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**Financing in Infrastructure and Energy Sectors and Issuance of  
Bonds in Bangladesh: Problems and Prospects**

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## **Abstract**

*The current infrastructure and energy sectors bottleneck in Bangladesh transpired mainly from the shortage of long-term investments. Government's budgetary allocations and long-term financing from the local and foreign enterprises including banks, non-bank financial institutions and insurance companies were not sufficient for maintaining required investment for these sectors. The country's capital market; which is considered as the main source of long-term financing is yet to properly ready to support the financing need of these sectors. The major findings of this paper suggest that development of capital market and issuance of bonds can play a vital role to develop infrastructure and energy sectors in Bangladesh. This paper also explores the global experiences of bond market. It has been observed that bond market development and issuances of bonds have not only helped to develop the infrastructure and energy sectors but also played a crucial role in expediting economic development of numerous countries of the world. Therefore, in order to mobilize the required financing for the development of infrastructure and energy sectors, the present endeavor of the government financing through budgetary allocations and bringing funds from the development partners and allowing foreign direct investment and private entrepreneurs should continue. At the same time, domestic diversion of funds for the development of infrastructure and energy sectors, the domestic bond market have to develop and supply base for long-term funds/savings would need to be broadened by tapping pension and provident funds of the formal/organized sector employees and insurance companies (especially, life insurance companies' funds). This paper also explores the scopes of expanding investors base for the bond market in Bangladesh*

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## **1. Introduction**

Sustaining economic growth at a high rate crucially depends on access to good infrastructure and energy at appropriate prices. If we analyze the miraculous economic performance of China, Korea and other fast growing economies like India, it will be clear that they all have given a big thrust to develop their infrastructure and energy sectors. Realizing this fact, policymakers in Bangladesh have recently been giving immense importance to increasing investment in infrastructure and energy sectors. The Government of Bangladesh (GoB) has adopted Public-Private Partnership (PPP) as a policy device to overcome the shortage of funds and an Infrastructure Development Company Limited (IDCOL) has been constituted to deal with arrangements related to financing of these projects.

Notwithstanding these developments, the main problem prevails with regard to shortage of funds for long term investments. Moreover, with recent change of global economic situation, the trends of long term official foreign financing from bilateral and multilateral sources have been declining in recent years. At the same time, the government is not getting the desired funds (as per budget declaration) from non-bank sources, which is forcing the government to depend on domestic bank borrowing to finance its budget deficits. Consequently, banks are also under robust liquidity pressures and facing asset-liability mismatch problems creating growing concerns about crowding out of the private sector. In this backdrop, this paper is an attempt to analyze the prospects of introducing bonds for financing infrastructure and energy sector projects in Bangladesh.

The following sections of the paper are devoted to identifying infrastructure and energy sector bottlenecks in Bangladesh and the urgency of financing through issuance of bonds. Major macroeconomic, institutional & regulatory constraints and present status of infrastructure and energy sector financing are also highlighted in subsequent sections of the paper. Experiences of some selected countries have been discussed to analyze the development of the bond market in Bangladesh and to develop increasing reliance on bonds to finance long-term projects. Finally, the prospects of issuance of sovereign bond and scopes for issuing a domestic infrastructure bond have been examined in the paper and some recommendations have also been given to broadening investors' base of the bond market in Bangladesh.

## **2. An Overview of the Infrastructure and Energy Sectors in Bangladesh and an Assessment of Investment Requirements**

### **2.1 Transport and Communication Sectors**

From the view point of transportation and communication systems, infrastructure in Bangladesh consists of roads, railways, inland waterways, sea ports, maritime shipping and civil aviation catering for both domestic and international traffic. According to the Sixth Five Year Plan FY2011-FY2015, presently there are about 21,040 km of paved roads; 2,835.04 km of railways (BG-659.33 km, MG -1,800.88 km and DG-374.83); 3,800 km of perennial waterways which increases to 6,000 km during the monsoon, 2 seaports and 2 international airports (i.e., Dhaka and Chittagong) and 8 domestic airports. As the country has continuously been achieving an

accelerated economic growth over the last two decades or more and as the overall purchasing power of the population has greatly increased in recent years, these positive developments have also led to a rapid urbanization and huge traffic congestions in the major cities, indicating a remarkable increase in demand for infrastructure and energy. Moreover, Bangladesh is now being considered as the main hub of the regional and inter-regional connectivity between the South Asia and the South-East Asian regions. Keeping in view the increased volume of domestic traffic and the future traffic from the Asian High Way & Trans Asian Railway, the Six Five Year Plan (SFYP)-FY2011-FY2015 has given special emphasis on developing a balance and integrated transport network through adoption of various strategies and projects/programs.

Table 1: Progress with Paved Road Development under RHD, 1947-2012

Year	Paved Road under RHD (km)	Annual Rate of Growth (%)	Total Road under RHD (km)	Annual Rate of Growth (%)
1947	600	-	-	-
1971	3600	7.75	-	-
1981	4300	1.79	-	-
1990	7914	7.01	13629	4.55
2000	16273	7.47	20799	4.31
2005	16500	0.28	21571	0.73
2009	18209	2.5	21040	-0.62
2012*	18247	0.07	21454	0.66

Source: Ministry of Communications, SFYP 2011-2015. \* Taken from the Maintenance and Rehabilitation Needs Report of 2012 – 2013, published in November, 2012 by Roads and Highways Department

Available data show that in 1947, when Bangladesh was a part of undivided India, the paved roads under the Roads and Highways Department (RHD) were only 600 km which increased to 3600 km in 1971. Paved roads under RHD rose to 7914 km in 1990 when total roads under RHD were 13629 km. The growth of paved roads and total road under RHD was some-what satisfactory until 2000 but lost its momentum afterwards (Table-1). Moreover, a large section of the existing road network has inadequate structural strength and many of those have been severely damaged by heavy vehicles and as such maintenance cost for the networks has increased in recent years. It has been found that the average maintenance cost of the roads under RHD is around Tk. 2523crore per year. Recognizing the importance of road network, RHD has set a physical target to implement the SFYP (FY2011-FY2015) which can be seen in Table-2.

Table-2: RHD Physical Targets for the SFYP

Physical Activities	SFYP Target (2011-2015)
i. Construction of new roads	4,672 km
ii. Improvement/ rehabilitation of roads	8,433 km
iii. Construction of new bridges/ culverts/overpass	23,777 meter
iv. Reconstruction of bridges/culverts	10,362 meter
v. Construction of tunnel	5,400 meter

Source: Roads and Highways Department. SFYP 2011-2015

A large amount of investments need to achieve the aforesaid physical target under the SFYP. In addition, various ministries and organs of the Government of Bangladesh (GoB) also need a substantial amount of investment during the SFYP for accomplishing the following tasks:

- Up gradation of two international routes (length 1300 km) and a sub-regional route (length 752 km) of the Asian Highway Network into 4 lane highways in phases in order to improve their, local carrying capacity, consistent with such networks outside Bangladesh;
- Up gradation and strengthening of customer services provided by Bangladesh Road Transport Authority (BRTA) and Bangladesh Road Transport Corporation (BRTC);
- Maintaining and improving all categories of rural roads under the Local Government and Engineering Department (LGED) which has a rural road length of 2,06,957 km (37,691 km Upazila roads, 44,686 km union roads, and 124580km village roads);
- Constructing Padma Bridge at Mawa-Janjira and the 2<sup>nd</sup> Padma Multipurpose Bridge at Paturia-Goaland, a number of elevated express-ways, flyovers and underground road crossings in Dhaka by the Bangladesh Bridge Authority (BBA);
- Expansion of 454 km railway network by the Bangladesh Railway (BR), double-lines along with a big portion of its existing 2835.04 km rail line and improvement of other railway infrastructures; and
- Developing inland water transport, sea ports & shipping, air transport and tourism of the country.

Therefore, the investment needs in Bangladesh infrastructure related to transport sector is enormous. Because it's immense, the Transport Ministry has identified a large number of projects in the transport sector for implementation over medium to long term (by 2021 and over two five year plans starting from 2011). An estimated amount of Tk. 1,321.42 billions or US\$ 16.16 billion will be required for implementing major transport projects (Table-3).

Table-3: Summary of Total Investment Requirement for Major Transport Projects during FY 2008/09-FY 2020/21

	Sector	Project cost	
		(In billion Tk.)	( In billion US\$)
1	Road Sector Development	455.69	5.56
2	Railways Development	362.14	4.42
3	Inland Water Transport Development	81.60	0.99
4	New Sea Port Development (Tentative)	6.00	0.07
5	Deep Sea Port Development	74.20	0.90
6	Dhaka Transport System Development	341.42	4.16
	<b>Total Requirements:</b>	<b>1321.42</b>	<b>16.10</b>
	<b>Average Yearly Requirements during FY 2008/09 to FY 2020/21</b>	<b>101.65</b>	<b>1.24</b>

Source: Ministry of Communications.

