

AN EMPIRICAL ANALYSIS ON THE EXTERNAL BORROWING OF BANGLADESH

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The People Republic of Bangladesh is surrounded by India with a small common border with Burma in the southeast. The country is a low lying river line land drained by Ganga and Brahmaputra rivers. Tropical monsoons and frequent floods and cyclones inflict heavy damage in the delta region.

Bangladesh is an independent republic within the British Common Wealth. It has an area of 144,000sq kms with a population of 129.8 millions in 2000. Its capital is Dhaka and its official language is Bangla. The currency of the country is Taka (Tk) and its exchange rate with one dollar is 52.14. The major exporting items are garments, jute, leather, seafood, tea, paper and fertilizers worth 5526.93 millions of US Dollars in 2000. The major imports are capital goods, petroleum, food and textiles. The value of total imports was 8108.2 millions of US Dollars in 2000. The earliest kingdom was called Vanga or Banga (1000 B.C.). Buddhists ruled for centuries and by the end of 10th century Bengal was primarily Hindu nation. In 1576 Bengal became the part of the Mogul Empire. Bengal was ruled by British India from 1757 to 1947. The present Bangladesh named as East Pakistan and present Pakistan as West Pakistan were united by religion and discriminated by vast geographic, economic and cultural differences. Based on the efforts of the Pakistan Awami League founder Sheik Mujibur Rahman a Bengal nationalist, the independent state of Bangladesh was proclaimed on March 26, 1971.

After a civil war Pakistan agreed the independence of Bangladesh in February 1974. Founding president Sheik Mujibur was assassinated in 1975 and the next president was Mr. Zia Ur Rah man. On March 24, 1982, Gen Hussain Mohammad Ershad, army chief of staff, took control in a bloodless coup, and he was forced to resign on December 6, 1990, due to allegations of corruption. Khaleda Zia, Hazina Wazad were the next prime ministers. Disastrous floods in 1998 affected 8 million people and damaged the economy. The economy of Bangladesh is blessed with heavy water resources.

Figure 1 The economic background of Bangladesh in 2000

Objectives of the Study

The major areas of this paper are to study the growth and trend of total external debt and its components the structure of external debt of Asian Developing Countries, to identify the position of various Asian Developing Countries through various debt indicators, development indicators and per-capita debt based on international norms and to study the impact of globalisation on debt for Asian Developing Countries.

Period of Study:

Twenty years from 1981 to 2000 was taken for analysis of the study. The reason for selecting this period is the availability of data and the debt problems emerged as a serious issue. According to Roy Culpepper the debt of developing countries doubled between 1980 and 1991, and reached 1.3 trillions of US Dollars. 1996 TO 98 was highlighted by the problem of Asian Crisis. And hence this period of study becomes a crucial one.

Components of Bangladesh debt:

The three major components of the external debt are: long-term debt, short-term debt and IMF credit. Long-term external debt is the debt which has original maturity of more than one year. Usually these types of loans are received for long term developmental projects, infrastructure developments and defence purposes. Since such works do not bring any immediate return to repay the loan, long-term loans cause great financial burdens compared to short-term loans.

The short-term external debt is the debt that has an original maturity of one year or less. These types of loans are received for short-term projects which will bring return within a year and with the help of which debt can be repaid. Therefore if the share of this short-term debt in the total debt is higher, it may indirectly mean that productive activities are going on within the country. I.M.F. credit is the loans received from I.M.F.

Over the twenty years, the total external debt of Bangladesh has increased nearly five times. It has increased from 4,663.3 millions of US Dollars in 1981 to 15,608.6 millions of US Dollars in 2000.

TABLE 1 DEBT OF BANGLADESH

The share of long-term debt in total debt is increasing. It has increased from 85.15 per cent in 1981 to 96.73 per cent in 2000. In 1981, the share of IMF credit was nearly 10 per cent. It is reduced drastically to 1.38 per cent in the year 2000. Short-term debt is extremely low in the year 1988. The overall share of short-term debt and IMF loans are gradually coming down while the long term loans are increasing proportionately.

Trend analysis on the components of debt of Bangladesh:

The structure and components of external borrowing are treated with regression analysis.

