# Public Debt Sustainability in Bangladesh
## PN 0802
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## Abstract

*This policy note reviews the trend in debt composition and sources of debt financing and analyzes debt sustainability of Bangladesh. Along with historical data on level of debt and sources of financing, the analysis uses debt dynamics equations for overall debt as well as external debt. The equations have been estimated for the period FY90-FY07 covering variables, such as GDP growth rate, inflation, interest rate, exchange rate, primary deficit (including seignorage), export growth, and current account balance. The empirical results show that the differential between growth and interest rate, reduction in primary deficit, export growth and improvement of current account balance have stronger influence in changing the overall public debt-GDP and external debt-export ratios. The current debt level appears sustainable in Bangladesh. The paper suggests that either the interest rate on debt or GDP growth needs to be maintained at levels such that the GDP growth- real interest rate differential may increase further.*

## Introduction

The issue of overall public debt and debt sustainability has long been a major concern for policy makers in Bangladesh. High public debt stems from persistent fiscal deficit and can have a significant negative effect on economic activities. It leads to high taxes and puts upward pressure on real interest rates, which may crowd out private investment. When a government is no longer able to finance its deficit, it is forced to cut spending or raise revenues, often at times when expansionary fiscal policy is needed to help stabilize the economy.

The assessment of debt sustainability is a sensitive issue and depends on a host of factors, such as the current level of debt, primary balance, volatility in inflation rate, movement in interest and exchange rates, export growth, current account balance, and the GDP growth rate. Debt sustainability is usually defined as a situation in which a borrower is expected to be able to continue servicing its debt without an unrealistically large correction to the balance of income and expenditure (IMF 2006). The issue, therefore, encompasses the concepts of solvency and liquidity. These two aspects are relevant in making any sustainability assessment which also depends on individual country circumstances. From a solvency point of view, the debtor must be able to generate sufficient funds in future periods to cover the debt-service obligations without indefinitely accumulating debt. In other words, the sovereign must be able to produce a level of primary surplus that, over the medium term, would maintain or lower the ratio of debt to GDP. From the liquidity point, debt sustainability implies that the debtor must be able to find sufficient amounts of financing in each period to close any financing gaps without having to resort to disorderly adjustment.

Debt sustainability is an essential condition for macroeconomic stability and sustained economic growth. Most often, high public debt levels create repayment flows that can crowd-out much

needed public spending, and can generate adverse incentives for private investors to engage in activities that spur long-term growth. An excessive level of public debt can make a nation vulnerable to interruption in aid flows or to sudden shifts in domestic financial market conditions. These problems are aggravated by a narrow export and production base and various structural, political, and institutional factors that reduce returns on investment (ADB 2005).

In order to support the low-income countries in their efforts to achieve the Millennium Development Goals (MDGs), the IMF, along with the World Bank, has developed a debt sustainability framework (IMF 2007). The framework incorporates three elements: (i) assessment of debt sustainability guided by indicative country-specific debt-burden thresholds related to the quality of policies and institutions; (ii) standardized forward-looking analysis of the debt and debt-service dynamics under a baseline scenario and in the face of plausible shocks; and (iii) appropriate borrowing (lending) strategy that contains the risk of debt distress. As per the debt burden thresholds indicator under debt sustainability assessments of low income countries, Bangladesh has been categorized in the medium-category in terms of its institutional strength and the quality of its policies (IMF 2005).[1]

Bangladesh's debt sustainability has been assessed by Islam and Pada (2006) using debt dynamics equations for the sample period of FY81-FY06.[2] They found that the change of debt-GDP ratio showed a mixed trend during FY81-FY06. The change of debt-GDP ratio, on average grew by 2.5 percent in the 1980s, 2.1 percent in the 1990s, and 0.6 percent during FY01-FY06. The stress test for different components indicated that the interest component contributed more to changes in the stock of debt-GDP ratio during the whole sample period compared with the growth component's contribution. Net effect of the interest component stood at 6.2 percent on average during the whole period while growth effect averaged 2.5 percent. The exchange rate component also contributed about 2.1 percent during FY81-FY06 period. They also found that the combined effect of primary budget deficit and changes in high powered money to debt-GDP ratio was strong in the 1980s, which gradually eased during the 1990s and FY01-FY06 due to improvement in primary balances. In another study, Bilquees (2003) found that foreign exchange effect had the strongest impact in pulling up the debt-GDP ratio in Pakistan during FY80-FY03.