Note: Conversion rate of Taka versus US\$ is 1 US\$ equals 82 Taka.

This situation has also been seen in Energy Sector.

## 2.2 Energy Sector

Energy sector plays a crucial role in the socio-economic development of any country. It is considered as the driving force of all development activities. In Bangladesh, the frequency of power outages and the recent imposition of some sort of rationing on new connectivity for electricity and gas have created a big disappointment among potential investors/entrepreneurs threatening the country's growth prospects. Moreover, as the major portion of the rural population has no access to gas and electricity, the demand for gas and electricity connectivity

in rural areas has been increasing steadily. Due to the severity of power crisis and a huge demand for new connection, the Government has recently entered into contractual agreement for high cost, temporary solutions such as rental power based on diesel or liquid fuel, which is creating huge pressure on Bangladesh's fiscal management and sometimes on the current accounts position of the balance of payment (BoP).

The Government has set physical targets to generate the required additional power for short, medium and long term basis; to match domestic supply with growing demand during the Sixth Five Year Plan (SFYP) -FY2011-FY2015. The envisaged power generation is also consistent with the government's Perspective Plan (2010-2021) which has set a vision to ensure "Power for All" by 2021. Under the above mentioned SFYP, the Government has taken initiatives to generate additional electricity of 2166 MW by FY'11, 1178 MW by FY'12, 3176 MW by FY'13, 2333 MW by FY'14 and 2410 MW by FY'15 in the public and private sectors.

In addition to power generation, it is very important to develop a dependable and quality power transmission and distribution networks to ensure efficient and uninterrupted power supply to the customers. Transmission of newly generated power to the doorsteps of customers, new transmission and distribution infrastructure will be needed in addition to renovation and preservation of old networks. Natural gas as the major source of energy will also need huge investment for exploration, development and distribution.

In recognition of the fact that energy has become a binding constraint on the acceleration of GDP growth, the Government places top priority to allocating resources to this sector and during the SFYP a remarkable amount of development resources have been committed for power and primary energy sector which is shown in Table-4.

Table-4: Development Resource Allocation for Energy Sector

(Billion Taka, Current Market Prices)

Ministry	FY'11	FY'12	FY'13	FY'14	FY'15	Yearly Average	Yearly Average in billion USD
Power Division	49.95	70.69	85.57	108.98	134.58	89.95	1.10
Energy and Mineral Res. Div.	10.80	15.13	17.17	20.12	22.89	17.22	0.21
<b>Total</b>	<b>60.75</b>	<b>85.82</b>	<b>102.74</b>	<b>129.10</b>	<b>157.47</b>	<b>107.17</b>	<b>1.31</b>

Source: Sixth Five Year Plan, 2011-2015.

To sum up, the yearly average new investment requirements for transportation & communication and energy sectors is estimated to be Taka 208.82 billion (Taka 101.65 billion+ Taka 107.17 billion) or US\$ 2.55 billion (US\$ 1.24 billion + US\$ 1.31 billion) during the ongoing Sixth Five Year Plan and afterwards. Moreover, the infrastructure sector is not only constituted with transportation and communication but also with other important sectors such as telecom, water and sanitation, air transport, tourism etc. Therefore, the actual requirements of incremental investment for developing the infrastructure sector must be much higher than the estimated cost of energy, transportation and communication sectors which is too large to meet through the Government's own resources.

In order to meet the shortfall of resources, the Government has already emphasized the need for financing the infrastructure and energy sector projects through PPP arrangements and direct investments from the local and foreign enterprises. But it has already been proved that, under the current circumstances and without developing new strategies, the responses from the local and foreign enterprises are not enough to fulfill the SFYP financing requirements. Therefore, major constraints of financing infrastructure and energy sectors have to identify and alternative options need to be explored.

### 3. Major Macroeconomic, Institutional and Regulatory Constraints and Present Status of Infrastructure and Energy Sector Financing

#### 3.1 Macroeconomic Constraints

##### A. Domestic Savings and Investment Gap and Leakage in National Savings

It is clear that huge amount of investments is required to develop infrastructure and energy sectors for increasing productivity and fostering growth in our economy. But there has been a remarkable gap between domestic savings and gross investment, which is considered the main deterrence to ensure reliable energy supply and efficient infrastructure development in a developing country like Bangladesh.

As a developing country, our domestic savings are always smaller than the gross investment which indicates resources scarcity. Due to this resources scarcity, Government is unable to allocate enough funds to develop the infrastructure and energy sectors from the national budgets. It has been observed that, during FY'07 to FY'12 domestic saving-investment gaps were 4.1 to 6.1 percentage points of our GDP (Table-5). Due to this shortage of domestic savings, government is unable to allocate funds as per requirement of all sectors of the economy.

Table-5: Domestic Savings and Investments in Bangladesh during FY08-FY11

(As percent of GDP)

	FY 07	FY 08	FY 09	FY 10	FY 11	FY 12
<b>Gross investments</b>	<b>24.5</b>	<b>24.2</b>	<b>24.4</b>	<b>24.4</b>	<b>25.1</b>	<b>25.4</b>
Private	19.0	19.3	19.7	19.4	19.5	19.1
Public	5.4	5.0	4.7	5.0	5.6	6.3
<b>Gross Domestic Savings</b>	<b>20.4</b>	<b>20.3</b>	<b>20.1</b>	<b>20.1</b>	<b>19.3</b>	<b>19.4</b>
Private	18.9	19.0	18.8	18.8	17.9	18.0
Public	1.4	1.4	1.3	1.3	1.4	1.4
<b>Domestic Savings-Investments Gap</b>	<b>-4.1</b>	<b>-3.9</b>	<b>-4.3</b>	<b>-4.3</b>	<b>-5.9</b>	<b>-6.1</b>

Source: Annual Report, Bangladesh Bank

Notwithstanding this gap between domestic savings and investments, it is notable that a remarkable amount of surplus savings exists in our economy when we consider the gap between national savings and investments. This indicates that whole savings are not coming into the national investments; which means there are some leakages in our national savings. Table-6 shows our leakage in national savings during FY08-FY12 which indicates that shortfall of

domestic savings is not a major problem rather channelizing the savings into investment is a big challenge.

Therefore, in order to transform the entire national savings into investments domestically a comprehensive effort is needed for diversion of funds from unproductive uses to productive investments and institutional arrangements for financing infrastructure and energy sectors will have to be strengthened.

Table-6: National Savings and Investments in Bangladesh during FY09-FY12

(As percent of GDP)

	FY09	FY10	FY11 <sup>P</sup>	FY12	FY13
Investment	24.4	24.4	25.2	26.5	26.8
National Savings	29.6	30.0	28.4	29.2	29.5
National Savings- Investment	5.2	5.6	3.2	2.7	2.7
CAB of BOP	2.7	3.7	0.8	1.4	-
Leakage in National Savings	2.5	1.9	2.4	1.3	-

Source: Annual Report, Bangladesh Bank. P=Provisional

## **B. Fiscal Discipline and Budgetary Constraints**

The Government has limited options to finance the investment gap both from domestic and external sources. But due to budgetary constraints and for maintaining fiscal discipline, the Government can finance only a small part of the infrastructure financing need; the predominant part of the gap has to be bridged by the private sector through increased domestic resources mobilization, and through external borrowing in the form of sovereign bonds for investment in domestic infrastructure sector.

The challenges for the government, with limited budgetary resources at its command, would be to improve the efficiency of its spending on infrastructure (capacity creation and subsidy) on the one hand, and leverage private and non-budgetary instruments on the other. In this context, the challenges will encourage private companies and other enterprises which have strong cash surpluses and access to private financing to take up an increasing stake in developing the country's infrastructure and energy sectors.

## **C. Capacity to Absorb Capital Inflows**

It is crucial that in a small size economy like Bangladesh, the ability to absorb large capital inflows may pose challenges with relation to monetary management. The responses to this challenge has been to either the Taka to appreciate, sterilize capital inflows, allow larger capital outflows, or impose restrictions especially on the inflow of debt capital. However, in the case of large external borrowing for infrastructure projects, since there would be large import needs associated with such projects there would be no significant impacts on domestic monetary management of such external borrowing.

