

VALUATION OF BONDS AS COLLATERAL FOR BANK LOANS. EVIDENCE FROM UZBEKISTAN

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ABSTRACT

Taking into account the development of the securities market in Uzbekistan, it is obvious that in the nearest decade, demand for intangible assets, such as shares, bonds and other securities will increase in the Republic of Uzbekistan. As a result they will become common types of the assets in economy. In most developed and developing countries bonds are accepted as collateral for bank loans. It is clear that capital market securities are risky. In terms of bonds there is a default risk of the issuer. This paper studies the approaches of bond valuation as collateral for bank loans considering several factors. Moreover in this paper several recommendations and proposals are made to form the method for bond valuation as collateral for bank loans.

Keywords:

Collateral, bond, bank loan, risk, valuation

INTRODUCTION**ESSENCE OF BONDS VALUATION AS COLLATERAL FOR BANK LOANS**

A characteristic feature of the development of the modern economy is the widespread use of bank loans. Bank loan is one of the most important elements of a modern market mechanism that ensures the normal functioning of economic entities in the economy. The mutual benefit of credit operations is due to the fact that a potential debtor needs a loan, and the lender is interested in its timely return with interest making up the main source of the bank's profit. However, in case of granting a loan, the commercial risk, which consists in the non-return of the disbursed amounts, mainly falls on the lender, and the latter is characterized by the desire to protect itself as much as possible in case of adverse consequences of the debtor failing to pay not only interest for using the loan, but also the principal amount of the debt. The implementation of credit operations is a permanent professional activity of the bank and therefore involves the inclusion in the number of significant and solvable in the provision of credit issues the election of appropriate ways to ensure the performance of obligations. The collateral is the most reliable and affordable way to secure the loan requirements of the bank. Before the independence of Uzbekistan, there was no need to evaluate movable and immovable property and tangible and intangible assets, because all the country's enterprises and organizations, the tangible and intangible assets of the production used to be under the control of the state, sale, purchase, lease and other relationships were strictly determined by the state control. Nowadays, there are many types of assets are used as collateral for bank loans. Everyone knows tangible assets are common types of collateral in this situation. However, at present intangible assets are also accepted as collateral for bank lending. Intangible assets exist in opposition to tangible assets which include land, vehicles, equipment, inventory, stocks, bonds and cash. This paper studies the practice of bond valuation as collateral for bank loans.

Bond valuation is a procedure in which the market value of a bond is determined, depending on various factors that change with time: the interest rate on the security, the demand / supply ratio, the maturity and credit quality, and the tax status. The essence of the bond evaluation procedure is that during the term of the bond its owner could receive an equivalent amount of the one for which he bought this security. The main feature of the procedure is the set of payments that the bond holder receives, stretched out over time. As a consequence, all cash flows are discounted at the date of bond valuation. When evaluating bonds, a comparative approach is often used, and therefore, as a rule, the yield of similar financial instruments is used as an indicator of discount.

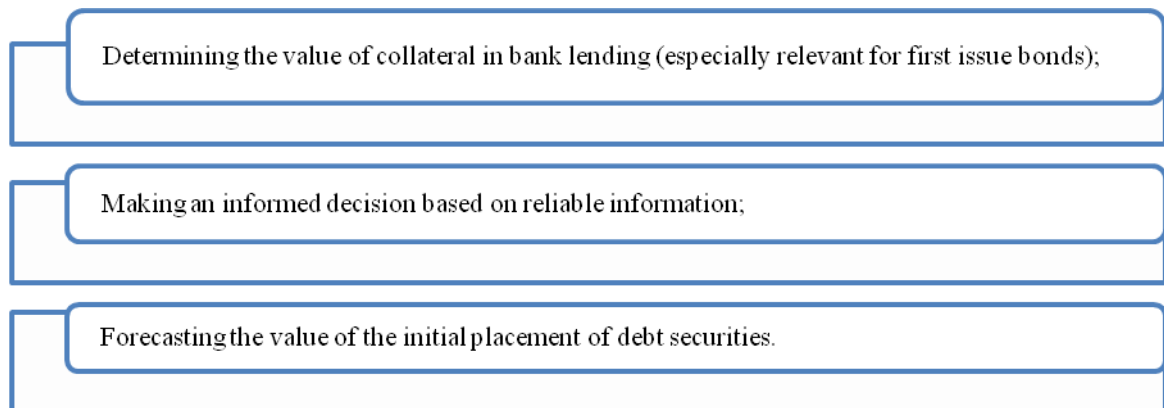


Figure 1 The purpose of bond valuation
Source: Author's compilation

The algorithm for assessing bonds is as follows:

- Discount and summarize the cash flows formed by the coupon yield of the bond being valued;
- Sum the received value with the discounted face value of the bond.

Particular attention in assessing the value of bonds refers to the determination of the discount rate, for this purpose, a thorough analysis of the issuer's financial condition is carried out, its solvency is determined.

A bond is an issuing security that includes the issuer's obligation to make payments to the creditor/owner at the nominal value at the end of the bond maturity. Also, the bondholder is paid a certain amount of interest, which in some cases may be an indicator of the yield on the bond.

Depending on who is the issuer, there are municipal or state, corporate and foreign bonds.

Each bond has the following characteristics:

- Nominal value;
- Coupon rate of return;
- Issuance date;
- Maturity date;

The main role in the valuation of bonds is played by the price and date of their purchase, as well as the average duration of payments, stretched in time.

The valuation of a bond is a procedure for fixing the value of an intangible commodity, which means that this value is determined by the value of the rights granted to its owner. Bond cannot be owners of the organization and do not have the right to manage it. Most of the bonds do not entitle to participation in management - and, moreover, bond yields are generally lower than shares, as they are more reliable and do not depend on the issuer's growth potential. Payments on bonds are paid by the company based on its net profit. If it is not enough, then payment is made on the bonds at the expense of the reserve fund. Its creation is an obligatory condition for the existence of an enterprise that issued bonds.

