

Research on the Investment Value of Convertible Bonds

Zhang Zhenqian

School of finance, Guangzhou College of Commerce, Guangzhou, Guangdong, China

Keywords: convertible bonds; convertible value; option value

Abstract: Convertible bond is a diversified and complex investment product, which can convert a certain amount of bonds into stocks and put them into the market to realize the transformation of asset attributes. It is beneficial to avoid the depreciation of assets and bring high returns to asset holders. This kind of bond has the characteristics of creditor's rights and options. At the same time, enterprises can also repurchase convertible bonds, through the conversion between bonds and stocks, realize the reversal of the nature of assets, and provide a new type of investment and financial products for the vast number of investors.

1. Introduction

Convertible bond is an important investment product in today's financial market. Like fund stock, it has strong liquidity and investment value. But the difference is that the convertible bond is a composite investment product, which has the characteristics of both stock and bond. At the same time, with the rapid development of modern financial innovative products, convertible bonds have become popular investment products. The flexibility and liquidity of investment are favored by investors. This kind of financial product can flexibly apply the options in stocks to the creditor's rights of companies and enhance the vitality of the whole bond.Sex.

2. Basic Value Research

Convertible bonds were invented by Americans. They were originally invented by an American railroad company to raise funds from society. Because of their flexibility, they have been sought after by American investors and widely used in various countries of the world. By 1970 or so, inflation occurred in developed countries such as the United States and Europe. Investors converted their assets into bonds in order to avoid investment risks.

(1) Value Composition

In convertible bonds, the characteristics of equity can be embodied, with all the rights of equity. Before bonds are converted into equity, convertible bonds are entirely creditor's rights. The holder is the creditor's rights holder of the bond issuing enterprise. At the same time, the holder enjoys all the rights of bonds and can get interest return. After converting into equity, it becomes a common stock completely, without the attributes of previous creditor's rights. After convertible bonds are converted into stocks, the stockholders are the shareholders of the issuing companies, who enjoy all the rights of common stocks, and can enjoy the dividends and value added brought by stocks. Convertible bond conversion time can be chosen independently. According to individual's judgment on the investment value of bonds and stocks, the conversion period can be set flexibly. Within the conversion period, the holder of convertible bonds can only have the option of bonds, but does not have the power of stocks^[1]. Called stock call option in financial market, when the stock price of the whole market continues to rise, bondholders can flexibly use the conversion privilege to choose stocks independently. After bonds are converted into stocks, the holders become shareholders of enterprises from creditors. But if the stock market as a whole is depressed and the stock price falls, then the holder of convertible bond can not convert the stock into creditor's rights, and then the convertible bond becomes the permanent stock. Convertible bonds also have certain investment risks, so investors should choose investment products carefully and make investment decisions carefully. It can be seen that the value of convertible bonds is the value of ordinary bonds, stocks

and convertible period, which is composed of these parts.

(2) Value of pure bonds

Pure bond value is when an investor purchases convertible bonds to invest in financial products, the investor holds all the investment rights of the bonds before the conversion is implemented. The bonds can be sold and circulated in time in the bond market to obtain the investment returns of the bonds, and the investment risk of convertible bonds is small. Convertible bonds can obtain the return on investment of bonds in the early stage of conversion, and after conversion, the return on investment of stocks can be^[2].

The formula for calculating the value of pure bonds:

$$B = \sum_{i=1}^n \frac{I}{(1+i)^{t+k}} + \frac{P}{(1+i)^{n+k}}$$

B is the value of bonds, I is the interest of bonds, P is the capital, I is the discount rate, K is the investment period.

Therefore, it can be seen that before the conversion period, the investment returns and risks of convertible securities are not different from those of ordinary corporate bonds. They are investment products with low investment returns and investment risks. It is influenced by the national interest rate and is inversely proportional to the discount rate. When the discount rate rises, the investment value of bonds will also decrease to a certain extent, and then the convertible bonds will be affected by the loan interest rate and the discount rate. The value fluctuation of convertible bonds is basically the same as that of common corporate bonds, all of which are discounted. Cash rate control. The impact diagram is as follows:

