Long-term financing: a critical assessment of the bond market in Bangladesh and the way forward

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Abstract: The paper critically assessed the bond market of Bangladesh aiming to provide policy suggestions for developing a fixed-income securities market for financing long-term initiatives of the Government as well as the corporate sector. The paper covers the sequential development of the bond market in Bangladesh, determinants of the Government bond market (GBM), and constraints and ways out for the development of the bond market in Bangladesh. As per the findings, the paper has suggested a host of remedial measures regarding the improvement of macro-economic and financial conditions, soundness of law and order situation; active primary and secondary market; investor diversity; and other issues like selecting benchmark securities, forming yield curve, removing tax intricacy, enhancing capacity of the regulators, creating awareness among issuers and investors and adding new financial products to develop a vibrant bond market in Bangladesh as an alternative avenue of long term finance.

Keywords: long-term finance; government bond; corporate bond; ARDL; autoregressive distributed lag model; VECM; vector error correction model; primary market; secondary market; investors; issuers.

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1 Prelude

1.1 Introduction

Long-term financing[1] is often contemplated to be at the core of sustainable financial development. It reduces rollover risk for borrowers, thereby lengthening the horizon of investments and improving performance (World Bank, 2015–2016). Long-term financing tools also increase the availability of long-term financial instruments for investors, thereby creating scope for households and firms to invest for long tenure to address their life cycle challenges (Demirguc-kunt and Maksimovic, 1998, De la Torre et al., 2012; Smaoui et al., 2017). This category of finance contributes to faster economic growth, greater welfare, shared prosperity and enduring stability (World Bank, 2015–2016). However, long-term finance is used to a lesser extent in Bangladesh; it results in a slowdown of investment and growth. Academicians and policymakers acknowledge that as the Government of Bangladesh (GOB) has continued its reliance on a deficit budget incrementally to do rapid infrastructure development and corporate units are moving towards capital-intensive operation with huge investment, the economy needs to create more avenues for providing sufficient long-term finances like a developed bond market (Rahman et al., 2016; Rahman et al., 2020; Hassan et al., 2020).

The current status of Bangladesh's Government bond market (GBM) has not reached the level where it could have been, even though the bond market is flourishing worldwide (Banerjee et al., 2019). The size of the Bangladesh government bond market, which is 9.79% of GDP, is very tiny compared to other selected Asian countries. The largest GBM as a percentage of GDP is experienced by Japan (220.77%), followed by Malaysia (69.50%), China (69.10%), India (64.00%) and Thailand (50.48%) (Bangladesh Bank, 2021–2022; Other Sources[2]). On the other hand, the corporate bond market is almost nonexistence in Bangladesh. The outstanding amount of corporate bond is only about 0.02% of GDP in Bangladesh (Bangladesh Bank, 2021–2022) whereas this percentage in Malaysia, China and India were 43.41, 20.11 and 2.5, respectively as of March 2019 (Akter et al., 2019).

A good number of researches have revealed that a well-developed bond market is essential to financing long-term initiatives of the Government and corporate sector (Boukhatem et al., 2021; Smaoui et al., 2017; Hassan et al., 2020). Further, each bond market is independent and positive externalities with respect to economic growth, financial inclusion, and financial stability. They represent an important component of a diversified finance sector (Burger et al., 2015; Obalade et al., 2023). This market links issuers' initiatives where long-term finance is required with investors' expectation of risk-free interest-bearing long-term securities and assists in financing government deficits, maintaining economic stability, developing infrastructure, and providing capital for long-term growth. However, no research was undertaken to find out the determinants of bond market in the context of Bangladesh considering the macroeconomic, financial and institutional variables as well as challenging path of development of the bond market on the back of huge prospects of bond market in Bangladesh. But, any initiative to develop a bond market without addressing the institutional and policy problems might turn out to be unsuccessful and also costly for development. To fill this academic gap through providing a detailed story as to how can the bond market in Bangladesh be developed, the present endeavour has been undertaken. The findings of the study will be worthwhile for the policy makers to develop an active bond market in Bangladesh that could be used by the Government as well as corporate units for sourcing long term finance for their development activities. This study has been conducted by covering both Government and corporate bond market. However, as the study was assigned under the project titled "Strengthening Public Financial Management Program to Enable Service Delivery (SPFMS)" aiming to update the Government debt sustainability analysis, more emphasis has been given on the analysis of the GBM.[3]

With this backdrop, the present paper attempts to tracing out the sequential development of the bond market in Bangladesh followed by examining the anatomy of the bond market, finding out the determinants of the bond market and locating the constraints of and way out for the development of the bond market in Bangladesh. The paper finds that GBM of Bangladesh is far behind other Asian countries and corporate bond market is almost nonexistence here. The GBM is characterised by dominance of non-market instruments, manual process of trading, lacking of active yield curve, bank-based investors pattern whereas corporate bond market suffers from dearth of strong issuer and investor base and absence of public placement market. Using time-series econometrics, the paper documents that macroeconomic variables like the size of the economy, inflation and external debt can significantly influence the development of GBM in Bangladesh. These results are in the line with the findings of previous studies (Boukhatem, 2021; Khalid and Rajaguru, 2018). In case of impact of financial sector, a

positive connection between GBM with the size of the banking sector and interest rate spread has been demonstrated. These results corroborate with the existing literature like Eichengreen and Luengnaruemitchai (2004). Law and order situation has also significant positive impact on progression of GBM. The paper suggests for regularising auction calendar, creating separate authority for dealing National Saving certificate(NSS), activating secondary market for Government securities, diversifying investors, addressing tax intricacy, introducing new products among others are necessary for a vibrant GBM whereas expansion of issuer and investor base, liquidity of the secondary market, ensuring accountability of trustee and strengthening credit rating agencies are found as imperatives for development of corporate bond market in Bangladesh.

1.2 Literature review

In the previous large body of literature, researchers have come to different conclusions about the constraints and determinants of both the Government and corporate bond market which are reviewed in this part.

1.2.1 Literature review on the government bond market

Constraints and challenges in the development of the government bond markets

The literature underscores challenges related to interest rates and inflation, significantly impacting the stability and attractiveness of government securities in Bangladesh (Sultana, 2022; Hassan et al., 2020). The volatility in economic factors poses a substantial hurdle to the development of a robust GBM. The absence of proper instruments and the dominance of the banking sector as investors present significant challenges to the development of GBMs in Bangladesh (Hassan et al., 2020). Policy-related challenges, such as the absence of necessary guidelines, hinder the development of government securities in Bangladesh (Hassan et al., 2020). Furthermore, Bangladesh grapples with the challenge of detrimental yield, hindering the efficient functioning of the market (Sultana, 2022). Hassan et al. (2020) emphasise the obstacle of unfavourable turnover, potentially impeding the development of an efficient GBM in Bangladesh. Regulatory and settlement-related barriers, including the lack of international standards, further impact the market structure (Bhattacharyay, 2013). Studies on GBM development in Asia highlight common barriers, including limited market infrastructure, weak regulatory frameworks, and a small investor base (Tendulkar, 2015; Burger et al., 2015). Challenges such as transparency, liquidity, and market-making issues persist, even in developed countries (Banerji et al., 2012).

Determinants of the government bond market

A large economy often provides a more extensive platform for government securities. Financial factors, including interest rate volatility, interest rate spreads, and fiscal deficits, play a significant role (Lee et al., 2022; Mu et al., 2013). Government securities market capitalisation is directly related to interest rate volatility, inversely related to fiscal deficits, and affected by interest rate spreads. Institutional factors, such as bureaucratic quality and the presence of better institutions, are associated with larger bond markets (Smaoui et al., 2017; Mu et al., 2013). The level of financial integration is a determinant that affects the GBM (Huong, 2020). Higher financial integration can contribute to a

more liquid and accessible market. The dominant banking sector complements the development of the GBM (Lee et al., 2022). The size of the banking system is also a factor influencing government bonds (Bhattacharyay, 2013; Smaoui et al., 2017). It reflects the maturity and readiness of the economy for a robust bond market. Exchange rate fluctuations impact the GBM (Huong, 2020). Stable exchange rates contribute to a more predictable investment environment. The level of monetary freedom is a determinant affecting government bonds (Huong, 2020). Higher monetary freedom may attract investors by providing a transparent and flexible monetary policy environment.

