

Assessing Factors Influencing Investors' Preference Towards Municipal Bond in Bangladesh

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Abstract

There has been much interest among the researchers to find out future prospective of municipal bond in Bangladesh. Especially as Bangladesh has become a developing country, the necessity of an efficient bond market has raised the concern. However, people are more interested in the money market. This paper has tried to find out the impact of possible internal and external factors, which can influence a municipal bond investment decision. With the help of secondary data, it has been found that fundamental factors such as yield to maturity can influence the investors' decision whereas; external environment like the political condition of the country doesn't play any impact here

Keywords: Municipal bond, External environment, Fundamental features, Investment decision.

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1. Introduction

The financial market is the main pillar of economic growth for any country. It ensures the flow of fund from the surplus group to the deficit. It comprises of both capital market and money market. Capital market is standing for long term financing, while money market represents short term financing. The bond market is a part of this capital market.

Bangladesh bond market plays a very small role in the current economy. This market is mainly dominating by treasury debt securities. As of today, only a few listed corporate bonds and few unlisted are trading in the market (Uddin, J. and Sultana, N. 2013). Though the presence of corporate bond can be noticeable still the existence of municipal bond is invisible. Almost 70% of the domestic savings are kept in the form of bank deposits, while only 30% are debt market investments which are entirely dominated by government instruments (Jahur, S.M. & Quadir, N. 2010).

The main objective of this paper is to contribute to the development of an effective government bond market. As a municipal bond is one of the important instruments for an active government bond market, the paper aims to know the potential investors' preferences regarding investment decision on municipal bonds. It aims to identify whether fundamental features of bond can affect the bond investment decision. Moreover, the paper also aims to identify the external environment's influence on the investors' bond investment decision.

2. Literature Review

2.1 Bond vs. Municipal Bond

A bond is a fixed interest financial asset issued by governments, companies, banks, public utilities, and other large entities. Bonds pay the bearer a fixed amount on a specified end date (Shubik, 1999). There are different types of bonds, among them, one is municipal bond. It can be issued by local government, cities, countries, etc. and this is a type of loan investors provides to the government (Dove, J. 2016). Generally, municipal bonds offer a higher level of the income tax bracket and a higher level of the interest rate. As a result, this financial instrument is considered as a less risky and safest investment instrument (Schultz, P. 2012).

2.2 Contribution of municipal Bond in Different Countries

It is a common practice for first world countries, to issue municipal bonds for arranging funds in order to infrastructure development. In the United States, bonds issued from government or government agencies are used to finance a wide range of public projects such as ports, airports, highways, sewage, hospitals, and colleges. (Suk Huyn, 2008). Again the Polish legislature made amendments to the Polish Law on Bonds in 2001 to allow certain entities to issue revenue bonds to facilitate the financing of public services. It was expected that the introduction of an innovative financing instrument would enable a new class of investors to finance infrastructure for the first time in Poland. (Suk Huyn, 2008).

For the last fifteen years, municipal borrowing in Canada is on the rise (Fieracapital.com. 2019). Canada's municipal bond market is dominated by two different types of obligation. This market has increased significantly from 2.8 percent in 2008 to 7 percent in 2013, which reflects municipalities' favorable credit conditions (Hanniman, K. 2015).

2.3 Bond Market in Bangladesh

In Bangladesh, it is a common practice to arrange a loan from donors like the World Bank, ADB, etc. Such loans contribute to the development but at the same time, it increases the country's dependency over others. A country should use such an option on a limited scale but they should not rely on it all the time. Issuing bond can be considered as a great alternative to arrange finance (Islam, M. and Jahan, S. 2012). There is no need to choose a single instrument between bond and loan as the right way to handle local government credit. Many countries simultaneously use bank lending to municipalities and local bond issuance (Peterson, 2006). The policy rationale, however, justifies emphasizing the development of local bond markets (Alam et al. 2016). The public monitoring and public disclosure required for efficient bond market operation are consistent with greater transparency for all public financial transactions (Cuny, C. 2018). Currently in Bangladesh municipal bond hasn't been introduced. At the present time in Bangladesh, most of the companies or individuals prefer to take a loan or to keep deposit instead of investing in bonds. One of the main reasons is people are mostly aware of such options; they never think about managing the portfolio to avoid risk. Moreover, the interest rate of all saving instruments has increased to make them more attractive to investors. Such steps are working as barriers for the efficient bond market (Guarantco.com, 2019).

During 2013, when Bangladesh was going through a political crisis; banks & other financial institutions suffered from excess liquidity problem. Bangladesh Bank solved this situation by selling more T-Bills and T-Bonds. Bangladesh has evidence of government bond's contribution to solving the economic crisis, which indicates the availability of municipal bond can bring the blessing of economic prosperity as well (Chandra Das, B. 2014).

