# INVESTMENTS IN BONDS ON ROMANIA'S CAPITAL MARKET 

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#### Abstract

Capital market, both the primary and secondary record financial transactions not only through property titles, but also issues debt securities, designed to attract monetary funds in the form of loans or medium term. Bonds are securities, consisting of a longterm debt on a company giving the holder of Bonds (Bondholders) claim equal rights, corresponding nominal value of the bond. Bonds can be bought either in the public offering period, from banks or corporations Brokerage Financial Services Distributors, or from the stock through a brokerage firm by a procedure similar to that for action. Investing in bonds also entails risks, among which include the risk of default, interest rate risks and currency risks.


KEY WORDS: bonds; investments; capital market; profitability; ratings; bond portfolio

JEL CLASSIFICATION: G11

Capital market, both the primary and secondary record financial transactions not only through property titles, but also issues debt securities, designed to attract monetary funds in the form of loans or medium term. Loan recipients may be private and public companies, state institutions, governments, local authorities and financial institutions, etc.. Attracted capital from the placement of debt instruments are used in profitable activities, which lead to repayment of the loan, the interest payment to holders of securities to achieve a net profit, which will be reinvested by the issuer, in order to increase capital.

Debt instruments without a fixed income, interest form, known generally as the bonds. Capital market, over time, there are various forms of debt securities, in different forms, names, characteristics, but regardless of these features, we can cover in two broad categories: conventional bonds and other securities fixed income loan. Capital markets are issued and traded many types of classical obligațiuni (direct), grouped

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Capital markets are issued and traded many types of conventional bonds (direct), grouped according to two criteria: presentation, and the place of contract and conditions of issue. Financial market is an organized market of capital transfers from those who have a surplus (capital) to those who need capital. Thus, the financial market is, in a market economy as a source of direct funding of private and public companies, to the local, regional and national in macro or micro level. If such funds are put into circulation securities at the same time, are established between suppliers of funds, investors and capital seekers, buyers, users, issuers of securities.

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To this we compared the characteristics of bonds to shares. Thus, if we consider the bond investor's position is that a debt while it is an action title. In terms of build upon the investment bond generates certainty that build upon the issuer undertakes to pay interest regardless of the result while the dividend can not be charged if results are inadequate or if it is decided by the General Shareholders Meeting not to distribute dividends. If we consider the risk of investment, then we say that the risk assumed by investors in bonds is less than the risk involved in investing in shares. Finally, bondholders are creditors and, therefore, must be paid before common shareholders, or if you preferred the bankruptcy situation.

Bonds have several features, some of which are still set to issue face value represents the amount that the issuer must repay the bond holder, the total issue, the interest (coupon), maturity, life of the bond, ie the period between issue and maturity,
issue price, ie the amount that actually uttering the bond, it may be more than nominal value (look above), equal to this (ad stakes) or less (in stakes) in this set market conditions and the urgency of obtaining funds, procedures for reimbursement; yield bond index calculated by the issue price and interest announced.

Of the many types of bonds they summarized the most common: Bonds classical (normal) with a fixed maturity and interest (fixed) be paid regularly. Indexed bonds are those in which the issuer undertakes to update them interest (value) depending on some index (eg according to the inflation index). Bonds with variable life and enabling the issuer or holder to modify their maturity, or duration of the loan. This could mean the loan or extension of repayment before maturity. Any of these operations, depending on who is asked and its meaning (extension or shortening) to payment of bonuses or penalties to the reimbursement. Participating bonds, which as their name suggests enable investors to participate in the favourable results of the investee company.

Therefore, besides the initial set interest bond holder receives venture additional amounts allocated from net profit or reserves specially constituted for this purpose. Single bonds are those in which interest is paid periodically but not capitalized and paid once at maturity. Zero coupon bonds are those for which no interest is charged separately (so no coupon) gain resulting from the investor that are issued at a price undercoat and is repaid at maturity at nominal value (ie the interest due form of a raw issue).

Convertible bonds are those which offer the investor the opportunity to transform them into shares of the issuer. Conversion ratio, conversion period and other conditions of conversion must be provided in a prospectus. Bonds redeemable in shares are those shares that pay by the issuing company. Redeemable bonds are those bonds through constant annuities in which the issuer will pay an annual investor constant amount (annuity) that includes interest on credit and part of the loan.