1.2.2 Literature review on the corporate bond market

Constraints and challenges in the development of corporate bond markets

Hossain (2012) outlines weak regulations and market infrastructure, a limited investor base, capital gain concerns, reliance on alternative debt financing sources, illiquid assets in the secondary market, underdeveloped tax systems, high-interest rates, availability of cheap syndicated loans, and defaults on interest payments, high inflation, and limited private management of pension funds as significant barriers to developing the corporate bond market in Bangladesh. Sultana's (2022) analysis highlights challenges in Bangladesh's corporate bond market, including interest rate disparities, reliance on bank borrowings, insufficient market knowledge, elevated interest rates, a scarcity of competent companies, and the dynamic nature of the business environment. Similarly, corporate bond development in Bangladesh faces distinct challenges, including regulatory hurdles, time-consuming processing of formalities, high interest rates, a lack of market awareness, a limited number of companies, and the volatility of changing market circumstances (Rahman et al., 2012; Hassan et al., 2020).

Determinants of the corporate bond market

Ib and Dg (2018) focus on limiting factors like private placements, low demand, unattractive yields, default and settlement risks, and stringent rating benchmarks. Ying and Mansur (2022) highlight yield to maturity's influence and its impact on coupon rates and inflation. Thukral et al. (2016) explores diverse factors, including financial infrastructure, regulatory frameworks, credit assessments, demand and supply dynamics, retail participation, issuance costs, and the crowding-out effect. Teplova and Sokolova (2017) examine the impact of local currency devaluation and inflation on bond markets. Mu et al. (2013) unveil the intricate interplay of economic size, development, institutional quality, interest rates, spreads, and current account openness in shaping bond market capitalisation. Lee et al. (2022) find that a dominant banking sector complements GBMs but may negatively impact corporate bond markets. Aman et al. (2020) identify various factors influencing bond market development, including foreign direct investment, exports, economic size, development stage, interest rates, government spending, banking system, current account balance, and stock market development.

Previous studies use either primary data or secondary data and concentrate on a single aspect of bond market development of an economy. Our study provides insight into three areas of bond market of Bangladesh namely anatomy of bond market of Bangladesh, determinants of GBM and constraints and way out for the development of bond market in

Bangladesh by using a unique research setting based on both primary and secondary data. Further, in finding out the determinants of GBM, we have used three econometrics models separately covering macroeconomic and financial factors, and law and order situation, respectively which are also a new initiative in the context of Bangladesh. This study contributes to the literature on the development of a bond market in a developing economy like Bangladesh and has important implications for practice.

The remainder of this paper proceeds as methodology, sequential development of the Bond Market in Bangladesh, results and discussion consisting of anatomy of the Bond market, empirical analysis, and constraints and way out for the development of Bond market in Bangladesh, respectively. Findings along with a set of policy suggestions for the Bond market development in Bangladesh have been placed in Section 5 and finally conclusion of the study has been placed in Section 6.

2 Methodology

The overall methodology of the study is a mixed method using both primary and secondary sources covering qualitative as well as quantitative data.

2.1 Primary data

The primary data have been collected by administering semi-structured questionnaires from authorities involved with issuing Government Securities[4] and corporate debt securities as well as investors in G-sec and corporate bonds. Two sets of semi-structured questions, one for primary dealers (PDs) and the other for non-PDs, have been administered. The questionnaires have been sent to all banks (21 PDs and the remaining non-PD banks); however, 18 PDs banks and 13 non-PD banks have sent back their response in the questionnaires. A questionnaire has also been sent to Bangladesh Bank. In collecting data on corporate bond, a questionnaire has been prepared for the merchant banks. Besides collecting data through questionnaires, focus group discussion (FGD) and key informant interviews (KII) are also conducted to get complimentary information side by side with responses in the questionnaires. Two FGDs, one conducted online with 21 participants and the other on the premises of the Dhaka Stock Exchange with 27 participants, have been conducted with the academicians and specialists from the Ministry of Finance (MoF), Bangladesh Bank, Bangladesh Securities and Exchange Commission (BSEC), National Board of Revenue (NBR), Exchange Houses, Banks and NBFIs having Merchant Bank wing and Chambers of Commerce. A number of KIIs have been conducted with a Former Comptroller and Auditor General (CAG), a number of Joint and Deputy Secretaries serving in departments/wings like Debt Management, Budget-1, Monitoring Cell and National Pension Scheme, a Member of BSEC, Managing Directors of Banks, Representatives of Bangladesh Bank and a good number of Head of Treasury Department of banks and merchant banking wing of banks. Finally, Finance Division, Ministry of Finance has arranged a validation program on the draft report with a number high officials of Government, Bangladesh Securities and Exchange Commission (BSEC) Bangladesh Bank and Other stakeholders. The paper has been finalised by considering the issues raised in this program.

2.2 Secondary data

The secondary data have been collected from World Development Indicators of the World Bank and different publications of Government of Bangladesh and its different wings like Ministry of Finance, Bangladesh Bank, Bangladesh Securities and Exchange Commission (BSEC), National Board of Revenue (NBR), Insurance Development and Regulatory Authority (IDRA), Dhaka Stock Exchange (DSE), and Chittagong Stock Exchange (CSE). Relevant websites of banks or other financial institutions at home and abroad have also been visited.

Different statistical and accounting tools such as ratio analysis, simple growth rate, and Compounded Annual Growth Rate (CAGR) have been applied to analyse the collected information. The study has followed the time series econometric analysis only for GBM by formulating three models.[5]

2.3 Empirical methodology

In the empirical analysis, we follow the similar approach of Claessens, klingebiel and Schmukler (2007) and Echenengreen and Luengnaruemitchai (2004). The paper investigates the determinants of GBM development in Bangladesh classifying independent variables into three groups namely macroeconomic, financial and quality of institutional factors in three separate equations. The set of macroeconomic factors cover variables namely the size of the economy measured by GDP at Purchasing Power Parity (Yp), External Debt (ED), Inflation (INF) and Deficit Budget (DB). However, financial determinants include banking sector size proxied by Banks' Credit (CR), the extent of the stock market measured by market capitalisation of the Dhaka Stock Exchange (MC) and interest rate spread (Spread). Finally, institutional factors like Rule of Law Index (LAO) and the Control of Corruption Index (CORR) have been considered. The estimating three separate regression models[6] are specified as follows:

Model I: Macroeconomic Determinants

$$lnGBM_t = \alpha_0 + \beta_1 \ln Yp + \beta_2 lnED + \beta_3 INF + \beta_4 DB + \varepsilon_t$$

Model II: Financial Determinants

$$lnGBM_t = \alpha_0 + \beta_1 lnCR + \beta_2 ln MC + \beta_3 SPREAD + \varepsilon_t$$

Model III: Institutional Determinants

$$lnGBM_t = \alpha_0 + \beta_1 LAO + \beta_2 CORR + \varepsilon_t$$

In this paper, we empirically analyse the main determinants of Bangladesh's GBM using annual observations over the period 1997–2022. As Bangladesh started to issue different types of Government bonds in 1997, we do not have scope to take into account the data before 1997.The data on GBM were collected from Bangladesh Bank. This covers Bangladesh Government Treasury Bonds issued by Bangladesh Bank on behalf of Bangladesh Government while data on macroeconomic and financial variable come from World Development Indicators of World Bank and Monthly Economic Trends of

Bangladesh Bank. The data on institutional indicators come from International Country Risk Guide (ICRG) and Worldwide Governance Indicators, The World Bank.

3 Sequential development of the bond market in Bangladesh

Major initiatives undertaken to develop the government securities (*G-Sec*) *market* (*2011–2022*)*:* Starting with the introduction of the Market Infrastructure (MI) Module for the automation of G-Sec in 2011, several initiatives were undertaken to develop the government securities (G-sec) market in Bangladesh. By 2016, a Government Securities Order-Matching Trading Platform (GSOM) was launched, and 14-day T-bills were introduced. Significant developments continued, with the introduction of a 3-year floating-rate treasury bond (FRTB) in 2019 and a comprehensive bond market framework in 2020. Key milestones in 2022 included a strategic decision to establish a central counterparty (CCP) for G-securities, the issuance of a BDT 80 billion sovereign investment sukuk, and efforts to develop the secondary market yield curve (Appendix Table 1).