Trend analysis of debt Outstanding:

The results of trend analysis reveal that the external debt outstanding of Bangladesh increases annually by 675.10 millions of US Dollars. The regression co-efficients of the semi-log regression model implies that the external debt outstanding of Bangladesh is growing at the compound growth rate of 6.99 per cent per year.

The regression co-efficients of both the models are significant at one per cent level. The value of adjusted R2 for the linear model is 0.899 and for the semi-log model, it is 0.853. This means that the debt outstanding of Bangladesh has registered a linear trend and more than 85 per cent of variations in the dependent variable are explained by the independent variable.

Trend analysis of Long Term Debt:

The long term debt of Bangladesh increases by 681.69 millions of US Dollars. The implication of the semi-log regression model is that the long term debt is growing at the compound growth rate of 7.67 per cent per year.

The regression co-efficients of both the models are significant at one per cent level. The value of adjusted R2 for the linear model is 0.917 and for the semi-log model, it is 0.863. The long term debt of Bangladesh has registered a linear trend and more than 86 per cent of variations in the dependent variables are explained by the independent variable.

TABLE 2 TREND ANALYSES FOR THE COMPONENTS OF EXTERNAL DEBT OF BANGLADESH

Trend analysis of Short Term IMF Credit and Interest on Short Term Debt:

IMF credit and the interest on short term debt do not register a linear trend and this is reflected in the results of the trend analysis through the low value of R2 and insignificant regression co-efficients.

Trend analysis of Principal Repayments to Long

Term Debt:

The trend analysis reveals that the principal repayment to long term debt rises by 22.99 millions of US Dollars every year. The regression co-efficients of the semi-log regression model implies that the compound growth rate of principal repayment to long-term debt is 10.65 per cent every year.

The regression co-efficients of both the models are significant at one per cent level. The value of adjusted R2 for the linear model is 0.843 and for the semi-log model it is 0.865. This means that Bangladesh has registered a linear trend for principal repayment to long term-debt and more than 86 per cent of the variations are explained by the independent variable.

Trend analysis of Interests on Long Term Debt:

The trend analysis points out that the interest on long term debt grows annually by 6.46 millions of US Dollars.

The semi-log regression model suggests that the compound growth rate of interest on short-term debt is 5.76 per cent.

In both the models the regression co-efficients is significant at one per cent level. The value of adjusted R2 for the linear model is 0.767 and for the semi-log model, it is 0.729. Hence more than 73 per cent of variations in the dependent variable are explained by the independent variable.

The growth of principal repayment to long term debt is very high, which means that Bangladesh has to spend more foreign exchange in repaying the debt. The C.G.R. of short term debt and IMF credit are very low and the C.G.R. of interest on short term debt is negative (-2.86). The trend shows that Bangladesh is concentrating over the long term debts only and it is taking efforts to reduce short term debts.

Development Indicators and debt indicators:

Gross National Product is used as an indicator to determine the stage of the development of a country. Based on the stage of economic development, Bangladesh is classified as a Low-Income Country. According to World Bank a low income country is "a country with GNP per capita of 760 US Dollars or less". The following table is the calculated value of Per capita GDP for Bangladesh from 1981 to 2000.

Table 3 PERCAPITA GNP (in U.S. Dollars)

Since the PCGNP is very much less than the indicator given by IMF, it is categorised as low income country.

Norms of Classification for Moderately Indebted Countries:

Countries in general are classified as severely indebted, moderately indebted and less indebted, depending on the severity of debt. According to the World Bank,

moderately Indebted Countries are countries with substantial debt burden but less serious than the severely indebted countries. A country is considered to be moderately indebted if it meets any three of the following four criteria:

- ❖ its debt/GNP ratio is between 30 per cent and 50 per cent; (EDT/GNP)
- ❖ the ratio of its external debt to its exports of goods and services is between 165 percent and 275 per cent; (EDT/XGS)
- ❖ its debt-service ratio is between 18 per cent and 30 per cent; (TDS/XGS) and
- ❖ the ratio of its interest payments to its exports of goods and services is between 12 per cent and 20 per cent.(INT/XGS)

The indicators calculated shows clearly that Bangladesh has to be categorised under moderately indebted country list. The most severely indebted countries may be eligible for debt relief under special programme such as the Heavily Indebted Poor Countries (HIPC) initiative. Empirical analysis of the experience of developing countries and their debt service performance have shown that debt service difficulties likely to increase, when the ratio of the present value of debt to exports reaches 200 per cent and the ratio of debt service to GNI exceeds 40 per cent.