Based on the individual characteristics of debt securities, the establishment of value and profitability of bonds is carried out in the assessment from the position of the income approach. The essence of the evaluation of debt securities is that during the life of the security the owner returns to itself all the invested funds with a certain percentage of the profit. However, at the same time, the specificity of the bond evaluation is the time dilatation in the payments made by the owner. Therefore it is important to carry out discounting on the bond valuation date in order to find out their exact cost and profitability.

A fairly simplified way to assess the bonds is to make the following step-by-step actions: discounted and summed up cash flows formed by time-extended income, both in the form of payments and interest from the estimated bond with its face value. As a consequence, the more these payments, the lower the risk of investing in securities - and the higher its value.

It should be noted that in the evaluation of bonds an important factor is the determination of the discount rate, because of which the evaluation process requires a qualitative and comprehensive analysis of the financial condition of the bond owner and its solvency, both at the current time and in the distant future. The fact that at the moment there is a huge number of bonds on the securities market, the risk of non-payment of which is very high, attaches great importance to the evaluation of bonds.

The procedure for assessing the bonds is as follows:

- [1] The main goals and objectives of the assessment are established;
- [2] The current situation on the market and the financial condition and solvency of the issuer are analyzed;
- [3] The discount rate is determined, discounting and summing up of cash flows are carried out, which will be extended by the issuer over the considered bond;
- [4] Summation of the received value with the discounted face value of the bond;
- [5] Drawing up a report on the evaluation of bonds, which will contain all the necessary information to make the right decision to buy, sell or make bonds in the authorized capital.

METHODOLOGY

If bonds are accepted as collateral for bank loans, their value should be determined fairly. There are several factors that affect the value of the bonds. Firstly financial state of the issuer should be taken into consideration. If it is government bonds, its yield to maturity should be determined. Usually government bonds have 3 year maturity; therefore their yield to maturity (YTM) is determined as follows:

$$YTM = \left(\frac{FV}{PV} \right)^{\frac{1}{n}} \quad (1)$$

Here:

FV-face value;

PV-purchase value;

n- number of years till maturity

In terms of government bonds determining their YTM is an only factor that is necessary to calculate, because, government securities are considered as risk free securities. Therefore there is no need to worry about default risk.

In case they are corporate bonds, except bond's YTM, its issuer's financial state should be determined. To implement it, different models can be used. Considering that some of models do not give precise results in all cases, using at least two of them is advisable. Enyi's relative solvency ratio and Altman's z score model.

Enyi's relative solvency ratio

The model has two basic indicators: OBEP operational break-even point and RSR relative solvency ratio. The first stage of the model starts with calculating the mark-up ratio (MUR). This, in turn, serves to demonstrate the ability of enterprise management to cover costs and maximize profits.

$$MUR = \frac{PBT}{TOC}$$

$$PBT = TS - TOC$$

The next stage is the calculation of OBEP. The operational breakeven point can be defined as "the point or stage of activity where cumulative contribution margin on recovered production outputs equal the total cumulative production costs and losses of the learning periods" (Enyi, 2005).

$$OBEP = \frac{1 + MUR}{2 * MUR}$$

The next step is the measurement of the required volume of working capital, which is the central operation of the enterprise in ensuring operational breakeven point

$$WCR = TOC \times OBEP$$

The next important indicator is the relative solvency ratio (RSR). RSR recognizes the liquidity of an entity.

$$RSR = \frac{AWC}{WCR}$$

Here is the AWC's current working capital that is determined by finding the difference between current assets and current liabilities of the entity. That is, if the entity is in the range of 0.01-0.25, the financial condition of the company is very bad and the degree of recession is very high. In the range of 0.26-0.99, the financial state

of the entity is bad and the rate of recession is reasonable. If it is 1.00 or higher, the company is fully financially stable and probability of insolvency is very low.

Altman's Bankruptcy Prediction Model

One of the most effective ways to determine the solvency level of companies was made by Altman, who developed his bankruptcy forecasting model in 1983. His model defines the bankruptcy of enterprises based on accurate calculations. This indicator is an index reflecting the financial stability of the enterprise, most of which are used by investors to determine the investment potential of the company and are defined as follows:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

X_1 = Working capital divided by total assets

X_2 = Retained earnings divided by total assets

X_3 = Earnings before interest and taxes divided by total assets

X_4 = Market value of equity divided by the book value of total of total debt.

X_5 = Sales divided by total assets.

Where Z is more than 2.99, the enterprise is financially stable, and enterprises with less than 1.81 are financially unstable and have a high probability of a crisis.

After determining the financial state of the enterprise by two models valuation of the bonds can be implemented according to the following table

According to both models	Recommended value range by appraisal
Poor	10%-33% of the face value
Average	34%-66% of face value
Absolute health	67%-100% of face value

CONCLUSION

According to the research carried out, we can make following conclusions:

- [1] Using intangible assets especially bonds as collateral for bank loans helps businesses to meet collateral requirements of commercial banks, after acquiring funds from bank they expand their activity and for sure distribute their shares to improve the economy condition of the country.
- [2] Real valuation of bonds should be made considering the factors mentioned above, after that potential negative consequences will be eliminated
- [3] Using abovementioned models to determine the financial stability of the enterprise may give more accurate result and help to value bonds. Of course, it is difficult to predict all risks in advance. By far commercial banks choose the better option for them.
- [4] In case two models give different results, it is advisable to rely on Enyi's relative solvency ratio or use another bankruptcy prediction model to acquire more precise result.

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