## 3.2 Institutional and Regulatory Constraints and Present Status of Infrastructure and Energy Sectors Financing

### A. Commercial Banks

Commercial banks are considered as engine of growth of any sector of an economy. Unfortunately, commercial banks have almost no exposure to investment in infrastructure and energy sector in Bangladesh. The banking sector's exposure norms and maturity mismatches generally prevent banks from investing in this sector. The overall capital base of a single bank may not be enough to finance infrastructure and energy sector projects due to the single borrower exposure limit imposed by the regulatory authority. Since loan amounts are typically limited to relatively small sizes with limits imposed by Bangladesh Bank, syndications and club financing are the only favored means to increase pooled finance.

Still, it may be noted that, projects above US\$ 70-100 million are difficult to finance locally. It has been observed that, with the existing single borrower exposure limit of 15% of total capital, there is no bank in Bangladesh, which is capable of investing up to US\$ 100 million in a single project. Considering the existing exposure limit of maximum 15% of total capital to any single borrower, the overall average level of investment capacity of a single bank was equivalent to US\$ 20 million at the end of December 2011, which is too small to finance any large infrastructure or energy sector project.

Moreover, commercial banks are largely limited to making loans with a maximum term of 5-7 years and generally require equity levels of 25%-35%, which are also considered to be major barriers to finance infrastructure projects.

Because of these considerations, scheduled banks' have very limited exposure to the infrastructure sector. A review of Bangladesh scheduled banks' loans and advances to the infrastructure sector indicates that at the end of 2012, only marginally above 3% of total loans and advances of the scheduled banks' was provided to various sectors which can be considered as infrastructure (Table-7).

Table-7: Scheduled Banks Loans and Advances to Infrastructure Sector during 2008-2012

(Taka in Crore)

Sectors treated as infrastructure dev.	2008	2009	2010	2011	2012
Road Construction	1108.30	1373.82	1922.80	2351.55	3034.49
Water-works & Sanitary Service	13.82	6.60	36.66	100.06	117.93
Transport and Communication	3294.97	3428.25	4289.80	5278.60	9281.85
a) Road Transport	1136.62	1392.77	1947.80	2000.64	1982.31
b) Water Transport	339.26	487.06	1089.97	1556.15	3348.40
c) Air Transport	180.65	201.50	99.23	380.65	425.38
d) Public Utilities	1638.44	1346.92	1152.80	1341.16	3525.76
<b>Total Loans and advances in infrastructure</b>	<b><u>4417.09</u></b>	<b><u>4808.67</u></b>	<b><u>6249.26</u></b>	<b><u>7730.21</u></b>	<b><u>12434.27</u></b>
<b>Total Loans and advances</b>	<b><u>196385.49</u></b>	<b><u>233479.50</u></b>	<b><u>295881.21</u></b>	<b><u>329037.48</u></b>	<b><u>410625.10</u></b>
<b>infrastructure as % of Total</b>	<b>2.25</b>	<b>2.06</b>	<b>2.11</b>	<b>2.35</b>	<b>3.03</b>

Source: Scheduled Bank Statistics, Bangladesh Bank

## B. Non-Bank Financial Institutions (NBFIs)

Considering the complexity and long gestation period of infrastructure projects, NBFIs can play a vital role in financing the infrastructure and energy sectors. Global experiences also show that NBFIs play a potential role to develop the infrastructure and energy sectors. But the major constraints to the prospects of the NBFIs are (a) inability to optimally utilize their capital and balance sheet through mechanisms like securitization; and (b) their limited access to low cost and long-term financing options.

Further, likewise banks NBFIs are also increasingly facing exposure norm constraints in financing infrastructure and energy sectors development. As a result, NBFIs have provided a very small part of their loans and advances to power plants and other infrastructure sectors development in Bangladesh. It has been observed that, during 2008-2011 only 7.92 % to 9.37% of their total loans and advances were provided to power plants and other infrastructure projects (Table-8).

Table-8: Loans and Advances by NBFIs to Power Plants and Various Infrastructure Projects 2008-2011

(Taka in crore)				
Sectors	2008	2009	2010	2011
Total loans & advances	10813.77	13449.61	16664.78	18782.86
<b>Loans and advances to power plants and various infrastructures</b>	<b>1012.81 (9.37%)</b>	<b>1064.90 (7.92%)</b>	<b>1485.67 (8.92%)</b>	<b>1580.58 (8.42%)</b>

Note: Figures in parenthesis indicate percentage of total loans and advances.

Source: Data collected and compiled from all NBFIs for the study purpose.

It has been observed that the major share of the total investments of NBFIs is maintained in various Fixed Depository Receipts (FDR) of banks and shares & debentures of joint stock companies. From the overall investment portfolios of NBFIs, it is observed that during 2008-2011 their investments in FDR and shares & debentures were ranging from 81.33% to 87.03% of their total investments and the rest portion of their investment was in Government securities and other options (Table-9).

Table-9: Overall Investment Portfolios of NBFIs during 2008-2011

(Taka in crore)				
Particulars	2008	2009	2010	2011
Total Outstanding Balance of Investment	1477.14	2089.17	2823.68	2455.77
a) Govt. Securities (T. Bills & T. Bonds)	162.17	286.64	368.84	318.77
<b>b) FDR</b>	<b>709.83</b>	<b>900.19</b>	<b>1207.03</b>	<b>1029.75</b>
<b>c) Shares and Debentures</b>	<b>575.76</b>	<b>833.46</b>	<b>1124.61</b>	<b>967.60</b>
d) Others	29.38	68.88	123.20	139.65

Source: Data collected and compiled from all NBFIs for the study purpose.

## C. Insurance Companies

Insurance Companies in Bangladesh have almost no exposure to energy and infrastructure development. The basic reason behind non-existence of exposure to energy and infrastructure sectors may be attributed to regulatory restrictions, the underdeveloped corporate bond market

and absence of efficient risk transfer mechanisms (such as securitization, credit derivatives, credit insurance etc.).

In Bangladesh there were 62 insurance companies till March 2013. Of them, 43 were general insurers and 17 life insurers operating in the private sector. Out of the remaining two, one life and another general were owned by the government. The net premiums earned by life insurers were nearly Tk. 62.91 billion and gross premiums earned by general (non-life) insurers were Tk. 21.45 billions in 2011. The government passed two insurance laws in March 2010 and established Insurance Development and Regulatory Authority (IDRA) 2010 to help strengthen the regulatory framework and make the industry operationally vibrant.

It has been observed that around 60 percent of their total investments are kept in FDRs with banks & financial institutions, and shares & debentures of joint stock companies. The second major area where insurance companies have invested is in the Government securities, i.e. Treasury bills & Treasury bonds (Table-10).

Table-10: Investment Portfolios of Insurance Companies during 2008-2011

(Taka in crore)				
Particulars	2008	2009	2010	2011*
<b>Total investment in securities</b>	<b>8232.78</b>	<b>9960.44</b>	<b>12860.86</b>	<b>12529.54</b>
a) Govt. Securities (T. bills & T. bonds)	2361.73	3572.92	4247.05	4272.49
-Govt. Securities (T. bills)	787.91	949.84	1103.50	3307.26
-Govt. Securities (T. bonds)	1573.82	2623.08	3143.55	965.23
b) Sanchaypatra	0.05	0.90	17.04	249.43
c) FDR	4168.34	4921.62	6330.06	6196.87
d) Share and Debenture	1138.50	784.26	1435.22	1174.24
e) Others	561.97	662.17	797.38	699.19

\* Figures up to September, 2011. Source: Data collected and compiled from all insurance companies for the study purpose.

## D. Capital Market

Capital market financing for infrastructure and energy sectors development can occur both in equity and debt forms. Normally, equity financing for infrastructure are raised through listed infrastructure funds. On the other hand, depending on the future cash flows from selected specific infrastructure projects, bonds can be issued in the capital market. But it is remarkable that up to March 2013, there was no listed infrastructure fund in Dhaka Stock Exchange (DSE) and Chittagong Stock Exchange (CSE); while eight listed companies of the energy sector had limited exposure to capital market (9.29% of the total market capitalization) (Table-11).