## II. Debt Level and Composition and Financing of Debt

**Total public debt**

In the wake of persistent high fiscal deficit in the 1970s and 1980s, total debt-GDP ratio in Bangladesh, on average, rose sharply from 33.7 percent during the 1970s to nearly 57.0 percent in the 1980s. During the period, high levels of public debt triggered growth of monetization and financial repression, including forced absorption of Government bonds by banks and financial institutions.[3] The fiscal adjustment measures initiated in the early 1990s brought down the debt-

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[1] According to the latest update, medium policy category is: (i) NPV of debt/exports = 150 percent, NPV of debt/GDP = 40 percent, NPV of debt/revenue = 250 percent; and (ii) debt service/exports = 20 percent, and debt service/ revenue = 30 percent.

[2] For a discussion on debt dynamics equation, see Ley 2003.

[3] The banks were allowed to hold Government bonds and securities in maintaining Statutory Liquidity Ratio (SLR). During the 1970s and 1980s, SLR was about 25 percent for banks. As a result, the government has raised large amount by selling bonds and securities to banks as well as Bangladesh Bank.

GDP ratio to 51.1 percent during the 1990s. During FY01-FY07, fiscal deficit and debt-GDP ratios have declined. Fiscal deficit as a share of GDP came down to 3.6 percent in FY07 from 5.2 percent in FY01 and debt-GDP ratio declined from 50.4 percent in FY01 to 49.9 percent in FY07 (Table 1).

| Table 1: Average Trend in Fiscal Deficit and Nominal Debt-GDP Ratio in Bangladesh (As percent of GDP) | | | | |
|---|---|---|---|---|
| Year | Fiscal Deficit | Total Debt | Domestic Debt | External Debt |
| 1970s (average) | 7.60 | 33.65 | 12.96 | 20.69 |
| 1980s (average) | 6.96 | 56.95 | 13.38 | 43.57 |
| 1990s (average) | 4.70 | 51.05 | 12.33 | 38.72 |
| FY01-FY07( average) | 4.07 | 51.54 | 19.67 | 31.87 |
| FY01 | 5.20 | 50.43 | 18.35 | 32.08 |
| FY02 | 4.70 | 53.86 | 19.63 | 34.22 |
| FY03 | 4.20 | 52.47 | 18.94 | 33.54 |
| FY04 | 4.20 | 52.26 | 19.50 | 32.76 |
| FY05 | 3.50 | 50.88 | 19.78 | 31.10 |
| FY06 | 3.10 | 51.02 | 20.74 | 30.28 |
| FY07 | 3.61 | 49.87 | 20.78 | 29.09 |

*Source: (1) Economic Trend, Bangladesh Bank, (2) External Resource Flow, Economic Relation Division (ERD), (3). National Savings Directorate (NSD), (4) BBS.*

**Domestic debt**

Total outstanding domestic debt as percent of GDP increased to 19.7 percent, on average, during FY01-FY07 from 13.0 percent in the1970s. Over the period FY74-FY07, the nominal value of domestic debt grew at the rate of 13.4 percent per year. Domestic debt-GDP ratio went up to 20.8 percent in FY07 from 12.3 percent in the 1990s.