2.4 External Environment for bond investment

Importance of certain external factors on the investment decision has been analyzed in different papers. Social, political, legal, economical factors can be considered as External environments for bond investment (Marszałek, J. 2015). Białowolski, P. and Białowolska, D. W. (2013) have highlighted some of the external factors' influence in investment decision in Poland such as legal environment, macroeconomic factors, etc. According to Musazi et al., (2006) their research on banking industry shows tax law changes has an impact on the interest income from the municipal bond. The research conducted over 73 banks in the USA, as an investor will earn fewer amounts, their interest in municipal bond also declines. Besides these, it has also been found that the introduction of the euro currency in the European Union has influenced the bond market (Philippas, D. and Siriopoulos, C. 2014).

2.5 Fundamental features of bond

Some of the fundamental features of a bond are maturity, interest rate, tax bracket, liquidity, etc. (Park, S. 1995). Changes in these features can impact in the bond market, which has been studied in different parts of the world (Levine, H. and Greaves, P. 2013). According to Chopin, M. (1998) in the USA, changes in the maturity structure of other investments options, such as treasury borrowing can impact on the rate of return and municipal debt market.

For smooth operation, an important bond market should operate well. This indicates the availability of both efficiency and liquidity (Jong, M. 2013). Efficiency indicates bond prices incorporate all available information. It facilitates investors to invest more in the bond market and liquidity implies the reduction of bond market's transactions costs for investors (Chtourou, H. 2015).

Various researchers across the world have worked to analysis the bond market and its contribution to the economy but in Bangladesh, it has been always ignored to analyze investors' perspective while taking an investment decision. Moreover, most studies in Bangladesh focuses on the bond market while ignoring municipal bond. To cover this knowledge gap, the following null hypotheses have been developed based on the literature review:

Hypothesis

1. H_0 : Decision on investing in Municipal Bond is not highly influenced by fundamental features of the bond.
2. H_0 : Decision on investing in Municipal Bond is not highly influenced by external environment.

The alternative hypotheses are given below:

1. H_a : Decision on investing in Municipal Bond is highly influenced by fundamental features of the bond.
2. H_a : Decision on investing in Municipal Bond is highly influenced by external environment.

3. Methodologies

To conduct the hypotheses primary data has been collected by conducting a survey. A survey has been conducted over 270 share market investors from different investment houses. As the population size is very high it is widely acceptable to prepare a sampling frame and take probability sampling (simple, stratified, or systematic) (Thompson, 2002). As taking probability sampling from such a big population is very expensive and

time-consuming, non-probability sampling has been applied here. The sampling is done by using the quota sampling method. The quotas are selected based on three different points.

- Age of consumer
- Earning level of consumer
- Investment level of consumer

In order to overcome the limitation of non-probability sampling, this study is highly concerned about the proper representation of the real population. So cross matching is done to make sure proper representation and sampling is done under 9 different quotas. At least 30 respondents have been collected under each quota.

Proportion of Earning & Investment Level \ Age Group	Bellow 50,000 taka	20,000 to 50,000 taka	More than 50,000 taka
20 to 30 years	30 samples	30 samples	30 samples
30 to 40 years	30 samples	30 samples	30 samples
40 to 50 years	30 samples	30 samples	30 samples

As most of the findings are qualitative, measurement is done based on the statistical relations between the variables. The Likert scale was used here to rank the preference of the investors and to present the analysis in a more acceptable and logical manner. Consumers' qualitative characteristics (dependent variable) such as age, earning level, income level has compared with the other factors (independent variables) by cross-tabulation, which also includes the Chi-Square tests. That will give a proper figure of confidence about the reliability of this study. For conducting cross-tabulation, linear regression, frequency analysis Microsoft Excel, SPSS 24 has been used.

4. Data Analysis

Categories	Minimum consideration	Low consideration	Ambivalent	High consideration	Maximum consideration
Life of long term bond	5.3%	0	0	31.6%	63.2%
Current anti-corruption system	7.9%	65.8%	23.7%	2.6%	0
Stable political condition	2.6%	7.9%	28.9%	60.5%	0
Active secondary market	0	0	0	10.5%	89.5%
Yield to maturity	0	0	0	68.4%	31.6%

If the investors get an opportunity to invest in a Government bond or in other words a municipal bond, preference for investment varies depending on the features of bond. The percentage distribution of different fundamental preference is presented in Table 2. In this study, the priority for different features was tried to view from different perspectives. With the help of the Likert scale, it is tried to identify the preference level as well. 63.2% people prefer to invest in long term bond, here it needs to be mentioned that as bonds are part of the capital market, which is standing for long term investment, people's preference indicates that they are interested in investing by knowing the right purpose of the bond.

4.1 Test of Hypothesis 1

For testing the hypothesis, regression has been run; the significance level has considered 10% (.01). It means if the significance level is more the 10% then the reliability of the test can be ignored.