Table-11: Capital Market Exposure to Energy Sector up to 31 March 2013

Name of the listed companies of energy sectors	Market Capitalization			
	31 May 2012	30 June 2012	31 December 2012	31 March 2013
Summit Power	2967.56	2824.6	2627.42	1764.76
Dhaka Electric Supply Co.	2313.86	2368.52	1876.59	2008.42
Power Grid Company	2614.63	2467.98	2329.7	2392.13

(Crore Taka)

Titas Gas Trans. & Distribution Co.	6359.28	6726.7	6459.62	6667.35
Khulna Power Company	1706.64	1660.76	1523.13	1437.49
Barakatullah Electro Dynamics Ltd.	444.79	445.82	407.08	327.16
GBB Power		196.86	213.56	161.92
Summit Purbanchal Power Co.				476.13
<b>Total Energy Sector</b>	<b>16406.76</b>	<b>16691.24</b>	<b>15437.1</b>	<b>15235.36</b>
<b>Total Market Capitalization</b>	<b>194012.3</b>	<b>192585.8</b>	<b>182840.7</b>	<b>163973.2</b>
<b>Energy Sector as % of Total</b>	<b>8.46</b>	<b>8.67</b>	<b>8.44</b>	<b>9.29</b>

Source: Dhaka Stock Exchange Monthly Review, various issues.

In fact, Bangladesh Capital Market up to March 2013 remains at a relatively underdeveloped stage in terms of offering a diversified range of financing products. There is a small, and poorly functioning corporate bond market, thus serving as a very limited source of debt finance. Therefore, the depth of the capital market of Bangladesh is still very shallow for supporting infrastructure investment because an average large scale infrastructure projects require about Tk. 100 billion. Whereas the total size of the market capitalization of DSE is about Tk. 1639 billion as on 31 March 2013; which is too small to support financing requirements of infrastructure projects.

Moreover, complexity of ownership right of infrastructure projects, absence of required fixed income funds, and a lack of benchmark bonds are inherent problems of developing the bond market and financing the infrastructure projects through capital market in Bangladesh. Without sound regulatory framework in the capital market, it will not possible to effectively provide a linkage between savings and the preferred infrastructure investments. This sound regulatory framework will not come overnight rather it will come through gradual restructuring and building up massive public confidence to the capital market. Unusual hurry and lack of coordination among other regulatory agencies (such as monetary authority) may cause loss of public confidence, which we have seen in our capital market in the recent past.

The initial move aiming to develop the domestic capital market should be targeted towards accumulating contractual savings pools which channel savings towards securities through institutional investors. Pension funds and life insurance funds should be channeled to the capital market. Along with the development of primary capital market for Initial Public Offering (IPO), a bond market is necessary to provide the mechanisms for greater liquidity and risk minimization for infrastructure projects. With the development of an active and liquid market for securitized corporate debt, commercial banks, mutual funds, financial institutions and even some private sector entities (such as private pension funds of high networked individuals) could also emerge as potentially large investors.

### 3.3. Constraints of Public Private Partnership (PPP) Approach

'Public-private partnership' is a relatively new concept in Bangladesh. By contrast, it was introduced in the United States in 1953. The UK government championed the concept in the 1990s named 'Private Finance Initiative'. The Government of Bangladesh established Infrastructure Investment Facilitation Center (IIFC) in 1999 to promote and facilitate private sectors' participation in the infrastructure sector, but not much progress was made.

In a renewed effort the Government of Bangladesh announced a PPP program in the FY 2009-

10 development budget through sanctioning Tk. 16 billion. Since the issues associated with operation of PPP are complex and challenging, the progress under this initiative is yet satisfactory. In fact, the degree of success of the PPP approach heavily depends on the financial, technological and institutional capacities of the Government due to the following reasons:

- The projects need preparation and packaging. But such preparation requires technical financial and legal skills. Projects preparation is also expensive and requires risk sharing with the private sector.
- There is no assurance the project proponent will be allowed to develop the project after identifying the investment opportunities and doing all feasibility study. So, private investors might feel reluctant to identify opportunities which might be rewarded to other investors at the end.
- The cost of feasibility analysis of a large infrastructure project is reasonably high which would rarely attract private investors to do that, without any assurance of implementing the project by them. Moreover, this cost is even higher for the developing countries like-Bangladesh due to lack of skilled manpower, sufficient information, research and statistics, which makes the project unattractive to the private investors.
- In the pre-project development evaluation period all the agencies engaged are from the government. Government agencies might focus more on the benefit of the country, rather than the interest of the private investors thus makes the project financially not viable for the private investors.

Therefore, in order to achieve desired results from the PPP approach, the government must have to generate additional resources for strengthening its own technological and institutional capacity on a priority basis. Government will also have to ensure efficient energy supply and minimum infrastructure development to attract Foreign Direct Investment (FDI) and private investors in a broad range of PPP projects.

## **4. Exploring Possible Options for Financing Infrastructure and Energy Sectors Development**

Since infrastructure projects have a long pay-back period, they require long-term financing in order to sustainable and cost effective. In Bangladesh, these types of projects have generally been financed by borrowing either from multi-lateral organizations like the World Bank, ADB at a highly concessional rate or under official bilateral arrangements. However, with the changing global economic scenario, long-term official foreign financing has been declining in the recent years.

Government is also not getting desired level of funding (as per budget declaration) from non-bank sources. These factors at times have forced the government to depend excessively on domestic bank borrowings. Consequently, banks may come under tremendous liquidity pressures and face the asset-liability mismatch problem, creating growing crowding out concern for the private sector. Moreover, government borrowings from the central bank may fuel in rising inflationary pressure in the economy.

Under such situation, the aspiration for achieving higher growth through large scale long-term infrastructure investment, and containing local currency depreciation and liquidity pressures on the banking system can be achieved if the government succeeds in realizing long-term foreign borrowing on reasonable terms. A number of options may be considered or available in this regard:

- Floatation of sovereign bonds (Bonds issued by national governments in foreign currencies are generally referred to as sovereign bonds. Basically, it is a debt security issued by a national government within a given country and denominated in a foreign currency, most likely a hard currency) could be an alternative way to mitigate the problems and constraints mentioned above.
- Syndicated international commercial loan can be an option but the problem is that this type of loan is not available for a significantly large quantity and for a longer period of time. Interest rates on syndicated borrowing are also generally higher than the sovereign bonds.
- Bilateral loans can be explored through negotiation with huge reserves holding countries like China, India and some of the Middle-east countries but this is a very cumbersome, lengthy and uncertain process.
- Finally, Diaspora bond or other retail savings instruments focused to channel hard currency into domestic economy can also be sources of financing infrastructure and energy sectors development.

However, most countries tend to rely on sovereign issues for basically two reasons: (1) sovereign issues are accepted by a much larger pool of investors than in the case of Diaspora bond or retail savings instruments; and (2) it helps to build the issuing country's image in the global market.

Finally, new domestic bonds such as Bangladesh Infrastructure Development Bond (BIDB) can be floated by Bangladesh Finance & Investment Co. Ltd. to tap funds from potential institutional investors like pension funds and insurance companies.

## **5. Cross Country Experiences of Financing on Infrastructure Development**

If we look at the worldwide experiences, we find that different countries have adopted different kinds of strategies to address their infrastructure financing problems. China for example, used its huge foreign exchange reserves and domestic savings to finance infrastructure development activities. India on the other hand, used 'sovereign bonds' to raise capital to finance infrastructure development projects as well as promoting PPP to finance large infrastructure development projects. Indian capital market has also provided the necessary financing for the promoters of infrastructure projects in the form of infrastructure bonds.

Most of the developed and emerging economies of the world have substantially used the bond market to meet financing needs for infrastructure development. In fact, a growing number of developing countries have developed their securities markets and long-term savings institutions, allowing them to tap domestic market for infrastructure financing.

### **5.1. Revenue Bonds Used by Municipalities in the United States**

A model of bond structure suitable for infrastructure financing is the revenue bond used extensively by municipalities in the United States. In the United States, municipal bonds are used to finance a wide range of public projects such as ports, airports, highways, sewerages, hospitals, and colleges.

### **5.2. Social Overhead Capital Bond Financing in Korea**

In order to facilitate PPI (Promotion of Private Investment) in Korea, the Promotion of Private Capital into Social Overhead Investment Act (PPI Act) was passed and enforced for the first time in 1994. The PPI Act and the Enforcement Decree, as the principal components of the legal framework for Public and Private Parties (PPPs) define the eligible facility types, implementation schemes and process, conflict resolution/termination mechanism, and the roles of the public and private parties. The Act was amended in 1999 to introduce risk sharing and minimum revenue guarantee (MRG) mechanism and again in 2005 to introduce the Build-Transfer-Lease (BTL) scheme, diversification of facility types, and expansion of investor profile.

There have been six cases of Social Overhead Capital (SOC) bond issuance in Korea since the first one for financing the combined heat and power plants at the Incheon International Airport in 1999. Because of the special tax treatment and the difficulty in obtaining syndicated bank loans in the aftermath of the 1997 financial crisis, SOC bonds were a popular type of instrument for infrastructure financing. However, in recent years, a relatively low expected rate of return and high transaction costs involved in SOC bonds made them a less attractive option for infrastructure financing; whereas investors are competing for higher returns provided by alternative financial products as reflected in the recent performance of private sector infrastructure funds in Korea.