Major initiatives undertaken to develop the corporate bond market in Bangladesh (*2012–2022*): In the process of development of the corporate debt market, limited initiatives were found available over the period. Between 2012 and 2022, a number of significant initiatives were undertaken to develop the corporate bond market in Bangladesh. In 2012, the Securities and Exchange Commission introduced rules for the private placement of debt securities. In 2019, the Bangladesh Securities and Exchange Commission (BSEC) established Investment Sukuk Rules to encourage Islamic finance. By 2020, Central Counter Party Bangladesh Limited (CCBL) was set up for clearing and settlement, reducing risks in stock exchange transactions. In 2021, the BSEC introduced Debt Securities Rules, and by 2022, it approved Shariah-based green Sukuk bonds and amended directives for the public offer and direct listing of perpetual bonds. These efforts aimed to strengthen regulatory frameworks and promote diversified financial instruments (Appendix Table A2).

4 Results and discussion

This section covers the anatomy of the bond market of Bangladesh, the determinants of the GBM in Bangladesh, and constraints and ways out for the development of the bond market in Bangladesh.

4.1 Anatomy of government bond market

Financial structure of Bangladesh and selected Asian countries

As expected, Japan and South Korea are well ahead of other countries in terms of financial sector development indicators. Bangladesh stands far behind almost all the selected countries concerning its share of the banking sector, stock and bond market in the economy (Table 1).

Table 1 Financial structure of Bangladesh and selected Asian countries, 2022 (*% of GDP*)

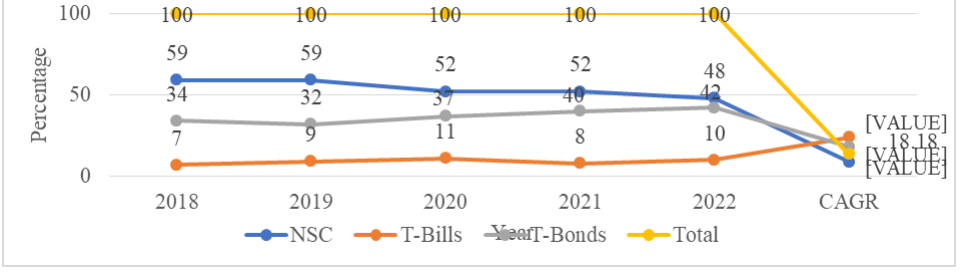
Economy / *Sector*	*Bangladesh*	*India*	*Pakistan*	*Singapore*	*Thailand*	*Malaysia*	*China*	*S. Korea*	*Japan*
Banking system	38.96	50.41	14.7	138.46	121.00	113.48	185.36	175.87	122.54
Stock	9.32	103.7	10.44	132.68	122.00	93.82	63.60	98.75	127.16
Government bond	9.79	64	30.01	36.31	69.50	50.48	69.10	57.43	220.77
Corporate bond	0.32	25	–	27.87	53.99	25.64	36.13	86.65	17.6

Source: Various Sources (https://asianbondsonline.adb.org/; https://www.sebi.gov.in/; https://databank.worldbank.org/home.aspx)

Outstanding balance of NSCs, T – bills and T-bonds

Domestic borrowing by the government mainly comprises public debt in the form of national savings certificates (NSCs), and borrowing by issuing T – bills and T-bonds. The dominance of NSC is noticeable with a share of about 50% over the last 5 years, while the proportion of the T-bonds increased from 34% in 2018 to 42% in 2022. All the debt instruments maintained consistent growth during the study period except for the T-bill in 2021 (Figure 1).

Figure 1 Percentage of outstanding balances of NSCs, T-bills and T-bonds (see online version for colours)



Source: Based on data from the Debt Management Department, Bangladesh Bank

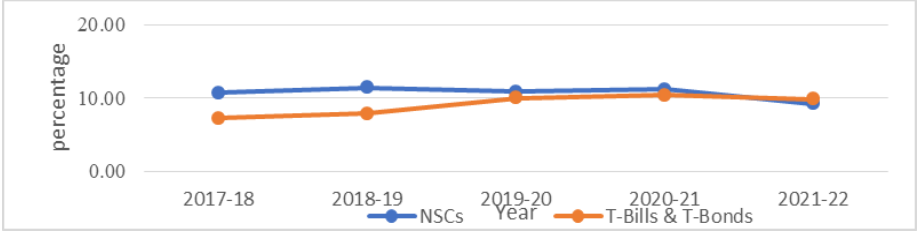
Government debt securities in Bangladesh: non-tradable (NSC) and tradable securities (T-Bills and T-Bonds)

There exists no unidirectional change in government debt instruments over the last 5 years. It changes with a range of 9.19–11.41% and 7.23–10.34% for NSCs and Treasury securities, respectively (Figure 2). The significance of both types of debt instruments measured by percentage of GDP rather than declining in the last reported year goes against the intention and attempt to improve the position of the government debt market in the economy.

Government bonds in Bangladesh: net issuance of T-bonds

There exists a striking difference between the net issuance of 2-year and 5-year bonds. Longer term bonds i.e., 10, 15 and 20-year bonds have been issued increasingly in recent years. So, the pattern suggests a rising contribution of long-term debt instruments to our bond market (Table 2).

Figure 2 Comparison between NSCs and T-bill and T-bonds as a percentage of GDP (see online version for colours)



Source: Based on data from the Debt Management Department, Bangladesh Bank

Table 2 Government bonds in Bangladesh: net issuance of T-bonds (BDT in Crore)

	2-year			*5-year*			*10-year*			*15-year*			*20-year*		
Year	*Issue*	*Repayment*	*Net Issuance*	*Issue*	*Repayment*	*Net Issuance*	*Issue*	*Repayment*	*Net Issuance*	*Issue*	*Repayment*	*Net Issuance*	*Issue*	*Repayment*	*Net Issuance*
2018	6900	5800	1100	5700	8200	(2500)	6800	4800	2000	3000	–	3000	2700	–	2700
2019	9800	4850	4950	9400	7200	2200	8475	4560	3914	4400	–	4400	4400	–	4400
2020	21,200	6070	15,130	20,800	5620	15,180	19,500	2378	17,121	6750	–	6750	7350	–	7350
2021	22,800	12,000	10,800	21,500	8500	13,000	19,500	4750	14,750	6600	–	6600	5950	–	5950
2022	20,000	23,200	(3200)	19,762	5250	14,512.35	19,500	6150	13,350	9465	–	9465.77	10,228	–	10,228

Figures in parentheses are negative figures.

Source: Debt Management Department, Bangladesh Bank

Composition of T-bills and T-bonds

During the period, a considerable variation is revealed in the issued amount of all types of T-Bills. The share of 182-day T-bill remained almost the same ranging between 23% and 28% during the period. Regarding the T-Bonds, the segment of 10-year bonds remained highest all along the period with a share of 32% in 2022 followed by 5-year bonds having 23% share in the same year. The share of the different maturity periods of bond except for the 2-year bond having the lowest share did not undergo major change during the last few years (Table 3).

Government bond market in Bangladesh: outright secondary market transaction of T-bonds and T-bills

The pattern of trading in Over the Counter (OTC) and Trader Work Station (TWS) during the period of 2018–2022 indicates that OTC trading with a share of 99.92% by far exceeds the transaction in TWS mode (Table 4). More on that, the CAGR of TWS volume was negative (–42.92%) against a high level of CAGR (74.53%) in the case of OTC volume. As a single instrument, trading of T-Bills through OTC experienced the highest growth with a CAGR of 123.31%.in the study period.

