An Economic Analysis on the External Debt Burden of South Asian Countries

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Doi:10.5901/jesr.2012.v2n9p11

Abstract

The external borrowing has become indispensable for the modern world. All developed and highly competitive countries are involved in heavy amount of external borrowing. External debt of Asian Developing Countries continues to increase especially during the last three decades. This paper focuses on the external borrowing of South Asian countries especially after the year 2000 and the analysis is done on three major economic fronts. First the overall growth of external borrowing is studied using line chart and with the help of a regression model along with a short study on ranking of these countries among other countries of the world. Secondly the external borrowing is analysed using few indicators over a period of time from 2000. Over this analysis, the line demarcation between actual amount of borrowing and borrowing burden are delineated using the debt indicators and their graphical presentation. Finally eight economic and non-economic factors were identified and these factors were regressed with dependent variable, External Borrowing. And the type of influence and intensity of influence were analysed. The first two analysis helps us to examine the intensity of debt burden of these countries, while the last analysis helps the countries to identify the factors that influence the external borrowing of the country and to adjust those factors according to the welfare requirement of the country.

Keywords: *South Asian Debt – growth of external debt - debt indicators – economic and non economic factors affecting debt.*

Introduction

External debt means debt owed by one country to another. It refers to the obligations of a country to foreign governments or foreign nationals or international institutions. External debt is inclusion of Public Debt, Public Guaranteed Debt and Private Non-guaranteed Debt Public debt is an external obligation of a public debtor, including the national government, a political subdivision and autonomous public bodies. Public guaranteed debt is an external obligation of a private debtor that is guaranteed for repayment by a public entity. Private non-guaranteed debt is an external obligation of the Private Debtor that is not guaranteed for repayment by a public entity, that is, by the government of the country in which the private debtor lives.

Indispensability of External Borrowing

External borrowing was not heard of prior to eighteenth century. The classical economists were against public debt. But according to Keynes depression and unemployment are due to deficiency of demand, which has to be rectified by government expenditure financed by borrowing. The private resources may remain unemployed for relatively long periods if corrective or compensatory action is not taken by the government. For such efforts, in periods of business depression and heavy unemployment, the government may have to borrow for promoting employment and national income. Again developing countries have lot of unutilised, under-utilised and mis-utilised natural, physical and human resources. For making use of these resources to the optimum level, developing countries resort to borrowing.

Of late borrowing is universally accepted as a method of financing the economic development of the country. Generally the faster growth of government expenditure in relation to the growth of the revenue leads to the necessity of borrowing. The process of capital formation and industrialisation which require heavy investments in infrastructure like roads, railway lines, irrigation channels and power houses forces the government to go for external borrowing. Speedy industrialisation necessitates heavy import of capital goods such as machinery and equipments and technical know- how from abroad. The governments have to borrow heavily from foreign countries to make up the deficit in the balance of payments, caused by heavy imports.

External borrowing becomes unavoidable during times of war, famine, flood storm, tsunami, epidemics, earth-quacks and other such natural calamities when urgent investments and relief works are needed. Hence external borrowing is indispensable. It was during the Second World War that the technique of borrowing was recognised as an important method in war financing by most of the countries. Of late the costly modern war preparation of different countries has resulted in mounting borrowing.

However, if public debt increases continuously on its own momentum and does not increase national income, it may aggravate inflation and becomes a source of weakness if there is failure to utilise the loan productively. If public debt is utilised for building capital assets, it does not aggravate inflation nor create any burden for the community. Investment in such projects increases income which enables the country to pay off capital and interest without much difficulty. On the other hand, misallocation of loanable funds may take a country to a debt trap.

Many external Factors like the Transfer Problem, Oil Shock, global Wars, international Inflation, variable Interest Rates, export Shortfall, trend in International Lending, the Policies of the Developing Countries, imprudent Lending Activities of Commercial Banks, the Incorrect Estimation of the Risks, borrowing Patterns, attitudes of Industrialized Countries etc became responsible for galloping rise in external borrowing. Some domestic causes were also responsible for the problem. IMF has identified 43 countries as Highly Indebted Poor Countries (HIPC).

Area of Study

Asia is the largest continent in the world. Based on the regions, Asian Developing Countries[1] are divided into South-East Asian countries, the South Asian countries, Central Asian Economies and Pacific DMCs.