Independent variable: Life of long term bond, Yield to maturity, Active secondary market

Dependent variable: Investment amount in Municipal bond

Step 1: Hypothesis

$H_0: \beta = 0$ (Investment amount is not influenced by fundamental factors of bond) $H_a: \beta \neq 0$ (Investment amount is influenced by fundamental factors of bond)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.545(a)	.297	.235	.716

Step 2: Measuring R square

Here R square is 29.7%, which measures the proportion of the variation in the dependent variable (investment amount) that can explain by variations in the independent variables

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.345	3	2.448	4.779	.007(a)
	Residual	17.418	34	.512		
	Total	24.763	37			

Step 3: Checking significance

Here the significance value is .007. As this value is less than 0.1, so the result from the regression will have the reliability.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.226	2.630		-.847	.403
	Life of bond	-.253	.160	-.294	-1.578	.124
	Active secondary market of bond	.405	.496	.154	.816	.420
	Yield to maturity of bond	.800	.265	.461	3.017	.005

Step 4: State conclusion

From the result of the above table following equation can be constructed

$$\text{Investment amount} = -2.23 - 0.253(\text{Life of long term bond}) + 0.405(\text{Active secondary market}) + 0.800(\text{Yield to maturity})$$

As from the table, it can be found that $\beta \neq 0$, so null hypothesis is rejected. It can be concluded as the investment amount is influenced by different fundamental factors of the bond like, life of long term bond, yield to maturity and active secondary market.

4.2 Outcome of Hypothesis 1

By analyzing the regression, for hypothesis 1; it can be stated that the null hypothesis is nullified. It means investment decision is going to be influenced by different fundamental factors of the bond. Besides this, from the preference table, it can be found that more than 60% of people are considering different fundamental factors of bond as a major issue while making the investment decision. By considering all this information, it can be strongly stated that different fundamental factors of bond are important to establish the government bond/ municipal bond market.

The implication of this analysis is if the government decides to go for bond issuance for infrastructure development then they need to offer an attractive yield to maturity and have to establish an efficient secondary market as well. As there are other investment options in the market, so to attract the investors it is important to offer a high yield. Again an active secondary market ensures the liquidity of bonds, which plays a great role to attract the investors. It needs to be mentioned here that recently the government has launched a secondary market for bonds. So, at the present time, there are opportunities for the government to go for bond issuance for public infrastructure development.

4.3 Test of Hypothesis 2

To test this hypothesis significance level has been considered as 10% as well.

Independent variable: Current anti-corruption system, Stable political condition.

Dependent variable: Investment amount

Step 1: Hypothesis

H₀: $\beta = 0$ (Investment amount is not influenced by external environments) H_a: $\beta \neq 0$ (Investment amount is influenced by external environments)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.179(a)	.332	-.023	.828

Step 2: Measuring R square

Here R square is 33.2%, which measures the proportion of the variation in the dependent variable (investment amount) that can explain by variations in the independent variables. From this finding it can be stated that around 33% of the total population of dependent variable can be explained by the independent variable.

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.794	2	.397	.580	.565(a)
	Residual	23.969	35	.685		
	Total	24.763	37			

Step 3: Checking significance

Here the significance value is 0.565. As this value is too high and more than 50%, so the result from the regression will not have any reliability and this regression need to be rejected.

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.584	.738		2.147	.039
	Current anti- corruption system	.237	.222	.180	1.066	.294
	Stable political condition	-.009	.182	-.008	-.047	.963

Step 4: State conclusion

From the result of the above table we can construct the following equation

Investment amount = 1.584 + 0.237(Current anti-corruption system) - .009 (Stable political condition)

As from the table, it can be found that $\beta \neq 0$, so null hypothesis can be rejected. But as the significance level is very high so this regression does not have any reliability. As a result null hypothesis gets established.

4.4. Outcome of Hypothesis 2

After completing the above regressions, 2nd hypothesis can be concluded as the null hypothesis can't be rejected. It means bond investment decision is not influenced by the external environment. As the regression has very high significance, this has established the null hypothesis.

The outcome of this hypothesis can be explained as, if the present government goes to offer bond for infrastructure development, current anti-corruption system is not going to work as a boundary for this. As the country has gone through the election last year and people are predicting to have a stable political condition, this factor is not influencing the investors' decision.

5. Conclusion & Future Scope

The bond market plays an important role in the smooth running of a country's economy. A municipal bond is a vital element of this pillar. As Bangladesh has started its journey to be a developing country, this is the crucial time to establish an effective municipal bond market. This sector has a lot of opportunities to contribute to the economy. From the above study, it can be clearly identified that attractive fundamental features of a municipal bond can motivate investors to participate in this market and current external environment will not create any obstacle in the establishment of an efficient bond market.

Researchers have numerous opportunities for conducting in-depth study in this sector. Before introducing municipal bond, it is important to conduct research to know details about investors' knowledge level regarding the municipal bond market. Moreover, further research needs to be done to find out the impact of tax rebate in municipal bond preference.

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