Table 3 Composition of T-bills and T-bonds: end of June

Issuance	*2018*		*2019*		*2020*		*2021*		*2022*	
	Amount	*%*	*Amount*	*%*	*Amount*	*%*	*Amount*	*%*	*Amount*	*%*
					A. T-Bills					
91-day	12,204.10	46	16,574.45	37	11,998.17	19	11,233.81	22	29,870.28	39
182-day	6,952.18	27	10,887.71	25	17,845.73	28	12,052.77	23	17,825.15	23
364-day	7,188.65	27	16,614.29	38	32,939.62	53	27,982.28	55	29,328.44	38
Total	26,344.94	100	44,076.45	100	62,783.52	100	51,268.85	100	77,023.87	100
					B. T-Bonds					
2-year	10,050.00	7	14,500.00	10	30,700.00	14	44,500.00	17	41,300.00	13
5-year	28,770.00	21	31,470.00	20	46,150.00	21	56,650.00	21	71,162.35	23
10-year	51,849.17	38	55,763.75	36	72,315.00	33	86,565.00	32	99,915.00	32
15-year	23,866.25	18	28,266.25	18	35,016.25	17	41,616.25	16	51,082.02	16
20-year	20,887.20	16	25,287.20	16	32,637.20	15	38,587.20	14	48,815.23	16
Total	135,422.62	100	155,287.20	100	216,818.45	100	267,918.45	100	312,274.60	100
C. Total (A + B)	161,767.56		199,363.65		279,601.97		319,187.30		389,298.47	

Source: Debt Management Department, Bangladesh Bank

Table 4 Government bond market in Bangladesh: outright secondary market transaction of T-bonds and T-bills: end of June (BDT in crore)

Year	*OTC*			*TWS*			*Grand Total*
	T-Bonds	*T-Bills*	*Total*	*T-Bonds*	*T-Bills*	*Total*	
2018	12,370.16	297.24	12,667.40	–	2,667.00	2,667.00	15,334.40
2019	12,797.36	5,491.98	18,289.28	–	20.54	20.54	18,309.82
2020	50,470.90	9,005.18	59,476.08	–	3.24	3.21	59,479.32
2021	105,876.50	30,213.60	136,090.10	1,382.98	300.00	1,682.98	137,773.08
2022	188,655.24	16,507.71	205,162.95	161.59	–	161.59	205,324.54
CAGR	72.44	123.31	74.53	–	–	–42.92	

Source: Debt Management Department, Bangladesh Bank

Government bond market in Bangladesh: average cut-off yield of T-bonds and T-bills

A wide variation in cut-off yields across all types of treasury instruments is generally observed during 2018–2022 (Table 5). All types of T-Bonds and T-Bills experienced a

significant rise in yield in 2022 as compared to those of the previous year. The recent increase in cut-off yields may be attributed to the increase in the market interest rate that increases the rate of return in different investment modes for the institutional investors including the banks.

Table 5 Government bond market in Bangladesh: average cut-off yield

Year	*T-Bonds (%)*					*T-Bills (%)*		
	2-year	*5-year*	*10-year*	*15-year*	*20-year*	*91 days*	*180 days*	*364 days*
2018	4.99	6.10	7.50	8.06	8.90	4.58	4.59	4.99
2019	7.55	8.10	8.44	8.90	9.29	7.19	7.38	7.39
2020	7.80	8.05	8.66	8.70	8.94	6.50	6.77	7.25
2021	2.57	3.88	5.40	5.85	6.07	0.35	0.58	1.07
2022	7.21	7.80	8.10	8.55	8.65	5.99	6.59	6.99

Source: Debt Management Department, Bangladesh Bank

Government bond market in Bangladesh: investors pattern of govt. debt securities

Banks that include both primary and non-primary dealers with a share of 43.63% and 30.17% in 2022 respectively are the largest investors in the market with a combined holding of 73.80% of G-Sec which is lower by 5.5% than the previous year (Table 6). Individuals hold a negligible portion of the market with only 0.33% in 2022 with no such changes during the period. It is noticed that currently there exists no foreign investors in the G-sec market of Bangladesh.

Table 6 Government bond market in Bangladesh: investors pattern of govt. Debt securities

	2018	*2019*	*2020*	*2021*	*2022*
Types of investors	(%)	(%)	(%)	(%)	(%)
Bangladesh Bank (BB)	6.60	14.18	12.40	7.86	13.66
Primary Dealers (PD)	48.17	41.64	40.69	46.81	43.63
Non- Primary Dealers (NPD)	28.95	28.74	33.10	32.49	30.17
Non-Bank Financial Institutions	0.02	0.02	0.22	0.04	0.11
Amanat Bima Trust Tahbil	4.21	4.07	3.21	3.33	3.11
General Insurance Companies	0.07	0.05	0.06	0.09	0.12
Life Insurance Companies	7.91	7.48	6.42	5.85	4.84
Corporate Bodies	0.46	0.30	0.82	0.34	1.08
Investment Companies	0.01	0.01	0.08	0.01	0.01
Provident/ Pension/ Trust/ Gratuity Fund	3.31	3.31	2.70	2.73	2.81
Mutual Fund	0.02	0.00	0.03	0.08	0.12
Foreign Investors	0.01	–	–	–	–
Individual	0.26	0.20	0.27	0.37	0.33
Total	100	100	100	100	100

Source: Debt Management Department, Bangladesh Bank

4.2 Anatomy of the corporate bond market

Share of corporate bond in total

The share of corporate bonds as compared to the GBM in Bangladesh as a source of long-term financing (Table 7) is so tiny that clearly it does not have any noticeable influence in financing the corporate sector. Further, ups and downs of the share of corporate bonds reveal that it does not have any sign of sequential improvements.

Table 7 Share of corporate bond (% of total)

Year	*Government Bond*	*Corporate Bond*
2018	93.82	6.18
2019	94.01	5.99
2020	97.05	2.95
2021	96.68	3.32
2022	96.84	3.16

Source: Bangladesh Bank

Corporate bond listed with DSE

Of the 16 listed corporate bonds, as much as 14 bonds have been issued by banks for fulfilling their regulatory requirements. It carries less importance as banks usually depend on deposits as their prime sources of funds. On the other hand, corporate units issued only two bonds (Table 8). This reflects that corporate units are reluctant to generate funds by issuing bonds publicly.

Table 8 Corporate bond listed with DSE as of 30.06.2024

	Name of issuer	*Name of bonds*	*Debut year in DSE*	*Outstanding securities*	*Par value*	*Total size (In mill. BDT)*
S. No.	*1*	*2*	*3*	*4*	*5*	*(4×5)*
A. Banks	AB Bank PLC	ABBLPBOND	2023	5,710,936	1000	5710.94
	Al-Arafah Islami Bank PLC	AIBLPBOND	2021	100,000	5000	500
	Bank Asia PLC	BANKASI1PB	2024	68,050	5000	340.25
	City Bank PLC	CBLPBOND	2022	4,000	1,000,000	4000
	Dhaka Bank PLC	DBLPBOND	2023	40,000	5000	200
	IBBPLC	IBBL2PBOND	2021	160,000	5000	800
	IBBPLC	IBBLPBOND	–	3,000,000	1000	3000
	Mercantile Bank PLC	MBPLCPBOND	2023	5000	100,000	500

Table 8 Corporate bond listed with DSE as of 30.06.2024 (continued)

	Name of issuer	*Name of bonds*	*Debut year in DSE*	*Outstanding securities*	*Par value*	*Total size (In mill. BDT)*
S. No.	*1*	*2*	*3*	*4*	*5*	*(4×5)*
A. Banks	Mutual Trust Bank PLC	MTBPBOND	2023	4000	1,000,000	4000
	Pubali Bank PLC	PBLPBOND	2022	100,000	5000	500
	Premier Bank PLC	PREBPBOND	2022	40,000	5000	200
	Southeast PLC	SEB1PBOND	2024	100,000	5000	500
	SJIBPLC	SJIBLPBOND	2021	100,000	5000	500
	UCBPLC	UCB2PBOND	2024	60,000	5000	300
B. Corporate Units	Beximco	BEXGSUKUK	2022	280,952,953	100	28,095.30
	APSCL	APSCLBOND	2020	200,000	3750	750

Source: https://www.dsebd.org/companylistbyindustry.php?industryno = 26

Corporate debenture listed with DSE

The number of debentures listed with DSE indicates that a few corporate units generate their long-term finance by issuing debentures (Table 9) reflecting poor position of corporate debenture market like bonds. However, only solace is that debentures were issued by companies belonging to different industries like cement, luggage, zipper fisheries, textile, etc.

Table 9 Debenture listed with DSE as of 30.06.2024

	Name of issuer	*Name of Bonds*	*Outstand. Securities*	*Par value*	*Total size (in million)*
S. No.	*1*	*2*	*3*	*4*	*(3×4)*
A. Corporate Units	Aramit Cement Ltd	DEBARACEM	45,000	1285	57.83
	Bangladesh Luggage Ind. Ltd	DEBBDLUGG	–	–	–
	BD Welding Electrodes Ltd	DEBBDWELD	8,000	400	3.20
	Bangladesh Zipper Ind. Ltd	DEBBDZIPP	–	–	–
	Beximco Denims Ltd	DEBBXDENIM	120,000	173	20.76
	Beximco Fisheries Ltd	DEBBXFISH	40,000	–	--
	Beximco Knitting Ltd. (Deb-	DEBBXKNI	100,000	–	–
	Beximco Textiles Ltd	DEBBXTEX	96,000	173	16.61

Source: https://www.dsebd.org/companylistbyindustry.php?industryno = 91

Corporate bonds and debentures: private placement

A number of corporate bonds and debentures have also been issued under the private placement meaning these bonds are being sold to pre-selected investors and institutions rather than publicly on the open market. In 2022–2023, a total of 17 bonds amounting to Tk. 8267.50 crore were placed privately (Table 10) indicating corporate sector has the preference to issue bonds privately possibly to skip regulatory requirements which might be necessary in case of a public offer.