Southern Asia, is the southern region of the Asian continent, which comprises the sub-Himalayan countries. South Asia is surrounded (clockwise, from west to east) by Western Asia, Central Asia, Eastern Asia, Southeastern Asia and the Indian ocean. *South Asia consists of* Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka.

Some definitions may include Afghanistan, Burma, Tibet, and the British Indian Ocean Territories. Some definitions may exclude Pakistan. South Asia is home to over one fifth of the

[1] **Asian Development Outlook, 2001**, Asian Development Bank, Oxford University Press.

world's population, making it both the most populous and most densely populated geographical region in the world. The total population of this region in 2011 was 1678 million.

External debt of Asian Developing Countries continues to increase especially during the last three decades. The oil price hike in 1970s, international debt crisis of eighties and Asian crisis of nineties became the most important factors responsible for a phenomenal increase

Methodology

To study the intensity of external borrowing of South Asian Countries is a very broad area. But this paper is concentrating on three major areas of studies in external borrowing. First the overall growth of external borrowing is studied using line chart and with the help of a regression model along with a short study on ranking of these countries among other countries of the world. Secondly the external borrowing is analysed using few indicators over a period of time from 2000. Finally eight economic and non-economic factors were identified and these factors were regressed with dependent variable, External Borrowing. And the type of influence and intensity of influence were analysed. The first two analysis helps us to examine the status of the country in case of external borrowing, while the last analysis helps the country to identify the factors that influence the external borrowing of the country and to adjust those factors according to the welfare requirement of the country.

Asian Country's borrowing in the world

It is important to go through the status of all Asian countries in the world. India tops the rank with nearly 62.07% of the total and is standing in the 29th position in the world.

The highly competitive and developed countries like United States, United Kingdom, Germany, France, Italy, Netherlands, Spain, Japan, Ireland, Switzerland, Belgium, Canada, Sweden, Austria, Australia, Hong Kong, Denmark, Norway, China, Greece, Russia etc are in the top list of External borrowing. USA has 76 times that of India's external borrowing.

Status of Asian Country's borrowing in the world

South Asian Country's Ranking by debt outstanding in 2012			
	Debt Outstanding US $		World Rank
India	132,100,000,000	62.07%	29
Pakistan	42,380,000,000	19.91%	47
Bangladesh	22,550,000,000	10.60%	61
Sri Lanka	12,230,000,000	5.50%	75
Nepal	3,070,000,000	1.41%	119
Bhutan	593,000,000	0.28%	160
Maldives	482,000,000	0.23%	163
SouthAsian TotalDebt	212,812,000,000	100	
Source: http://www.geographyiq.com/ranking/ranking_Debt_External_dall.htm			

Hence the absolute borrowing is not the major factor that will decide the indebtedness of the country. Hence this paper also focuses on the few indicators of indebtedness. Based on international debt indicators, countries are categorised as severely indebted, highly indebted, moderately indebted and less indebted etc. Few of the debt indicators are as follows:

- Ratio of total external debt to exports of goods and services

- Ratio of total external debt to GNI
- Ratio of total external debt service to exports
- Ratio of Total long-term debt percent of total debt
- Ratio of total Short-term external debt to external debt stocks
- Ratio of Principal repayment on long term debt
- Ratio of Interest on long term debt
- Ratio of Interest on short term debt
- Ratio of Multilateral to external debt stocks
- Ratio of Reserves to external debt stocks
- Ratio of Reserves to imports (months)

