

## Trend Analysis of External Debt of South Asian Countries

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### Abstract

*It is now an accepted conclusion by many countries that economic development must be financed by domestic savings and foreign assistance. United States tops the list of borrowers with heavy external borrowing. India gets the 12<sup>th</sup> place in the debt ranking. But in Economic Development India is in 162<sup>nd</sup> position under the list of lower middle income country, while United States is in the higher income countries list. Hence it is necessary to examine the impact of debt on every economy and its development. This paper tries to examine the growth of debt of South Asian Countries over the last thirty years. Debt emerged as a crisis after the oil price hike. The enormous increase in the volume of oil demand led to steep increase in the oil prices during the early 1970s, from 1.30 U.S. Dollars per barrel in 1970 to 2.70 U.S. Dollars per barrel in 1973. The second oil crisis started in June 1978. Mexico was in deep trouble following 1976 Peso devaluation. In 1982 debt crisis of Mexico made a halt. These two were the major reasons for the debt crisis of many of the countries. Baskar Majumder<sup>1</sup> in his article on 'Globalisation of Highly Indebted Countries: Some Issues' attempts to identify the economic and structural dimensions of 12 highly indebted countries. According To Baskar, 'out of the 12 countries, India and China are in a worse position than other countries'. India is continuing to carry severe debt in the region of South Asia. South Asia is also continuing to be an area with heavy borrowing. Hence this paper aims to examine the trend of Seven South Asian Countries viz. Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. The first part of this paper analyse the actual growth of borrowing and its components like Long Term, Short Term and IMF Borrowing. In the second part of the paper analyse the Per Capita Debt and its trend for thirty years. Finally the conclusion speaks about the similarities and dissimilarities in the actual and per capita debt analysis.*

### 1. Trend Analysis of External Debt of South Asian Countries

The composition of Debt Outstanding of South Asian Countries is regressed and their line of best fit is listed below.

### 2. Analysis on Line of Best Fit for Bangladesh

Following equation shows the annual growth of external borrowing of Bangladesh. The total Debt Outstanding of Bangladesh from 1980 to 2010 is regressed and the equation formed is  $Y=4976.440 + 617.248 X$ . The trend line of the Long Term Debt of Bangladesh from 1980 to 2010 is as follows:  $Y= 4697.798+ 568. 464 X$ . The linear equation for the Short Term Debt of Bangladesh from 1980 to 2010 is as follows:  $Y= -371.262+ 57.79 X$ . The trend line of the IMF Borrowing of Bangladesh from 1980 to 2010 is given as follows:  $Y= 640.141-8.641 X$  The above analysis shows that the annual growth of Debt Outstanding of Bangladesh is 617.248 Million US \$.

<sup>1</sup>Dr. Bhaskar Majumder, Globalisation of Highly Indebted Countries Some Issues, pp 351 – 367, The Asian Economic Review, Journal of the Indian Institute of Economics, Volume XI, No-3, December, 1998.

### 3. Analysis on Line of Best Fit for Bhutan

Thirty year data from 1980 to 2010 is regressed for Bhutan and the results are as follows: The trend line of the Debt Outstanding of Bhutan from 1980 to 2010 is formed and the line of best fit is  $Y = -195.903 + 29.386 X$ . The data on Long Term Debt of Bhutan from 1980 to 2010 is regressed and the equation formed is  $Y = -193.576 + 29.048 X$ . The linear equation for the Short Term Debt of Bhutan from 1980 to 2010 is as follows:  $Y = -2.32 + 0.337 X$ . There is no IMF Borrowing of Bhutan from 1980 to 2010. The analysis shows that the annual growth of Bhutan Debt is very low as 29.386 million US Dollars.

