

Changes in Early Redemption Rules for Convertible Bonds and an Examination of the Effect of Forced Redemption

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Abstract: In 2022, the Shanghai Stock Exchanges and Shenzhen Stock Exchanges (SSE and SZSE) made a series of amendments to the convertible bond trading rules and self-regulation of listed companies. In addition to this, SSE and SZSE made more detailed requirements on the time and process for listed companies to exercise their rights for convertible bond redemption in advance. By summarizing and analysing the data of convertible bonds listed by the Shanghai Stock Exchanges and Shenzhen Stock Exchanges in China in the past 10 years, this paper introduces the background of the convertible bond market, analyses the characteristics of convertible bonds redeemed early and the impact of early redemption of convertible bonds on listed companies, and explores what kind of forced redemption effect has been produced by the new changes of convertible bond regulations. The paper also explores the implications of the forced redemption effect on investors by considering the changes in the convertible bond market since its inception.

Keywords: convertible bonds, new convertible bond rules, early redemption, forced redemption effect

1. Introduction

2022 Global markets fell into recession because of the continuing increase of interest rate in the U.S. By the end of October of 2022(October 30, 2022), the U.S. market Dow Jones Industrial Average fell by 9.57%, the NASDAQ Index decreased by 29.04%, the U.S. 10-year Treasury Bond Yield rose by 166.27%, and the New York Stock Exchange ishares convertible bond ETF fell by 20.61%; the China A-share market Shanghai Securities Composite Index decreased by 19.89%, Growth Enterprise Index decreased by 32.27%, China Treasury Index went up by 3.61%, comparing to that the CSI convertible and exchangeable bond index yields of the convertible bond ETF decreased by 5.49%. Hence, in 2022, under the multiple influences of US interest rate hikes, geopolitics and COVID-19 pandemic, both the US and Chinese economies suffered significant shocks, and despite the successive cuts in the LPR and deposit reserve ratio, Chinese capital markets still experienced a decline due to the increase in risk-return ratios. Meanwhile, The Notice on Matters Relating to the Suitability Management of Convertible Corporate Bonds issued by the SSE and SZSE on 18 June 2022 made the selecting rules for individual investors applying to open convertible bond privileges more difficult and stricter. The Implementing Rules on Trading of Convertible Corporate Bonds issued by the SSE

and SZSE on 1 August 2022 imposed restrictions on the ups and downs of convertible bonds. The section on redemptions in the Self-Regulatory Guidelines No. 12/15 - Convertible Corporate Bonds for Listed Companies on the Shanghai/Shenzhen Stock Exchange (the Self-Regulatory Guidelines) issued at the same time set out more detailed requirements on the timing and process for listed companies to exercise their redemption rights [1]. Issuers, investors, and market capital of convertible bonds have also made a series of adjustments to the changes in the above rules. In this article, we summarise the changes in the market as a result of the changes in the rules on early redemption of convertible bonds and analyse the effect of forced redemption on convertible bonds and the implications for investors [2].

2. Impact of Early Redemption on Convertible Bond Prices

According to the convertible bond price calculation formula [3]:

Minimum theoretical value of convertible bonds = MAX (conversion value, direct value)

This means that the minimum theoretical value of a convertible bond is the higher one of the convertible bond's conversion value and its direct value.

Of which:

$$\text{conversion value} = \text{face value} * \frac{\text{share price}}{\text{conversion price}}$$

The direct value of a convertible bond, also known as the pure debt value, is equal to the price of a non-convertible bond with the same characteristics as it, i.e. the value of a regular bond with the same maturity, the same interest rate and the same redemption price at maturity at the same interest rate level.

The pricing model for convertible bonds shows that the conversion value of convertible bonds is influenced by the conversion price and the underlying share price, and the direct value is influenced by the level of market interest rates. The market price of convertible bonds is subject to a market premium on top of the minimum theoretical value, and the premium ratio of the market price to the conversion value is known as the conversion premium rate. When the market expects the price of the underlying shares of the convertible bond to rise, the conversion premium will increase; when the market expects the price of the underlying shares hard to rise or even fall, the conversion premium will fall. According to the issuance rules of convertible bonds, convertible bonds can only be redeemed early if the price of the underlying shares is continuously above the conversion price by a certain percentage for a certain period of time. When a convertible bond exercises its early redemption right, it means that the bond will be redeemed at a price close to face value if the bondholder does not sell or convert into shares before the redemption date. At this point, the forward movement of the underlying stock is no longer relevant to the bond and the market price of the convertible bond will rapidly converge towards the conversion price, with the conversion premium approaching zero.

