Research Paper | E-ISSN No : 2455-295X | Volume : 2 | Issue : 5 | May 2016

BOND INVESTMENTS - AN ANALYSIS

Dr. T. Vetrivel [1] | V. S. Binu [2]

[1] Professor & Head, Department of Management Studies, Velalar College of Engineering and Technology, Thindal, Erode, Tamilnadu.

[2] Research Scholar, Reg No: 2013ER571, Department of Management Studies, Bharathiar University.

[2] Assistant Professor, SCMS School of Technology & Management, Cochin, Kerala.

ABSTRACT

Investing in equity shares is a risky investment and this make many investors to refrain themselves from investment avenues other than bank fixed deposits and recurring deposits. Today we have an investment avenue which is less risky than equity shares and give more returns than bank deposits, known as bonds. Those investors who expect more returns than bank deposits and ready to take a moderate level risk can choose bonds to invest.. The bond is issued by corporates and Governments to the investors which gives fixed returns for a stipulated period with the advantage of liquidity. This article discuss about the same with the tools like holding period returns, current yield, yield to maturity and bond duration.

KEYWORDS: Bonds, holding period return, current yield, yield to maturity, bond duration.

Literature review

Many earlier studies have emphasized the importance of investment and how to plan the investment in order to hedge against inflation and other risks as well. The previous studies has shown stocks, bank deposits, post office saving, etc. as investment avenues and the investors decides their investment based on the risks involved in it. The investors who are ready to take risk will go with equity investments and other will invest or deposit their savings in banks and others. It is also noted that the investors will diversify their investment to manage the risk. The earlier studies conclude that women investors are more conservative in portfolio investment than men (Schmidt &Sevak, 2006). The age and the gender plays a vital role in investment decisions as well (Gaurav Kabra , Prashant Kumar Mishra , Manoj Kumar Dash, 2010). The income of investor, risk tolerance, risk preference and investment pattern has helped the investment manager to design their investment schemes (Dr. C. M. Shinde, Ms. Priyanka Zanvar 2014). These studies clearly explains the importance of investment and investors decision making on investment avenues

There are studies which explain the importance of investment on corporate bonds in primary and secondary market. An empirical study (Dr. Manas Chakrabarti 2013) states that the investment on bonds is less when compared to equities and other investments, especially the retail investment is very less. Only asset management companies are investing in bonds and also the bond fund managers. The study has stated that the non-availability of active secondary markets for bonds, but it is noticed that some bonds are active now a days and active trading happening as well. An analytical study (Nath, Golaka 2012) states that the emerging bond market is illiquid as investors and issuers grapple with major microstructure and legal issues. The study states that Lower maturity bonds were having comparatively higher coupon than long maturity bonds. The study also brings out various pros and cons of bond market in India. The illiquidity problem is getting resolved in recent years. Some active bonds are traded in stock exchanges and it is actively traded every day.

A working paper of National Stock Exchange of India (Rituparna Das, 2013) states the importance of bond investments and its risk free or less risk advantage by explaining the bond yields. The study explains the different yields of bonds. Another paper by National Stock Exchange of India (AnupamMitra 2009) states that the banks are showing interest to lend loans to large private companies by squeezing small borrowers and SMEs. If the big domestic corporate bond market becomes vibrant then it could be a attractive source of finance for the big companies and the small borrowers and SMEs can depend on banks for loans. An earlier study (Shawn M. Forbes, John J. Hatem, and Chris Paul 2008) argues about the assumption of reinvestment of bond's coupon in calculating bond's Yield –to – Maturity.

Introduction

An investor is not in favour of equity investments because if the volatility of equity price. He believes that bonds are safer than equity stocks and profitable than bank deposits as well, but the bonds also have some risk features which confuses him. How can he measure the risk associated with bonds?

A bond is a contract that requires the borrower to pay an interest income to the lender. It resembles the promissory note and is issued by government and corporations. The par value of the bond indicates the face value of the bond, i.e. the value stated in the bond paper. Most of the bonds offer fixed interest payments till their maturity. This specific rate of interest is known as coupon rate. Coupons are paid quarterly, semiannually and annually. At the end of maturity period, the value is repaid

Generally stocks are considered to be risky but bonds are not. Bonds do carry risks like interest rate risk, default risk, marketability risk and callability risk

- **Interest rate risk–** Changes in interest rates will affect bonds more directly than they affect equity. There is a relationship between coupon rate and market interest rate. If the market interest rates moves up means the price of the bonds will declines and vice versa
- **Default risk –** The failure to pay the agreed value of the bond by the issuer in full, on time, or both.
- **Marketability risk –** Variation in returns caused by difficulties in selling the bonds quickly without having to make a substantial price concession is known as marketability risk.
- **Callability risk–** The uncertainty created for the investor's return by the issuer's ability to call the bond at any time.