The accumulation of domestic debt takes place from three main sources: (i) Bangladesh Bank (BB), (ii) deposit money banks (DMBs), and (iii) non-banks (including NSD). The Bangladesh Bank and DMBs purchase Government securities/treasury bills to finance the budget deficit. When BB purchases Government treasury bills[4] to finance the deficit, it involves in money creation. Before 1995, the interest rates of these instruments were determined on an ad-hoc basis and the rates were relatively low compared with the NSD certificates or fixed deposit rates offered by the commercial banks. During the 1970s and 1980s, BB followed an administered interest rate policy. In the early 1990s, a market oriented interest rate policy was introduced under the Financial Sector Reform Program (FSRP). Subsequently, auction of Government treasury bills was introduced. As a result, interest rates on treasury bills are determined through auction since 1995. During FY01-FY07, 28-day Treasury bill rates varied within a range of 3.99 percent and 7.20 percent while 3-year savings certificate rate varied within 10 percent and 12 percent per annum. Recently, Ways and Means Advance limit have been increased to Taka 100 billion from Taka .6 billion. The interest rate varies with the reverse repo rate.

The share of outstanding debt financing from BB in total domestic public debt remained within 28 percent and 31 percent during FY90-FY07. In view of the growing need of private sector

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[4] The instruments of government borrowing from BB and DMBs are Treasury Bills, Treasury Bills on Tap, Ways and Means Advances, Over Draft, Special Treasury Bills and Special Treasury Bonds of different maturities. Treasury Bills on Tap were abolished in 1995.

credit, the Government gradually shifted debt financing operation to non-bank sources. The share of outstanding debt financing from DMBs declined from 53 percent in FY90 to 27 percent in FY07. Conversely, the share of non-bank financing (NSD) increased to 45 percent in FY07 from 16 percent in FY90.

Government borrowing from BB, which increases the level of high-powered money, grew by 19.5 percent, on average, during FY90-FY06 as compared with 11.3 percent over the entire period of FY74-FY07. As a result, the amount of outstanding debt from BB stood at Tk. 259.3 billion at the end of FY07 from Tk. 16.8 billion at the end of FY91. High powered money (RM) and broad money (M2) increased, on average, by 22.9 percent and 14.8 percent respectively during FY90-FY07.

Government borrowing from commercial banks, which generally affects private credit subject to the liquidity situation, grew by 15.5 percent during FY90-FY07 compared with 13.7 percent during FY74-FY90. Despite the relatively high growth, the outstanding debt from DMBs stood at Tk. 101.1 billion at the end of June FY07, which was Tk. 5.1 billion in FY90.


In the absence of a broad-based capital market, private sector relies heavily on commercial banks for both term loan and working capital. Market capitalization-GDP ratio for Bangladesh, a good indicator for capital market base, gradually increased to 10.2 percent of GDP at the end of FY07 as compared with 3.0 percent in FY01 (DSE 2007). Thus, the credit demand was mostly met by banks and financial institutions which disbursed industrial term loan of Tk. 87.0 billion during FY05 (Annual Report BB). In this context, it may be noted that excessive Government borrowing from commercial banks may increase the lending rate which may partially crowd out private sector credit.

The growth rate of outstanding debt on NSD certificates averaged 26.1 percent per year during the 16-year span of FY74-FY90 as compared with 19.6 percent growth during FY90-FY07. However, this method of borrowing is costly. Although the relevant interest rates are close to market rates but these are higher than that of the banking system and external financing. Despite high interest rates, the method is considered non-inflationary. It dampens inflation and encourages household savings. The outstanding stock of NSD certificates sharply increased to Tk. 409.6 billion at the end of FY07 from Tk. 93.0 billion in FY91. The lending and deposit rates of commercial banks are also affected by high interest rates of NSD certificates (Ahmed and Islam 2006).

**External debt**

The trend in external debt-GDP ratio during the FY90-FY07 period indicates that the external debt-GDP ratio declined over time. It came down to 29.1 percent of GDP at the end of FY07, from 49.6 percent at the end of FY88. The ratio for FY88 was the highest during the entire FY74-FY06 period. In the wake of slower external aid inflow since late 1990s, the growth of external debt came to 6.8 percent per year on average over the FY90-FY07 period as compared with the yearly growth rate of 25.5 percent during FY74-FY90. External debt as percent of export earnings came down to162 percent in FY07 from 740 percent in FY90. During FY90-FY07, export earnings grew by 13.4 percent per annum. It may be noted that Bangladesh's external debt obligation comprises mainly of public sector debt. The share of private sector borrowing is negligible; it is less than 4 percent of the total external debt. The total public sector debt increased from USD 0.5 million in FY74 to about USD 19.1 billion in FY07. Though the