### **5.3. Hong Kong Link 2004 Limited**

In order to reduce fiscal burdens, in April 1999, the government of Hong Kong Special Administrative Region (HKSAR) raised HKD 6.0 billion by securitizing revenues from the existing tolled infrastructure facilities consisting of the five tunnels and one bridge/road link. For the purposes of this transaction, a single-purpose limited liability company named Hong Kong Link 2004 Limited (HK Link) was established with its share capital wholly owned by HKSAR. HK Link issued Retail Notes & Bonds to institutional and individual investors, respectively.

The successful factors of this securitization scheme include the robustness of cash flows generated by the operationally matured tolled facilities and strong government support in the form of direct payments to mitigate certain pre-specified risks, as reflected in the favorable rating assigned by rating agencies. With this financial scheme, the government did not sell infrastructure assets to HK Link, which was a special purpose vehicle.

### **5.4. Experiences from Malaysia**

In Malaysia on average infrastructure bonds accounted for 36% of the total bond issuance between 1993 and 2006. A sharp decline in issuance in 1998 and 1999 was caused by the Asian

financial crisis. The subsequent sharp rise from 2000 onwards was partly the result of corporate debt restructuring that saw the substitution of short term bank borrowings and bond facilities with long tenured bonds to address the funding and maturity mismatches that contributed to the financial distress of infrastructure companies.

The power sector is the largest issuer with total value issued amounting to RM 45.0 billion or 41.5% of the total of RM 108.4 billion issued between 1993 and 2005. Transport is the second largest with RM 39.0 billion or 36.0% of the total issue value. The other two sectors, water and telecommunications, account for the remaining amount of RM 13.7 billion (12.6%) and RM 10.7 billion (9.9%) respectively during the period as mentioned above.

It is notable that the bond market is the major provider of funds for infrastructure financing in the private sector. The total value of bonds issued by the infrastructure sector amounting to RM108.4 billion represents a sizeable 72% of the RM150.3 billion invested in infrastructure by the private sector.

The bond issues include refinancing of existing borrowings, funds raised for working capital purposes and acquisitions of companies. Assuming that the bonds raised for such purposes amounted to 30% of the total funds, the financing amount via bond issues still account for a sizeable 50% of the total private investment in infrastructure projects. (*JBIC Institute 2007*)

## 5.5. Experiences from India

### A. Market-Based Financing System

Since 1994, the Indo-US Financial Institution Reform and Expansion (FIRE-D) project is working with national, state and local governments in India to develop a market-based bond market. Several Urban Local Bodies (ULBs) and utility organizations have issued bonds that have mobilized over Rs. 12,249 million through taxable bonds, tax-free bonds and pooled financing up to 2007 (Table- 12).

Table12: Municipal Bonds in India as of 2007

(Rs. in Millions)		
S. No.	Type of Bond	Amount
1.	Taxable bonds	4,450
2.	Tax-free bonds	6,495
3.	Pooled finance	1,304
	Total	12,249

Source: ChetanVaidya and Hitesh Vaidya (2008), Creative Financing of Urban Infrastructure in India through Market-based Financing and Public-Private Partnership Options

### B. Taxable Municipal Bonds

The Government of India (GoI), recognizing infrastructure's key role in the process of economic development, set up the Expert Group on the Commercialization of Infrastructure, often known as the Rakesh Mohan Committee, in 1994. The Committee recommended private sector participation in urban infrastructure development and accessing capital markets through

issuing municipal bonds (source: Vaidya C. and Vaidya H, 2008). Examples of some taxable municipal bonds are given in Table-13.

Table-13: Examples of municipal bonds in India

City/Municipal	Amount (in Rs. Millions)	Placement	Guarantee	Annual Interest	Purpose	Rating
Bangalore (1997)	1,250	Private	State Govt.	13%	City roads/ street drains	A- (SO)
Ahmadabad (1998)	1,000	Public & Private	No	14%	WS&S project	AA- (SO)
Ludhiana (1999)	100	Private	No	13.5% to 14%	WS&S project	LAA- (SO)
Nagpur (2001)	500	Private	No	13%	WS project	LAA- (SO)
Nashik (1999)	1,000	Private	No	14.75%	WS&S project	AA- (SO)
Indore (2000)	100	Private	State Govt.	13.0%	Improvement of city roads	A (SO)
Madurai (2001)	300	Private	No	12.25%	City road project	LA+(SO)
Visakha-patnam (2004)	200	Private	No	7.75%	Water supply project	AA-(SO)
<b>TOTAL</b>	<b>4,450</b>					

Source: Chetan Vaidya and Hitesh Vaidya (2008), Creative Financing of Urban Infrastructure in India through Market-based Financing and Public-Private Partnership Options

### C. Tax-Free Municipal Bonds

The Indian Income Tax Act provides tax preferences for investments in infrastructure projects. These provisions, however, have not been generally available for financing municipal infrastructure. To boost the municipal bond market, the Government of India (GoI) decided to provide tax-free status to municipal bonds. The GoI issued guidelines for issue of tax-free municipal bonds in February 2001. These guidelines stipulate eligible issuers, use of funds, essential pre-conditions, maturing period, buy-back, nature of issue and tax benefits, ceiling amount for a project, compulsory credit rating, and external monitoring of the tax-free municipal bond. Creating tax incentives for municipal securities provided a national government subsidy for ULBs bond offerings by substantially reducing the interest cost of financing local infrastructure projects. Tax-free status provided an incentive to local governments to improve their fiscal management sufficient to meet the demands of the investment community.

Table-14: Tax-Free Municipal Bonds in India

City Government	Projects	Amount of Tax-free Bond Municipal (Rs. millions)
Ahmadabad Municipal Corporation (2002)	Water supply and sewerage project	1,000
Hyderabad Municipal Corporation (2003)	Road construction and widening	825
Nashik(2002) Municipal Corporation (2002)	Underground sewerage scheme and storm water drainage system	500
Visakhapatnam Municipal Corporation (2004)	Water supply system	500
Hyderabad Metropolitan Water Supply and Sewerage Board(2003)	Drinking water project	500

Ahmadabad Municipal Corporation (2004)	Water supply project, storm water drainage project, road project, bridges and flyovers	580
Chennai Metropolitan Water Supply & Sewerage Board (2003)	Chennai water supply augmentation project	420
Chennai Metropolitan Water Supply & Sewerage Board (2005)	Chennai water supply project	500
Chennai Municipal Corporation (2005)	Roads	458
Ahmadabad Municipal Corporation (2005)	Roads and water supply	1,000
Nagpur (2007)	Nagpur water supply and sewerage project	212
TOTAL		6,495

Source: Chetan Vaidya and Hitesh Vaidya (2008), Creative Financing of Urban Infrastructure in India through Market-based Financing and Public-Private Partnership Options

### 5.5 Bonds Market in Thailand

The most important measure affecting the development of the Thai capital market was the enactment of the Securities and Exchange Commission's (SEC) Act in 1992. Following the Act, SEC was established to supervise and develop the capital market. Before the promulgation of the SEC Act, debentures could only be issued by two types of companies-public and listed companies.

In fact, the bond market consisting of the Government and state enterprise bonds has existed in the Thai financial system for a long time. Previously, the issuers were only the Government and state enterprises. However, the Government has not issued any bond since 1990 because of the budget surplus. The corporate debentures were issued since 1992, after the enactment of the SEC Act. (Gupta J.P et al)

### 5.6. A Comparative Status of Bond Market Exposure in Bangladesh

The worldwide experiences show that, issuances of bonds have played a crucial role to develop their infrastructure and energy sectors. In fact, bond market development and issuances of bonds have not only helped to develop infrastructure and energy sectors but also played a crucial role in expediting economic development of numerous countries of the world. As a result, it is observed that higher the exposure of bond market in an economy exhibits higher the status of its economic development. Bangladesh's bond market represents the 'smallest' in South Asia, accounting for only 12 per cent of the country's gross domestic product (GDP), a World Bank report said. "It is surprising that Bangladesh, which is much larger than Nepal in terms of population, land area and other measures, has the smallest bond market in the region," the report added. (*Jahur M. S, et al*)

It may be noted that up to 2001 bond market constituted about 126 percent of GDP in the USA and 143 percent in Japan. Even if we consider some Asian countries then it will be found that bond market exposures in their economies are also high. For instance, outstanding local currency denominated bonds as percentage of GDP in Malaysia, Korea Republic and Singapore were 93.4, 69.3 and 37.4 respectively in 2001 (Table-15) which have surely been further risen in the recent years (*Fabella R. and Madhur S.(2003)*). By contrast, the amount of local currency denominated bonds was only 1.40 percent of Bangladesh's GDP on June 30, 2003 which has

increased to 7.38 percent on June 30, 2012 (Table-15). Therefore, it is easily assumed that without developing the domestic bond market, infrastructure financing will certainly not get desirable momentum in Bangladesh. The bond market links the issuers having long-term financing needs with investors willing to place funds in long-term interest bearing securities. When firms can raise funds by issuing bonds, they are less dependent on banks and less exposed to vulnerabilities of the banking system. It also makes the financial market more competitive by generating market based interest rates that reflect the opportunity cost of funds at each maturity and reduces excess dependence on the banking system.

