

## **DEBT SUSTAINABILITY**

### **A Comparative Analysis of SAARC Countries**

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**Abstract.** The paper analyses the conditions of public and external debt sustainability in four major countries of SAARC, *viz.* Pakistan, India, Sri Lanka and Bangladesh. For this purpose, traditional debt ratios have been examined by comparing them with threshold levels; and also computed the necessary as well as the sufficient conditions for debt sustainability by using theoretical framework. The results show that all the four countries have been experiencing episodes of unsustainable debt burden due to large fiscal and current account imbalances. It also appears that debt would continue to be an issue periods ahead unless corrective policy measures to address structural imbalances are taken.

**Keywords:** Debt, Fiscal imbalances, SAARC

**JEL classification:** E23, E31, H62, H63

### **I. INTRODUCTION**

Both the developed and developing countries face the issue of growing public debt due to prevalence of high fiscal deficit over the years which necessitated increased borrowing from internal and external sources. However, for developing countries, it is a serious economic challenge as most of them have accumulated debt with little improvement in their

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repayment capacities. The most devastating consequence of high fiscal deficit and debt has been huge resource allocation for debt servicing. Thus the economies fell in to a vicious circle whereby large fiscal deficit leads to large debt, that needs huge amount for debt servicing, and which, in turn, implies fewer resources for public investment, low growth, lower resource mobilization, and further widening of fiscal deficit.

Besides large fiscal deficits, the developing countries are also facing unfavorable financing mix in recent years. In past, these countries enjoyed cheaper external resources to finance fiscal deficit and to fill their saving-investment gap in general. However, as the developed economies themselves are struggling with deteriorating economic conditions in recent years, the foreign resources, at concessional rates, are drying up. Thus accumulation of external debt at high cost is another dimension to debt sustainability problem of developing countries.

This study focused on debt issues of four major SAARC economies (covering 99 percent of total GDP of the region), *viz.* Bangladesh, India, Pakistan and Sri Lanka. Pace of debt accumulation along with composition of debt stock and underlying factors in these economies have been examined. All these four economies heavily relied on external funds to fill their resource gaps; resultantly their foreign indebtedness increased sharply overtime, though in recent years it declined primarily due to scarcity of external funds (*see* Table 1).

TABLE 1  
Foreign Indebtedness (Percentage)

Period	Pakistan (ED/GNI)	India (ED/GNI)	Sri Lanka (ED/GNI)	Bangladesh (ED/GNI)
1970s	39.92	13.08	30.94	–
1980s	39.83	16.88	60.31	31.14
1990s	50.15	27.09	65.19	38.61
2000s	36.64	18.46	50.07	30.30
2012	25.5	20.78	43.57	20.58

Where ED = External Debt and GNI = Gross National Income

Source: World Bank, *World Development Indicators*

However, high indebtedness is not necessarily a problem per se if the economy can generate enough resource surpluses to service the debt.

International financial institutions usually consider the debt as sustainable if a country can service its debt without resorting to rescheduling or without compromising growth. Table 2 shows that debt servicing (*i.e.* interest payments and repayment of the principal) as percentage of export of goods and services, and income show overall declining trend after the 1980s in all SAARC countries except India where it starts to decline after the 1990s.

TABLE 2  
Debt Servicing (Percentage)

Period	Pakistan (TDS/EGSPI)	India (TDS/EGSPI)	Sri Lanka (TDS/EGSPI)	Bangladesh (TDS/EGSPI)
1980s	29.17	20.17	18.20	25.78
1990s	24.61	26.45	11.14	17.30
2000s	15.08	9.68	9.08	7.35
2012	14.10	1.75	13.03	5.35

Where TDS = Total Debt Servicing and EGSPI = Export of Goods and Services and Primary Income

Source: World Bank, *World Development Indicators*

In case of India, all levels of its government have been facing pressures from fiscal deficit and debt repayments since 1990s. In order to address the issue of debt sustainability, Government of India introduced many fiscal rules. Such efforts for fiscal consolidation helped bringing down debt-to-GDP ratios during 2008-09 and 2009-10. However, in recent years, India has faced worsening external debt position with the fourth largest outstanding external debt among emerging economies, as shown by World Bank data. However, a recent study on state level debt sustainability shows that the debt position of the state governments in India, which deteriorated sharply between 1997-98 and 2003-04, has witnessed significant improvement since 2004-05 and seems sustainable in the long run (Kaur *et al.*, 2014).

Pakistan is another key economy of SAARC, which is also facing challenge of fulfilling criteria of debt sustainability (Mahmood *et al.*, 2009). Global recession of 2008 has offset the benefits of debt rescheduling of early 2000s. Moreover, uncertainty in foreign resource inflows and volatility in oil prices have fortified the difficulties in external accounts. The country has also scarce domestic resources, as reflected in the primary fiscal imbalance, to meet the conditions of debt sustainability.

