

Research on the Risks and Countermeasures of Convertible Bond Financing —Take Jiangnan Convertible Bonds as an Example

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ABSTRACT

Convertible bonds are one of the important ways for enterprises to raise funds. This article takes Jiangnan convertible bond financing as the research object. Based on the thinking and reflection on Jiangnan convertible bond financing failure, this article attempts to analyze the risks and equity conversion failures in Jiangnan convertible bond financing the reason. First of all, this article sorts out the phenomenon of low conversion rate of Jiangnan convertible bonds. Secondly, it analyzes the risks in the financing of convertible bond financing. Finally, in order to effectively prevent the financing risks of convertible bonds. This article gives corresponding countermeasures and suggestions from three levels: the macro environment, the company itself, and the design of the issuance of convertible bonds.

Keywords: *convertible bond financing, jiangnan convertible bond, risk identification, countermeasure research*

1. INTRODUCTION

Due to the long history of convertible bonds in foreign markets, foreign scholars have relatively comprehensive and rich results in the theoretical research of convertible bonds. The main research results focus on the discovery of motives for convertible bonds, the pricing of convertible bonds, and the financing effects of convertible bonds. Foreign scholars mainly consider the financing risk of convertible bonds from the perspective of investors, and representative teaching aids include the risk assessment hypothesis. Brennan & Schwart (1988) proposed the hypothesis of risk assessment. This hypothesis believes that the information on the market is not complete. There is information asymmetry between the parties to the transaction and the company is often the party with information advantages. For investors with information disadvantages, investors may encounter situations in which they may misuse corporate risks. But convertible bonds are not highly sensitive to risks, so convertible bonds are more conducive to protecting the interests of investors. ^[1] Ingersoll (2002) believes that the company's convertible bond financing faces less business risk. The reason is that the equity and bond nature of convertible bonds restrict the agent's behavior in high-risk investment projects. My country's research on convertible bond financing is mainly divided into two aspects: the causes and types of convertible bond risks, and the countermeasures of convertible bond risks. ^[2] Regarding the research on the

causes and types of convertible bond financing, Zhu Shuli (2017) pointed out that the risk formation mechanism of convertible bonds mainly comes from three aspects, namely, the internal factors of the company, the external factors of the macro environment and the terms of the convertible bonds. Design factors. ^[3] Wang Teng (2018) believes that investors make equity conversion decisions through changes in financial indicators. If the indicators fall, it may cause difficulties in conversion [4]. Yan Sijia (2016) divides corporate financing risks into issuance risk, clause design risk, operation risk, and financial risk [5]. Zhang Ce (2013) divided convertible bond financing risks into convertible bond risks and company operating risks, and emphasized the importance of preventing market competition risks [6]. Regarding the research on the countermeasures of convertible bond risks, Wang Xiaoli (2015) proposed countermeasures to prevent the financing risks of convertible bonds, which specifically pointed out the establishment of a financing risk early warning system based on solvency, profitability and financing ratio as indicators [7]. Domestic and foreign scholars have made quite a lot of research results in the field of convertible bonds, and have made significant contributions to the theories of convertible bond pricing and financing effect analysis. However, there are very few theories on the risk of convertible bond financing, and the research mostly focuses on the causes of risks and preventive measures, and there are few studies on risk identification from multiple angles. This paper identifies the risks of Jiangnan convertible bonds based on the external macro environment, the company itself, and convertible bonds,

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discusses the causes of its financing failure, and finally gives countermeasures and suggestions, which have important theoretical value.

2. JIANGNAN CONVERTIBLE BOND FINANCING CASE INTRODUCTION

2.1. Introduction to Fund-raising Projects

Jiangnan Water Company is located in Jiangyin City, Jiangsu Province, in the Taihu Lake water system in the Yangtze River Basin. At present, the Yangtze River has become the only drinking water source in Jiangyin City and its structure is relatively simple. Once pollution occurs at the water source, it will have a huge negative impact on

the production and life of the company or local residents. In 2008, the People's Congress of Jiangsu Province passed relevant documents stipulating that all cities, districts and counties should strengthen the construction of standby water sources to ensure emergency water demand. In response to the call of the document and out of consideration of social and economic benefits, Jiangnan Water Affairs Company plans to invest 900 million yuan in the construction of Jiangyin Qishan emergency standby water source project with a construction period of 2.6 years. The company raised 760 million yuan through the issuance of 6-year convertible bonds-Jiangnan Convertible Bonds, and the remaining funds were raised by the company itself.