Table 10 Corporate bonds and debentures: private placement /offer (Tk. In crore)

	Corporate Bond		*Corporate Debenture*		*Total*	
Year	*No. of companies*	*Amount*	*No. of companies*	*Amount*	*No. of companies*	*Amount*
2017–2018	29	10,698.50	3	518.00	32	11,216.50
2018–2019	23	12,755.00	–	–	23	12,755.00
2019–2020	17	8,591.46	–	–	17	8591.46
2020–2021	23	10,967.00	–	–	23	10,967.00
2021–2022	26	12,785.24	–	–	26	12,785.24
2022–2023	17	8267.50	–	–	17	8267.50

Source: Bangladesh Securities and Exchange Commission

4.3 Determinants of government bond market (GBM) in Bangladesh[7]

A time series econometrics investigation has been done here to find out the determinants of the GBM in Bangladesh. In investigating time series property, we have used ADF (Augmented Dicky–Fuller) and KPSS (Kwiatkowski, Philips, Schmidt and Shin) test for the unit root (nonstationarity) following Dickey and Fuller (1981) and Kwiatkowski et al. (1992). In the event of nonstationarity of each variable, the co-integrating relationship among variables is studied by applying the Johansen-Juselius procedure (Johansen and Juselius, 1990, 1992) to overcome the associated problem of spurious relationship and misleading inferences. In this procedure, all the variables must have the same order of integration. However, to address the issue of unequal order of integration, the ARDL model or bounds-testing procedure, as suggested by Pesaran et al. (2001) has been applied by following the appropriate sequences like calculating descriptive statistics, conducting unit root tests, checking cointegration by applying ARDL,[8] showing long-term relationship and running vector error correction model (VECM).

With a view to knowing what role macroeconomic, financial and institutional factors play in developing the GBM, we have used ARDL model for examining co-integration among variables and VECM by separating long-term and short-term relationship. The optimal lag-lengths indicated by the Akaike information criterion (AIC) for the three models are (2,1,11,0), (2,2,1,1) and (2,1,1), respectively. The analysis and discussion on findings of both long term and short term is placed below.

4.4 Empirical results

4.4.1 Impact of macroeconomic determinants

In the first model, only impact of macroeconomic factors on the development of the GBM have been examined. Two among the four coefficients are statistically significant in the long run. The first variable that is the size of the economy (Yp) measured by GDP at PPP terms has a significant positive impact on the capitalisation of Govt. Bond Market (Table 11). The result is in the line with the findings of the most of the studies (Boukhatem, 2021; Khalid and Rajaguru, 2018). The positive sign of the coefficients of GDP can be explained with the economies of scale. The Government of a larger and growing economy might need to collect long-term extra financing for its infrastructure development by issuing bonds along with other sources of finances which may not be required in a small economy to finance their limited scale of development. On the other hand, investors particularly institutional investors of a large economy opt for more long-term investments in Govt bonds as it reduces risk and increases return. However, investors do not feel secured to invest in an economy which is small in size and hence risker. We can posit that Bangladesh economy has reached a certain stage of development which allows it to have a larger scale of GBM.

Table 11 Estimated ARDL long run estimation of the impact of macroeconomic, financial and, institutional factors on the development of the government bond market

Dependent variables / *Independent variables*	*Model-I*		*Model-II*			*Model-III*		
	LGBM			*LGBM*			*LGBM*	
Variables	Coefficient	Prob		Coefficient	Prob	LAO	8.812604	0.0000*
LYp	5.092631	0.0000*	LCR	1.625398	0.0000*	CORR	–1.263367	0.2545
INF	–3.004957	0.4570	LMC	0.004157	0.5406	Constant	16.50696	0.0000*
De	–0.002257	0.9832	SPREAD	0.217706	0.0209**			
LED	–1.711647	0.0118**	C	–10.87515	0.0000*			
Constant	–3.642188	0.2277						
R-Squared	0.953433		0.964818			0.609139		
Adjusted R-Squared	0.944563		0.960020			0.575152		
Proba(F-statistics)	0.000000		0.000000			0.000020		
Durban-Watson sta	1.129929		1.916328			0.696725		

*significance at the 1% level; **significance at the 5% level.

Source: Authors' Calculation

Another independent variable, inflation has expected negative sign without statistical significance. It implies that inflation play a negative role mildly in developing GBM in Bangladesh although an inflationary situation generally entails major impediment to bond market development as it creates uncertainty among investors about the real return on

investments and discourages them to invest in any type of long-term securities. This result is consistent with Khalid and Rajaguru (2018) who also found that inflation to be statistically insignificant in the expansion of the bond market. The negative sign assigned to Deficit Budget (DB) without the statistical significance suggest that large fiscal imbalance is negatively associated with the bond market development in Bangladesh without the statistically significance. This is inconsistent with the common notion that larger fiscal deficits are associated with larger GBM, because as public expenditure exceeds public revenues, there is a need to finance this gap by issuing bonds. Finally, the coefficient of external debt has come out as significantly and negatively associated with the GBM development in Bangladesh, suggesting that external debts depress bond market development. This happens as bond issues and external debt are alternative tools of collecting public funds with each other, and in an economy in which dependence on external debt is more, it acts as a barrier to expand bond market.

In the short run, coefficients of all independent macroeconomic variables except GDP in PPP terms have the same sign without statistical significance (Table 12) suggesting that these variables impact on the bond market development slightly in the short term. Surprisingly, the sign of coefficient of GDP in PPP is counterintuitive. The estimate of the error correction term (ECM (–1) is –0.673462 implies that the speed of adjustments from the short-run disequilibrium toward the long run equilibrium in bond market development is 67.35% (Table 14).

Table 12 Estimated short-run coefficients of impact of macroeconomic, financial and, institutional factors on development of government bond market

Dependent variables / *Independent variables*	*Model-I*		*Model-II*			*Model-III*		
	LGBM			*LGBM*			*LGBM*	
Variables	*Coefficient*	*Prob*	*Variables*	*Coefficients*	*Prob*	*Variables*	*Coefficients*	*Prob*
C	1.143216	0.0912	C	0.330829	0.3743	C	–0.107059	0.2121
ECM(–1)	–0.673462	0.0384**	ECM(–1)	–1.337258	0.0299**	ECM(–1)	–0.532730	0.0162**
D(LTB(–1))	–0.195763	0.5813	D(LTB(–1))	0.194936	0.6319	D(LTB (–1))	–0.008874	0.9638
D(LTB(–2))	0.187475	0.3943	D(LTB(–2))	0.676416	0.0139**	D(LTB (–2))	0.182547	0.7329
D(LYp)	–3.977953	0.5792	D(LCR)	–2.395111	0.2105	D(LAO)	–1.572711	0.1035
D(LYp(–1))	–10.94224	0.1977	D(LCR(–1))	–0.152718	0.9573	D(LAO (–1))	0.350910	0.0025*
D(LED)	–1.375080	0.3646	D(LCR(–2))	0.485417	0.8499	D(CORR)	–0.704248	0.1375
D(LED(–1))	0.509150	0.6846	D(LMC)	–0.007646	0.2418	D(CORR (–1))	–0.709393	0.4317
D(INF)	–2.380001	0.4968	D(LMC(–1))	0.026325	0.0753***			
D(INF(–1))	–1.330495	0.7519	D(SPREAD)	0.268867				
D(DB)	–0.028580	0.7045	D(SPREAD (–1))	–0.286513				

Table 12 Estimated short-run coefficients of impact of macroeconomic, financial and, institutional factors on development of government bond market (continued)

Dependent variables / *Independent variables*	*Model-I*	*Model-II*	*Model-III*
	LGBM	*LGBM*	*LGBM*
R-Squared	0.606306	0.626937	0.564806
Adjusted R-Squared	0.278227	0.413758	0.361716
Proba (F-Statistics)	0.0155889	0.037305	0.045663
Durban -Watson sta	2.131751	2.121612	1.785524

*significance at the 1% level; **significance at the 5% level; ***significance at the 10% level.