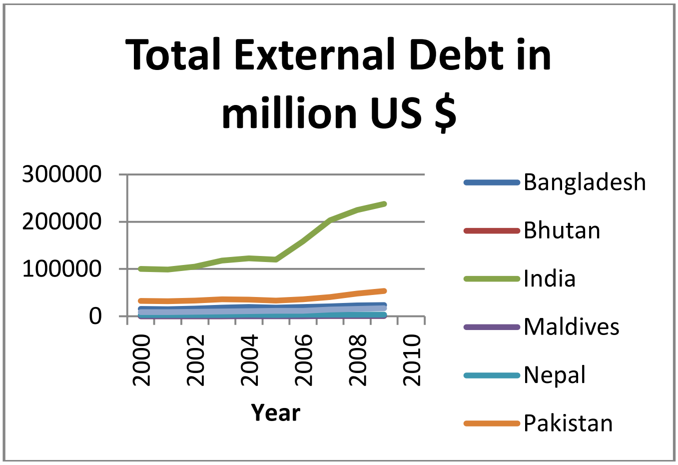
These indicators are used to sort out countries for their level of Indebtedness. But in this chapter, we are analyzing only three major indicators viz. Ratio of total external debt to exports of goods and services, Ratio of total external debt to GNI and Ratio of total external debt service to exports. As of December 2011, the HIPC program has identified 39[2] countries (33 of which are in Sub-Saharan Africa) as being potentially eligible to receive debt relief based on the intensity of their debt burden. Afghanistan, Benin, Bolivia, Burkina Faso, Burundi, Cameroon, Central African Republic, Republic of Congo, Democratic Republic of Congo, Ethiopia, The Gambia, Ghana, Guinea, Bissau, Guyana, Haiti, Honduras, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nicaragua, Niger, Rwanda, São Tomé and Príncipe, Senegal, Sierra Leone, Tanzania, Togo, Uganda, Zambia are the 32 post decision point countries. Chad, Côte d'Ivoire, Comoros and Guinea are the four interim countries ranging between decision and completion point, Eritrea, Somalia and Sudan are the three pre decision point countries.

Growth of Total External Borrowing of Asian Countries

This passage studies about the growth of External borrowing since 2000. The data given in the table are graphed for better preview. The graph shows clearly that the line graph of India is in the top with heavy borrowing and next comes the Pakistan in the region of South Asia.

Total External Debt of South Asian Countries (US $ million)							
	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
2000	15535.0	204.0	100243.0	206.0	2867.0	32732.0	9089.0
2001	14865.0	265.0	98643.0	235.0	2733.0	31665.0	8668.0
2002	16569.0	378.0	104816.0	272.0	2990.0	33567.0	9688.0
2003	18315.0	486.0	117872.0	295.0	3163.0	35785.0	10402.0
2004	19586.0	593.0	122587.0	366.0	3357.0	35581.0	11044.0
2005	18381.0	649.0	120224.0	392.0	3180.0	33269.0	11373.0
2006	20032.0	713.0	158493.0	488.0	3392.0	36111.0	11888.0
2007	21296.0	775.0	202793.0	630.0	3602.0	40892.0	14369.0
2008	22886.0	692.0	224713.0	716.0	3685.0	48471.0	15611.0
2009	23820.0	762.0	237692.0	780.0	3683.0	53710.0	17208.0
Source: UNDP HDR Reports upto 2012							

[2] Fact Sheet, **Debt Relief Under the Heavily Indebted Poor Countries (HIPC) Initiative,** December 15, 2011 http://www.imf.org/external/np/exr/facts/hipc.htm



The graph shows that line chart of India is in the top of all other country's lines. Next comes Pakistan. Remaining countries does not have very heavy borrowing. India's borrowing gallops after 2005 to a greater extent.

Trend analysis on the growth of External Borrowing - 2000-2009

The line of best fit is worked for all the south Asian countries during the period from 2000 to 2009 and the α and β values are registered in the model of best fit. And they are as follows:

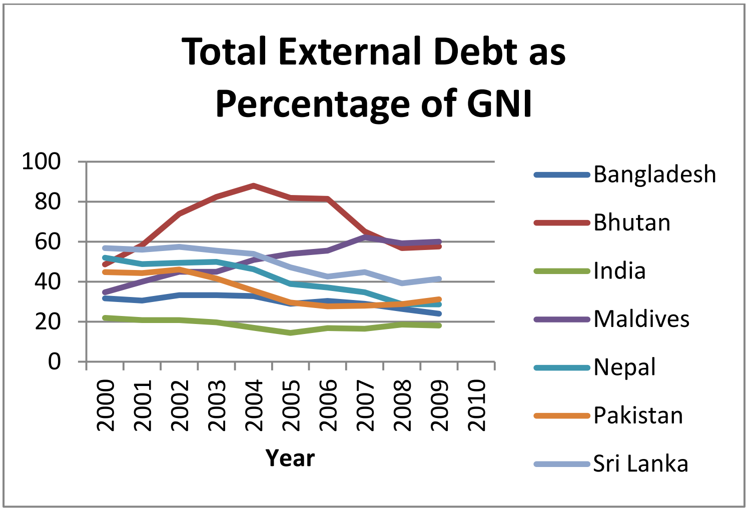
Bangladesh	Y=13852.067 + 959.352 X	(R = 0.970)
Bhutan	Y= 193.933+ 65.048X	(R = 0.948)
India	Y= 57843.733+16538.885X	(R = 0.933)
Maldives	Y= 73.733 + 66.23X	(R = 0.971)
Nepal	Y= 2679.267+ 106.533X	(R = 0.956)
Pakistan	Y= 26787.133+ 2071.121 X	(R = 0.851)
Sri Lanka	Y=6938.533+ 908.267X	(R = 0.956)