These challenges led to discontinuation of IMF Standby Arrangement, signed in 2008 before its maturity. Recently, Pakistan has signed another program with IMF under Extended Fund Facility in 2013, as it had problems in meeting its external obligations. However, these programs are just short term breather; and these are not substitute for structural adjustments needed for sustainable fiscal and external balances. High macroeconomic imbalances along with low real GDP growth have worsened debt ratios in Pakistan. Public debt increased to 86.1 percent of GDP in 2000 from 54.4 percent in 1980. Resultantly, the fraction of revenue used by debt servicing increased to 63 percent, from 43 percent in the same period. Although debt indicators improved in some of the subsequent years, they worsened again in recent years.

On the other hand, external debt which was 39.83 percent of GNI in 1980s, increased to 50.15 percent in 1990s — its highest level since then. However, this ratio declined in recent years primarily because Pakistan was not able to attract external resources, and gross disbursement of foreign loans to Pakistan declined. While excessive burden of external debt does not bode well for economic sustainability, unavailability of external resources is also an issue for a resource-constrained economy like Pakistan.

Sri Lanka and Bangladesh are also facing similar challenges of excessive debt burden and debt servicing problems. A number of earlier papers have identified debt sustainability issues in these economies. For example, in case of Bangladesh, Islam and Biswas (2005; 2006) assessed the dynamics of debt sustainability during the period of FY81-FY06, keeping in view persistent fiscal deficit along with trade deficit and savings-investment gap. They found that interest rate component demonstrated stronger influence on debt burden compared with growth, primary deficit and exchange rate depreciation.

A study on Sri Lanka by Foneska and Ranasinghe (2007) shows that on the basis of a set of indicators to measure liquidity and solvency of the domestic and external debt, Sri Lanka has not been able to achieve the debt sustainability targets set by international agencies as all indicators have exceeded the upper limits of the thresholds. The study argues that if such a situation continues, the country would fall into a serious debt trap, and would not be able to raise funds in the future from domestic and external sources at affordable cost.

A systematic assessment of debt sustainability, as given below, will help policy makers to take appropriate policy measures. In the next section,

methodology and a description of data sources is presented, while section III gives results. The last section concludes the paper.

## II. METHODOLOGY AND DATA SOURCE

We have used traditional threshold debt ratios as well as theoretical model approach for assessing the debt sustainability.<sup>1</sup> In the first approach, debt stock and debt servicing are expressed as ratio of key macroeconomic variables; and these are then compared with some benchmark ratios suggested by the IMF and the World Bank. Public debt stock as percent of GDP and government revenues are the two key ratios for the degree of indebtedness of the public sector. On the other hand, external debt as percent of foreign exchange earnings, exports, and GDP indicate the indebtedness of a country to the rest of the world, and also captures the ability of the country to repay its foreign creditors.

The ratio analysis is supplemented with certain conditions of debt sustainability derived from a theoretical model. Such model has been developed separately for sustainability of public debt and external debts. These models are primarily constructed for developed countries; however, these have been customized keeping in view the conditions prevailing in developing countries of the SAARC region.

### CONDITIONS FOR PUBLIC DEBT SUSTAINABILITY

While the developed economies predominantly issue interest bearing domestic debt instruments to finance their budget deficits, the developing countries have to rely on seigniorage extensively as they have shallow debt markets. Thus, the budget constrained<sup>2</sup> of a typical developing economy should look like as follows:

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<sup>1</sup>Besides the debt threshold indicators developed by international organizations, the Maastricht Treaty of the European Union, the Commonwealth Secretariat, and the Debt Relief International have also developed various debt sustainability indicative threshold ratios (Johnson, 2001). The EU and Common wealth threshold indicators are: Fiscal deficit as 3%, public debt as 25%, public debt servicing as 15%, domestic debt as 20% external debt as 5% of GDP.

<sup>2</sup>Our model is heavily drawn from Cuddington (1999), Papadopoulos and Sidiropoulos (1999) and Santaella (2000). The budget constraint approach to debt sustainability was initially developed for the industrial countries where it is assumed that seigniorage revenue was unimportant and all public debt was in domestic currency. The model specification requires necessary modification in the context of developing countries, where the issues like reliance on Seigniorage to finance deficit, foreign currency borrowing, concessional lending and grants are also important.

$$G_t - R_t + i_t B_{t-1} = \Delta B_t + \Delta H_t \quad (1)$$

Where  $G$  is government expenditure,  $R$  is revenue,  $B$  is stock of interest bearing bonds,  $i$  is the rate of interest and  $H$  is high power money. The  $B$  has two components: domestic and external, *i.e.*,

$$B_t = B_t^D + B_t^F \quad (2)$$

By expressing the above variables as ratio to nominal GDP, and doing some algebraic manipulations, the following relationship can be obtained which gives fundamental fiscal sustainability indicators:

$$b_t = \frac{(1+r_t)}{(1+g_t)} b_{t-1} - \bar{s}_t \quad (3)$$

$\bar{s}_t = ps_t + \mu h_{t-1}$  is primary surplus including seigniorage,  $\mu$  is money growth,  $h_t$  is seigniorage as ratio to nominal GDP,  $g_t$  is growth in real GDP,  $r$  is interest rate in real terms,  $b_t$  is public debt-to-GDP ratio,  $(1+r_t)/(1+g_t)$  is the discount factor, and primary balance is represented by  $ps_t$ .