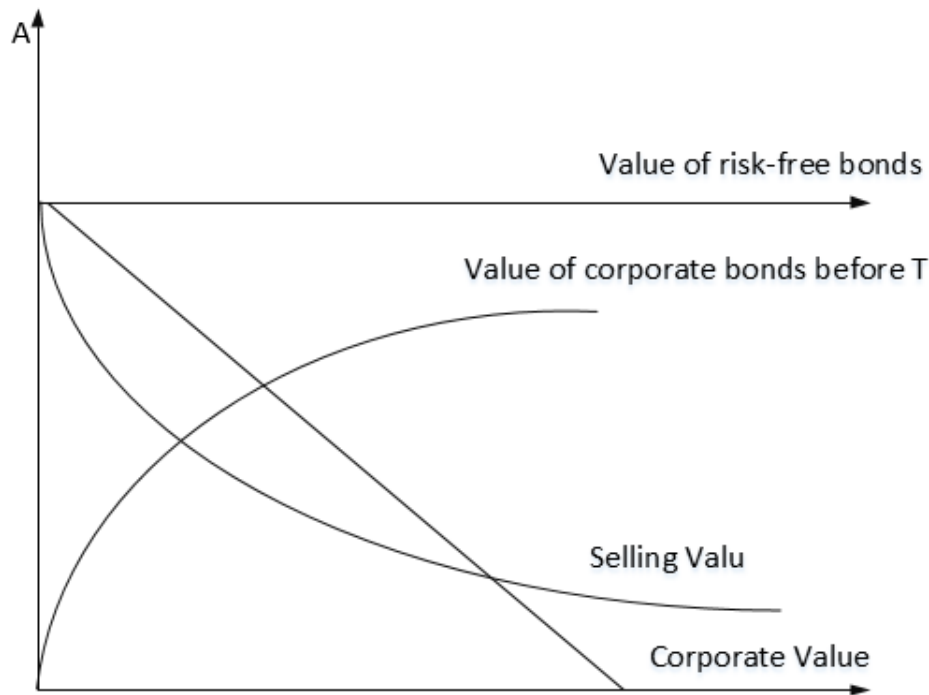


Fig. 1 Corporate Bond Value Curve

(3) Conversion of value

Convertible value is to convert convertible bonds into stocks of the same value in the current period according to the agreed period, and to realize the value appreciation of investors' convertible bonds. When convertible bonds are converted into stocks, their characteristics become stocks. They are affected by the stock market. The return of stocks is relatively higher than bonds, but the risk of investment is also greater. Investors should carefully consider the type of stocks and the period of bond conversion. This requires investors to know more about bond technology, investment skills and the principle of stock value investment.

The convertible value will change with the fluctuation of stock price. The overall value of

convertible bonds is lower than the convertible value. Investors can choose to convert bonds into stocks to realize the increment of asset holdings and bring certain value returns to investors. At the same time, convertible bonds also have the redemption attribute of ordinary bonds. In the bond purchase agreement, bond purchasers can flexibly choose whether the company will redeem the bonds or not. In the redemption clause, the company is required to redeem the bonds within a certain period of time. This also gives bondholders flexible choice power to use this kind of machine. The system can effectively guarantee the rights and interests of investors when the stock market declines.