Based on the analysis the annual growth of external borrowing of Bangladesh is at a rate of US $ 959 million, while Debt of India grows at an annual rate of 16538.885 million US $. The annual Debt of Nepal grows at a rate of 106.533X million US $, per annum, while that of Sri Lanka is 908.3 million US $. The annual growth of Maldives and Bhutan are very less viz. 66.23 million US $ and 65.048 million US $ respectively. 2071.121 million US $ is the annual growth of external borrowing for Pakistan. Thus it is very clear that India's growth of total external borrowing is very high followed by Pakistan.

Growth of total external Debt as percent of GNI

This analysis is done by dividing the total external borrowing by the Gross National Income of that country during that year. The tabular data are derived from the Reports of Key Indicators for Asia and Pacific.

Total External Debt (Percent of GNI)							
	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
2000	31.8	48.7	22.0	34.7	52.0	44.8	56.8
2001	30.6	58.2	20.8	40.1	48.8	44.4	56.1
2002	33.3	74.0	20.8	45.0	49.5	46.2	57.5
2003	33.4	82.4	19.8	45.0	50.0	41.7	55.6
2004	32.9	88.0	17.1	50.9	46.3	35.5	54.0
2005	29.0	81.9	14.5	54.0	39.0	29.7	47.2
2006	30.4	81.5	16.8	55.6	37.1	27.8	42.6
2007	29.0	65.1	16.5	62.3	34.7	28.0	44.9
2008	26.4	56.8	18.6	59.2	28.9	28.8	39.3
2009	24.0	57.7	18.2	60.0	28.7	31.3	41.5
Source: Key Indicators for Asia and Pacific, ADB Publication							

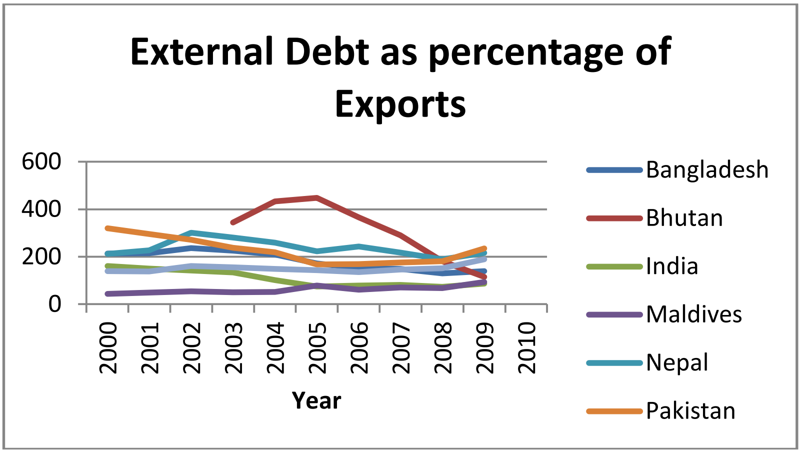


While analysing the total external Debt as percent of GNI, in reverse to the earlier analysis on total external debt, India is in the extreme lower edge. Whereas the Bhutan and Maldives, which had very low total debt are in the top most layer while comparing the same with GNI. Anyhow Bhutan position is going on improving from 2004.

Growth of total external Debt as percent of exports

The external debt is divided by the total exports of the country and the ratio is presented in the table. This ratio is also considered as a crucial indicator for studying the intensity of the

Total External Debt as percent of exports of goods, services, and income (%)							
	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
2000	213.0	-	160.5	44.1	211.7	319.7	139.3
2001	215.0	-	150.2	49.7	227.0	295.9	138.0
2002	236.4	-	142.0	54.2	300.8	270.9	160.3
2003	225.6	344.6	133.5	49.9	281.4	238.3	154.9
2004	209.8	433.1	101.4	52.4	258.8	218.7	148.4
2005	172.3	448.0	75.0	79.1	223.4	168.3	142.8
2006	153.3	366.2	78.6	61.6	243.6	168.6	134.8
2007	148.6	290.8	81.5	70.1	216.9	175.4	145.7
2008	129.4	181.3	73.3	68.0	189.4	181.1	151.0
2009	139.6	115.6	86.6	93.6	216.3	235.2	189.1
Source: UNDP HDR Reports upto 2012							