Positions of Bangladesh Assessed through the Debt Indicators:

TABLE 4 DEBT INDICATORS OF BANGLADESH

In the year 2000, the external debt-export ratio of Bangladesh is 282.41 per cent. This means the country is heavily indebted. The debt-GNP ratio (33.11 per cent) shows that the country is moderately indebted. The debt service export ratio (12.61 per cent) and the interest-export ratio (3.33 per cent) indicate that Bangladesh is a less indebted country. The international reserves-debt ratio, international reserves-import ratio and short-term debt-total debt ratio etc. are all very less.

Based on all these indicators, the country is categorised as a moderately indebted country. Bangladesh shows a positive improvement in all the indicators over the twenty years period taken for analysis. The second indicator namely Debt-Export ratio has larger variations between 1025.29 per cent in 1987, and 282.41 per cent in the year 2000. Anyhow it has a preferable and progressing trend.

Impact of globalisation on the external debt of Bangladesh:

In this passage an attempt is made to analyse the

impact of globalisation on the external debt of Bangladesh.

Generally the extent of globalisation is expressed in terms of its openness. This chapter studies the relationship between the degree of openness and the level of external debt of various countries. This analysis provides an idea about the extent of openness of Bangladesh.

Correlation is also calculated between the total debt and openness ratio. The value of external debt, openness ratio and debt-openness ratio are presented in the following table. The correlation between the debt and the openness ratio is presented in the last rows of these tables.

TABLE 5 DEBT OPENNESS RATIO

For Bangladesh the openness ratio is increasing at a very slow rate. The debt - openness ratio is increasing from 1981 to 1992. There after it is declining with fluctuations.

The data on debt - openness ratio show that the debt is very high when compared to the openness ratio. The correlation between these two variables is 0.412 and it is significant at one per cent level. This means that both the variables are increasing at a moderate level.

To conclude the different types of analysis, it is understood that the overall share of short-term debt and IMF loans are gradually coming down while the long term loans are increasing proportionately. Debt is very high when compared to the level of globalisation. The growth of principal repayment to long term debt is very high, which means that Bangladesh has to spend more foreign exchange in repaying the debt. The C.G.R. of short term debt and IMF credit are very low and the C.G.R. of interest on short term debt is negative (-2.86). The trend shows that Bangladesh is concentrating over the long term debts only and it is taking efforts to reduce short term debts. Since Bangladesh is also found to be a low income country and moderately indebted country, it has to take serious effort for reducing its debt.

References:

- Abraham M. George & Ian H. Giddy [ed.], 'International Financial Hand Book', Glossary pp. G3 to G16, John Wiley & sons, Inc. 1983.
- Asian Development Outlook, 2001, Asian Development Bank, Oxford University Press, 2001.
- Bahram Nowzad, 'The Debt Problem And The IMF's Perspective' Third World Debt - The Search for a Solution pp 169-187 Professor Graham Bird (ed.), Department of Economics, University of Surrey, Edward Elgar Publishing Limited, Aldershot, England. 1989.

- Barry Eichengreen and Richard Portes, 'Dealing With Debt: The 1930s And the 1980s', Ishrat Hussain and Ishac Diwan (ed.) 'Dealing with the Debt Crisis', A world bank symposium, September, 1989.
- Daniel Cohen, 'How to Cope with a Debt Overhang', Dealing with the Debt Crisis' - A World Bank Symposium', September, 1989.
- Eduardo Lizno, 'External debt, view from the Third world', International Indebtedness' Maufred Borchert and Rolf Schinke (ed.), 'Contributions presented to the workshop on Economics of the Munster Congress of Latin America and Europe in Dialogue' Rout ledge, London and New York, 1990.
- Edward Elgar, 'Introduction' Professor Graham Bird(ed), 'Third World Debt-The Search for a Solution', pp 1-19,1990.
- Maufred Borchert and Rolf Schinke, 'International Indebtedness', Contributions to the workshop on Economics of the Munster congress on Latin America and Europe, Routledge, London and New York, 1990.
- Peter Nunnenkamp, The International Debt Crisis of the Third World, Harvester Press, 1986.
- Pushpa Kumari, 'External Debt and Economic Growth in Developing Countries', New Age International Limited, New Delhi, 1994.
- Stephany Griffith-Jones, 'The Bargaining Position of Debtor Nations' pp 41-69, Third World Debt - The Search for a Solution, Professor Graham Bird(ed.), Department of Economics, University of Surrey, pp 169-187, Edward Elgar Publishing Limited, Aldershot, England. 1989.
- Key Indicators of Developing Asian and Pacific Countries, Asian Development Bank, Oxford University Press, Manila, 1998, 1999, 2002.
- Key Indicators of Developing Asian and Pacific Countries, 2001, Asian Development Bank., Oxford University Press, China, 2001.