### 4. Analysis on Line of Best Fit for India

Debt Outstanding of India from 1980 to 2010 is regressed and the linear equation is given below.  $Y = 3981.448 + 6466.487 X$  The trend line of the Long Term Debt of India from 1980 to 2010 is as follows:  $Y = 5103.133 + 5551.413 X$ . The linear equation for the Short Term Debt of India from 1980 to 2010 is  $Y = -5797.593 + 1094.754 X$ . The trend line of the IMF Borrowing of India from 1980 to 2010 is as follows:  $Y = 4675.837 - 179.678 X$  (last 11 years no IMF debt). Debt Outstanding grows at a maximum annual rate of 6466.487 million US Dollars over the thirty years.

### 5. Analysis on Line of Best Fit for Maldives

The Debt Outstanding of Maldives from 1980 to 2010 is regressed and the line of best fit is given as follows:  $Y = -206.777 + 32.931 X$ . The linear equation for the Long Term Debt of Maldives from 1980 to 2010 is  $Y = -171.127 + 27.538 X$ . The linear equation for the Short Term Debt of Maldives from 1980 to 2010 is  $Y = -33.194 + 5.134 X$ . The trend line of the IMF Borrowing of Maldives from 1980 to 2010 is  $Y = -2.520 + 0.264 X$ . The annual growth of Debt Outstanding is as low as 32.931 million US Dollars over the thirty years.

### 6. Analysis on Line of Best Fit for Nepal

The linear equation for the Debt Outstanding of Nepal from 1980 to 2010 is  $Y = 203.791 + 127.178 X$ , The linear equation for the Long Term Debt of Nepal from 1980 to 2010 is  $Y = 157.844 + 125.109 X$ . The trend line of the Short Term Debt of Nepal from 1980 to 2010 is  $Y = 22.352 + 0.888 X$ . The trend line of the IMF Borrowing of Nepal from 1980 to 2010 is  $Y = 24.793 + 0.887 X$ . The annual growth of Debt Outstanding of Nepal is 127.17 million US Dollars over the thirty years.

### 7. Analysis on Line of Best Fit for Pakistan

The linear equation for the Debt Outstanding of Debt Outstanding of Pakistan from 1980 to 2010 is  $Y = 7318.186 + 1348.119 X$ . The linear equation for the the linear equation for the Long Term Debt of Pakistan from 1980 to 2010 is  $Y = 5215.320 + 1231.469 X$ . The linear equation for the Short Term Debt of Pakistan from 1980 to 2010 is  $Y = 2026.540 - 4.093 X$ . The trend line of the IMF Borrowing of Pakistan from 1980 to 2010 is  $Y = 89.932 + 118.682 X$

### 8. Analysis on Line of Best Fit for Sri Lanka

The linear equation for the Debt Outstanding of Sri Lanka from 1980 to 2010 is  $Y = 943.382 + 478.592 X$ . The linear equation for the Long Term Debt of Sri Lanka from 1980 to 2010 is  $Y = 641.287 + 428.091 X$ . The linear equation for the Short Term Debt of Sri Lanka from 1980 to 2010 is  $Y = -86.244 + 48.378 X$ . The linear equation for the IMF Borrowing of Sri Lanka from 1980 to 2010 is  $Y = 388.482 + 2.107 X$ . While comparing it is

found out that the annual growth of long term debt is maximum for India ie. 5551.413 million US Dollars. The annual growth of Short term debt 1094.754 million US Dollars is also very high for India. Though India has stopped IMF Borrowing, this debt is also very high for India ie 179. 678 million US Dollars and next for Pakistan.

All the above equations helps any individual to project the future Total Debt, Long Term Debt, Short term Debt and IMF Borrowing of all South Asian countries. Ishrat Husain and Saumya Mitra,<sup>2</sup> in their paper on 'Future Financing Needs of the Highly Indebted Countries' and Ingird Iversen<sup>3</sup> in his work on "Future Financing for Developing Countries' Third World Debt - The Search for a Solution" examines the current situation in the context of the experience of the debtor countries and their creditors. They highlight the potential risks to the present strategy and point out possible alternative approaches.