Bonds redeemable by lot: are those paid in advance by the issuer, who will be setting early repayment is made by drawing lots. Bonds 'dirty' (junk bonds) - are those who have attached a very high risk because the money is used to mobilize business whose success is uncertain but potentially huge profits. Course and the interest is commensurate with the risk involved in these businesses. Of government (tickets or treasury bills) are issued by state and mobilize these funds available to the state. Are considered the safest investments because they rule and thus guarantee their would be no risk attached. Foreign bonds are those securities issued by companies from countries other than their loan is made. Euroobligațiunile (eurobonds) are expressed in eurovalute those bonds, issued and traded simultaneously on the capital markets of several countries by an international banking consortium.

Financial quality of an investment in bonds is determined by several performance indicators such as: Rated product, expressed in percentages by the nominal interest rate and the interest received in the exchange value coupons, current or actual product, current market price, which shows the present value of future streams of income they offer to hold the bond until a specific future date (possibly until maturity):

$$
\begin{equation*}
\mathrm{P}=\sum_{\mathrm{t}=1}^{\mathrm{n}} \mathrm{Dn} *(1+\mathrm{i})^{-\mathrm{t}}+(\mathrm{Dn}+\operatorname{Pr}) *(1+\mathrm{i})^{-\mathrm{n}} \tag{1}
\end{equation*}
$$

where:

- $\mathrm{t}=$ time index,
- $\mathrm{n}=$ time in years maintaining possession of the bond
- $\mathrm{dt}=$ rate promised for year t ,
- I = interest rate market
- $\operatorname{Pr}=$ repurchase price at the time of sale;

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Different categories of bonds are illustrated by letters. The performance bond for the risk of default is negligible are symbolized with triple A (Aaa or AAA). Also, rating agencies use arithmetic signs (+, -) to show relative standing against a major category ( $\mathrm{Aa}+\mathrm{A}-$ ). Not all bonds are evaluated by rating agencies.

Bonds issued by small companies and distributed through private placement are not valued. Bonds which are assessed to be found about the same risk category, regardless of the agency was evaluating. Very often there are differences between rating agencies and they exist they are minimal. The rating, however, investors do not solve problems, missing a clear hierarchy of bonds according to risk. Overall, almost $90 \%$ of bonds are valued in the top four rating categories (most valuable), so there may be an easy selection. Second, although firms rating assessments often differ, however, sometimes they differ.

And thirdly, bond rating changes relatively slowly. Under continuous observation, the bonds are downgraded only when there are sufficient data to make this necessary. In general, the ratings of rating agencies serve only to form a picture of the bond and achieve a general classification of the nature of the issuer see their elements are taken into account in the long-term bond rating are: the situation debtor's financial results, liquidity and management.

In terms of the debtor's circumstances, he must fulfil certain conditions in its relations with creditors, namely: to maintain a certain level of reinvested profit, the capital, the debt level in relation to the assets, etc.. The financial results relate to assessing the profitability of the company because it is vital to consider certain aspects such as "health" of the company's financial, further development, financial performance analysis of past, present and forecast future results of the issuing company is not only to analyze profit, it requires taking into account a variety of indicators. Liquidity is one of the most important indicators of the company. A firm is in constant need of cash to make payments, and when no longer able to meet these payments go bankrupt. A firm has three sources of revenue excluding liquidity of current work: net income plus depreciation and Proviso, issuance of securities (shareholders) or
borrowing, sale of assets. It attaches great import, the company procesul assessment, management analysis, which is differentiated according to the nature of firms.

Thus, if large companies, management is very effective because large companies policy of selection and training of personnel. Studies on the behaviour of financial analysts rate the relationship with bond prices showed that trends can be expected in the evolution of yield bonds formed by large time intervals (about 15 years from issue). The analysis assumes that show characteristics are constant (including interest coupons). In assessing the interest rate on bonds and rates of return are three theories raised in the literature: theory expectations net liquidity preference theory and the theory of segmented markets. In accordance with theory explanations net graphics estimates is explained by the participants of money market interest rate. Values in future interest rates are geometric averages of current and projected rates next year.

Theory shows that liquidity propensity to long-term securities would need to offer higher than short-term profits because rational investors are willing to accept lower pay-offs for short term bonds to avoid long-term bond volatility. Segmented market theory indicates that different groups of institutional financial investors tend to structure their investment policies depending on the debt to the budget, the flow structure and the level of interest payments to creditors.