external debt obligation in the total aid package of Bangladesh increased over the years, it is still within manageable limits (ERD 2005). Due to the Exchange of Note signed recently between the Governments of Bangladesh and Japan on writing-off principal and interest of 36 Japanese loans signed before 1989, Bangladesh has been exempted from repaying about USD 1.5 billion. Given the fact that most of the debt is owed to multilateral creditors, Bangladesh is unlikely to encounter any debt problem at present. According to a recent classification by the World Bank, using present value of total debt service, Bangladesh is considered as a less-indebted country (ERD 2005). However, increasing external debt, together with the expiry of grace periods and unfavorable exchange rate movements, has resulted in increased the external debt service. External debt service payments on total public sector debt rose from USD 302 million in FY90 to about USD 704 million in FY07 which represents 5.8 percent of the country's merchandise exports and 3.5 percent of total foreign exchange earnings.

**Interest payments**

Despite the relatively low cost of external debt servicing, total interest payment burden in Taka is increasing over time. Total payments went up to Tk. 94.0 billion at the end of FY07 from Tk. 17.6 billion in the 1990s. Out of total interest payments, domestic interest payments stood at Tk. 80.6 billion FY07, partly reflecting the high interest rate of NSD certificates. The ratio of interest outlay to revenue budget reached 21.6 percent FY07 from 14.3 percent in the 1990s (Table 2).

Since the interest rates on Government securities were administered and kept well below the market rates of comparable maturity during the 1980s and the first half of 1990s, the soft option of monetization was considered least burdensome, leading to a deleterious impact on debt management policy and monetary control. It is generally recognized that high level of money financing of deficit leads to high inflation. However, there are few studies that support the fact that such form of deficit financing contributes to inflation in Bangladesh. Rangarajan et al (1989) captured the nexus between monetary financing of deficit and inflation in India which reported a statistically significant relationship between monetized deficit and growth of domestic debt in India. Therefore, concerns over high levels of public debt for price stability and macroeconomic balance reinforce the need for stability in debt/GDP ratio in Bangladesh.

| Table 2: Trend in Interest Payment on Total Debt in Bangladesh ( In billion Taka) | | | | | | |
|---|---|---|---|---|---|---|
| Year | Domestic | Foreign | Total | Budget Revenue | Ratio of Interest outlay–Budget Revenue, % | Ratio of Interest to GDP, % |
| 1980s (average) | 1.79 | 2.21 | 4.01 | 35.92 | 10.98 | 0.84 |
| 1990s (average) | 11.43 | 6.14 | 17.57 | 117.22 | 14.27 | 1.01 |
| FY01-07 (average) | 51.95 | 10.71 | 62.66 | 298.82 | 20.14 | 1.79 |
| FY01 | 33.06 | 8.20 | 41.26 | 206.62 | 20.84 | 1.63 |
| FY02 | 35.85 | 9.35 | 45.20 | 226.92 | 19.97 | 1.65 |
| FY03 | 46.17 | 9.57 | 55.74 | 253.07 | 19.92 | 1.85 |
| FY04 | 48.41 | 10.01 | 58.42 | 283.90 | 22.03 | 1.75 |
| FY05 | 53.03 | 12.00 | 65.03 | 333.23 | 20.58 | 1.75 |
| FY06 | 66.49 | 12.45 | 78.94 | 365.45 | 19.52 | 1.90 |
| FY07 | 80.63 | 13.40 | 94.03 | 422.54 | 21.60 | 2.01 |
| Source:  Economic Review, 2006 and 2007, Fiscal Report of MoF, | | | | | | |

## III. Analysis of Debt Sustainability

Changes in overall debt-GDP ratio take place over time as a result of the combined effects of certain macro variables, namely movements in interest rate, volatility in the exchange rate, primary deficit and high powered money, export growth momentum, current account balance, and real GDP growth. The present analysis assesses the impact of these factors on growth of public debt in Bangladesh for the sample period of FY90-FY07. The derivation of debt dynamics equation and its sustainability is given in Box 1.