Table-15: Outstanding of Local Currency Denominated Bonds, 2001a

Countries	Public Sector	Financial Institutions	Corporate Sector	Total
China, People's Rep. of	19.6	8.3	0.7	28.7
Hong Kong, China	11.9	12	3.1	26.9
Indonesia	—	—	—	1.5
Korea, Rep. of	18.3	23.2	27.8	69.3
Malaysia	35	7.9	50.6	93.4
Philippines	—	—	—	32.0
Singapore	32.9	0	4.6	37.4
Taipei, China	—	—	—	17.0
Thailand	26.2	2.5	5	33.7

Source: ADB working paper series no.35 on "Bond Market Development in East Asia: Issues and Challenges" jointly written by Raul Fabella and Srinivasa Madhur in January, 2003. — Not available.

a: Indonesia's data corresponds to year 2000 and Philippines & Taipei, China's figure correspond to year 1997 and 1998 respectively.

Table-16: Outstanding Local Currency Denominated Bonds in Bangladesh

(Crore Taka)

	Outstanding	
	as on 30/06/2003	as on 30/06/2012
GDP	300485	914780
Bonds (less than 5 years)	202.00	884.00
Bonds (above 5-years)	4015.00	65944.55
Corporate Bonds (Market cap)	-	658.17
Total	4217.00	67486.72
<b>% of GDP</b>		
Bonds (less than 5-years)	0.07	0.10
Bonds (above 5-years)	1.34	7.21
Corporate Bonds (Market cap)	-	0.07
Total	1.40	7.38

Source: Annual Report, Bangladesh Bank & Monthly Review of Dhaka Stock Exchange

In fact, our bond market is quite immature and investor base is less diversified mainly with banks while in a mature bond market the investor base is generally well diversified with banks, financial institutions, mutual funds, and contractual savings institutions such as pension funds and insurance companies. Clearly, Bangladesh needs to plug the gaps in regulatory and supervisory infrastructures and strengthen its regulatory regime in a comprehensive manner covering all institutions dealing with both household savers and institutional investors in order to avoid the creation of any systemic distress. (Mujeri M. K. et al 2008)

Therefore, in order to enhance bond market exposure in the Bangladesh economy, a comprehensive effort will be needed for increasing the investor base for the bond market. New regulatory and institutional arrangements will also be required.

## **6. Problems and potential risks for issuances of domestic and sovereign bonds in Bangladesh**

### **6.1 Major Problems**

#### **6.1.1 Underdeveloped domestic bond market and lack of experience on international capital market:**

The global experiences and instances suggest that the present gap of investment requirements for developing infrastructure and energy sectors can be financed through issuance bonds both in domestic and overseas markets. But the major problem is that, the bond market in Bangladesh is pity small (compared to the size of the financial sector and GDP) and undeveloped. In fact, the corporate bond market is the least developed and mostly an illiquid segment of the financial market. Trading in the Bangladesh corporate debt market is insignificant, and most of the issuances are currently on a private placement basis. Bangladesh has not yet issued its debutant sovereign bond and as such there is no experience and exposure in the international capital market.

#### **6.1.2 Financial Markets are not integrated:**

A well-functioning money market is always integrated with the rest of the markets in the financial system to ensure competitive equilibrium. But in Bangladesh money market is not fully integrated with the rest of the markets in the financial system. As a result, price differentials for assets of similar type exist in Bangladesh financial system which is considered to be a big hindrance to make the bond market attractive to the potential investors.

#### **6.1.3 Low risk appetite of local investors:**

The infrastructure projects usually involve high upfront cost and long payback period, while our local investors have low risk appetite and short-term focus in investment strategy. Hence to obtain the scale of investment required for infrastructure development access to foreign financing becomes imperative. For this reason, Bangladesh has to maintain a favorable sovereign rating for making Bangladeshi debt instruments attractive to the foreign investors.

#### **6.1.4 Lack of market makers/ benchmark for bonds:**

In Bangladesh's Bond Markets, there are no active market makers similar to emerging markets and developed markets. Due to the lack of presence of market makers, issuers face challenges in collecting funds and issuing bonds particularly in the domestic market. Lack of benchmark bonds has been among the main reasons that Bangladesh debt securities market has not taken off. Without benchmarks in place, all other fixed-income instruments, including corporate bonds, have lacked a pricing base.

#### **6.1.5 Dependence on bank credit:**

Bangladesh's Bond Market suffers from a lack of issuers. Much of this has to do with excessive dependence on bank credit. For instance, corporate borrowers find it easier to access credit from banks than to comply with the governance standards required for raising funds through the bond market or to meet the disclosure requirements for listing on one of the exchanges. On average, it

takes between 25 to 30 weeks to complete legal formalities in issuing a bond in Bangladesh. Longer issuance periods often discourage corporate issuers in issuing bonds. This required average time is much longer than the time required for taking a bank loan. Due to this reason, corporate bodies do not want to issue bond, and prefer to go to banks, which is a much more convenient source of funding for them.

#### **6.1.6 High issuance costs:**

Bangladesh has one of the highest issuance costs in the world. In particular, the registration fees stamp duties, annual trustee fees on outstanding amounts, and ancillary charges have stifled demand. Registration fees for debentures, however, have been significantly reduced in recent years to ease this burden.

#### **6.1.7 Depth of the capital market in inadequate to support infrastructure projects:**

The depth of the capital market of Bangladesh is still very small for supporting infrastructure investment. In addition to the under developed bond market condition, high yielding Government's savings instruments, untapped pension and insurance funds, lack of awareness program for investors and risk associated sequential process, lack of intermediaries with expertise in debt products, poor disclosure of accounting information, political instability etc. are considered to be the major problems associated with the issuance and develop the bond market in Bangladesh.

### **6.2 Potential risks to the issuance of sovereign bonds**

Overall macroeconomic condition of the bond issuing country and the volatile macroeconomic condition of the global economy and other risks associated with the issuance of sovereign bond must have to take into consideration. Major risks that needed to be considered for the debut issue of sovereign bond are outlined below:

- **Risks related to determining the best favorable timing of issue:** The timing of the issue should have to determine in such a way so that overall macroeconomic situation and country's sovereign rating remain in a safe zone. If the timing of bond issue in the market is determined at that point of time when rating agencies give a signal of down grading of revised sovereign rating of the issuing country, the bond issue may be severely shocked.
- **Under subscription of sovereign bond issue:** If a country's debut issue is not adequately subscribed, it may create a negative image in the international capital market. This may hamper prospects for the future issues and as such country's development efforts may also be impeded.
- **Improper use of proceeds from bond issue:** Proceeds from sovereign bond issuances are free from conditionality's and as such government can use it for any purpose it wants. Therefore, if the proceeds are used for such purposes that do not give sufficient return or do not match with growth objectives, it may create debt distress related risk.
- **Appropriate matching of debt service obligations:** Mismatching of debt service obligations may create excessive pressure on maintaining sustainable level of foreign exchange reserves.

- **Currency risk:** This arises from the fact that government's revenue is local currency-denominated while repayments are in foreign currency. This may create the risk of currency depreciation leading to higher debt servicing costs in local currency terms.
- **Refinance risk:** The sovereign status of the economy may be vulnerable to abrupt change in international financial conditions stemming from unfavorable natural, economic or political developments. This could undermine the sovereign's ability to secure access to international capital markets on a sustained basis, thus significantly increasing refinancing risk.
- **Contagion risk:** The issuer may fall victim to contagion or panic arising from adverse economic conditions created in foreign countries.

Moreover, assessment of domestic macroeconomic conditions and international capital markets are highly important for successful issuance of sovereign bond. If assessment of international capital markets and domestic macroeconomic conditions give positive signals, Bangladesh can place her debut bond in international market through designing a road map entailing various aspects for the issuance of sovereign bond.

## 7. Prospects for Issuance of Bonds

Bangladesh has bright prospects for developing its infrastructure and energy sectors both from issuing sovereign bonds and utilizing the untapped potential of the domestic bond market.