Figure 1: The economic background of Bangladesh in 2000

Indicators	
Population (millions)	129.80
Exchange Rate (ones)	52.14
International Reserve (in million U.S. \$)	2366.60
External Debt (in million U.S. \$)	16325.20
Export (in million U.S. \$)	5526.93
Import (in million U.S. \$)	8108.20
Trade Balance (in million U.S. \$)	8108.20
G.D.P. (in million U.S. \$)	45470.06
PCGDP (in U.S. \$)	363.16

TABLE 1 DEBT OF BANGLADESH (in millions of U.S. dollars)

YEAR	TOTAL DEBT	LONG-TERM	SHORT-TERM	I.M.F. CREDIT
1981	4663.3	3971.0	228.0	464.3
	[100]	[85.15]	[4.89]	[9.96]
1982	5232.5	4476.1	209.0	547.4
	[100]	[85.54]	[3.99]	[10.47]
1983	5650.6	4915.2	170.0	565.3
	[100]	[86.99]	[3.01]	[10]
1984	5861.6	5266.3	133.0	462.3
	[100]	[89.84]	[2.27]	[7.89]
1985	6874.2	6219.3	135.1	519.9
	[100]	[90.47]	[1.97]	[7.56]
1986	8385.0	7621.2	125.1	538.8
	[100]	[91.99]	[1.51]	[6.5]
1987	10151.2	9236.3	74.0	840.8
	[100]	[90.99]	[0.73]	[8.28]
1988	10693.2	9803.9	49.8	839.5
	[100]	[91.68]	[0.47]	[7.85]
1989	11118.7	10332.5	67.6	718.6
	[100]	[92.93]	[0.61]	[6.46]
1990	12768.1	11987.0	155.9	625.5
	[100]	[93.88]	[1.22]	[4.90]
1991	13482.2	12536.7	218.6	727.0
	[100]	[92.99]	[1.62]	[5.39]
1992	13927.6	12962.5	232.7	732.4
	[100]	[93.07]	[1.67]	[5.26]
1993	14650.3	13815.0	152.9	682.3
	[100]	[94.3]	[1.04]	[4.66]
1994	16257.9	15391.6	197.1	669.2
	[100]	[94.67]	[1.21]	[4.12]
1995	16325.2	15501.0	202.6	621.5
	[100]	[94.95]	[1.24]	[3.81]
1996	15337.0	14657.9	163.1	516.5
	[100]	[95.57]	[1.06]	[3.37]
1997	14421.3	13874.0	175.0	372.3
	[100]	[96.2]	[1.22]	[2.58]
1998	15670.9	15099.6	149.7	421.6
	[100]	[96.35]	[0.96]	[2.69]
1999	16533.4	15961.2	254.3	317.8
	[100]	[96.54]	[1.54]	[1.92]
2000	15608.6	15098.1	294.8	215.7
	[100]	[96.73]	[1.89]	[1.38]