A real interest rate higher than real growth ( $r_t > g_t$ ) indicates explosive debt dynamics, *i.e.*, debt to GDP ratio will increase sharply over time. However, debt growth can be contained with sufficiently large primary surplus. On the other hand, a real GDP growth higher than real interest rate ( $r_t < g_t$ ) implies a convergent debt-dynamics.

The differential of Equation 3 produces necessary and sufficient conditions for sustainability of debt, which are as follows:

$$\Delta b_t = \frac{(r_t - g_t)}{(1+g_t)} b_{t-1} - \bar{s}_t \quad (4)$$

It suggests that with zero primary surplus, the ratio of debt to GDP ( $\Delta b_t$ ) will increase by  $(r - g) / (1 + g)$ , and it will growth by rate greater than  $(r - g) / (1 + g)$ , if the primary balance is in deficit. The equation (4), thus gives necessary and sufficient conditions of debt sustainability, as given below:

- (a) The necessary condition for debt to be sustainable holds, *i.e.* ( $\Delta b_t = 0$ ) is that  $r_t < g_t$ ; otherwise (*i.e.*, if  $r_t > g_t$ ), the debt to GDP ratio is unsustainable.
- (b) The sufficient condition for debt sustainability (*i.e.*, having a constant debt to GDP) is to have positive primary surplus, on average.

### CONDITIONS FOR SUSTAINABILITY OF EXTERNAL DEBT

The sustainability conditions for external debt, on the other hand, depend on balance of payments positions and cost of borrowing foreign funds. The following basic identity of external balance will help us derive sustainability conditions:

$$i_t^* D_{t-1} - C_t = D_t - D_{t-1} \quad (5)$$

Where  $i^*$  is nominal interest rate on external debt,  $D_t$  is stock of external debt, and  $C$  is non-interest current account balance.

By taking the above equation as a ratio to nominal GDP, and doing some algebraic manipulation, the following expression for external debt dynamics can be obtained:

$$\Delta d_t = \frac{r_t^* - g_t}{1 + g_t} d_{t-1} - c_t \quad (6)$$

Where  $g$  and  $r^*$  represent real GDP growth and real interest rate on foreign loans. It is evident from the above expression that given a balance current account (*i.e.*,  $c = 0$ ), external debt to GDP ratio will increase by  $(r - g) / (1 + g)$ . However, a negative current account balance will lead to a debt to GDP ratio growing faster than this factor  $[(r - g) / (1 + g)]$ . Thus the conditions for external debt sustainability can be obtained by keeping  $\Delta d_t = 0$ . The economy will attain solvency if:

- (a) The necessary condition for a sustainable external debt is  $r_t^* < g_t$ ; while
- (b) The sufficient condition for a sustainable external debt is a primary surplus, on average.

### III. RESULTS

There are various threshold levels of debt sustainability indicators in case of public and external debt used by different international organizations (Martin 2004). Some ratios for external debt, suggested by different organizations, have been reported in Table 3.

By comparing the actual values of indicators in case of SAARC countries with these threshold ratios, it appears that Pakistan and Sri Lanka have been medium indebted countries, while India and Bangladesh have been lower indebted. Particularly, indebtedness increased in both Pakistan and Sri Lanka from low to medium after 2008.

TABLE 3  
Sustainable Debt Thresholds

Institutions	PV of Debt/ Export	PV of Debt/ Revenue	Additional Criteria
HIPC 2004	150	250	Debt servicing to Export Ratio is 15%-20%
DRI	140	151	Debt servicing to Export Ratio is 12% and Debt servicing to Revenue Ratio is 12%
IMF	180	201	PV/GDP is 42% and Debt Servicing to Revenue is 30%
World Bank 2004	190	189	PV/Export is 220% and PV/GNI is 80% Debt/GDP is 50% and Debt/Export is 275% Debt Servicing to Revenue is 30 %
CIPA Index	Poor / medium / strong	Poor / medium / strong	Debt servicing as 15%, 20% and 25% of exports for poor, medium and strong institutions
	100/150/200	200/250/300	Debt servicing as 15%, 20% and 25% of revenue for poor, medium and strong institutions

Sources: Global Development Finance 2004, World Debt Tables, 1990, and Debt Relief International.