**7.1 Prospects for Issuance of Sovereign Bonds:** Issuance of sovereign bonds can be successful in Bangladesh for the following reasons:

### **7.1.1 Good track records of debt servicing and favorable debt sustainability indicators:**

Historically Bangladesh has maintained a good track record of debt servicing and has never defaulted on its internal or external debt obligations despite the Asian and global financial crises, numerous political tumults and countless natural disasters. This solid track record will certainly attract the potential buyers of bond. At the same time, the Debt Sustainability Analysis (DSA)<sup>†</sup> on Bangladesh economy suggests that Bangladesh's risk of debt distress on external debt remains low, which is encouraging for issuing sovereign bond.

### **7.1.2 Sustained current account surplus supported by a strong growth of remittance:**

Bangladesh has successfully sustained current account surplus over a long period of time. It successfully met the country's demands for huge imports of capital machinery and raw materials with strong growth in exports and remittance inflows. The current account surplus has provided a large buffer against volatility in Bangladesh economy as remittances are counter-cyclical and have no associated capital outflow.

### **7.1.3 Favorable sovereign credit rating:**

Bangladesh has attained a relatively good sovereign credit rating by the two world renowned rating agencies, Standard & Poor (S&P) and Moody's in recent years. It may be noted that Bangladesh has been assigned a sovereign credit rating of "BB-" by S&P and "Ba3" by

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<sup>†</sup> The DSA tool, developed by the IMF and the WB, examines the existing debt sustainability of Bangladesh through analyzing its debt maturity & interest rate structures. The DSA of Bangladesh was conducted in 2006, 2009 and in 2011.

Moody's in 2010 which is till kept unchanged by both of these agencies due to its sustained economic growth performance over the last five years when the global economy has greatly suffered from the financial crisis. With these ratings, Bangladesh is now above several Asian countries including Vietnam, Cambodia, Sri Lanka and Pakistan. As a result, Bangladesh has a fair chance to raise funds from the international capital markets through issuance of sovereign bonds for developing her energy and infrastructure sectors with offering comparatively low yield to the investors.

#### **7.1.4 Favorable Macroeconomic Indicators:**

Overseas investors generally want to review key macroeconomic and sustainability indicators of the sovereign bond issuing country and compare the indicators with countries receiving similar sovereign ratings. In this view point, Bangladesh's macroeconomic indicators have remained better than many of its comparators in the South and South East Asia. Some key indicators are provided in Table-17 for Bangladesh and some of its comparators to understand Bangladesh's better-off macroeconomic situation.

Table-17: Bangladesh's overall government debt as compared with other regional comparators

Country	Sovereign Rating	Government Debt/GDP (%)
Bangladesh	Ba3	40.6
Pakistan	B3	61.6
Sri Lanka	B1	74.8
India	Baa3	64.5
Cambodia	B2	41.5
Vietnam	B1	42.2

Source: S&P Sovereign Risk Indicators Dec 2010.

The above Table illustrates that the Bangladesh's overall debt level remained lower as compared to its other comparators having almost similar or better sovereign ratings. Similarly, Bangladesh's external debt is also quite low as compared with the above mentioned countries except India which are shown in Table-18.

Table-18: Bangladesh's overall external debt as compared with other regional comparators

Country	Sovereign Rating	External Debt/GDP (%)
Bangladesh	Ba3	22.4
Pakistan	B3	32.1
Sri Lanka	B1	46.1
Cambodia	B2	28.3
Vietnam	B1	35.9
India	Baa3	13.1

Source: S&P Sovereign Risk Indicators December 2010.

Bangladesh's debt servicing costs are low compared with many of its other regional comparators (Table-19). The outlook for debt service burden also remains favorable since both exports and remittance receipts are expected to remain buoyant over the medium term.

Table-19: Bangladesh's debt servicing ration as compared with other regional comparators

Country	Sovereign Rating	Debt Servicing Ratio
Bangladesh	Ba3	2.8
Pakistan	B3	8.2
Sri Lanka	B1	10.6
India	Baa3	2.8
Cambodia	B2	2.0
Vietnam	B1	2.8

Source: S&P Sovereign Risk Indicators December 2010.

### 7.1.5 Comfortable Level of Foreign Exchange Reserves:

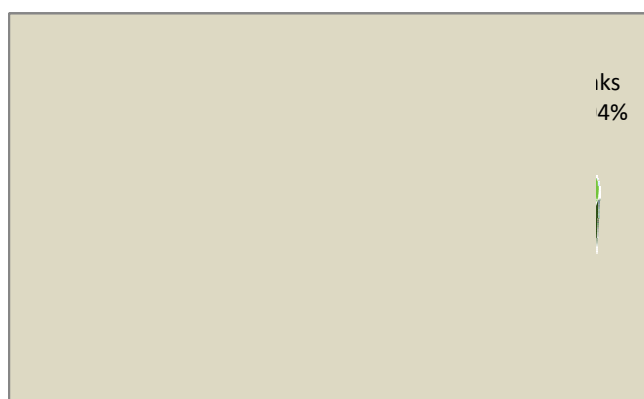
Bangladesh's recent sizable current account surpluses have fueled a rapid build-up in foreign exchange reserve, which is gradually increasing in FY 2013. Despite some fluctuations associated with Asian Clearing Union (ACU) settlement in every alternative month, Bangladesh's foreign exchange reserve exceeded US\$ 18 billion on December 19, 2013. Moreover, Bangladesh's foreign diplomacy "Friendship towards all, malice towards none" and its good relation with neighboring countries may also attract potential foreign buyers of the sovereign bond.

### 7.2. Prospects for Issuance of Domestic Infrastructure Bond:

From the cross-country experiences, it has already been seen that a major source of finance for the development infrastructural projects have been the issuance of bonds in the domestic markets for many countries of the world. Bangladesh's current state of the bond market however is not conducive for supporting such large scale infrastructure financing through the bond market. Bond market development strategy would need to develop both the supply-demand sides of funds for the bond market. On the demand side, there has to be interested institutions and corporate bodies to issue long-term bonds to finance infrastructure investment. On the supply side, Bangladesh has to build its supply base for long-term funds/savings by tapping pension and provident funds of the formal/organized sector employees and insurance companies' funds (especially, life insurance companies' funds) through issuance of infrastructure bonds. In order to develop bond market, some institutional arrangements will have to make both in supply and demand sides and potential options for broadening the investors' base for infrastructure bonds will have to explore in the medium and long run.

#### 7.2.1. Potential Options for Broadening the Investors Base for Infrastructure Bonds

Up to December 2011 there were 47 scheduled banks, 30 non-bank financial institutions (NBFIs) and 62 insurance companies (ICs) in Bangladesh. Near about 2 Lac employees were working with these institutions and almost all of them were maintaining provident funds (PFs) with their employment authorities. The total size of the PFs would be a big



amount, which could be brought under long-term financing for infrastructure and energy sectors financing through issuance of bonds. It may be noted that, an estimated total amount of PFs of all employees banks, NBFIs and ICs was Tk. 7402.81 crore (scheduled banks Tk. 6517.56 crore, NBFIs Tk.38.27 crore, ICs Tk. 29.37 crore and Bangladesh Bank Tk. 617.60 crore) at the end of December 2011 which was invested in government securities (T. Bills and T. Bonds), Sanchaypatras (Savings Certificate like-Bangladesh Protiraksha Sanchaypatra and Bangladesh Sanchaypatra) and in FDR (Table-20). The amount invested in FDRs in banks accounts for about 60% (Tk.4388.10 crore) of the total fund, which could easily be diverted to infrastructure bonds.

Table-20: Total Outstanding Balance of PFs of all Banks, FIs and ICs as of December 2011  
(Tk. in crore)

	Banks	Financial institutions	Insurance Companies*	BB**	Total
<b>Outstanding Balance of Employees Provident Fund/Pension fund (A+B)</b>	<b>6517.56</b>	<b>38.27</b>	<b>229.37</b>	<b>617.60</b>	<b>7402.81</b>
A) Investment from employees provident Fund/Pension fund	6293.35	38.27	222.89	606.07	7160.58
a) Govt. Securities	1117.53	3.74	26.20	38.02	1185.49
b) Sanchaypatra	702.46	6.82	99.77	568.05	1377.10
c) FDR	4287.7	23.84	76.56	-	4388.10
d) Shares and Debentures	80.65	3.52	20.36	-	104.53
e) Other Investments	105.01	0.35	6.48	-	111.85
B) Cash in hand	224.21	0.00	0.00	11.53	235.74

\* Up to end December 2010, \*\* Up to end June, 2011

Source: Data collected from the respective all institutions and compiled for the study purpose by authors' own.