2.2. Review of Convertible Bond Financing Cases

Table 1 Review of jiangnan convertible bond financing event

Date	Important events
March 17, 2016	Jiangnan Convertible Bonds began to be issued and 760 million yuan was raised. The initial conversion price is 19 yuan per share.
June 15, 2016	Due to the implementation of the dividend distribution plan, the conversion price was adjusted to 9.41 yuan per share.
September 26, 2016	Jiangnan convertible bonds began to enter the conversion period.
June 28, 2017	Due to the implementation of the dividend distribution plan, the conversion price was adjusted to 9.30 yuan per share.
April 19, 2018	Due to meeting the conditions for lowering the conversion price, the company held a shareholders meeting to pass the "Proposal on downward revision of the conversion price of "Jiangnan Convertible Bonds"" to lower the conversion price to 6.10 yuan per share.
June 21, 2018	Due to the implementation of the dividend distribution plan, the conversion price was adjusted to 6.02 yuan per share.
July 10, 2018	The company issued the first resale announcement, and the final resale amount was 676,084,790 yuan, accounting for 88.96% of the total financing.
August 21, 2018	The company issued the second resale announcement, and the final resale amount was 34,679,070 yuan, accounting for 4.56% of the total financing. The first two resales together accounted for 93.5% of the total financing.
October 11, 2018	The company issued the third resale announcement, and the final resale amount was RMB 20,267,310.
November 21, 2018	The company issued the fourth resale announcement, and the final resale amount was RMB 3,916,060.

Table 1, cont	
January 6, 2019	The company issued the fifth resale announcement, and the final resale amount was 23,013,290 yuan. The amount of five resales accounted for 99.84% of the total financing.
January 23, 2019	The sale back clause was triggered because the unconverted balance was about 24 million yuan, which was less than 30 million yuan.
February 15, 2019	Jiangnan Convertible Bonds announced the delisting. As of February 13, the cumulative convertible bond rate was 0.01%.

Data source: Dongfang choice data

From Table I, we can get the following information: First, from the listing to the final delisting of the convertible bond financing, the cumulative conversion rate was less than 1%. It can be said that the financing of Jiangnan convertible bonds ended in failure. Secondly, since the Jiangnan convertible bonds entered the resale period in 2018, a total of five resale events have occurred. In the first two resales, most of the investments have no intention of continuing to hold the bonds and have no idea of converting into shares, so they chose to sell back. Finally, we saw that during the sell-back period, the company tried to lower the price twice. The company tried to alleviate the investor's sell-back storm and hoped that investors could complete the conversion, but ultimately failed.

3. ANALYSIS OF JIANGNAN CONVERTIBLE BONDS FINANCING RISKS AND FAILURE REASONS

3.1. Risk Identification of Jiangnan Convertible Bond Financing

3.1.1. Business risk identification

The main business of Jiangnan Water Company is water supply business. Speeding up water price reform has been a long-standing trend in my country's water industry. The current pricing model of tap water prices in my country still uses a hearing system. The hearing mode makes the water supply companies have no dominant power over water prices, and water prices are led by government departments. The pricing at this stage is mainly based on the principle of guaranteed profit and low profit. The overall water price is stable for a long time and the price is low. Although the "Notice on Promoting Water Price Reform to Promote Water Conservation and Protection of Water Resources" and other documents clarify that water prices will be further increased. However, the particularity of water determines that the price increase will be a gradual

process, and even if the price of water increases but the increase is not as high as the increase in costs, the profitability of the company will fall.

Before the issuance of the convertible bonds, Jiangnan Company's water supply business was already facing two problems: the slowdown in demand for water supply, the long-term stability of water prices and the slow reform of water prices, and the gradual increase in the cost of water supply business as disclosed in the company's annual report due to rising electricity prices. Therefore, the profitability of Jiangnan Company's water supply business will have more uncertainties in the future, increasing operating risks. As the main business of water supply business, its changes may cause a decline in operating performance and affect subsequent share conversion.

3.1.2. Financial risk identification

It can be seen from Table II that during the company's Jiangnan convertible bond financing period, it can be seen that the asset-liability ratio and equity ratio indicators in terms of long-term solvency first rose and then fell. The increase is due to the increase in debt capital after the issuance of convertible bonds to optimize the previous capital structure of equity capital. The decline is due to multiple resales in 2018. Overall, the company's long-term debt solvency is still relatively strong. In terms of short-term debt solvency, the current ratio and quick ratio have declined overall. However, the current ratios are all higher than 1.20. The lower value in 2018 is due to the large recovery of convertible bonds; and among the quick assets, accounts receivable account for a relatively high proportion of accounts receivable, mostly within one year, and notes receivable Most are bank acceptance bills, so the short-term solvency is not weak. Therefore, during this convertible bond financing period, Jiangnan Company did not face too much debt repayment pressure.