Conversion value curve, as shown in Figure 2

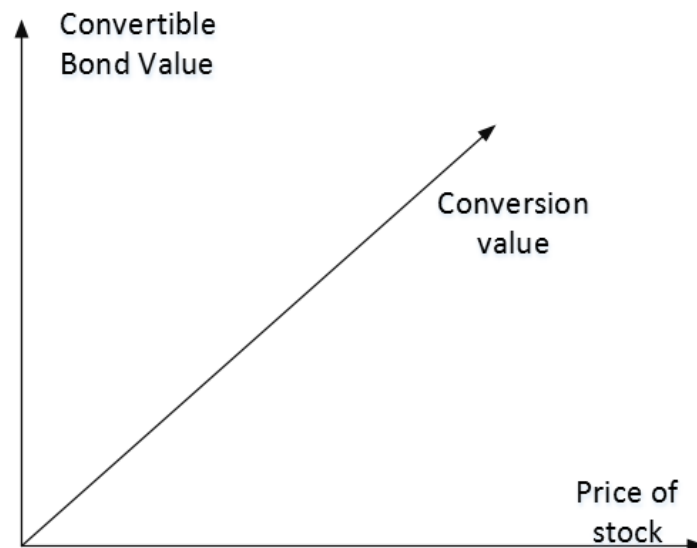


Figure 2 Conversion Value Curve

(4) Option Value

Investors of convertible bonds can buy stocks with the same value as bonds at any time before the time of bond conversion. Option investment is higher than bonds and stocks, and the value return is higher, but the investment risk it brings is also higher. Bond holders can buy at the low point of option value. When the option price rises, it can bring greater value return to investors. The option value of convertible bonds is the difference of the value produced when the option is purchased, which is called the option value. When the holder converts the convertible bond into a term right, it needs to completely abandon the return of interest and the power of the bond. When bonds are converted into options, bondholders have a certain investment decision-making time to judge the changes of the overall options market. According to their own judgment, to choose the appropriate conversion time, in order to achieve the value of bonds added. The value of this option is related to the change of the value of common stock. Its investment value is higher than the return of common stock, and its risk is also higher. Options, stocks and bonds will be affected by the business conditions of enterprises. When the business conditions of enterprises decline, options, stocks and bonds will show a downward trend. When the business situation of the enterprise improves, bonds, stocks and options will show different growth rates. Among them, the change range of options is higher than that of stocks and bonds. When the enterprise is in stable operation and its performance grows slowly, the growth rate of the stock price of the company will not change much at this time. Options will be maintained and the stock price will be maintained. In the same direction, the increase of bond price decreases.

3. Analysis of Influencing Factors

The company's operating conditions, stock market environment, policies and discount rate will have an impact on the value of convertible bonds.

(1) External factors

1) Securities Market Environment

The overall environment of the securities market will have an important impact on the company's stock. When the overall market rises, it will also drive up the company's stock price and affect the investors' investment judgment. Often, the holders will overestimate the stock market, and will quickly convert their convertible bonds into stocks in order to obtain them. Short-term returns. However, there will also be some downside risks^[3]. If the holders do not study the stock market in depth, they will often make wrong judgments, resulting in irreparable losses, and then the overall environment of the securities market will have an important impact on the investment value of convertible bonds.

2) Interest rate level

The price of convertible securities is influenced by the coupon interest rate and the interest rate level of the whole bond market. The coupon interest rate is the most basic value of bonds. The coupon interest rate can help the holders resist risks. The more bonds they hold, the greater the interest return they will get. Often, this return is relatively stable. The risk of bond depreciation is low. When the market interest rate of bond rises, the value of convertible bond holdings will decrease relatively, which indicates that the market interest is inversely proportional to the value fluctuation of sustainable bonds. Conversely, it can be seen that when the market interest rate falls, because convertible bonds have the protection of the coupon interest rate, the value of bonds increases relatively^[4].

(2) Internal factors

The stock price of an enterprise is the main factor affecting the value of convertible bonds. Most bondholders prefer the stock market, the more likely the bondholders will convert bonds into stocks, and the stock price will also affect options. Options mainly refer to convertible bonds. Bond holders choose convertible options before the time required by the agreement. The larger the difference between the value of convertible bonds and the value of options, the greater the value of options. It can be seen that the stock price of a company has a profound influence on the value of option. If the difference between option value and convertible bond value is smaller, it shows that the investment value of future option is relatively small, and the intention of the holder to purchase option is not strong. On the contrary, the difference increases gradually, indicating that the value of option is also rising gradually. The intentions of the holders to buy options are even stronger.

4. Conclusion

The research on the value of convertible bonds is helpful for investors to choose financial products rationally, and to enhance investors' deep understanding of the value change mechanism and investment risk behind investment products. This paper focuses on the investment value of convertible bonds, and makes an in-depth analysis of pure bond value, convertible value and option value. This paper analyses the factors that affect the value of convertible bonds, including internal and external factors, the overall environmental impact of the bond market, the impact of coupon interest rate, and the impact of corporate stock price on the value investment of convertible bonds.

Acknowledgement

This research has been financed by Research Projects in 2016 of Guangdong Provincial Department of Education "CFA Talent Cultivation Model Innovation Experimental Zone" (RPCX201601).

References

- [1] Pan Jian, Xiao Qingxian. Pricing of Convertible Bonds Based on Dual Risks of Random Default and Interest Rate [J]. Journal of Southwest Normal University (Natural Science Edition), 2017, 42 (7): 138-145.
- [2] Wang Yuchen. Measurement of Market Risk of Convertible Bonds Based on VaR[J]. Time

Finance, 2017(3).78-79

[3] Zhang Xueping. The Convergence and Wealth Effect of Convertible Bond Investment Value [J]. Journal of Capital University of Economics and Business, 2019, 21(2):104-112.

[4] Jiao Hongtao, ChenQi, WangLe. Design of Intellectual Property Securitization Model Based on “Convertible Debt”--Exploration and Confusion of Wuhan Intellectual Property Exchange [J]. Journal of the Chinese Academy of Sciences, 2018, 33(3):249-255.