## 9. Per capita Debt of South Asian Countries

Per capita debt is calculated for all the South Asian Countries under study and the same is compared for among the countries. Per capita debt is the debt calculated per head. It is the ratio of debt to population. It varies from country to country based on population. If the population of any country is high, the per capita debt is low. Hence, the per capita debt need not be the major economic factor for inter country comparison, as debt indicators and human development indicators are the major deciding factors. Anyhow this analysis brings about a layman understanding on debt.

Average Per Capita debt for the thirty years is calculated for the South Asian Countries. Average Per Capita Debt is calculated by dividing the total debt of the concerned country for thirty years by the number of years ie thirty.

## 10. Per capita debt of South Asian Countries

The following table shows the per capita debt of South Asian Countries from 1981 to 2010. The debt is expressed in million US \$.

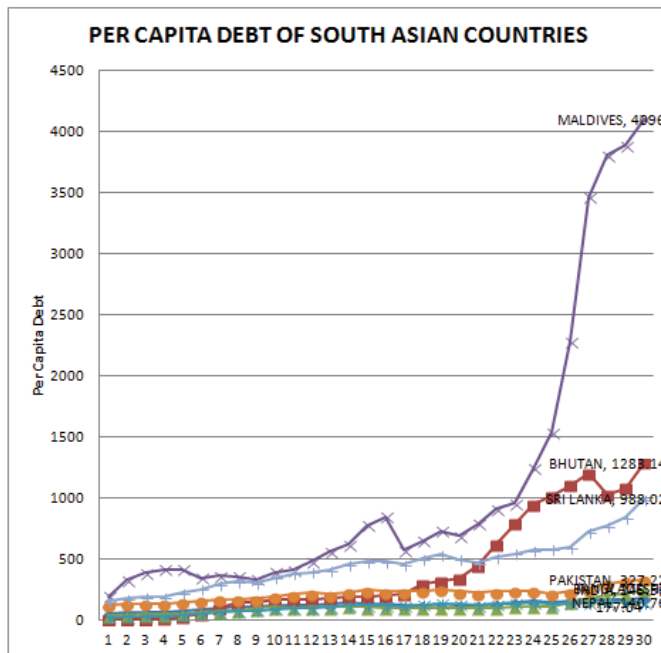
Per Capita Debt of South Asian Countries (Million US \$)							
year	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
1981	51.51	1.11	32.84	194.5	18.54	124.3	148.88
1982	56.57	3.79	38.99	325.5	23.01	133.27	172.72
1983	60.37	1.36	44.69	386	28.9	133.79	187.05
1984	61.25	7.71	46.32	414	29.42	132.34	191.87
1985	70.29	23.16	54.5	415.5	36.15	141.84	223.48
1986	83.77	51.22	62.66	343.5	45.27	153.38	253.12
1987	99.13	91.36	70.82	364	58.77	167.83	290.24
1988	102.33	142.77	75.45	357	67.82	166.15	313.64
1989	104.21	144.9	92.15	334	77.14	174.16	307.8
1990	117.14	160.58	102.59	390	90.56	191.26	344.48
1991	121.46	162.83	101.95	406	96.07	210.88	380.96
1992	122.93	165.19	103.18	474.5	95.39	219.33	390.05

<sup>2</sup> Ishrat Husain and Saumya Mitra, 'Future Financing Needs of the Highly Indebted Countries' A World Bank Symposium', September, 1989.

<sup>3</sup> Ingird Iversen, 'Future Financing for Developing Countries' pp 169-187 Professor Graham Bird(ed.), Department of Economics, University of Surrey Third World Debt – The Search for a Solution , Edward Elgar Publishing, Aldershot, 1989.