Even though the bond has some risk it gives more returns than the bank deposits. The fixed income nature is one of the attractions of bonds which attract the investors who don't want to take risky investments and bonds play a very vital role in mutual funds portfolio construction. Today bonds are traded in the secondary market like equities but the bonds are not active like the equities and this affects the liquidity nature of bonds at many circumstances. This inactiveness is because of less participation of retail investors. The secondary market of bonds is not speculative friendly and this reduces the participation of retail investors. Today all of us are saving a part of our income and those who are ready to bear risk are investing their savings in stocks and mutual funds and those who are not ready to bear risk are depositing their savings in banks and insurance. Likewise the bonds can be option for them to invest and appreciate their savings. This article explains the things to be noted and analyzed before investing in bonds and a comparative analysis is also made between bonds and one year term deposits of banks.

Research Design

Research Type

The research is conducted to analyze the returns from the investment on corporate bonds. Hence this is an analytical type of research

Data Used

The data used in the research are secondary data collected from the official website of National Stock Exchange

Tools Used

Holding Period Return

The holding period return is the total return of bonds over a period it is held by the investor. It is one of the simplest methods to calculate or measure the perfor-

mance of a bond. If the fall in the bond price is less than the coupon payment, the holding period return will be negative

$$\text{Holding Period Return} = \frac{\text{Price Gain} + \text{Coupon Payment}}{\text{Purchase Price}}$$

Current Yield

The current yield is the coupon payment as a percentage of current market price. With the help of current yield, the investor can know the rate of flow of cash flow from their investment, every year.

$$\text{Current Yield} = \frac{\text{Annual Coupon Payment}}{\text{Current Market Price}}$$

Yield to Maturity

Yield to Maturity is the rate of return that an investor forecasts to earn if the investor holds the bond till the maturity

$$\text{Yield to Maturity} = \frac{\text{Coupon Interest} + (\text{Premium or Discount} / \text{Years to maturity})}{(\text{Present Value} + \text{Face Value}) / 2}$$

Bond Duration

Bond duration is simply the pack back period of the bonds based on the money invested on it

$$\text{Macaulay Duration} = \frac{\sum_{t-1}^{n} \frac{t * C}{(1+i)^t} + \frac{n * M}{(1+i)^n}}{P}$$

Bond Returns

Bond returns can be calculated using holding period return, current yield, yield to maturity and bond duration

Holding Period Return

When an investor buys a bond and sells it after holding it for a while, the rate of return in that holding period is called holding period return. The holding period return is also called a one-period rate of return. This return can be calculated daily, monthly or annually. If the fall in the bond price is greater than the coupon payment, the holding period return will be negative.

Let us see the holding period return of top five active bonds traded in National Stock Exchange of India

BOND ISSUER	HOLDING PERIOD – ONE YEAR		COUPONPER BOND	HOLDING PERIOD RETURN
	AVERAGE PRICE ON APRIL 1, 2014	AVERAGE PRICE ON MARCH 31, 2015		
ECL Finance Ltd	1005	1016.57	116	12.69%
India Infoline Housing Finance	970.82	1011.15	115.2	16.02%
Muthoot Finance ltd	1047.98	1063.08	122.5	13.13%
National Thermal Power Corporation Limited	1015	1105	86.6	17.39%
State Bank of India	9800	10493.75	945	16.72%

Source: nseindia.com

The holding period returns of the top performing five bonds in National Stock Exchange of India are given in the table. The buy price of the bond, current market price and the coupon payment by the issuer are the variables used to calculate the holding period return and minimum holding period return among the top five bonds is 12.69% which is greater than fixed deposits interest rates of any bank and the maximum holding period return among the five bonds is 17.39%. Thus the holding period of bonds clearly explains how profitable the bond investment is? And the same is shown in the following chart