Similarly, accumulated PFs amount of the employees of joint-stock companies, microfinance institutions approved by microcredit regulatory authority (MRA) and garment industries under Bangladesh Garments Manufactures and Exporters Association (BGMEA) membership can be such a sizable amount. It can meet the whole long-term financing demand of the infrastructure and energy sectors.

For instance, there were 3.6 million<sup>†</sup> workers directly working in the garments industries under BGMEA membership in December 2011. As per minimum wage gazette of 31 October 2010, the workers' salary range was from Tk. 3000/- to Tk. 9600/-. If we could create a PF provision for the garments workers, a remarkable amount of money would be created which could be invested for financing infrastructure and energy sectors. It has been observed that, if we consider the average gross salary for all workers is Tk. 6300 and a provision of PFs can be created for only 5% of their gross salary then Tk. 113.4 crore could be deposited in their PFs in a single month and Tk. 1360.8 crore would be deposited in a year. Even, if we can create a provision of PFs of Tk. 100 per month for each worker, a total amount of Tk. 36 crore per month or Tk. 432 crore would be deposited in a year (see Table-21 for detailed estimates).

Table-21: Estimated Amount of Provident Fund for garments workers as of December 2011

<sup>†</sup> As per BGMEA's information this number of workers (excluding officials involved in garments industries and workers and officials involved in other backward and forward linkage industries) were directly employed by their members as on 31 December 2011.

Particulars		
Number of Industry Under BGMEA Membership	5150	
Number of Employees (in millions)	3.6	
a) Officers ( salary range/month)	Not available	
b) workers (salary range/month)*	Tk. 3000-9600	
	monthly	Yearly
Estimated Average Salary in Taka	6300	75600
Estimated Gross Salary (Taka in crore)	2268	27216
<b>5% of Gross Salary (Taka in crore)</b>	<b>113.4</b>	<b>1360.8</b>
<b>Tk. 100/- for all employees (Taka in crore)</b>	<b>36.0</b>	<b>432.0</b>

Source: Data collected from BGMEA and estimated for the study purpose.

\* As per Minimum Wage Gazette dated 31 October, 2010.

In the same way, PFs amount of the employees of joint-stock companies, microfinance institutions (MFIs) approved by microcredit regulatory authority (MRA) can be an emerging source for investment in bond for financing infrastructure and energy sectors development. Moreover, Government civilian employees including teachers of all categories (government and MPO) will also be a major source of long-term fund.

It can be noted here that, according to Bangladesh Bureau of Educational Information Statistics (BANBEIS), there were about 8.67 lac teachers and employees at the end of 2011. Considering their minimum pay scale, an estimated monthly collection of 10% provident fund stood approximately at Taka 77.09 crore and a yearly collection of provident funds may stood at Taka 925.08 crore, which can also be a good source of long-term financing for infrastructure bonds (see Table-22 for detailed estimates).

Table-22: Estimated Amount of Provident Fund of the Education Sector at the end of December 2011  
(Taka in crore)

Institutions	No. of Teachers and Staffs	10% of Monthly Basic Salary (minimum)*
Primary Education	395281	31.15
Madrasah Education	107177	5.57
School Education	223555	17.88
Professional	4752	0.38
College Education	95620	10.52
Teacher Education	2622	0.29
Technical-vocational	22919	2.52
University	15838	2.38
Total Teachers	867,764	70.69
Other employees of Schools and Collages	123,078	6.40
Total	990,842	77.09
<b>Per year</b>		<b>925.08</b>

Source: Bangladesh Bureau of Educational Information Statistics (BANBEIS). \*Estimated on the basis of minimum pay scale

From the above observations, it can be summarized that sources of funds for the bond market are not a big problem; while institutionalization of the potential sources is really the most challenging task for the policymakers of the Government of Bangladesh.

## 8. Recommendations/ Policy Prescriptions

It is obvious that government and the financial system of Bangladesh has failed to provide adequate financing for the development of its infrastructure and energy sectors, which is also the main reason for the of current infrastructure and energy sector bottlenecks. In order to mobilize required financing for the development of infrastructure and energy sectors, the present endeavor of the government financing through budgetary allocations and bringing funds from the development partners and allowing foreign direct investment and private entrepreneurs should continue. However, this traditional source of funding would not be enough to meet the large and growing need for infrastructure funds in Bangladesh. Accordingly, to bring additional funds for the development of infrastructure and energy sectors, the following policy options can be adopted:

1. In order for domestic diversion of funds for the development of infrastructure and energy sectors, 'Bangladesh Infrastructure Development Bond (BIDB)' can be issued by the Bangladesh Finance & Investment Company Limited both in Taka and US dollar terms. With an attractive rate of return, BIDB may help to divert funds both from potential domestic and foreign sources (such as Bangladeshi expatriates and wage earners). At the same time, a special savings instruments such as Bangladesh Abokathamo Unnayon Sanchaypathro (Bangladesh Infrastructure Development Bond-BIDB) can also be issued by the national savings directorate (NSD) for participating common people in infrastructure financing.
2. In order to develop the domestic bond market properly, its supply base for long-term funds/savings would need to be developed by tapping pension and provident funds of the formal/organized sector employees and insurance companies (especially, life insurance companies' funds). This would require channeling of funds through issuance of infrastructure bonds. For the sake of broadening investors' base, protecting investors' interests and for channeling funds to infrastructure bonds, the Government of Bangladesh (GoB) may set up Bangladesh Provident Funds Authority (BPFA) as a regulatory body.
3. The GoB may consider issuing its debut Sovereign Bond to the international capital market for the sole purpose of financing strategic infrastructure investment in Bangladesh. Initially, the size of the bond issuance could be US\$ 1000 million. The best possible timing of the issuance of debut sovereign bond would be the time after successful settlement of the current political bedlam on the eve of the tenth National Parliament Election. Meanwhile, preparatory activities need to be completed. At the same time, a central corner-stone of the privatization process could be to attracting foreign direct investments (FDI) in our country.
4. Securitization of existing infrastructures (like Jamuna Bridge) can also be a good option for financing new infrastructure projects. For this purpose, the GoB may require to formulating a new law for allowing private entrepreneurs/individuals to buy the collateralized infrastructure bonds, backed by income stream from this collateralized asset, and use the proceeds to finance new infrastructure projects.

5. A market-based pricing mechanism for all the fixed income instruments including corporate and infrastructure bonds will have to be created and the secondary market for corporate bonds will have to be strengthened. A market-based yield curve for government bonds will be the first essential step for creating a vibrant bond market. The government bond yield curve will serve as the benchmark for the development of corporate and infrastructure bond market in Bangladesh. In this regard, the government will have to take a pioneering role in rationalizing the interest rate structure of all fixed income instruments including savings certificates issued by the National Savings Directorate (NSD).
6. In order to divert investment from real estate or land purchase, the GoB may consider introduction of proper capital gains tax at the central government level and property tax at the local government level. The rate of these property taxes should be re-evaluated along with the property prices for the purpose of property and capital gains taxes. This may help to prevent the re-emergence of unusual asset price bubbles in future.

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## ***List of Abbreviation***

PPP	Public-Private Partnership
IDCOL	Infrastructure Development Company Limited
SFYP	Six Five Year Plan
RHD	Roads and Highways Department
BRTA	Bangladesh Road Transport Authority
BRTC	Bangladesh Road Transport Corporation
LGED	Local Government and Engineering Department
BoP	Balance of Payment
BBA	Bangladesh Bridge Authority
NBFIs	Non-Bank Financial Institutions
FDR	Fixed Depository Receipts
IDRA	Insurance Development and Regulatory Authority
DSE	Dhaka Stock Exchange
CSE	Chittagong Stock Exchange
IPO	Initial Public Offering
IIFC	Infrastructure Investment Facilitation Center
SOC	Social Overhead Capital
PPI	Promotion of Private Investment)
MRG	Minimum Revenue Guarantee
HKSAR	Hong Kong Special Administrative Region
FDI	Foreign Direct Investment
BIDB	Bangladesh Infrastructure Development Bond
ULBs	Urban Local Bodies
GOI	Government of India
AMC	Ahmadabad Municipal Corporation
MCH	Municipal Corporation of Hyderabad
DSA	Debt Sustainability Analysis
MRA	Microcredit Regulatory Authority
BGMEA	Bangladesh Garments Manufactures and Exporters Association
BANBEIS	Bangladesh Bureau of Educational Information Statistics
NSD	National Savings Directorate
BPFA	Bangladesh Provident Funds Authority