Estimated results indicate that overall debt-GDP ratio changed by 3.1 percent, on average, in the 1990s and 2.2 percent during FY01-FY07(Table 3). The decelerated rate of change in the ratio is influenced by improvements in primary deficit and higher growth-interest rate differential during FY01-FY07. Primary deficit as percent of GDP came down to 1.1 percent in FY07 from 4.8 percent in FY00 and 6.0 percent in FY90. Real interest rate-GDP growth differential also increased due to decline of real interest rate and the upward growth trend of real GDP during the period. The real weighted average of Treasury bills and NSD certificate rate came to 4.16 percent in FY07 from 7.88 percent in FY00. However, the trend in real interest rate exhibited high volatility due to wide variations in the inflation rate during the period.

| Table 3: Changing of Overall Debt and External Debt During FY01-FY07 (in percent) | | | | | | |
|---|---|---|---|---|---|---|
| | Overall Debt | | | External Debt | | |
| Year | Change of Overall Debt-GDP Ratio, % ($\Delta b$) | Interest Rate - Growth Differential (r-y) | Differential of Primary Deficit-Change of Reserve money GDP ratio , % (x-s) | Change of External Debt – Export Ratio ($\Delta e$) | Export growth-foreign interest rate differential (g-i) | Current Account Balance-Export Ratio, (z) |
| FY91-FY07 (average) | 2.73 | 0.07 | 2.70 | -36.42 | 0.09 | -1.53 |
| FY91-FY00(average) | 3.08 | 0.58 | 2.80 | -49.71 | 9.43 | -2.65 |
| FY01-FY07(average) | 2.223 | -0.66 | 2.56 | -17.43 | 8.58 | -2.66 |
| FY01 | 4.04 | 2.13 | 2.97 | -37.49 | 8.78 | -17.05 |
| FY02 | 1.77 | 1.39 | 1.02 | 27.85 | -9.26 | 2.68 |
| FY03 | -1.64 | 0.09 | 1.59 | -21.49 | 8.28 | 0.52 |
| FY04 | -0.08 | -2.15 | 1.20 | -31.44 | 14.62 | 4.16 |
| FY05 | -0.69 | -1.91 | 1.66 | -27.12 | 10.46 | -4.43 |
| FY06 | -1.27 | -1.85 | -0.32 | -23.02 | 16.59 | 6.78 |
| FY07 | 8.61 | -2.35 | 9.78 | -9.32 | 10.59 | 7.82 |

source: Author's own calculation.

The underlying theoretical notion of fiscal stability and sustainability is that debt/output ratio would inexorably grow to explosive proportions if the real interest rate exceeds real output growth of an economy. Even if output growth exceeds the interest rate, persistent primary account deficits may lead to steady growth in debt/output ratio towards a limit where private savings may become inadequate to absorb the financing requirement of the Government. This necessitates adequate primary surpluses in the budget for maintaining long-term sustainability of debt/GDP ratio (Bispham 1987, Blanchard 1990, Hamilton and Flavin 1986, Mason 1985, Spaventa 1987, referred in Pillai et al, 1997).

The estimated external debt dynamics equation indicates that external debt–export ratio is heavily influenced by export growth, ratio of current account to exports, and foreign interest rate. During FY90-FY07, the change of debt–export ratio has shown declining trend, on average, by 36.4 percent (Table 3). These downward changes were driven by export-interest rate[5] differential which stood at 9.1 percent during the whole sample period and around 12.0 percent in the last five fiscal years. The export earning growth, the main contributor of widening export growth-interest differential, grew by 13.4 percent, on average, during FY90-FY07.