Pakistan had public debt stock of Rs. 1,401 billion in 1995, which increased to Rs. 12,667 billion by 2012 with an average growth rate of 14 percent per annum. However, debt growth during the last couple of years has been as high as 20 percent. In terms of ratio to GDP, the country experienced a persistent rise in public debt to GDP ratio, which increased to 86.1 percent of GDP in 2000 from 62.9 percent in 1995. The ratio of debt with revenue also increased from 436 percent to 615 percent during 1995 to 2000. Although these ratios declined in mid 2000s, this decline could not be sustained in subsequent years due to worsening macroeconomic imbalances; and registered at 61.3 percent and 493 percent in 2012. Following the trend in debt stock, the interest payment on the public debt also remained persistently high at above 4 percent as percent of GDP and about one third of total revenues.

As compared to Pakistan, the public debt stock of India has been considerably lower as percent of GDP, *i.e.* about 40 percent on average. However, growth was more than 15 percent per annum during 1995 to 2012. Moreover, India has to pay about 4 percent of its GDP each year as interest payments which is one fourth of its total revenue.



TABLE 4  
Indicators of Public Debt Sustainability for SAARC Countries

Variables/Year	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
Pakistan										
Public Debt (Rs bls)	1401	3266	4092	4469	4935	6055	7595	8938	10709	12667
Public Debt (Growth)	15	13	2.8	9.2	10.4	22.7	25.4	17.7	19.8	18.3
Public Debt as % of GDP	62.9	86.1	62.5	58.8	56.9	59.1	59.7	60.4	59.4	61.3
Public Debt as % of Revenue	435.9	614.8	484.3	415.1	380.2	403.8	410.3	430.1	473.7	493.3
Interest payment as % of GDP	4.5	6.2	5.3	3.4	4.5	5.0	5.2	4.5	4.0	4.4
Interest payment as % of Revenue	31.4	44.5	41.2	24.2	29.8	34.0	35.5	31.8	31.7	35.1
Debt Servicing as % GDP	7.6	8.8	7.0	5.5	6.1	6.5	6.9	5.8	4.8	5.0
Debt Servicing as % of Revenue	53.0	62.8	54.5	38.8	40.5	44.4	47.6	41.3	38.5	40.4
India										
Public Debt (Rs. bls)	3643	8661	15978	17532	19697	23357	26780	30824	35783	43009
Public Debt (Growth)	12.1	44.4	11.5	9.7	12.3	18.6	14.7	15.1	16.1	20.2
Public Debt as % of GDP	29.7	39.8	43.3	40.8	39.5	41.5	41.3	39.5	39.9	42.9
Public Debt as % of Revenue	189.8	267.1	275.5	255.2	228.7	233.5	256.3	263.5	231.7	253.2
Interest payment as % of GDP	4.3	5.1	5.2	4.8	4.7	4.4	4.3	4.1	3.9	4.1
Interest payment as % of Revenue	27.3	33.9	33.2	30.0	27.1	24.9	26.6	27.1	22.7	24.0
Bangladesh										
Public Debt (Rs. bls)	779	2587	1924	2149	2343	2587	2521	2576	2980	3443
Public Debt (Growth)	7.58	18.05	11.33	11.71	9.03	10.40	-2.57	2.19	15.67	15.55
Public Debt as % of GDP	51.09	50.10	51.90	51.70	49.60	47.40	41.00	37.10	37.40	37.20
Public Debt as % of Revenue	549.71	564.83	491.07	479.03	492.00	427.47	365.74	323.52	342.72	302.35
Interest payment as % of GDP	0.79	1.50	1.75	1.81	1.94	2.19	2.17	2.11	1.83	2.14
Interest payment as % of Revenue	8.51	16.90	16.60	16.82	19.22	19.77	19.32	18.39	16.77	17.38
Sri Lanka										
Public Debt (Rs. bls)	636	1219	2222	2583	3042	3589	4161	4590	5133	6000
Public Debt (Growth)	15.4	15.9	3.9	16.2	17.8	18.0	16.0	10.3	11.8	16.9
Public Debt as % of GDP	95.2	96.9	90.6	87.9	85.0	81.4	86.1	81.9	78.5	79.1
Public Debt as % of Revenue	466.5	576.8	585.2	540.5	538.3	547.7	594.8	561.6	549.2	607.4
Interest payment as % of GDP	5.7	5.7	4.9	5.1	5.1	4.8	6.4	6.3	5.5	5.4
Interest payment as % of Revenue	28.1	33.7	31.6	31.6	32.3	32.4	44.3	43.1	38.2	41.4

Source: International Financial Statistics (IFS), International Monetary Fund, Pakistan Economic Surveys, Indian Public Finance Statistics (various issues), External Resources Flows, Economic Relation Division, Ministry of Finance, Bangladesh. Economic Trend, Bangladesh Bank, and Economic Review, Bangladesh Bank, Economic and Social statistics, Central Bank of Sri Lanka.

Bangladesh has experienced a moderate rise in its public debt with an average growth rate of 9 percent per annum from 1995 to 2012. However, it also faced a sharp rise in the debt during the last two years. In fact, public debt in Bangladesh is lower than those of other SAARC countries – partly because it has shorter political history. Interest payment as percent of GDP is lower in Bangladesh, which implies that it was able to generate relatively cheaper resources to finance its fiscal and external gaps. These findings are similar to those mentioned in a recent IMF Staff Report under Article IV Consultation (2011), which states that Bangladesh's risk of debt distress on external debt remains low. The level of public and publicly guaranteed external debt as a share of GDP in FY11 is in line with earlier debt sustainability studies. However, debt burden indicators are less favorable when domestic debt is included.