Table 2 Index table of solvency during jiangnan convertible bond financing period

Year	Current ratio	Quick ratio	Assets and liabilities	Equity ratio
2016	2.24	1.42	44.24%	0.79
2017	1.98	1.22	44.69%	0.81
2018	1.23	0.99	35.41%	0.56

Data source: Dongfang choice data

3.1.3. Risk analysis and identification of financing projects

The investment project raised by Jiangnan Company this time is the construction of an emergency water source project, which belongs to the category of fixed asset investment. Overall, the technical level of emergency water source construction is relatively low, and the financing project is likely to be completed on schedule. However, it should be noted that the Jiangnan company's fundraising prospectus revealed that the construction project is expected to cost 900 million yuan, while Jiangnan convertible bonds only raised 760 million yuan, and there is a funding gap in the middle. Jiangnan Company has explained that the remaining funds will be raised through other means on its own, but it has not explained the specific method and has not further explained the follow-up. This makes investors at an information disadvantage in the investment project, and it is possible that the company cannot raise the remaining 140 million. Yuan affects the progress of the project, and at the same time, the existence of funding gaps also shows that the company has not made a sufficient financing plan for the investment project.

3.2. Analysis of the Reasons for the Failure of Conversion

3.2.1. Low financing efficiency

It can be seen from Table III that the main financial indicators after the issuance of Jiangnan Convertible Bonds in 2016 have generally declined compared to before the issuance. Profitability is an index to measure the profits made by an enterprise. It can be seen from the profitability index that the net sales margin and the return on net assets have decreased year by year. The decline in the return on net assets in 2018 was 44.65% lower than the year before the issuance in 2015. The profitability during the financing period was relatively poor. It can be seen from the indicators that the net profit growth rate has been declining year by year and even dropped to a negative value in 2017 and 2018. This article learned from the information disclosed in the company's annual report that the main reason for the decline in profits is that the company's main business water supply business and engineering

installation business costs increased, and the revenue growth rate is not as fast as the cost growth rate; in terms of operating capacity indicators, total asset turnover Although the change is small, the overall value is still decreasing, which shows that the operating capacity of Jiangnan Company has declined during the financing period. The company's capital allocation efficiency during this convertible bond financing period was relatively low. Whether it is profitability, development ability, or operating ability, there has been a significant reduction, and the above indicators also reflect the poor operating conditions of the company during the financing period.

Table 3 Table of relevant financial indicators before and after Jiangnan convertible debt financing

Year	Net profit growth rate	Sales margin	Roe	Total asset turnover rate
2014	21.76	23.66	9.29	0.23
2015	52.01	31.49	12.90	0.25
2016	21.00	29.46	13.65	0.27
2017	-24.86	22.26	9.33	0.23
2018	-20.49	21.5	7.14	0.19

Data source: Dongfang choice data

3.2.2. Improper timing of financing

In Figure 1, it can be seen that after the Jiangnan convertible bond issuance, the company's stock price has shown a continuous downward trend. In 2016, the company's share price rose by -18.69%; in 2017, the increase was -26.41%; in 2018, the increase was -36.43%. It is important to know that the Shanghai Composite Index rose by +7.88% in mid-2017, while Jiangnan Water was negative, which shows that the company itself has problems in operating efficiency. Since Jiangnan Company chooses to issue at a high stock price, it needs to have a certain degree of confidence in its own operations. However, combined with the previous financing efficiency analysis, it can be seen that the company's operating conditions during the convertible bond financing period were poor, and the large-cap index declined in 2018. The combination of two factors makes the stock price has been sluggish for a long time, and finally in the second half of 2018, several convertible bonds were sold back in advance, and finally Jiangnan convertible bond financing failed. The wrong choice of timing of issuance is also a key factor in the failure of this financing.

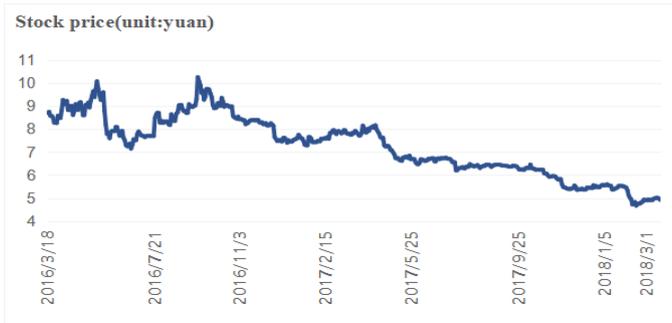


Figure 1 Stock price chart after Jiangnan convertible bond issuance

Enterprises should pay attention to economic cyclical influence

Financiers also need to focus on economic cyclicality when issuing convertible bonds. On the one hand, the economic downturn will inevitably make the overall economic environment down and unstable, and the existence of enterprises in the macro environment will also affect their operations and survival. On the other hand, changes in the stock market are closely related to the alternation of economic cycles, and the macroeconomic downturn will also bring about the overall downturn of the market, which will increase the difficulty for convertible bond investors to convert into shares.