The analysis of external debt scenario shows that the current level of external debt is sustainable. As per the debt burden threshold of IMF-World Bank (2006), external debt service as percent of export came down to 5.8 percent in FY07 from 10.7 percent in FY00 and 19.8 percent in FY90 which are below the debt burden threshold level ( e.g. 25 percent for strong policy).

The fiscal stabilization measures initiated during the 1990s brought about a major change in primary account deficit so as to bring about a turn around in the public debt position during FY01-FY07. Considering the trends of relevant determinants, such as the interest rate, GDP growth rate, exchange rate, inflation, burden of debt services, and debt dynamics, the present level of debt/GDP ratio appears sustainable in Bangladesh.

## V. Conclusions

Bangladesh followed a moderately expansionary fiscal policy during the 1990s for achieving sustained higher growth to reduce poverty and to meet the MDGs. In the wake of persistent fiscal deficit along with widening trade deficit and savings-investment gap, total public debt has accumulated over time. The present analysis of debt dynamics shows that the interest rate, exchange rate, GDP growth, primary deficit, and change of reserve money have a combined effect in changing the overall stock of public debt. The interest rate component has exhibited stronger influence than that of growth component in changing the total public debt stock during the sample period of FY81-FY07. Primary deficit and exchange rate depreciation also has influence in changing the public debt stock.

External debt dynamics indicate that higher GDP growth-interest rate differential, robust export growth, and improvement in currant account balance contributed to improving external debt sustainability during FY90-FY07. The external debt-export ratio and debt service-export ratio improved markedly during the period. To ensure debt sustainability, several policy measures are relevant

- It is important to maintain the domestic interest rates (e.g. Treasury bills and NSD certificates) at levels such that the real rate of interest remains below the real output growth rate.
- The recent trend of reducing primary deficit needs to be continued for which streamlining of revenue efforts is essential along with prioritizing and rationalizing public expenditure.
- Appropriate export policies and effective measures should be implemented to sustain the current robust export growth.
- There is a need for greater coordination between monetary and fiscal policies for improving the primary deficit as well as to ensure a stable inflation and exchange rate regime as well as sustained high growth necessary to ensure long term debt sustainability.

**Box:1**
**Sustainability of Public Debt**

We can derive the following debt dynamic equations from the simple debt theory, and look at overall debt and external debt sustainability.

*Overall debt*
The budget identity for the non-financial public sector can be written as:
  (1)  $X + iB = \Delta S + \Delta B$,  where X is the primary deficit, iB is the interest payments on existing debt B, $\Delta S$ is the increase in the monetary base (on which no interest is paid, seignorage), and $\Delta B$ is the increase in interest-bearing debt.

Using lower case letters for proportions of GDP and writing GDP=PY, we have
  (2)   $x + ib = s + \Delta B/PY$,

Since $B = b\,PY$ and writing $P^\wedge = \Delta P/P$ and $Y^\wedge = \Delta Y/Y$, it follows that

  (3)  $\Delta B = PY \,\Delta b + bPY\,(P^\wedge + Y^\wedge)$ or

  (4)  $\Delta B/PY = \Delta b + b\,(P^\wedge + Y^\wedge)$
Therefore, from equation (2),
  (5)  $\Delta b = x + ib - s - b(P^\wedge + Y^\wedge)$
Defining real interest rate r as $(i - P^\wedge)$, we have
  (6)  $\Delta b = x - s + b(r - Y^\wedge)$
Here, b is the debt to GDP ratio, x is the primary deficit to GDP ratio, s is the part of deficit that can be safely financed by an increase in base money, $Y^\wedge$ is the real growth rate of GDP, and r is the real rate of interest. Equation (6) shows that b may reach a limit if the rate of growth exceeds the real interest rate. This limit (if exists) is
  (7)  $b = (x-s)/(Y^\wedge - r)$

*External debt*

We express external debt relative to exports rather than to GDP. For simplicity, external debt is assumed to be in USD. Analogous to equation (6) we write
  (8)  $\Delta e = z - (g - i^*)\,e$,

where e is external debt to export ratio, i* is nominal dollar interest rate, g is growth rate of dollar export value, and z is ratio of non-interest debt creating current account deficit to exports ratio.