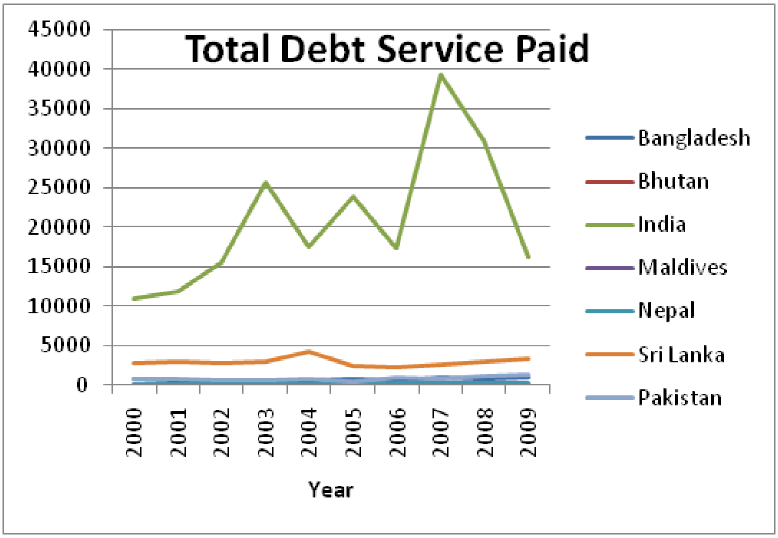
Once again this indicator shows that Bhutan is in the worst position. Nepal and Pakistan are the next. Maldives and India are in the best possible position.

Total Debt Service Paid by Asian Countries

Debt Service shows the debt service payments on total long-term debt, (Public and publicly guaranteed and private non-guaranteed), use of IMF credit and interest on short-term debt. The following table presents the same in million US Dollars.

Total Debt Service Paid (US$ million)							
	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
2000	766.0	7.0	10920.0	20.0	102.0	2855.0	787.0
2001	663.0	6.0	11751.0	22.0	94.0	2996.0	742.0
2002	716.0	6.0	15425.0	22.0	104.0	2888.0	708.0
2003	662.0	7.0	25747.0	22.0	114.0	3076.0	594.0
2004	652.0	12.0	17486.0	33.0	117.0	4272.0	758.0
2005	799.0	7.0	23893.0	36.0	117.0	2425.0	420.0

2006	711.0	10.0	17359.0	41.0	139.0	2292.0	928.0
2007	990.0	31.0	39364.0	55.0	147.0	2620.0	837.0
2008	888.0	81.0	30936.0	66.0	162.0	2951.0	1231.0
2009	957.0	75.0	16150.0	69.0	177.0	3432.0	1418.0
Source: UNDP HDR Reports upto 2012							



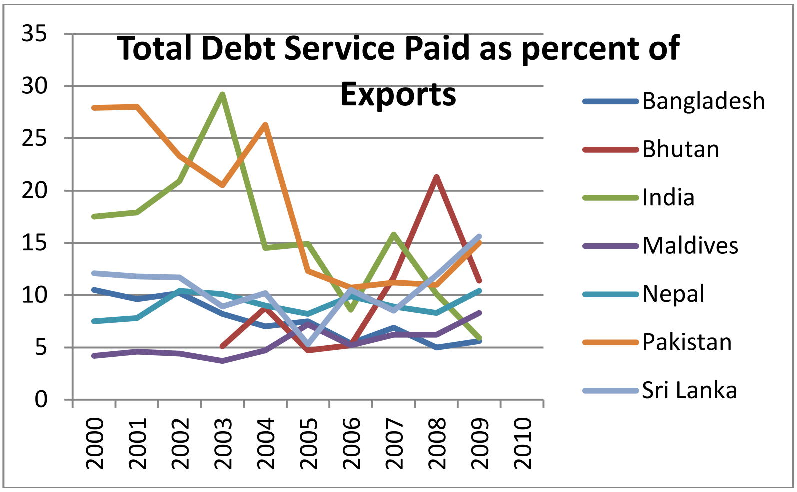
The tabel shows very openly and clearly that India pays heavy debt service. And the rest of the countries does not have that much burden. Sri lanka is comparatively payingmore debt service.