Like Pakistan, Sri Lanka also has been a medium indebted country with public debt to GDP ratio above 70 percent. Further, the debt stock as percent of revenue has been far over the sustainable limit of 350 percent, according to Debt Reduction and Management Committee Report (2001). The country also experienced sharp growth in debt stock which resulted into more than 5 percent of GDP going to interest payments. Moreover, the interest payments eat up 40 percent of its total resource mobilization, while much lower ratios are recommended by different institutions, like: Country Policy and Institutional Assessment, World Bank (35 percent), IMF (30 percent), Maastricht Treaty of the European Union (15 percent), and Debt Relief International (13 percent).

Pakistan's external debt was US \$ 30.29 billion in 1995 which increased to US \$ 63.40 billion in 2012 showing an average annual growth of 4.4 percent. The ratio of external debt to GDP, however, declined from 42 percent in 1995 to 27.4 percent in 2012. Similarly, external debt servicing also declined over time. Particularly, external debt indicators improved in Pakistan in recent years primarily because of low external inflows. Pakistan has been facing serious challenges in mobilizing external resources due to adverse domestic economic conditions including law and order. However, despite decline, the debt indicators in Pakistan are poorer as compared to threshold levels given in Table 3 and also comparing with peer countries, like Bangladesh and India.

In case of India, the external debt stock was US \$ 95.17 billion in 1995 which continuously increased and reached US \$ 345.498 in 2012. However, ratios of external debt to GDP and export earnings declined over time, which are currently at 18.6 percent and 82.7 percent in 2012. These ratios are

significantly lower than threshold levels indicating low indebtedness of the country. Interest payment on Indian external debt as percent of GDP was 1.3 percent in 1995, which also declined to less than 1 percent in 2012.

TABLE 5  
Indicators of External Debt Sustainability  
for SAARC Countries

Years	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
Pakistan										
External Debt Stock (\$ mls)	30292	35306	34037	35655	38699	44500	51100	59000	63800	63400
External Debt (Growth Rate)	17.2	12.2	-5.5	4.8	8.5	15.0	14.8	15.5	8.1	-0.6
External Debt as % of										
Gross domestic Product	41.9	48.1	36.8	28.1	27.1	27.2	31.5	33.4	30.2	27.4
Export of Goods & Services	313.9	368.7	195.9	168.9	173.1	173.7	220.0	236.9	205.0	213.2
Foreign exchange earning	244.3	262.9	133.1	114.9	119.2	121.4	148.6	157.5	136.3	134.1
Debt Servicing as % of										
Gross domestic Product	4.7	3.9	2.9	2.4	1.9	1.9	2.1	2.4	1.4	1.0
Export of Goods & Services	34.9	30.1	15.6	14.3	12.3	12.0	15.0	17.3	9.5	7.7
Foreign exchange earning	27.1	21.5	10.6	9.7	8.5	8.4	10.1	11.5	6.3	4.8
India										
Ext Debt(\$ mls)	95174	101130	121195	159526	204005	227043	256229	290351	334331	345498
Ext Debt(Growth Rate)	-4.5	1.1	-2.0	31.6	27.9	11.3	12.9	13.3	15.1	3.3
External Debt as % of										
Gross domestic Product	25.2	20.9	14.5	16.8	16.9	17.5	19.1	17.0	17.4	18.6
Export of Goods & Services	250.4	168.7	78.3	82.4	86.3	78.1	98.2	83.0	76.6	82.7
Foreign exchange earning	198.7	133.1	65.6	68.8	70.9	63.4	78.8	70.1	65.4	67.6
Interest Payments As % of										
Gross domestic Product	1.3	0.9	0.5	0.5	0.6	0.6	0.4	0.3	0.4	0.5
Export of Goods & Services	13.0	7.1	2.9	2.6	3.1	2.5	2.1	1.5	1.6	2.0
Foreign exchange earning	10.3	5.6	2.5	2.2	2.5	2.0	1.7	1.3	1.4	1.7
Bangladesh										
Ext. Debt (\$ millions)	8364	12117	19286	19420	20713	21294	21804	21449	23609	23537
Ext. Debt (Growth)	-45.59	5.64	4.18	0.70	6.66	2.81	2.39	-1.63	10.07	-0.30