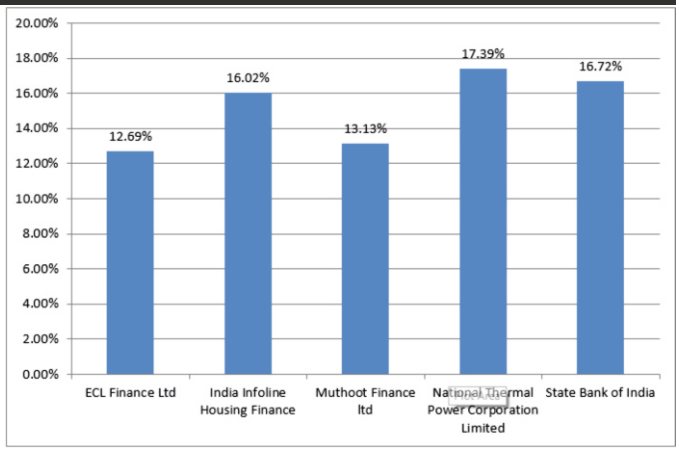

Chart: Holding Period Returns of Top Active Bonds in NSE

Current Yield

The current yield is the coupon payment as a percentage of current market prices. The current yield of the top five bonds traded in National Stock Exchange of India. The current yield is calculated from the average bond price of bonds till September 25,2015 is given in the following chart

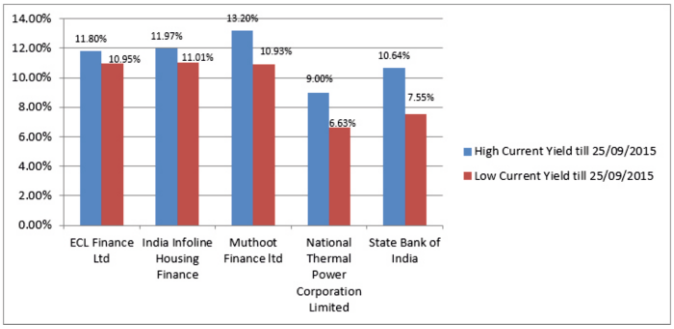

Chart: The current yield of Top Active Bonds in NSE

The high and low current yield is given in the chart and all the high current yields except NTPC are above the bank fixed interest rates and the low current yield except SBI are above the bank interest rates. This is happened because the maturity period NTPC and SBI are 10 years and 15 years respectively and the others are 3 years and 5 years. Since the maturity period is long the price volatility is high and the makes a big difference in their high and low current yields. This doesn't mean that bonds with high maturity is not good to invest, bonds of long maturity period brings more coupon and highly liquid when compared with low maturity period bond and they will pay back your investment faster than others.

Yield to Maturity (YTM)

The concept of yield to maturity is one of the most widely used tools in bond investment management. In simple words, yield to maturity is the rate of return that an investor can expect to earn if the bond is held till maturity. The yield to maturity is considered as one of the very important criteria in the secondary market. In the secondary market the yield to maturity is calculated every second, which influences the bond price. The average Yield to Maturity of the five active bonds of National Stock Exchange of India, till 25/09/2015 is as follows.

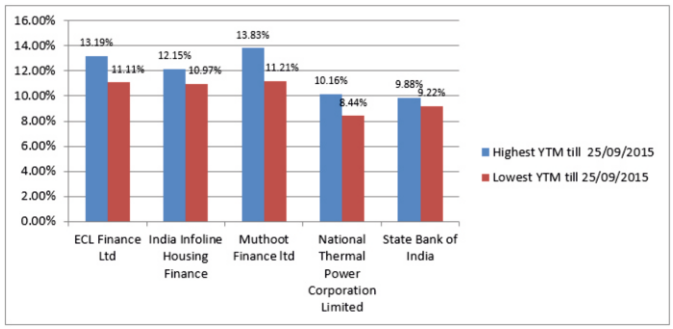

Chart: Yield to Maturity of Top Active Bonds in NSE

The above chart shows the yield to maturity of bonds traded in secondary market. The yield to maturity of bonds with 3 years and 5 years maturity period is more than the bond with maturity period of 10 years and 15 years because the chart show the yield to maturity till 25/09/2015 which calculated every day in the secondary market which is taken as one of the factor to buy and sell the bond. Since the bond of NTPC and SBI is having long maturity period which makes it specu-

lative friendly to the investors and it will highly volatile. The volatility increases the price bands and so it seems to have fewer yields to maturity. In real the bonds with long maturity period will give more yields if it is held till maturity and the liquidity is more in such bonds

Bond duration

Bond duration measure the time structure of a bond and the bond's interest rate risk. The time structure of investment in bonds is expressed in two ways. The common way is to state how many years an investor has to wait until the bond matures and the principal money is paid back. This is known as asset time to maturity or its year to maturity. The other way is to measure the average time taken for all interest coupons and the principal to be recovered. The duration is defined as the weighted average of periods to maturity, with the weights being present valued of the cash flow in each period. Bond duration is calculated using the annual coupon, current yield to maturity, number of years, and present value of cash flow.