For example, commercial banks, which must have short-term liquidity (for payment of demand deposits and short term as the main source of credit), will invest in short-term municipal bonds. The technique is part of the strategy of commercial banks to manage interest rate risk. Each bank sets its aim of achieving equality terms of assets and liabilities. Presents weighted duration time required for an asset price view its current value to be recovered. Bonds, although defined as income securities and certain low-risk, reducing the risk to portfolios are introduced should be assessed using methods that take into account the complex factors that characterize these securities and correlations "interest rate - maturity - time "in order to estimate their efficiency as rigorous.

Investment made by investors in a bond issue can be assessed based on indicators such as:

1. Nominal product or nominal interest rate: $\mathrm{Np}=(\mathrm{D} * 100) / \mathrm{VN}$, where: $\mathrm{Np}=$ nominal product, $\mathrm{D}=$ interest charged by the debenture holders, $\mathrm{VN}=$ nominal value of the bond.
2. Current product is expressed as a percentage of annual income to purchase price of bonds: $\mathrm{Ic}=(\mathrm{D} * 100) /$ In. Interest received by the investor does not say everything about profitability. Nominal yield does not take into account that almost always, the price of the bond or the current value, market it, not the same value. The yield increases as the difference between nominal value and actual value is higher.
3. Actual product (real) is the price of the bond in $n$. It is calculated as a present value of bond:

$$
\begin{equation*}
\mathrm{IE}=[\mathrm{R} 1 /(1+\mathrm{i})]+\ldots+[\mathrm{Rn} /(1+\mathrm{i}) \mathrm{n}] \tag{2}
\end{equation*}
$$

where:
Ie $=$ effective product
$\mathrm{R} 1, \mathrm{R} 2, . ., \mathrm{Rn}=$ annual interest received plus reimbursement $\mathrm{i}=$ interest rate term.

From the formula above that there is a directly proportional relationship between present value or selling price and future income and an inverse between and market rate (r).

Bond real returns take into account the assumption that the investor holds the bond until maturity and reinvests all the assets earn interest as having a level equal to the yield bond yield which is calculated randamentul. 4 yield to redemption. Consider the assumption that bonds can be redeemed before maturity. In this case, sold for a discount bond redemption yield is always higher than the yield to maturity. Can recall the bond is specified in the prospectus of the issue and the conditions in which redemption can be made. For an investor who sells the bond before maturity, revenue bonds brought concerns two components:

1. income directly $-\eta \mathrm{D}=\mathrm{C} / \mathrm{W}$ * 100 , where $\eta \mathrm{D}=$ direct income, $\mathrm{V}=$ annual payments as, $\mathrm{C}=$ the bond, $100-$ nominal value of the bond (percentage)
2. investment income $-\eta \mathrm{P}=[\mathrm{V}+/-(\mathrm{d} / \mathrm{n})] /[(\mathrm{C} 100) / 2]$, where $\eta \mathrm{P}=$ investment income, annual payments as $\mathrm{V}=\mathrm{d} / \mathrm{n}=+/-\mathrm{d}=\mathrm{Vr}-\mathrm{Vn}$ (difference between the real and nominal value of the bond), $\mathrm{n}=$ remaining duration to maturity expressed in years, $100=$ parity rate (expressed as a percentage), $(\mathrm{C}+100) / 2=$ average rate of bond
Interest in holding a bond is not redeemed both its value and size of paid coupons, as the present value of subsequent earnings (annual) and the amount of coupons redeemed (or the resale amount of the bond). The current value is therefore equivalent to today's money to be received in a number of years depending on the maturity of the bond. This equivalent takes into account the possibility of building upon an amount available today by placing a certain interest rate over the life of the bond. In other words, the buyer of securities, the intrinsic value (P0) of a bond will be purchased today and wants to sell over $n$ years is equal to the actual value of $n$ successive coupons receivable ( $\mathrm{C} 1, \mathrm{C} 2, . ., \mathrm{Cn}$ ) and market value ( R ) which we hope will get (over n years) from selling the bond, according to the relationship: $\mathrm{P} 0=\mathrm{C} 1 /(1$ $+\mathrm{r})+\ldots+\mathrm{Cn} /(1+\mathrm{r}) \mathrm{n}$. Discount factor r is below par, the interest rate that can be placed (stock market) a monetary unit. And $r=C /$ Po.