Source: Authors' Calculation

$$\textbf{Model I} = ln\Delta GBM_t = \alpha_0 + ECM_{t-1} + \sum_{i=1}^{n} ailn\Delta GBM_{t-i} + \sum_{i=0}^{n} bi\Delta \ln Y_{t-i} + \sum_{i=0}^{n} ci\Delta lnED_{t-i} + \sum_{i=0}^{n} di\Delta INF_{t-i} + \sum_{i=0}^{n} ei\Delta DB_{t-i} + \varepsilon_t$$

$$\textbf{Model II} = ln\Delta GBM_t = \alpha_0 + ECM_{t-1} + \sum_{i=1}^{n} ailn\Delta GBM_{t-i} + \sum_{i=0}^{n} bi\Delta \ln CR_{t-i} + \sum_{i=0}^{n} ci\Delta lnMC_{t-i} + \sum_{i=0}^{n} di\Delta \text{SPREAD}_{t-i} + \varepsilon_t$$

$$\textbf{Model III} = ln\Delta GBM_t = \alpha_0 + ECM_{t-1} + \sum_{i=0}^{n} ailn\Delta GBM_t + \sum_{i=0}^{n} ci\Delta \ln LAO_{t-i} + \sum_{i=1}^{n} bilin\Delta \text{CORR}_{t-i} + \sum_{i=0}^{n} ci\Delta \ln LAO_{t-i} + \varepsilon_t$$

4.4.2 Impact of financial factors

The second model shows the impact of variables relating to the development of the financial sector characterised by the size of banking sector measured by bank credit to GDP, extent of stock market proxied by market capitalisation (MC) to GDP and interest rate spread on the development of the GBM. The results of the long-term estimation reveal that coefficients of the variables of banking sector credit (CR) and spread are significant. The positive sign of both variables indicates the existence of a complementary relationship between banking sector development and interest rate spread with GBM (Table 11). It indicates that although Bank dominated financial system exists in Bangladesh, it will not act as a substitutability relationship with the govt bond market. This is may be that banks in Bangladesh act as primary dealers and market maker of GBM which is necessary for creating a liquid and deep GBM. These results corroborate with the existing literature like Eichengreen and Luengnaruemitchai (2004) where a positive connection between Govt. Band market and bank credit has been demonstrated.

The coefficient of MC shows the positive sign without statistical significance indicating a subdued positive impact of stock market on the GBM. These results are in the line of the vision of Bangladesh being a developed country by 2041 where a very strong financial system comprising bank, stock market and bond market together will play an effective role.

However, the interest spread is positive and statistically significant indicating that positive change of interest rate encourages investors to invest more in Government Bonds. In the short term, results of coefficients are different with the long-term estimation without the statistical significance (Table 12) indicating that financial determinants are not significantly contributing to development of GBM in the short span of time. The coefficient of the lagged error correction term (ECM (–1) shows that there is long run causal relationship between GBM and Financial variables with the quick adjustments speed towards long run equilibrium relationship.

4.4.3 Impact of the law-and-order (LAO) and corruption (CORR)

In the third model, we have examined the impact of Law and Order (LAO) and Corruption Index (CORR) representing the quality of institutions, necessary for reducing information and transaction costs in bond markets, on the development of GBM. The long-term estimation shows that only Law and Order situation has significant and positive impact on progression of GBM (Table 11). This result is confirmed with the study carried out by Tahir et al. (2022). This signifies that LAO contributes positively and significantly in developing the GBM in Bangladesh. The short run estimation shows the almost the same results. The positive coefficients with statistical significance of the first lag of LAO (–1) variable indicates good law and order situation is important in developing Govt. bond market even in the short -term alike long term. On the other hand, the long-term estimation results show that corruption index (CORR) presents a negative but insignificant impact on GBM development. In the short run, CORR contributes a negative but insignificant impact on development of the GBM. This relationship is consistent with the underlying theory of quality of institutions. A country with better Law and Order situation and less corruption represents the quality of institutions at desired standard, forming thereby credible government and stable long-term stable policies which are necessary for developing GBM. Finally, there is a strong evidence of statistically significant long run convergence in the establishing the relationship between quality of institutions and GBM, as confirmed by the negative coefficient of the ECM (–1) and the associated t-value (Table 12).

4.5 Constraints and way out for the development of the bond market in Bangladesh

This section has assessed the constraints to the Bond Market Development in Bangladesh and identified the way out based on the opinions of the respondents.

4.5.1 Government bond market in Bangladesh: survey data analysis.

Cash management of government and Auction calendar of government securities

The key constraints in the cash management practices of the government and proposed corresponding measures for improvement are highlighted in Table 13. The constraints

include inaccurate estimation of revenues and expenses, absence of an IT-based cash management cell, and improper projection of government borrowing. Implementing accurate modelling for revenue and expense estimation, ensuring timely and reliable data from line ministries, and improving coordination between fiscal and monetary policy aligning borrowing with market liquidity are suggested to address these challenges.

Table 13 also list constraints to effective implementation of the auction calendar of government securities. Major constraints are uncertainty in revenue collection by NBR, dependence on the funds raised from National Savings Certificates for auction scheduling of other G-Secs, short-termism and cancellations of auction calendars. Suggested measures include developing a database of sources of revenues, reducing reliance on NSCs, and establishing a yearly auction calendar to ensure auction consistency. These measures aim to enhance the predictability and efficiency of government cash management and borrowing activities.

Table 13 Cash management of government and auction calendar of government securities

Cash management of government	
Constraints	*Suggested measures*
a) Inaccurate estimation of revenue and expense of Government.	a) Applying proper modelling for the estimation of expenses and revenues.
b) Absence of IT-based cash management cell.	b) Providing reliable expenditures and revenue data by line ministries beforehand in the Govt. Account.
c) Improper projection of Government borrowing.	c) Ensuring more coordination between fiscal policy and monetary policy. Borrowing by the Government based on the market liquidity.
Auction calendar of government securities	
a) Uncertainty in revenue collection by NBR	a) Developing a database of sources of revenues by NBR.
b) Auction of G-Sec depending on the funds raised from NSCs.	b) Minimising dependence on NSCs.
c) Short-term auction calendar.	c) Publishing yearly auction calendar.
d) Auction cancellation and sudden auction.	d) Holding auctions as per the calendar.

Source: Survey Data

Challenges for secondary market of government securities and suggested measures

Table 14 highlights key challenges in the secondary market for government securities (G-Sec) and proposes targeted measures to address them. The challenges range from the lack of a secondary market-based yield curve and limited market participation to complex trading mechanisms and insufficient liquidity. To tackle these, the table suggests constructing a yield curve using highly traded securities and improving market awareness through investor education programs. Enhancing bid-ask spreads and simplifying the trading process by introducing unified software can further streamline operations. Measures like reducing transaction costs, enabling non-primary dealers to participate in two-way quotations, and expediting settlement timelines to T+0 can enhance liquidity and efficiency. Additionally, establishing a Central Counterparty (CCP) for bond

settlements and providing individual investors access to the Financial Market Infrastructure (FMI) will further modernise the market. Training programs for brokers and dealers are also recommended to improve market expertise.

Table 14 Challenges for secondary market of government securities and suggested measures

Constraints/challenges	*Suggested measures*
a) Lack of benchmark securities and absence of a secondary market-based yield curve	a) Constructing a yield curve based on highly traded securities in the secondary market
b) Absence of a large number of investors and limited knowledge and awareness of market participants	b) Arranging awareness development programs for investors
c) Absence of reasonable bid-ask spread in two-way quotations	c) Easing the trading mechanism to improve bid-ask spreads
d) Complex trading mechanism	d) Introducing unified software to enhance trading between banks and clients, and simplifying the trading mechanism
e) Lack of liquidity due to inactive secondary market and market volatility	e) Reducing transaction costs on stock exchanges and enhancing liquidity through better market participation
f) Non-PD cannot participate in two-way price quotations	f) Allowing non-Primary Dealers to participate in two-way price quotations
g) Settlement of transactions in T + 2 days on stock exchanges	g) Settlement of transactions in T + 0 days
h) Absence of direct trading facilities on stock exchanges for treasuries	h) Providing direct trading facilities on stock exchanges for treasuries
i) Lack of Central Counterparty (CCP) for bond settlements	i) Establishing separate clearing arrangements for bond settlements via CCP
j) Lack of access of individual investors to the Financial Market Infrastructure (FMI) module	j) Allowing individual investor's access to FMI by creating a separate window
K) Lack of training for brokers and dealers	k) Arranging training programs for brokers and dealers

Source: Survey Data

Regulatory constraints

In addressing the regulatory constraints in the G-Sec market, reforms like simplifying the bond issuance process, creating a funded pension system, investing a percentage of the pension fund and provident Fund to G-Secs, implementing a conducive tax policy, and evaluating HFT securities based on the secondary yield curve are proposed by the respondents (Table 15).