If i* > g, the debt to export ratio grows without limit for any nonnegative primary deficit. For any z if g > i*, the debt ratio will stabilize at the level d = z/(g-i*).

**References**

ADB (2005): Quarterly Economic Update, Bangladesh, September 2005, Dhaka.

Ahmed, Shamim and Md. Ezazul Islam (2006b), "Interest Rate Spread in Bangladesh: An Analytical Review", *Bangladesh Bank Quarterly*, April-June, 2006, PP. 22-28.

BB: Bangladesh Annual Report, (Various Issues), Bangladesh Bank, Dhaka.

BB: Economic Trend, (Various Issues), Bangladesh Bank, Dhaka.

BBS (1993): Twenty Years of National Accounting of Bangladesh, Bangladesh Bureau of Statistics, Dhaka.

Bilquees, Faiz (2003), "An Analysis of Budget Deficit, Debt Accumulation, and Debt Instability," *The Pakistan Development Review,* Volume 42,  No. 3 pp. 177-195.

Bispham J.A (1987), 'Rising Public Sector Indebtedness: Some More Unpleasant Arithmetic' in Boskin et al (eds.), Private savings and public debt, basil Blackwell, USA.

Blanchared, Oliver et al (1990), 'The Sustainability of Fiscal Policy: New answers to an old question', *OECd Economic Studies*.

Buiter, W. H.( 1985), A guide to Public Sector Debt and Deficits, Economic Policy, pp. 14-79.

DSE(2007): Monthly Review,  Vol. 22, No. 6, June 2007, Dhaka Stock Exchange, Dhaka.

GOB (2005): Flow of External Resources in to Bangladesh, Economic Relation Division, Ministry of Finance, and Dhaka.

GOB: Economic Review, (Various Issues), Ministry of Finance, Dhaka.

GOB: National Savings Directorate, Ministry of Finance, Dhaka.

Hamilton, J.D and Flavin M.A (1986), ' On the Limitation of Government Borrowing: A Framework for Empirical Testing', *American Economic Review*,  Vol. 76, No. 4.

Islam, Md. Ezazul and Bisnu Pada (2006), Public Debt Management and debt Sustainability in Bangladesh, Working Paper No. WP0705, PAU, Bangladesh  Bank, Dhaka.

IMF(2006): *Cross-Country-Experiences  with Restructuring of Sovereign Debt and Restoring Debt Sustainability*,  Policy Development and Review Department, IMF, 29 August.

IMF( 2007): The Debt Sustainability Framework for Low-Income Cpuntries, ast Updated, October 30, IMF.

IMF (2005): Operational Framework for Debt Sustainability Assessment in Low-Income Cpuntries– Further Consideration, World Bank and IMF staff study, 28, March.

Ley, Eduardo (2003), "Fiscal and External Sustainability", Training Materials, Singapore Training Institute, IMF.

Masson P.R (1985), ' The Sustainability of Fiscal Deficits,' *IMF Staff Papers*, Vol. 32, No. 4, December.

Pillai, S. Mohan, Somnath Chatterjee, Bhupal Sing, Sangeeta das and Arnab Gupta (1997), "Fiscal Policy: Issues and Perspectives", *Reserve Bank of India Occasional Papers*, Vol.18 Nos. 2 & 3, Special Issue, Mumbai, India.

Romer David (2006), *Advanced Macroeconomics,* 3rd edition, McGraw-Hill: New York.

RBI (2006): Handbook of Statistics on the Indian Economy, Reserve bank of India, Mumbai. India.

Rangarajan, C., Aupam Basu and Narendra Jadhav (1989), ' Dynamics of Interaction between Government Deficit and Domestic Debt in India', RBI Occasional Papers, Vol. 10.3, september.

Spaventa, Luigi (1987), ' The growth of Public Debt: Sustainability, Fiscal Rules and Monetary Rules, IMF Staff Papers, Vol.34, No. 2, June.