To illustrate the case study was made on investing in bonds. This case study exemplifies the pro rata method of allocating bonds, are examples of reported interest from a reference rate, is also cover examples and a simple calculation on return of a bond.
I. Place in the 7000 sale of bonds of each Bucharest 10000 lei, and the closure of the bid are two applications to purchase a 2000 and a 8000 bond. Such pro rata allocation that the first investor will receive the 1400 bonds and the second 5600
$1400=[2000 /(2000+8000)] * 7000 ;$
$5600=[8000 /(2000+8000)] * 7000 ;$
By pro rata method each investor receives a number of bonds in proportion to the amount deposited.
II. Rates most commonly used for bond issues are Romanian and BUBOR BUBID rates at which banks attract or place money in the interbank market. Other bonds, particularly municipal, gives the average of which is BUBOR, BUBID and adds
a percentage around $2.5 \%-2.00 \%$. Such bonds Bucharest interest is calculated as the average BUBOR BUBID and plus $2.5 \%$ per year. This interest is calculated quarterly based on official rates and BUBOR BUBID Romanian National Bank reported. If at some point in the calculation of the two rates are $18 \%$ and $20 \%$ when the following three months interest on the bonds will be $[(6.10 \% 6.85 \%) / 2]+2.5 \%=897 \%$. This is an annual interest and will be used for calculations for the next three months and these will be recalculated based on the values then and BUBOR BUBID.
III. Suppose that municipal bonds are sold with a discount Bucharest 1500 lei 8500 ie price and interest rate calculations to be determined are $8.97 \%$ the previous step. Hence it is possible to calculate return on investment in bonds will be: $(10000+$ $10000 * 8.97 \%$ ) / $8500=28 \%$, a much higher return than the interest rate of $8.97 \%$.
IV. The nominal value of bonds is 10,000 lei $V N=70000000 / 7000=10$ 000 , the coupon interest is $\mathrm{C}=\mathrm{c} * \mathrm{VN}, \mathrm{C}=11 \% * 10000=1100$, this information may result in the return coupon is for $(1100 / 10000) * 100=11 \%$. In the simplified formula to yield a bond which is refunded at the end of maturity: $\mathrm{P}=\mathrm{C} / \mathrm{y} *[1-1 /(1+$ y) n$]+\mathrm{VN} /(1+\mathrm{y}) \mathrm{n}$ know $\mathrm{C}=1100, \mathrm{y}=8.97 \%, \mathrm{n}=2$ resulting from the calculations that $\mathrm{P}=10363$, so this bond is sold with extra 363 lei. This may lead to price and exchange if 10000 is the price at par value of $100 \%$ then 10363 is the price of 103.63 . Knowing these factors can be expressed as a ratio of output current price coupon $C$ and P ; $\mathrm{Rc}=(1100 / 10363) * 100=10.61, \mathrm{Rc}=$ coupon yield, it can cause yield nominal value $\mathrm{Rn}, \mathrm{Rn}=\mathrm{C} / \mathrm{VN}=1100 / 10000=0.11 * 100=11 \%$. We determine the yield to maturity approximated by a formula that looks like this: $\mathrm{y}=[\mathrm{C}+(\mathrm{VN}-\mathrm{P}) / \mathrm{n}] /(\mathrm{VN}+$ $\mathrm{P}) / 2$, thus obtained y value of 0.0902 , multiplied by 100 to obtain a yield of $9.02 \%$.

The case study presented the main events to be taken into account when we want to make an investment in bonds, the allocation method of determining the various important elements that characterize and bonds based on these elements was possible to calculate the final output.

Return on investment in bonds before maturity can be made at market price, which differs from the price paid when placing capital in bonds. In other words, the first investor can sell bonds to profit or loss. The main factors determining the resale of bonds on the secondary market are banking market interest rate changes, changes in credit conditions linked to binding, changes in demand and supply in the bond market.

When bonds are traded on the secondary market yield is analyzed in three respects: in terms of interest coupons, the current yield and the yield to maturity. Analysts noted that the profitability of a bond varies inversely with the money supply and directly proportional to real income individual lending funds with demand, and inflation. Agencies evaluate bond quality bonds and rank them according to the risk posed. For investors this somewhat simplifies the selection of bond ratings reduce the risk of default.

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