Total Debt Service Paid as percent of exports or Debt-Service Ratio

Total Debt Service Paid as percent of exports what is commonly known as the Debt-Service Ratio is a common ratio used to assess a country's creditworthiness. It is the ratio of a country's debt service payments to exports. It is the most commonly used measure of a country's debt situation, calculated as total interest payments plus repayments of principal on medium- and log term debt, as a percentage of exports of goods and non-factor services (that is, exports of goods and services excluding interest and profits on loans and investment abroad and remittances of workers).

Total Debt Service Paid as percent of exports of goods, services, and income							
	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
2000	10.5		17.5	4.2	7.5	27.9	12.1
2001	9.6		17.9	4.6	7.8	28.0	11.8
2002	10.2		20.9	4.4	10.4	23.3	11.7
2003	8.2	5.1	29.2	3.7	10.1	20.5	8.9
2004	7.0	8.8	14.5	4.7	9.0	26.3	10.2
2005	7.5	4.7	14.9	7.2	8.2	12.3	5.3
2006	5.4	5.2	8.6	5.2	9.9	10.7	10.5

2007	6.9	11.7	15.8	6.2	8.9	11.2	8.5
2008	5.0	21.3	10.1	6.2	8.3	11.0	11.9
2009	5.6	11.4	5.9	8.3	10.4	15.0	15.6
Source: UNDP HDR Reports upto 2012							



This indicator shows that India and Pakistan are in the top. Anyhow both of their position is becoming better of as their lines are coming down. Bhutan's debt service in relation to its export is very high in 2008 and for India in 2007. Anyhow both of their positions are improving.

Factors affecting External Borrowing between 2000 and 2009

It is essential to study all the factors that are affecting the debt, because debt has become a major entity in deciding any country's development. There are some macro economic and non-economic variables that contribute towards the growth of external debt either directly or indirectly. If the countries identify those factors, it will become easy for them to alter the debt and its pattern either by increasing those factors or by decreasing those factors. In this analysis eight macro variables were considered for studying their impact and influence on the debt outstanding of that country and we assume ceteris paribus. Eight variables are taken as independent variables(X) and external borrowing is considered as dependent variable (Y). The independent Variables are Population (X_1), FDI(X_2), International Reserve (X_3), Exchange Rate (X_4), GDP Per Capita (X_5), GNI Per Capita(X_6), Exports(X_7) and Imports (X_8).

The data used for this analysis involves, ten year data of Population, FDI, International Reserve, Exchange Rate, GDP Per Capita, GNI Per Capita, Exports and Imports of all the seven South Asian countries over a period of ten years. The data source used in Key Indicators of Asian and pacific' published by ADB. As the data runs to many pages, they are excluded from this paper. But the result of the analysis are presented as follows

Factors affecting External Borrowing of Bangladesh

Multiple Regression is applied and the line of best fit is framed for Bangladesh as follows:

$Y=155177.741+1567.225 X_1-1.510 X_2 - 0.114 X_3 - 413.848 X_4 - 30.550 X_6 + 0.371 X_7 - 0.187 X_8$

The variable GDP Per Capita (X_5) is removed due to the existence of co- linearity. After the study, it is found out that Population (X_1) and Exports(X_7) are affecting the external borrowing of Bangladesh positively, whereas factors like FDI (X_2), International Reserve (X_3), Exchange Rate (X_4), GNI Per Capita(X_6) and Imports (X_8) are affecting the external borrowing negatively.

Factors affecting External Borrowing of Bhutan

The line of best fit is fitted for the External Borrowing of Bhutan

$Y=-8385.128+13583.106X_1-1.242X_2-2.369X_3+18.746 X_4 +0.079 X_5 + 0.097 X_6 + 0. 842 X_7 +0.034 X_8$

The factors like Population (X_1), Exchange Rate (X_4), GDP Per Capita (X_5), GNI Per Capita(X_6), Exports(X_7) and Imports (X_8) are positively influencing the external borrowing of the country, whereas the factors like FDI (X_2) and International Reserve (X_3) are affecting the external borrowing negatively.