The bond duration is also considered as a measure of the sensitivity of the price of bonds to change in the interest rates. In simple words rising interest rates means falling bond price and vice versa.

The bond duration of top five bonds traded in National Stock Exchange of India is as follow

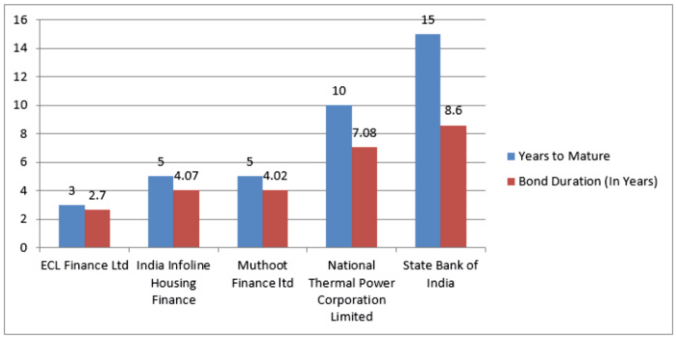

Chart: Bond Duration of Top Active Bonds in NSE

While comparing the bond duration of the top active five bonds, it is clear that the bond duration of bonds will decrease in the maturity period in long and vice versa.

Findings

- The bonds are one of the best fixed income debt instruments
- The bond gives more returns than bank deposits, the minimum returns of the bonds analyzed in this analysis is 12.69% and the maximum returns is 17.39%
- The bonds are highly liquid and profitable too, the current yield of the bond, which is the ratio of annual interest of the bond and current market price of the bond, shows very profitable figure. This shows that the bonds and profitably liquid
- When a bond is held till maturity, it will definitely give a very good returns and based on this the value of bonds in secondary market will also appreciate, which will enhance the liquidity of the bonds
- The payback period of the bonds is always less when compared to the payback period of other debt instruments. The bonds which have long maturity period will have low payback period.
- The bond has more risk than bank deposits, insurance and chit funds but it will compensated with returns

Conclusion

People invest their savings not only to earn more but also to hedge against the growing inflation rate. Todays hundred rupees is not the same after one year, so everyone should invest the money which they saved out of their income. The investment made in bank fixed deposits and recurring deposits given a fixed returns based on the prevailing bank rates. If an investor expects more than that and not ready to bear a high risk means, he can opt bonds to invest. If the investor feels that finding the best bonds and to manage the investment is difficult means he can investment in bonds though debt dominated mutual fund schemes.

REFERENCES

1. Gaurav Kabra , Prashant Kumar Mishra , Manoj Kumar Dash (2010)," Factors Influencing Investment Decision of Generations in India: An Econometric Study" available at http://ipublishing.co.in/ajmrvol1no1/EIJMRS1025.pdf
2. Dr. C. M. Shinde, Ms. Priyanka Zanvar (2014), "An empirical study on factors influencing in investment decision making in Pune" available at INTERNATIONAL RESEARCH JOURNAL OF MANAGEMENT AND COMMERCE VOLUME-1, ISSUE-6 (September 2014) ISSN: (2348-9766)
3. Dr. ManasChakrabarti (2013) "CORPORATE BOND MARKET IN INDIA: AN EMPIRICAL STUDY" available at http://www.abhinavjournal.com/images/ Commerce_&_Management/Sep13/7.pdf
4. Nath, Golaka (2012): Indian corporate bonds market –an analytical prospective available at https://mpra.ub.uni-muenchen.de/38992/1/MPRA_paper_38992.pdf
5. Rituparna Das (2013), "Nature of Corporate Bond Yield Curves: The case of India" available at http://www.nse-india.com/research/content/res_WorkingPaper10.pdf
6. AnupamMitra (2009), "Why Corporate bond market in India is in Nelson's low level equilibrium trap for so long?" available at http://www.nseindia.com/content/press/NS_mar2009_2.pdf
7. Shawn M. Forbes, John J. Hatem, and Chris Paul (2008), "Yield-to-Maturity and the Reinvestment of Coupon Payments" available at http://www.economicsfinance.org/jefe/econ/ForbesHatemPaulpaper.pdf
8. Security Analysis and Portfolio Management, Second Edition by Punithavathy Pandian
9. https://www1.nseindia.com/products/content/debt/corp_bonds/cbmhist_data.htm