3. Characteristics of Early Redemption of Convertible Bonds in the Last 10 Years

It has been 30 years since Shenzhen Baoan issued the first convertible bond Baoan Convertible Bond in the Chinese securities market at the end of 1992. As of now (30 October 2022), there are 800 convertible bonds listed on the Shanghai and Shenzhen Stock Exchanges and a total of 326 convertible bonds have been redeemed, of which only 16 have natural maturity and the rest are compulsorily redeemed after meeting the early redemption conditions. We have done a data compilation of convertible bonds over the last 10 years and found that the market for convertible bonds only rose to a certain size from 2018, with less than 100 convertible bonds on the market until 2018. Although convertible bonds have only reached a certain size in the last 5 years, the A-share

market has to look at the last 10 years before there is a major change. Convertible bonds are derivatives of stocks, and the study of convertible bonds cannot be separated from the underlying stocks, so we have selected the relationship between convertible bonds and the A-share market in the last 10 years to make a classification summary, so as to analyse the characteristics of the phenomenon of early redemption of convertible bonds and the inspiration for investment.

Table 1: Number of convertible bonds redeemed early in the last 10 years and the correlation with the Shanghai Securities Composite Index.

Year	Number of renewed convertible bonds	Number of early redemptions of convertible bonds	Percentage of early redemptions	Index up or down
2011	21	3	14.29%	-21.68%
2012	22	0	0.00%	3.17%
2013	29	3	10.34%	-6.75%
2014	37	9	24.32%	52.87%
2015	30	26	86.67%	9.41%
2016	16	0	0.00%	-12.31%
2017	42	3	7.14%	6.56%
2018	119	2	1.68%	-24.59%
2019	223	20	8.97%	22.30%
2020	408	70	17.16%	13.87%
2021	465	71	15.27%	4.80%
2022	508	44	8.66%	-19.89%

Table 1 shows that excluding the year 2022, the number and percentage of convertible bonds redeemed early in bear markets (i.e. Shanghai Securities Composite Index falling) is small, while the number and percentage of convertible bonds redeemed early in bull markets (i.e. Shanghai Securities Composite Index rising) is large. One thing needed to be concerned is that the number of convertible bonds is too low before 2015, it will take great proportion even if redeeming two or three. Therefore, it is not representative. In 2015, although the table shows that the Shanghai Securities Composite Index only rose slightly by 9.41%, 2015 was the high point of the bull market, with the index hitting a high of 5,000 points in the middle of the year, so most stocks achieved a doubling in the first six months. Therefore, early redemptions of convertible bonds reached 86.67%. In contrast, the bull market bubble was burst in 2016, the market continued to fall, and there were few new tranches issued in the market, so there were no tranches that met the early redemption conditions, and the number of tranches redeemed early was 0. Therefore, it can be concluded that more convertible bonds were redeemed early when the A-share market as a whole was rising before 2022, and fewer convertible bonds were redeemed early when the A-share market as a whole was falling. However, this phenomenon has changed somewhat in 2022, with the Shanghai Securities Composite Index falling by 19.89% so far in 2022 (30 October 2022), yet 44 convertible bonds have been redeemed early this year, accounting for 8.66%. One reason for this is that since the convertible bonds have been listed for more than 30 years, the number of convertible bonds issued has become more and more massive and issuers have become more and more skilled in applying the rules. This year, there are more companies that have passed down the convertible bond conversion price to induce the convertible bonds to meet the early conversion conditions, thus achieving a high number of convertible bonds with early redemption conditions; the other is the change in the new rules for convertible bonds. According to the Self-regulatory Guidelines for Listed Companies on Shanghai/Shenzhen Stock