Factors affecting External Borrowing of India

The equation for the External Borrowing of India in relation to the independent variables is as follows:

$Y= 303925.818- 306.518X_1 +1.805 X_2 +0.519X_3 +2293.624 X_4 - 49.556X_5 + 138.074X_6 - 0.253X_7+0.035 X_8$

Population (X_1), GDP Per Capita (X_5) and Exports(X_7) are the factors growing in opposite direction, while factors like FDI (X_2), International Reserve (X_3), Exchange Rate (X_4), GNI Per Capita(X_6) and Imports (X_8) are growing in the same direction with external borrowing.

Factors affecting External Borrowing of Maldives

While the actual trend of external borrowing and actual trend of all the variables are worked out for its dependency in external borrowing, the result is as follows:

$Y= 2327.523- 20.598 X_1 +0.657 X_2 +0.165 X_3 + 232.904 X_4 - 0.052 X_5 + 0.165 X_6 -1.763 X_7 +0.876 X_8$

The external borrowing of Maldives is negatively influenced by GDP Per Capita (X_5), Exports(X_7) and positively influenced by Population (X_1), FDI (X_2), International Reserve (X_3), Exchange Rate (X_4), GNI Per Capita(X_6), and Imports (X_8).

Factors affecting External Borrowing of Nepal

$Y=704.071+235.523X_1+0.126 X_3 - 37.826 X_4 + 0.248 X_5 +2.619 X_6 -1.704X_7 - 0.162 X_8$

FDI is excluded from the calculation of multiple regressions as continuous data was not available. And with regard to remaining variables it was found that Exchange Rate (X_4), Exports(X_7) and Imports (X_8) are negatively related, while the remaining are positively related.

Factors affecting External Borrowing of Pakistan

The line of best fit for external borrowing in relation to few economic and non-economic variables are drafted and the result is presented in the following equation.

$Y= 371518.445-1437.885\ X_1+6.779\ X_2 + 2.374\ X_3 + 240.793X_4 - 233.959X_5 +512.285\ X_6 - 1.163X_7 - 0.342X_8$

FDI (X_2), International Reserve (X_3), Exchange Rate (X_4), GNI Per Capita(X_6) and Imports (X_8) are the five factors that affect the external borrowing directly. In other words the increase in these factors raises the external borrowing of these countries, whereas Population (X_1), GDP Per Capita (X_5) and Exports(X_7) are the factors that negatively influence external borrowing.

Factors affecting External Borrowing of Sri Lanka

The worked out multiple linear regression for Sri Lanka's external borrowing in relation to the eight factors are as follows:

$Y= 147575.571 - 8647.117X_1 - 7.181X_2 + 4.093X_3 + 215.642\ X_4 - 2.240X_6 - 4.684\ X_7 +3.991X_8$

Population (X_1), FDI (X_2), GNI Per Capita(X_6) and Exports(X_7) are the factors that negatively affect external borrowing, whereas International Reserve (X_3), Exchange Rate (X_4) and Imports (X_8) are the factors that affect external borrowing positively. GDP Per Capita (X_5) is removed from the application due to the existence of multi-co linearity.

To conclude this analysis, the governments has to understand the fact that if a the factors that affect the debt outstanding negatively. The increase in such a variable is decreasing the debt. Hence the government can give priority for that, while the positive factors rise along with debt. Hence government should take effort to reduce those factors.

Findings and Conclusions

India tops the rank with nearly 62.07% of the total and is standing in the 29^{th} position in the world.

India is in the top of all other country's in case of total debt outstanding. Next comes Pakistan. In case of total debt service paid also, India tops whres the Sri Lanka follows.

While analysing the total external Debt as percent of GNI, in reverse to the earlier analysis on total external debt, India is having very less debt.

In case of total External Debt as percent of exports of goods, services and income also India is in the lowest amount of debt followed by Bhutan.

Total Debt Service Paid as percent of exports or Debt-Service Ratio indicator shows that India and Pakistan are in the top

While studying the annual growth total external borrowing, India's growth of total external borrowing is very high followed by Pakistan.

Next analysis is on factors affecting external borrowing. Few factors are identified and are sorted out as negatively influencing factors and few others as positively influencing factors. If the countries take sincere effort to decrease the factors affecting the borrowing positively and to take effort to increase the factors affecting negatively, it can alter the actual amount of debt. But based on the indicators of external borrowing considering the welfare and growth of the countries after making a serious analysis on the risk factor, factors should be altered for the country's better performance. Again borrowing can be a boon or bane for the country's growth and welfare depending upon how the country uses the same for productive or unproductive purposes. .

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