1993	126.84	178.89	104.79	561.5	103.64	210.75	408.4
1994	138.13	190	110.06	617.5	117.2	229.36	457
1995	136.16	188.93	103.11	774.5	118.86	242.82	481.64
1996	125.61	198.25	100.75	841	115.73	233.98	475.56
1997	116.02	209.82	98.65	571	112.07	230.39	458.63
1998	123.88	294.83	100.89	645.33	121.14	241.53	504.91
1999	129.23	311.53	99.33	729.67	137.07	248.02	536.93
2000	122.7	339.67	98.66	689	126.93	234.2	495.78
2001	121.9	442	95.31	783	117.87	221.59	466.13
2002	134.54	619.51	99.73	905.67	127.3	231.82	512.34
2003	146.21	783.71	110.37	951.33	132.94	240.5	542.4
2004	154.6	941.75	112.98	1240.33	138.76	235.29	569.64
2005	143.44	1014.38	109.19	1536.67	129.8	217.96	578.14
2006	153.26	1097.38	141.81	2276.67	136.77	234.13	598.24
2007	162.61	1201.52	178.95	3460	142.94	254.95	718.45
2008	166.64	1023.13	196.48	3800	144.51	294.81	773.02
2009	171.11	1074.14	214.37	3880	142.2	321.29	839.66
2010	177.04	1283.14	245.56	4096.67	140.76	327.22	988.02

Source: Computed



The above chart and table shows very clearly that the Per capita Debt is high for Maldives and very low for Nepal. The graph implies that over the last six years, Maldives Per Capita Debt is galloping. Bhutan and Sri Lanka and Bhutan's Per Capita Debt is also rising over the last ten years. All other countries are having less Per Capita Debt over the thirty years.

## 11. Trend Analysis of Per Capita Debt

Per Capita Debt of South Asian Countries are regressed and the line of best fit equation is given below.

Co-efficients of linear equation of Per Capita Debt		
	a	b
Bangladesh	62.75	<b>3.69</b>
Bhutan	-266.10	<b>43.72</b>
India	30.37	<b>4.80</b>
Maldives	-516.62	<b>103.79</b>
Nepal	30.46	<b>4.42</b>
Pakistan	127.52	<b>5.53</b>
Sri Lanka	116.15	<b>21.77</b>

The 'b' value indicates the annual growth of Per Capita Debt of South Asian Countries from 1980 to 2010. The equations shows that the annual growth of Maldives debt is 103.792 million US Dollars, while that of populous countries like India is so little as 4.808 million US Dollars,

## 12. Average Per Capita Debt

The following table shows the average debt of South Asian Countries from 1980 to 2010.

Average per Capita Debt of South Asian Countries for 30 Years	
Bangladesh	120.03
Bhutan	411.62
India	104.90
Maldives	1092.14
Nepal	99.12
Pakistan	213.30
Sri Lanka	453.64

Here the per capita Debt average for thirty years is found out and Maldives tops the list with a great difference in the region.

While we glance at the Average Per capita Debt, it is again very high for Maldives and then for Bhutan and very low for Nepal and then for India. India has very high population and hence the debt is very low. The Per capita Debt is directly related to Population of the country. Over the last six years the Per capita Debt is galloping at a very faster rate for Maldives. The linear equations shows that the annual growth of Maldives debt is 103.792 million US Dollars, while that of populous countries like India is so little as 4.808 million US Dollars, Anyhow the country's status cannot be decided by the amount of Per capita Debt, as the debt indicators, Development indicators, Human Development Indicators are the major deciding factors for deciding the status of the country. When the debt outstanding is regressed the highest annual growth of Debt Outstanding is that of India. The debt outstanding is 6466.487 Million US \$. The lowest is for Bhutan and Maldives

Thus it is clear that India is receiving heavy borrowing. But in proportion to the population Maldives is continuing to receive heavy debt, which is not safe for the country. Hence Maldives should take serious effort to manage its borrowing as each individual of the country holds 4096.67 Million US \$. as a share of their country's external borrowing. While comparing Maldives, Indian share of Individual or per capita debt is only 1283.14 million US \$. due to excessive population. Anyhow both countries should work on a master plan to reduce their external borrowing, which may be dangerous for their sovereignty in future.

## References

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