Exchange - Convertible Corporate Bonds (hereinafter referred to as the new rules), during the life of convertible bonds, listed companies should continuously pay attention to whether the redemption conditions are met, and if it is expected that the redemption conditions may be met, they should promptly disclose an alert announcement five trading days before the redemption conditions are met to fully alert the market of the risks[4]. The listed company shall convene a board meeting on the day when the conditions for redemption of the convertible bonds are satisfied to decide whether to exercise the right of redemption and disclose an announcement of redemption or non-redemption before the opening of the market on the next trading day. If the listed company fails to comply with the deliberation procedures and information disclosure obligations in accordance with this rule, it shall be deemed not to exercise the right of redemption. If the listed company does not exercise the redemption right, it shall fully explain the specific reasons for not exercising the redemption right and shall not exercise the redemption right again for at least three months in the future and state in the announcement the commencement of the next period in which the redemption conditions are satisfied [5]. As such, the new rules provide for a clearer and more stringent process for the redemption of convertible bonds. It also provides that if an issuer does not exercise its right of redemption, it should have to re-calculate the first day on which the convertible bonds satisfy the early redemption condition at a specified time. As a result, issuers who are not confident that their share price will remain high enough to maintain the redemption conditions will choose to exercise their early redemption rights as early as possible, which is why more issuers will exercise their early redemption rights in 2022.

4. Impact of Early Redemption of Convertible Bonds on the Relevant Companies

Under the new rules, issuers are required to perform a more detailed disclosure process for the early redemption of their convertible bonds, and for those convertible bonds that do not perform early redemptions, they will need to re-calculate the time from which the redemption conditions start. This change has also had an impact on issuing companies. As the number of convertible bonds redeemed early each year before 2019 is too small to be of statistical value, we have selected the changes in the price of the convertible bonds and the price of the underlying shares on the day the early redemption announcement was issued for convertible bonds after 2019 to illustrate the impact of early redemption of convertible bonds on the relevant companies.

Table 2: Average decline in the underlying shares and tranches on the date of early redemption announcements for convertible bonds, 2019-2022.

Time	Number of tranches redeemed	Average increase or decrease in the underlying shares on the date of early redemption announcement	Average increase/decrease in convertible bonds on early redemption announcement date	Index up or down
2019	20	-0.37%	-0.12%	22.30%
2020	70	-1.12%	-4.18%	13.87%
2021	71	-0.81%	0.43%	4.80%
2022	44	-1.26%	-4.63%	-18.42%

As can be seen from Table 2, both the underlying shares and the convertible bonds will fall to a certain extent on the early redemption announcement date, and the decline in the underlying shares and convertible bonds is greater this year because the convertible bond market has gathered more and more capital. 2022 The fragility of the long-selling sentiment in the A-share market, the poor volume and liquidity of the overall market, and the fear of holders of shares that the post-conversion sell-off by creditors will have a large impact on the price.

5. Conclusion

Since the listing of the first convertible bond in China's history in 1992, China's convertible bond market has been expanding, and the convertible bond market expanded significantly in 2018 and will have approached a trillion-market value by 2022. With the promotion of the registration system and the number of A-share listed companies itself increasing, convertible bonds are no longer a niche species, but a preferred refinancing method for more and more listed companies, and have brought together more and more investors. With the expansion of the convertible bond market capacity and the increasing ability to take on capital, the convertible bond market has become a worthwhile investment for investors. As convertible bond rules continue to improve and disclosure requirements for listed companies become stricter, giving investors and issuers increasingly fair information transparency and gaming opportunities, the convertible bond market is rich in investment opportunities and has become a valuable variety more capable of generating solid returns. Unpredictable factors in the market in 2022 caused the market to fall unilaterally, and as at the end of October 2022 (30 October) the Shanghai Securities Composite Index fell by 19.89%, while the convertible bond ETF, which is benchmarked against the CSI convertible and exchangeable bond index, fell by only 5.49%, making convertible bonds a seemingly flat strategy that is actually very safe and cost-effective. The improvement of convertible bond rules is very meaningful for convertible bond investment. How to avoid certainty risk, seize certainty opportunity and avoid certainty risk in an uncertain market. As mentioned earlier, early redemption of convertible bonds will form a double suppression on the price of convertible bonds and the underlying shares, which is also known as the forced redemption effect of convertible bonds. The new rules of convertible bonds, the redemption conditions to meet the five trading days before the timely disclosure of the prompt announcement, so investors want to avoid risk in advance, in the positive stock trend is not too sure, should be in the conditions to meet the prompt announcement issued before the risk, reasonable position control position to avoid the possible future decline, or in the forced redemption announcement out of the market back to balance before intervention.

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