatory variables, and total asset growth rate (A), operating income growth rate (I), current ratio (L), and reporting year (Y).

Model 1 is to examine the impact of capital structure variables on the return on equity in risk variables, and to analyze the mechanism of the role of variables on market value:

$$TQ=A_0+A_1*AD+A_2*LD+A_3*SD+A_4*A+A_5*I+A_6*L+A_7*Y+\varepsilon_1 \quad (1)$$

Model 2 calculates the Tobin Q value in order to verify the impact of capital structure variables on shareholders' equity.

$$ROE=A_0+A_1*AD+A_2*LD+A_3*SD+A_4*A+A_5*I+A_6*L+A_7*Y+\varepsilon_2 \quad (2)$$

In the calculation formula of the model, the value of Y is 3 in 2014, 4 in 2015, and 5 in 2016; A_n is a constant term; ε_n obeys a random value of a normal distribution with mean 0 and variance ε_n.

4. Empirical analysis and results

4.1 Correlation analysis

As can be seen from the table below, at a 5% confidence level, AD has a negative correlation with TQ and a positive correlation with ROE. In the case of failure to pass the significance test, there is also a positive correlation between SD and TQ, ROE, and LD maintains the same degree of negative correlation with TQ and ROE. At the 1% confidence level, the data showed the same partial correlation. Through the above description, we find that although the increase in asset-liability ratio has improved accounting profits to a certain extent, it may cause the decline of corporate value, which is not conducive to its risk control. The increase in non-current liabilities will reduce the market value of the company, reduce the shareholders' equity, and increase the company's financial risk. And current liabilities are likely to use debt governance mechanisms to effectively reduce risks.

Table.1. Correlation analysis

Control variable			TQ	ROE (%)	AD (%)	SD (%)	LD (%)
Y & A & I & L (%)	TQ	Correlation	1.000	.050	-.165	.110	-.110
		Significant (bilateral)	.	.692	.189	.382	.382
		df	0	63	63	63	63
	ROE (%)	Correlation	.050	1.000	.543	.180	-.180
		Significant (bilateral)	.692	.	.000	.152	.152
		df	63	0	63	63	63
	AD (%)	Correlation	-.165	.543	1.000	.212	-.212
		Significant (bilateral)	.189	.000	.	.091	.091
		df	63	63	0	63	63
	SD (%)	Correlation	.110	.180	.212	1.000	-1.000
		Significant (bilateral)	.382	.152	.091	.	.000
		df	63	63	63	0	63
	LD (%)	Correlation	-.110	-.180	-.212	-1.000	1.000
		Significant (bilateral)	.382	.152	.091	.000	.
		df	63	63	63	63	0

4.2 Multiple regression analysis

Since the correlation analysis of the two variables has the possibility of inaccuracy, the multiple regression analysis will be added below, and the resulting inference will be tested twice.

4.2.1 Regression analysis based on Model 1

Model 1: $TQ=A_0+A_1*AD+A_2*LD+A_3*SD+A_4*A+A_5*I+A_6*L+A_7*Y+\varepsilon_1$ (3)

(1) Analysis of variance:

Table.2. Anovab

Model 1		sum of square	df	Mean square	F	Sig.
1	Regression	.328	2	.164	.205	.000a
	Residual	52.811	78	.800		
	Total	53.140	80			

From the above table, the F value is 0.205, the significance is 0.000, which is less than the test criterion of 0.05, so the coefficient of the Model 1 cannot be all 0, that is, the predictor variable can explain the change of the dependent variable Tobin Q value. Model one is applicable.

(2) Overview of explanatory ability

Table.3. Model summary b

Model	R	R^2	Adjusted R^2	Standard estimated error	Change statistics					Durbin-Watson
					Changed R^2	Changed R^2	df_1	df_2	Changed Sig. F	
1	.079	.006	-.024	.8945230	.006	.205	2	78	.815	1.619

The R value of the above table is 0.079, and the adjusted R^2 is 0. 024. So the Model 1 has a certain explanatory power, and the value of Durbin Waston is 1.619, which is closer to 2.It shows that the residual sequence in the regression has little correlation and has little influence on the model.

(3) Regression results

Table.4. Coefficient a

Model 1		Non-standardized coefficient		Standard coefficient	t	Sig.	Correlation			Collinear statistic	
		B	Standard error				Zero order	Partial	section	Tolerance	VIF
1	(constant)	2.348	.339		6.927	.000					
	AD(%)	-.008	.007	-.184	-1.146	.256	-.067	-.143	-.142	.594	1.685
	SD(%)	.002	.008	.030	.224	.823	.035	.026	.025	.722	1.385
	LD(%)	-.003	.009	-.053	-.347	.730	-.010	-.044	-.043	.647	1.547
	L(%)	.000	.000	-.074	-.453	.652	-.034	-.057	-.056	.569	1.758
	I	-.001	.007	-.032	-.205	.839	.025	-.026	-.025	.632	1.582
	A	.009	.008	.169	1.102	.275	.102	.138	.137	.653	1.531

At a 5% confidence level, the significant levels of A, I, and L did not reach a significant test of 0.05. In the case of the failure to pass the confidence test, both AD and LD are significantly negatively correlated with TQ, and SD is positively correlated with the TQ.

4.2.2 Regression analysis based on Model 2

Model 1: $ROE=A_0+A_1*AD+A_2*LD+A_3*SD+A_4*A+A_5*I+A_6*L+A_7*Y+\varepsilon_2$ (4)

(1) Analysis of variance:

Table.5. Anovab

Model 2		sum of square	df	Mean square	F	Sig.
2	Regression	4130.546	2	2065.273	16.100	.000a
	Residual	8466.476	78	128.280		
	Total	12597.022	80			

The F value was 16.100 and the significance test value was 0.000, which is less than the test

standard of 0.05. Similarly, it is not true that the coefficient of model two is all 0. So the predictor variable of Model 2 has a high explanatory power for ROE and is also applicable.