3.2.3. *The clause design is flawed*

Before Jiangnan Company issued the convertible bonds, when the terms were designed, the Jiangnan convertible bond repurchase clauses set a longer repurchase cycle. The company was too optimistic and overestimated its own operating capabilities. As the company's stocks declined in the secondary market, the convertible bond backsale came ahead of schedule, and the company did not limit the number of backsales, resulting in a total of five convertible bonds. Debt repurchase. The flaws in the design of the resale clause were also a key factor in the financing of the convertible bond.

4. COUNTERMEASURES AND SUGGESTIONS

4.1. *Macro-environmental Level*

4.1.1. *Companies should pay close attention to macro policies*

Macro policy has a wide range of effects and has a huge impact on the industry in which listed companies operate. For example, production capacity policies, price policies, and environmental protection policies will directly affect the profitability of heavy industry, water industry, power industry, and environmental protection related industries. At the same time, some policies are rare opportunities. Enterprises should expand their own advantages and use policy opportunities to expand their business. For example, if the sewage treatment industry enters the era of increasing standards, companies can increase their pollution control levels and take the opportunity to expand the market. If it is issued during the period when the macro policy is beneficial to the enterprise, the good business environment of the enterprise will also facilitate the subsequent conversion of convertible bonds, and the risk of the conversion of the enterprise will also be reduced.

4.2. *Enterprise Level*

4.2.1. *Focus on business performance*

Whether or not convertible bond investors should convert to equity depends more on the development prospects and good performance of the company. Therefore, companies need to always pay attention to the improvement of profitability. Companies can optimize their own products and services, improve production technology, expand sales channels and other ways to make their own business performance grow steadily. The improvement in performance will naturally lead to the rise of stock prices in the secondary market. Investors who realize the good growth of the company will also strengthen their confidence in the conversion.

4.2.2. *Improving corporate solvency*

The financing term of convertible bonds is usually three to five years. The longer the term structure, the higher the uncertainty, and the greater the possibility of resale. The funds raised by the issuance of convertible bonds are used as long-term liabilities of the issuer. If a company abuses financial leverage and is too confident in the market and fails to maintain a certain solvency, it may face financial risks. Therefore, it is especially important for issuers of convertible bonds to improve their solvency.

4.3. *Design level of convertible bond issuance*

4.3.1. *Choose the timing of issuance carefully*

Obviously, the effect of choosing to issue convertible bonds at a lower or higher stock price level is mostly unsatisfactory. The former may lead to too fast conversion and affect investment projects, while the latter is often difficult to maintain and the stock price is likely to fall. The better timing of issuance should be that the life cycle of the company is in an upward period. During this period, the

stock price is usually at a relatively low level but has shown a gradual upward trend. At this time, the issuance can also depress the initial price. At the same time, factors such as economic cyclicalities should also be taken into consideration. The timing of the issuance will be more conducive to the subsequent successful conversion.

4.3.2. Reasonable design of resale terms

The longer the convertible bond is sold back, the greater the possibility of a back sale. Each resale will not only cause the convertible bonds to take back the funds raised but also have to pay the current interest, which will cause a certain amount of financial pressure on the company. If the financing scale is large, it may even face the risk of failure to repay. For convertible bond financiers, reducing the resale range is an effective means to avoid moderate resales.

4.3.3. Pay attention to conversion price correction

Regardless of whether the underlying stock price is rising or falling, the conversion price should be revised in a timely manner and the correction is in place. For example, after the company meets the downward revision clause to adjust the conversion price, if the adjusted conversion price is too high, subsequent conversions will be difficult. If the adjusted conversion price is too low, the equity will be diluted due to the easy conversion of investors. Therefore, it is more appropriate for the stock price to be revised to a level that is more likely to reach a subsequent stock price increase.

5. CONCLUSION

The study found that the main reasons for the failure of Jiangnan convertible bond financing are manifested in three aspects, that is, the low efficiency of corporate

financing, improper timing and flaws in terms of design. Therefore, when companies choose convertible bonds for financing, they must pay attention to the dynamic impact of macroeconomic policies. At the same time, it is necessary to make an accurate assessment of the company's own operating conditions, especially in terms of its operating performance and solvency. In addition, companies should scientifically design the issuance mechanism of convertible bonds, including the timing of issuance, resale clauses, and revision of the conversion price to deal with market uncertainties.

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