Years	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
External Debt as % of										
Gross domestic Product	22.05	25.71	31.94	31.34	30.26	26.76	24.40	21.37	21.09	20.12
Export of Goods & Services	152.35	141.55	140.98	116.51	105.46	99.49	80.50	72.31	63.55	59.12
Foreign exchange earning	118.96	126.13	106.64	87.31	78.34	70.58	58.40	52.1	47.58	43.91
Interest Payments As % of										
Gross domestic Product	0.41	0.40	0.33	0.33	0.31	0.28	0.25	0.21	0.20	0.22
Export of Goods & Services	2.81	2.20	1.44	1.22	1.08	1.06	0.81	0.71	0.61	0.63
Foreign exchange earning	2.19	1.96	1.09	0.91	0.80	0.75	0.59	0.51	0.46	0.47
Sri Lanka										
Ext Debt(\$ millions)	8396	9173	11472	11992	14479	15723	17857	21153	23984	21687
Ext Debt(Growth Rate)	5.5	-7.3	2.9	4.5	20.7	8.6	13.6	18.5	13.4	-9.6
External Debt as % of										
Gross domestic Product	64.4	56.2	47.0	42.4	44.8	38.6	42.4	42.7	40.5	36.5
Export of Goods & Services	181.8	143.8	145.5	141.0	153.8	155.5	198.9	190.7	175.8	160.0
Foreign exchange earning	147.6	119.2	115.5	109.2	117.1	118.6	143.7	182.7	124.2	110.9
Interest Payments As % of										
Gross domestic Product	1.3	1.5	0.6	1.0	0.9	0.9	0.8	1.3	0.9	1.0
Export of Goods & Services	3.7	4.0	2.0	3.2	3.2	3.5	3.9	5.9	3.7	4.2
Foreign exchange earning	3.0	3.3	1.6	2.5	2.4	2.6	2.9	5.6	2.6	2.9

Source: Global Development Finance (Various issues), Pakistan Economic Survey 2012-13. India's External Debt: A Status Report 2011-12, Ministry of Finance, Government of India. External Resources Flows, Economic Relation Division, Economic trend Bangladesh Bank, and Economic Review Bangladesh Bank, Bangladesh. Economic and Social Statistics, Central Bank of Sri Lanka. World Development Indicators (WDI), World Bank.

External debt position of Bangladesh is also similar to that of India with debt indicators considerably lower than Pakistan and well within threshold levels. Bangladesh has not only kept its foreign exchange earnings, in the form of exports receipts and remittances, increasing over time, but also to benefit from low cost external debt. Its external debt as ratio to GDP was 22.1 percent in 1995 which has declined to 20.1 percent in 2012. Similarly, external debt as a ratio to export of goods and services and total foreign

exchange earnings show declining trend over time. The two ratios declined from 152.4 percent and 11.9 percent in 1995 to 59.1 percent and 43.9 percent respectively in 2012. Bangladesh interest payment as percent of GDP was 0.4 percent in 1995, which further declined to 0.2 percent in 2012. The level of these indicators places the country at a comfortable position.

TABLE 6

## Present Value Indicators Debt Sustainability for SAARC Countries

Years	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Pakistan											
Indebtedness classification	S	M	M	M	M	L	L	L	M	M	M
PV of Debt/GNI	44	45	41	35	30	26	25	24	24	24	23
PV of Debt/EGS	238	201	189	156	134	123	123	120	157	159	156
PV of Debt Servicing/GNI	4.2	3.98	3.6	4.3	2.2	1.8	1.8	1.8	2.1	2.4	
PV of Debt Servicing/EGS	24.6	18.1	16.2	21.1	10.1	10.8	11.3	11.3	15.2	15.2	
India											
Indebtedness classification	L	L	L	L	L	L	L	L	L	L	L
PV of Debt/GNI	15	17	19	18	16	15	20	18	17	18	18
PV of Debt/EGS	91	103	106	95	73	63	82	70	71	79	79
PV of Debt Servicing/GNI	2.4	2.97	4.2	2.4	2.9	1.8	3.2	2.5	1.2	1.4	
PV of Debt Servicing/EGS	14.5	17.3	18.9	13.8	13.2	8.6	15.5	9.6	6	5.6	
Bangladesh											
Indebtedness classification	L	L	L	L	L	L	L	L	L	L	L
PV of Debt/GNI	21	22	25	26	22	22	22	20	17	16	16
PV of Debt/EGS	113	117	128	124	102	91	84	67	90	84	79
PV of Debt Servicing/GNI	1.4	1.4	1.2	1.2	1.3	1.1	1.4	1.1	1	0.9	
PV of Debt Servicing/EGS	7.5	7.4	5.9	5.2	5.4	5.4	6.9	5	5.6	4.7	
Sri Lanka											
Indebtedness classification	L	L	M	M	L	L	L	L	M	M	M
PV of Debt/GNI	43	48	51	50	48	40	42	35	35	37	37
PV of Debt/EGS	95	103	110	111	109	92	105	96	136	156	160
PV of Debt Servicing/GNI	4.8	4.2	3.2	3.7	1.8	3.3	2.6	3.1	3.4	2.9	
PV of Debt Servicing/EGS	10.3	9.8	7.5	8.6	4.5	10.5	8.5	11.9	15.6	13	

Sources: Global Development Finance (2013), World Development Indicators (various issues). Global Development Finance (2004), World Bank, Debt Relief International (DRI)

Where Indebtedness classification of the country is S stands for Severely Indebted, M stands for Moderately Indebted and L stands for Low Income Group.