TABLE 2 TREND ANALYSES FOR THE COMPONENTS OF EXTERNAL DEBT OF BANGLADESH

VARIABLES	MODEL	a	b	S.E of b	C.G.R	R ²	\bar{R}^2
DEBT OUT STANDNG	Linear	4592.09	675.10**	51.83		0.904	0.899
	Semi Log	8.58	0.07**	0.01	6.99	0.861	0.853
LONG TERM DEBT	Linear	3778.53	681.69**	47.08		0.921	0.917
	Semi Log	8.43	0.07**	0.01	7.67	0.871	0.863
SHORT TERM DEBT	Linear	128.19	3.93	2.33		0.136	0.088
	Semi Log	4.79	0.03	0.02	2.50	0.102	0.053
I.M.F. CREDIT	Linear	673.27	-9.84	6.22		0.122	0.074
	Semi Log	6.55	-0.02	0.01	2.39	0.180	0.135
PRINCIPAL REPAYMENT on L.T. DEBT	Linear	32.78	22.99**	2.27		0.851	0.843
	Semi Log	4.38	0.10**	0.01	10.65	0.872	0.865
INTEREST ON L.T. DEBT	Linear	71.25	6.46**	0.81		0.779	0.767
	Semi Log	4.29	0.06**	0.01	5.76	0.743	0.729
INTEREST ON S.T. DEBT	Linear	16.31	-0.41*	0.16		0.258	0.216
	Semi Log	2.72	-0.01*	0.01	-2.86	0.196	0.151

* Significant at 5 per cent level & ** Significant at one per cent level

Table 3 PERCAPITA GNP (in U.S. Dollars)

Country Year	BANGL ADESH
1981	145.72
1982	129.44
1983	132.72
1984	151.38
1985	151.78
1986	157.10
1987	175.02
1988	186.24
1989	198.11
1990	272.56
1991	277.87
1992	277.45
1993	281.80
1994	295.06
1995	325.44
1996	334.21
1997	341.93
1998	348.29
1999	361.41
2000	363.16

TABLE 4 DEBT INDICATORS OF BANGLADESH

YEAR	EDT/GNP	EDT/XGS	TDS/XGS	INT/XGS	RES/EDT	RES/MGS	S.T/EDT
1981	35.35	730.40	25.40	12.39	3.33	7.49	4.89
1982	43.71	934.31	32.84	15.18	N.A.	11.83	3.99
1983	45.48	772.03	21.81	12.13	9.58	29.45	3.01
1984	40.46	738.06	23.50	11.72	6.92	20.22	2.27
1985	46.30	733.82	23.93	11.49	5.08	14.33	1.97
1986	53.32	930.66	31.88	13.90	5.08	20.57	1.49
1987	56.63	1025.29	33.56	15.49	8.53	33.39	0.73
1988	54.94	915.99	31.65	13.06	10.01	36.40	0.47
1989	52.60	871.70	28.28	12.37	4.70	15.56	0.61
1990	43.10	902.08	37.58	12.22	5.09	18.14	1.22
1991	43.71	828.41	28.71	10.73	9.64	38.43	1.62
1992	44.31	746.96	25.28	8.59	13.26	54.46	1.67
1993	45.01	626.16	19.90	7.20	16.63	60.51	1.04
1994	46.81	647.44	21.30	7.61	19.47	75.93	1.21
1995	41.84	472.09	21.88	5.45	14.50	40.64	1.24
1996	37.58	405.41	15.43	5.39	12.14	27.82	1.06
1997	33.93	336.46	13.37	4.18	11.14	23.09	1.21
1998	35.57	313.91	10.83	3.40	12.30	26.45	0.96
1999	35.71	318.36	11.91	3.61	9.82	20.71	1.54
2000	33.11	282.41	12.61	3.33	9.71	18.69	1.89

TABLE 5 DEBT OPENNESS RATIO

YEAR	BANGLADESH		
	Debt	Open	Debt-openness
1981	4663.3	21.07	22128.01
1982	5232.5	19.73	26514.64
1983	5650.6	21.51	26270.23
1984	5861.6	19.99	29320.38
1985	6874.2	23.22	29602.83
1986	8385.0	19.37	43277.54
1987	10151.2	20.57	49353.74
1988	10693.2	21.83	48989.95
1989	11118.7	22.69	49010.91
1990	12768.1	17.21	74180.86
1991	13482.2	16.59	81272.21
1992	13927.6	17.13	81317.63
1993	14650.3	20.09	72911.28
1994	16257.9	19.84	81950.38
1995	16325.2	24.51	66605.31
1996	15337.0	26.44	58004.58
1997	14421.3	27.31	52801.83
1998	15670.9	28.77	54461.82
1999	16533.4	29.12	56779.75
2000	15608.6	29.99	52051.13
<i>Correlation</i>	<i>0.412**</i>		

**** Significant at one per cent level**