(2) Overview of explanatory ability

Table.6. Model summary b

Model	R	R^2	Adjusted R^2	Standard estimated error	Change statistics					Durbin-Watson
					Changed R^2	Changed R^2	df_1	df_2	Changed Sig. F	
2	.573	.328	.308	11.3260733	.328	16.100	2	78	.000	.770

The regression yields an R value of 0.573, an R^2 value of 0.328, and a good goodness of fit.That is, Model 2 has a strong explanatory power. At the same time, the value of Durbin Waston is 0.770, which indicates that the residual sequence in the regression has less influence on the Model 2.

(3) Regression results

Table.7. Coefficient a

Model 2		Non-standardized coefficient		Standard coefficient	t	Sig.	Correlation			Collinear statistic	
		B	Standard error				Zero order	Partial	section	Tolerance	VIF
2	(constant)	-.990	4.256		-.233	.817					
	AD (%)	.405	.083	.642	4.895	.000	.573	.525	.495	.594	1.685
	SD (%)	.125	.094	.147	1.326	.189	.231	.151	.125	.722	1.385
	LD (%)	-.080	.115	-.088	-.701	.486	-.233	-.088	-.071	.647	1.547
	L (%)	.003	.003	.119	.887	.378	-.236	.111	.090	.569	1.758
	I	-.109	.085	-.163	-1.283	.204	.110	-.160	-.130	.632	1.582
	A	.056	.105	.067	.536	.594	.211	.067	.054	.653	1.531

At a 5% confidence level, the significant levels of A, I and L didn’t reach the test standard of 0.05. The VIF value in the collinear statistic is also less than 10, and there’s no multicollinearity. AD passed the significance test at a very high level and was positively correlated with ROE. LD and SD that have not passed the confidence test are positively correlated, and it shows a negative correlation with ROE.

4.3 Model result analysis

(1) The data analysis of this paper supports the hypothesis 1. It can be seen from the conclusion that as the company's asset-liability ratio increases, the market value gradually decreases, while the income level is on the rise. When other control variables are certain, the greater the equity multiplier, the more the company's liabilities, and the increase in the financial leverage factor leads to an increase in risk. In addition, investors believe that companies with low debt ratios generally have strong investment bias and will also affect the market value of enterprises.

(2) The data analysis of this paper supports the hypothesis 2. As the company's non-current debt ratio increases, its market value is gradually decreasing, and the income level is also declining. The reason is because China's CSRC has incomplete control over the securities market. Therefore, liquid liabilities such as loans are more favored by enterprises, and the debt governance mechanism of non-current liabilities has not been utilized.

(3) For the third hypothesis, the data analysis of this paper has supportive opinions. As the company's current debt ratio increases, the market value is rising, and the income level is also on the rise. Based on previous signal transmission theory, the increase in current debt ratio may provide investors with a favorable signal for the growth of investment yield, such as the decline in capital costs. Coupled with the fact that non-current liabilities do not play the role of debt governance mechanisms, the result of this effect is more obvious.

5. Conclusion

This paper selects 27 listed companies with the concept of “Prospective Bonus issue and Transferring” in the fiscal year of 2014, 2015 and 2016 as the sample, and conducts the capital structure and risk analysis of the enterprise. The conclusions are as follows:

First of all, the increase of the non-current debt ratio can increase the shareholders' equity and the creditor's control over the risk while maintaining the original ownership structure of the enterprise and give full play to its debt governance mechanism and tax shield. Therefore, the first and foremost problem in optimizing the debt structure of an enterprise is how to introduce non-current liabilities in an orderly manner, so as to appropriately increase the asset-liability ratio.

Secondly, the business capability and income status also have a great impact on corporate risk. For example, the risk variables introduced in this paper - the return on net assets and the value of Tobin Q depend on the calculation of net profit and market value. The total asset items used in the calculation of capital structure variables and control variables include the paid-in capital in the owner's equity, and most of them are shared by net profit. Therefore, the most fundamental prevention ability to improve the risk of transferring the expected enterprise is to enhance the competitiveness.

Finally, under the promotion of the trading policy of the China Securities Regulatory Commission and the induction of interests, the proportion of listed companies with prospective bonus issue and transferring behavior has increased significantly, but at the same time, such listed companies have also exposed corresponding risks. With the disclosure of the 2016 annual report and the full spread of the annual report of the listed companies, the “Prospective Bonus Issue and Transferring” and “High Transfer” stocks have become the focus of the inquiry. Risk words such as hype, down limit and sell-off frequently appear in economic reports, and the sharp rise and fall of stock prices have caused small and medium-sized investors with information asymmetry to suffer losses. Therefore, it is extremely urgent for the regulatory authorities to implement a policy mechanism that regulates the market.

References

[1] Michael O'Connor Keefe, Mona Yaghoubi. The influence of cash flow volatility on capital structure and the use of debt of different maturities [J]. Journal of Corporate Finance, 2016.

[2] Paul Borochin, Jie Yang. Options, equity risks, and the value of capital structure adjustments [J]. Journal of Corporate Finance, 2016.

[3] Ye Peng. An Empirical Study on the Impact of High Delivery on the Company's Stock Price [D]. Zhejiang University, 2016.

[4] Zhang Rui. Analysis of the financial effects of stock transfer of listed companies [D]. East China Jiaotong University, 2014.

[5] Li Yunyi. An Empirical Study of the Wealth Effect of “High Delivery” Stocks and Its Causes [D]. Southwestern University of Finance and Economics, 2014.