On the other hand, the external debt stock of Sri Lanka was US \$ 8.4 billion in 1995 which became more than doubled in 2012 and reached US \$ 21.7 billion. However, as a ratio to GDP, it declined from 64.4 percent in 1995 to 36.5 percent in 2012. Although external debt to exports ratio also declined from 181 in 1995 to 160 in 2012, it is still at the margin of threshold level. Thus the external debt indicators of Sri Lanka are although better than Pakistan, they are challenging in terms of sustainability.

Another dimension to looking indebtedness of a country is the present value criterion regarding two key ratios, *i.e.* present value (PV) of debt to GDP and to exports. If PV of debt to GDP ratio is less than 48, the country is regarded as less indebted; if this ratio is above 80 percent, the country is regarded as severely indebted; and if the actual ratio is in between these two extremes, the country is considered as moderately indebted. Similarly extreme ratios in terms of PV of debt to exports are 132 (minima) and 220 (maxima). Given these thresholds, the country positions are given in Table 6. The results are in line with the above analysis whereby India and Bangladesh are less indebted countries and Sri Lanka and Pakistan are moderately indebted.

### DEBT SUSTAINABILITY CONDITIONS

The analysis of debt ratios vis-à-vis threshold levels is supplemented by a more rigorous analysis of necessary and sufficient conditions of debt sustainability prevailing in each country. Interestingly, while debt ratios show India and the Bangladesh in comfortable zones as discussed above, the debt sustainability conditions show that public debt in these countries have been un-sustainable for most of the period under study. On the other hand, the results for Pakistan and Sri Lanka are consistent with earlier analysis of debt ratios.

Table 7 shows that public debt of Pakistan has been unsustainable since 1980s, with the exception of some initial years of 2000s. Although Pakistan has been meeting necessary condition for debt sustainability (*i.e.*  $r_t < g$ ) due to (a) availability of concessional loans from external donors and controlled interest rates in domestic market, and (b) high real GDP growth on average, the sufficient condition of primary surplus could not be met.

Except for some years of 2000s, the primary balances in Pakistan have been negative due to imprudent fiscal performance. Therefore, the main policy lesson coming from this analysis is to adopt fiscal consolidation measures by raising taxes and limiting expenditure in order to keep public debt in a sustainable position.

TABLE 7

## Public Debt Sustainability Conditions for SAARC Countries

Decade	$r$	$g$	ps	$r < g$	$s > 0$	Conclusion
Pakistan						
1980s	-0.58	6.19	-3.07	$r < g$	$s < 0$	Unsustainable
1990s	-0.94	3.96	-1.15	$r < g$	$s < 0$	Unsustainable
2000s	-0.85	4.63	0.85	$r < g$	$s > 0$	Sustainable
FY2011	-10.19	3.05	-3.16	$r < g$	$s < 0$	Unsustainable
FY2012	-1.26	4.42	-2.70	$r < g$	$s < 0$	Unsustainable
India						
1990s	8.38	5.60	-2.07	$r > g$	$s < 0$	Unsustainable
2000s	7.57	7.57	-0.03	$r > g$	$s < 0$	Unsustainable
FY2011	3.11	6.33	-0.39	$r < g$	$s < 0$	Unsustainable
FY2012	3.26	3.24	-3.20	$r > g$	$s < 0$	Unsustainable
Bangladesh						
1990s	-1.32	4.96	-2.5	$r < g$	$s < 0$	Unsustainable
2000s	-1.00	5.80	-1.2	$r < g$	$s < 0$	Unsustainable
FY2011	-1.63	6.94	0.1	$r < g$	$s > 0$	Sustainable
FY2012	-1.36	7.57	-0.8	$r < g$	$s < 0$	Unsustainable
Sri Lanka						
1990s	-1.70	5.21	-0.51	$r < g$	$s < 0$	Unsustainable
2000s	-3.14	5.20	-1.21	$r < g$	$s < 0$	Unsustainable
2011	-0.08	8.25	-0.26	$r < g$	$s < 0$	Unsustainable
2012	-0.64	6.72	-0.74	$r < g$	$s < 0$	Unsustainable

Source: Data from IFS CD ROM, World Development Indicators (WDI), World Bank, Issues, External Resources Flows, Economic Relation Division, Ministry of Finance, Economic Trend, Bangladesh Bank, and Economic Review, Bangladesh Bank, Indian Public Finance Statistics (various issues). Economic and Social Statistics, Central Bank of Sri Lanka.