4.5.2 Constraints and way out for the development of the corporate bond market in Bangladesh: survey data analysis

At this stage, constraints to the development of the corporate bond market along with possible ways out depending on the opinions of the respondents have been reported.

Table 15 Regulatory constraints of government securities and suggested reforms

Regulatory constraints	*Suggested reforms*
a) Tax on interest income and capital gain	a) Simplifying the bond issuance process
b) High transaction costs on the stock exchange	b) Creating a funded pension system before the retirement of employees
c) Restrictions on changing between HFT and HTM securities	c) Investing a certain percentage of the Pension Fund, Mutual Fund and Provident Fund in G-Sec
d) Revaluation loss on HFT securities	d) Making conducive tax policies
e) Intervention of Bangladesh Bank in the primary auction	e) Revaluating HFT securities based on the secondary yield curve
f) Unfriendly 'Guideline for Enlistment and Operations of Primary Dealers in Government Securities'	

Source: Survey Data

Near non-existence of corporate bond market in Bangladesh: constraints and ways out in issuers' and investors' perspectives

Table 16 highlights key barriers and potential solutions for the development of the corporate bond market. From the issuers' perspective, high issuance costs, difficulties in issuing bonds, and the relative ease of obtaining bank finance are major constraints. To address these, the respondents suggest simplifying issuance procedures, building the capacity of issuers and regulators, and providing incentives to issuers. On the investors' side, low awareness, insufficient market liquidity, lack of credibility in credit ratings and trustees, and weak regulation enforcement are highlighted. Solutions include promoting financial literacy, enhancing liquidity through secondary market development, stronger regulatory oversight on credit rating agencies and trustees, and ensuring accountability of trustees, with an impartial and active role of regulators being crucial. These insights are drawn from survey data and FGDs.

Table 16 Near non-existence of corporate bond market in Bangladesh: constraints and ways out in issuers' and investors' perspectives

Constraints	*Suggested measures*
From issuers' perspectives	
a) High issuance costs	a) Simplifying issuance procedures
b) Difficulties in issuing bonds	b) Capacity building of issuer and regulators
c) Relatively easier to get bank finance	c) Incentives for issuers
From investors' perspectives	
a) Low level of Investor Awareness	a) Financial Literacy Campaigns
b) Insufficient Market Liquidity	b) Liquidity by developing secondary market
c) Lack of credibility of credit rating	c) Regulatory oversight over the credit rating agencies and trustees
d) Lack of credibility of trustees	d) Holding the trustees accountable
e) Weak enforcement of regulation	e) Impartial and active role of regulators

Source: Survey Data and FGD

Reasons for excessive dependency on bank finance over corporate bond finance in Bangladesh

The reasons behind the dominance of bank financing as opposed to corporate bond financing are viewed in Table 17. With a view to addressing these barriers, the respondents suggested several measures, such as introducing credit enhancement mechanisms for mitigating the risk associated with companies of lower creditworthiness and streamlining the issuance process and focusing on risk-based regulation to reduce costs and bureaucratic hurdles. Tax incentives can further encourage companies to issue bonds. The promotion of Islamic bonds (Sukuk) caters to a specific segment of the market. Finally, improving overall bond market liquidity is crucial for maintaining a healthy financial ecosystem.

Table 17 Reasons for excessive dependency on bank finance over corporate bond finance in Bangladesh

Reasons	*Suggested measures*
a) Poor credit standing of companies	a) Credit enhancement mechanisms
b) Availability of lower-cost bank finance	b) Streamlining issuance process
c) Captive demand from banks and financial institutions for Government Bond	c) Focusing on risk-based regulation
d) High Issuing Costs	d) Developing tax incentives
e) Statutory Restrictions on the Issuance of Fixed Income Securities	e) Promoting innovative tools like Islamic bonds (Sukuk), Green Bond, etc.
f) Underdeveloped stock market	f) Improving bond market liquidity

Source: Survey Data and FGD

5 Policy suggestions for the development of bond market in Bangladesh

A well-functioning bond market is the key to economic progress, and continuous improvement therein will further accelerate the process. To this end, findings along with a number of policy suggestions are placed below under two separate captions such as Government and Corporate bond market.

5.1 Government bond market

With a view to creating an active GBM in Bangladesh, the key findings as well as relevant measures are stated in this section.

Macroeconomic and financial factors, and the law and order situation

Given the important role of macroeconomic variables, policymakers are required to implement sound macroeconomic policies relating to the expansion of the size of the economy, lessening the dependence on external debt and restricting inflation at a reasonable rate, thereby developing an active and efficient bond market. To address inflation, the Government may contemplate introducing securities like Treasury Inflation Protected Securities (TIPS). In the backdrop of the significant complementary role

between GBM and the banking sector, and the positive impact of interest rate spread on GBM, more transparency and financial innovation along with implementing state-of-the-art financial technology (FT) in the banking sector are required to be encouraged for promoting Govt. bond market. A collective initiative is also necessary to improve the law-and-order situation along with ensuring enforcement of legal rights for developing the GBM.

Primary market of government securities

Auction calendar: An auction calendar by retaining some flexibility like 10% plus/minus is required to be issued and maintained every year by BB in consultation with the Government. A typical auction calendar can be weekly for treasury bills and treasury bonds can be issued at larger intervals letting secondary market trading on the other days.

National saving certificates (*NSS*) *and interest rate mismatch*: In financing fiscal deficit, the Government may extend policy support to harmonise interest rates on all saving instruments in one way, on the other, it can formulate a concrete debt management strategy at the beginning of the year as to how much will be borrowed through issuing G-sec as well as selling Sanchay Patra.

Separate authority for dealing NSS: Eventually, the Government may decide to finance its deficit budget depending on only Marketable Govt securities leaving NSS to a separate authority and treating it as a welfare task for providing an additional benefit to the senior, less privileged and low-income segment of the society. This authority can be formed with a special Act to be passed in the Parliament.

Secondary market for G-sec

Over the counter (*OTC*) *and trader workstation* (*TWS*): *The government debt securities are being traded in the secondary market mostly* in the OTC market and whereas TWS[9] procedures is seldom used. BB may set a regulation by directing PD and Non-PD to transact a certain percentage of secondary trading through TWS, it may be initially 10% quarterly with a condition to increase this percentage gradually.

Reducing no. of securities: At present a total of 241 outstanding T-Bonds with the separate ISIN number are in the market which are required to be reduced through buying back, switching and reissuing strategies as per the suitability.

Tiny portion of holding in '*held for trading* (*HFT*)' *Category*: To activate the secondary market, BB may come out with a regulation by instructing PDs to maintain a certain percentage of total holding of G-sec as HFT which must be offloaded to the secondary market after holding a certain period.

Investors diversity

Investors The dominant investors in government securities are commercial banks, however, the expansion of the GBM is impossible without the large participation of institutional investors like insurance companies, pension and provident funds, corporate bodies and mutual funds as well as retail investors covering residents and non-resident persons. In this respect, the limit of the current regulatory requirement for life insurance companies to invest a minimum of 30% of their assets can be increased, intervention is

required for creating a separate fund beforehand for paying pension benefits to employees upon their retirement and keeping provision to invest a minimum percentage of mutual funds to government securities are required.

Lack of awareness, knowledge and experience: An extensive capacity building and awareness program on 'Pricing, Trading Systems, Information and Facilities' for intermediaries and investors through training, workshops and conferences regularly is necessary to create a strong institutional and retail investor base across the country.

Other issues

Yield curve: Presently two yield curves, one is for the primary market and the other is for the secondary bond market, are being constructed by BB. All stakeholders are using the primary yield curve. But an international standard secondary market yield curve is necessary for considering it as the benchmark rate for determining the price of the corporate bond.

Tax intricacy and discouragement of investors: Under Tax Deducted at Source (TDS), the final holder of G-sec needs to pay the tax on the coupon for the full six months although after investment he/she may hold the G-sec for less than six months as TDS is payable on a half-yearly basis. Capital gain tax is also applied for marketable securities and further investor needs to pay tax on interest revenue of G-sec when it is added to the total income. These three types of taxes create complexity and investors feel discouraged to trade in the secondary market. Tax treatment on G-sec is, therefore, necessary to be simplified and rational.

Introducing new financial products: The Government may go for issuing more G-Sukuks,[10] long-term Islamic government securities, of different tenures by targeting investors like Shariah based banks, financial institutions, shariah-based branches of conventional banks and insurance companies, retail investors, etc. Further, thematic bonds like Blue, Green and Municipality Bonds are also expected to be available in the basket of the Govt. securities.

5.2 Corporate bond market

Regulations, and their impartial and proper enforcement: The current abundance of regulations, coupled with concerns regarding lax enforcement and a potentially passive regulatory stance act as impediments to market growth. Therefore, streamlining regulations, strengthening enforcement mechanisms, and ensuring the active and impartial role of regulators are demands of time to create and restore investor confidence, thereby fostering a more robust and dynamic corporate bond market in Bangladesh.

Expansion of issuer and investor base: To overcome the problem of the near nonexistence of a corporate bond market in Bangladesh, quality issuers like profitable state-owned enterprises, multinational corporations and large home-grown private enterprises with clean and strong balance sheets should be listed with the secondary market. On the other hand, to create a strong institutional and individual investor base, more educational and promotional programs are required to be undertaken for the creation of awareness.

Liquidity of the secondary market: The perceived lack of liquidity in the bond market in Bangladesh presents significant challenges, including limited trading volume and depth, which can lead to higher transaction costs and price volatility, hindering market efficiency. Addressing these challenges requires targeted efforts to expand market participation, enhance liquidity management frameworks, and promote market-making capabilities.

Strengthening accountability and capacity of trustees and credit rating agencies: To regain investor confidence, it is indispensable to strengthen the accountability mechanisms of the trustees and credit rating agencies. In this respect, strong regulations and enforcement thereof are expected.

Execution of aforesaid suggested measures is imperative to create a vibrant and dynamic bond market which is vitally important for collecting long-term financing of both the Government and large corporate houses in an economy like Bangladesh.

6 Conclusion

Bond market in Bangladesh has not, so far, experienced a commendable and expected growth as compared to other countries. Inadequate supply of long-term financing for the investors is thus impeding the growth of the real sector in Bangladesh. In this context, the objectives of the study were to undertake a critical assessment of the bond market mainly with a view to examining the constraints in achieving a vibrant and strong bond market in Bangladesh and deriving a set of policy suggestions for the smooth growth of the bond market. GBM in Bangladesh, not only, has been found way behind the other comparable countries but with a unexpectedly a tiny corporate bond market. Non-market-based instruments remain predominant in government securities market with a large presence of manual trading and a lack of market-based yield curve. Investors in the market are mainly banks implying an unwillingness or absence of lack of awareness on the part of the individual investors to invest in the GBM. Development of corporate bond market is severely constrained by the inadequate issuer's and investor's base along with the absence of public placement market. The paper finds significant impact of the size of the economy, inflation and external debt on the development of GBM in Bangladesh. A positive relation between GBM and the size of the banking sector and interest rate spread has also been evidenced by the study. Based on the findings, the study recommends a number of policy measures that include planning and executing auction calendar on a regular basis, giving the responsibility of managing National Saving certificate (NSS) to a separate authority, expanding investor's base, and launching new product are expected to bring desired outcome in building a strong GBM. The promotion of corporate bond market, on the other, will require expansion of issuer and investor base, enhanced liquidity of the secondary market, accountability of trustee and strengthening of credit rating agencies. The study, however, did examine the constraints in the demand side of the market on a limited scale. A comparative picture between the bond market and other alternative source of long-term finance both for the borrowers and investors might generate more insights regarding the potential of the bond market in Bangladesh. Lastly, separate study on GBM and corporate bond market will be more rewarding because of the differences in the nature of these two markets.

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Notes

[1]Long term finance consists of loans, bonds, leasing, and public and private equity.

[2]https://asianbondsonline.adb.org/; https://www.sebi.gov.in/

[3]The important objective of this project is to update the Government debt sustainability analysis and building capacity of the government officials working in the Macroeconomic Wing (MEW) and the Treasury and Debt Management Wing (TDMW) of the Finance Division. Government bond market is inseparably an important component of Government debt sustainability as the government borrows money to meet fiscal deficit by issuing Government securities (G-secs). In this respect, proper debt managements through ensuring government's financial needs and meeting its payments liabilities with finance stemmed from G-secs at lowest possible cost over medium to long term are important which can be achieved through implementing only research based accurate decision.

[4]Government Securities (G-Sec) and Government Bonds (G-Bonds) were used interchangeably.

[5]Determinants of corporate bond market (CBM) in Bangladesh was not studied in this paper, as the figure of corporate bond in Bangladesh is very insignificant.

[6]Further, a model combining all explanatory variables could have been formed and run to examine the impact of all explanatory variables (nine variables of three models) on GBM in a place, however, in this case degree of freedom of the model would seriously be decreased as numbers of observations are only 26(1997–2022) and total explanatory variables are 9 (nine) making degree of freedom is only (26 – 9) = 17. The other relevant variables like exchange rate volatility and foreign private debt we may contemplate as explanatory variables when number of observations will increase in future. Notably, issuing Government bonds in Bangladesh was started in 1997.

[7]Determinants of corporate Bond Market (CBM) in Bangladesh was not studied in this paper as the figure of corporate bond is so tiny, it will not give any meaningful result.

[8]Results of descriptive statistics, unit root and ARDL cointegration tests are not reported here for saving the space, the results can be provided anytime.

[9]Both the procedures are the integral parts of Bangladesh Bank recently initiated Financial Market Infrastructure Module (FMI Module) erstwhile Market Infrastructure Module (MI Module) - the automated auction and trading platform of government securities.

[10]At present, three Shariah based G-secs are there which do not have encouraging rate of return, thus Islamic banks do not show interest to invest in these securities.

Appendix

Table A1 Chronicles of major initiatives undertaken to develop the government securities (G-sec) market in Bangladesh (2011–2022)

2011	*2014*	*2016*	*2017*
• Introduction of the Market Infrastructure (MI) Module for the automation of G-Sec management and operations.	• Issuance of the circular directing funded pension provident funds of banks to be invested in G-Sec	• Introduction of Government Securities Order-Matching Trading Platform (GSOM) in August • Introduction of 14-day T-Bills	• Started publishing reports on G-Sec on an annual basis (from FY 2016–2017)

Table A1 Chronicles of major initiatives undertaken to develop the government securities (G-sec) market in Bangladesh (2011–2022) (continued)

2019	*2020*	*2021*	*2022*
• Introduction of 3-Year Floating-Rate Treasury Bond (FRTB) • Comprehensive Framework on the Development of the Bond Market in Bangladesh'	• A strategic decision to enlist G-Sec on DSE's trading platform • Asking all banks and NBFIs by BB to open a separate 'Government Securities Investment Window' for trading G-securities • An Ijarah (lease) Sukuk, was issued in 2020	• A strategic decision in establishing a central counterparty (CCP) for G-Sec • Strategic decision to develop secondary market yield curve of G-Sec • Issuance of sovereign investment sukuk of BDT 80 billion	• MOU with the DSE, CSE, and CDBL to begin secondary trading of G-Sec on the DSE and CSE platform • Developed secondary market yield curve • Strategic decision to develop and publish money market reference rates

Source: Bangladesh Bank (2021–2022), Bangladesh Bank Annual Reports-Different Issues

Table A2 Major initiatives undertaken to develop the corporate bond market (2012–2022)

2012	*2019*	*2020*	*2021*	*2022*
Securities and Exchange Commission (Private Placement of Debt Securities) Rules)	Bangladesh Securities and Exchange Commission (Investment Sukuk) Rules, 2019	Establishing Central Counter Party Bangladesh Limited (CCBL) for clearing and settlement in order to risk reduction of stock exchange transactions	• Bangladesh Securities and Exchange Commission (Debt Securities) Rules, 2021 • Initiating to appoint Nomination and Remuneration Committee (NRC) and Audit Committee of Corporate Bond	• BSEC started to give consent to issue Shariah-based green Sukuk bonds • Amendment to the Directive on Public Offer and Direct Listing of perpetual bond

Source: Bangladesh Securities and Exchange Commission (BSEC) and Dhaka Stock Exchange (DSE), Bangladesh