TABLE 8

## External Debt Sustainability Conditions for SAARC Countries

Decades	Rate of Interest Real	Growth of GDP Real	Primary CAB as % of GDP	Conditions for Debt Sustainability		Outcome
	$r^*$	$g$	pcab	$r^* < g$	pcab	
Pakistan						
1990s	-3.3	4.0	-1.2	$r^* < g$	pcab < 0	Unsustainable
2000s	-1.9	4.6	0.5	$r^* < g$	pcab > 0	Sustainable
2011	-13.0	3.1	1.5	$r^* < g$	pcab > 0	Sustainable
2012	-4.6	4.4	-0.6	$r^* < g$	pcab < 0	Unsustainable
India						
1990s	-3.26	5.77	-0.79	$r^* < g$	pcab < 0	Unsustainable
2000s	-1.84	6.9	0.08	$r^* < g$	pcab > 0	Sustainable
2011	-5.85	10.55	-1.67	$r^* < g$	pcab < 0	Unsustainable
2012	-5.60	6.33	-5.08	$r^* < g$	pcab < 0	Unsustainable
Bangladesh						
1990s	-1.9	4.79	-1.65	$r^* < g$	pcab < 0	Unsustainable
2000s	-4.1	5.80	1.86	$r^* < g$	pcab > 0	Sustainable
2011	-6.2	6.94	2.09	$r^* < g$	pcab > 0	Sustainable
2012	-6.9	7.57	2.75	$r^* < g$	pcab > 0	Sustainable
Sri Lanka						
1990s	-6.78	5.21	-4.98	$r^* < g$	pcab < 0	Unsustainable
2000s	-8.49	5.20	-3.08	$r^* < g$	pcab < 0	Unsustainable
2011	-5.13	8.25	-7.80	$r^* < g$	pcab < 0	Unsustainable
2012	-6.27	6.72	-6.59	$r^* < g$	pcab < 0	Unsustainable

Source: Self-generated from Global Development Finance (Various issues), Pakistan Economic Surveys. India's External Debt: A status Report 2011-12, Ministry of Finance, Government of India. External Resources Flows, Economic Relation Division, Economic trend Bangladesh Bank, and Economic Review, Bangladesh Bank, Bangladesh. Economic and Social Statistics, Central Bank of Sri Lanka, and World Development Indicators (WDI), World Bank.



A similar situation is in case of Bangladesh and Sri Lanka whereby the necessary condition of public debt sustainability is met (*i.e.* real interest rate on debt has been lower than real GDP growth), but the sufficient condition is not fulfilled which requires a positive primary balance. However, India could not meet both of these conditions of debt sustainability. It has not only been incurring primary deficits during the periods under review, it also could not keep its borrowing cost lower than real GDP growth.

In case of external debt, Sri Lanka has been facing unsustainable situation throughout the period under study as it incurred primary current account deficits (*i.e.*, current account excluding interest payments), while a mixed picture is found in other three countries (*viz.*, Pakistan, India and Bangladesh). As shown in Table 8, Pakistan experienced unsustainable external debt situation in 1990s and the year 2012 due to deficits in the primary current account, despite it fulfilled the necessary condition of lower real interest rate on external debt than real GDP growth ( $r^* < g$ ). However, in 2011 and some years of 2000s, its external debt position was found sustainable as it met both necessary condition (*i.e.*,  $r^* < g$ ) and sufficient (*i.e.*, positive primary current account) conditions.

India also met necessary condition of the external debt sustainability during years under review; however, it met sufficient condition of surplus primary current account only in 2000s; in other periods its debt was unsustainable. On the other hand, Bangladesh has met both of these conditions for a sustainable external debt, in all periods except 1990s. Thus in terms of external debt sustainability, Bangladesh has been in a better position in recent years compared with other SAARC countries.

Summing up, we found that primary fiscal imbalances were the key factors behind rising public debt ratios, while the interest rate was not the main driver of these ratios in SAARC countries, in general. However, in case of India both the necessary and sufficient conditions of debt sustainability were not satisfied during the period under review. On the other hand, non-interest current account balance was responsible to increase in external debt ratios throughout the period under study in Sri Lanka, while a mixed picture was found in case of other three countries.

#### IV. CONCLUSION

The study analyses the debt situation of four key economies of SAARC region, *viz.* Pakistan, India, Sri Lanka and Bangladesh; and finds that public and external debt situation is generally unsustainable in the region. Although simple debt ratios portrait India and Bangladesh as relatively at comfortable

situation; more rigorous analysis of necessary and sufficient conditions of debt sustainability, based on theoretical models, indicates challenges faced by all the four countries in managing their debt positions. It is found that the cost of borrowing is low in all the four countries, except in case of India's public debt. While in early years of the decade of 2000s, the region experienced improvements in debt indicators, there were problems before and after this period.

Interestingly, the SAARC countries were able to mobilize low cost capital, particularly from external sources; however, they could not maintain fiscal discipline to contain twin deficits. The main factors behind unsustainability of domestic and external debt are large primary fiscal deficit and current account deficits. Therefore, in order to keep the debt on a sustainable path, it is imperative to address long standing issues of twin deficits through credible policy measures for increasing tax revenue and exports on the one hand, and limiting unproductive public expenditures and imports on the other hand.

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