

## **THE BOMB OF FOREIGN DEBT: Is There Any Way To Escape? A Case Study of Pakistan**

**Muhammad Aslam CHAUDHARY  
and Sh. Shahbaz ALI\***

It is generally felt that foreign resources (debt) has not played its role in development, rather it has become a burden for the economy. Pakistan's foreign debt has grown over at 11 per cent per annum, compared with recent economic growth of less than 4 per cent. In this paper an attempt is made to model foreign debt and make predictions for it till the year 2010. The model indicates that, although, foreign debt burden is not very severe now, it will become unsustainable in the future. The entire growth of the economy could be wiped out by debt services, if it is not properly managed. Alternative policy options are proposed to solve the debt crisis even before it emerges.

### **I. Introduction**

Many countries of the world have been following the growth-based policy of development, however, only a few of them have succeeded in achieving the objective through this approach. Foreign borrowing has been considered an additional means of financing investment for accelerating economic development. Pakistan also followed the same path of development. Foreign aid, which started flowing into the country during the First Five Year Plan period, did contribute to economic development. However, it was soon realized that Pakistan's economy was becoming too dependent upon foreign resources for its development. Realizing the adverse implications of excessive dependence on foreign aid, the government has,

\* The authors are Associate Professor and Post-graduate student at Quaid-i-Azam University, Islamabad, Pakistan, respectively. They are thankful to Ashfaq H. Khan, M.A. Chaudhary, and S. M. Younis Jaffrey, for their valuable comments which significantly improved the study. The view expressed entirely belong to the authors.

since the initiation of the Third Plan, attempted to pursue the development of the country independent of foreign aid, but all in vain. On the contrary, Pakistan's economy has over time become heavily dependent upon foreign resources. In fact, indebtedness has reached a point where it has become a bottleneck for the economic growth of the country.

Debt servicing, as a result of increasing indebtedness, is assuming serious proportions day by day. In recent years, one third of the federal budget has been tied up in such payments. Similarly, the trade gap has exceeded \$2.5 billion during 1991-93 and 1981-86. Alternatively expressed, the foreign debt which was 26 per cent of GNP in 1982-83, increased to 33 per cent of it during 1991-92. The total debt outstanding is reported at over \$20 billion<sup>1</sup> during 1994-95, which amounted to a foreign debt -burden of over Rs. 5,000 per baby born in Pakistan.

If we include domestic debt as well, then the per capita debt outstanding is over Rs.10,000 (1993-94).<sup>2</sup> The combined internal and external debt outstanding has reached over 75 per cent of the GNP. The combined debt servicing (internal and external) is about 7.7 per cent of GDP. The budget deficit reached 8.7 per cent of GDP during 1991. These figures point to the need of paying serious attention to this problem, otherwise, Pakistan's economic independence may soon be jeopardized. In other words, the lenders will impose serious conditions and thus influence economic and political policies, which has to some extent already started.<sup>3</sup> As such, this study has attempted to analyze comprehensively different aspects of this problem with special focus on: a forecast of expected accumulation of foreign loans by the beginning of the 21st century, identification of the nature of foreign loan by analyzing concessionality/grant element in foreign loans, and examination of foreign trade being envisaged as an engine of growth, thereby a remedy for the debt problem. The study has been organized as follows: Section II provides the theoretical background, the model and literature review; Section III reports empirical results and their implications; Section IV consists of alternate strategies to control the increasing trend of foreign debt. The final Section V concludes the study and provides policy guidelines.

<sup>1</sup> The figure pertains to only disbursed foreign loans. If we include pipeline loans and internal indebtedness, the figure will be more than double. For further discussion on the same, also see, *Economic Survey*, (1994-95).

<sup>2</sup> It may be noted that per capita loans of Pakistan's neighbouring countries, having similar level of economic growth, exhibited less foreign dependence. During 1992 per capita debt of Pakistan was about \$160. The same for Uganda, Nepal, Bhutan, India, Bangladesh, China and Iran were \$142, \$55, \$78, \$106, \$50 and \$51, respectively. See, World Development Report, 1984.

<sup>3</sup> Presently, most of the loan packages contain conditionalities related to economic policies, which is indirect interference in economic policies. The IMF loans, structural adjustment loans and credit extended by the World Bank are well known for such conditionalities. These loans are criticized for their terms and conditionalities. The poor classes are badly affected by these conditionalities.

## II. Theoretical Background and Literature Review

Indebtedness has tended to assume formidable proportions in Pakistan. Yet, it is surprising to see that no attempt has so far been made to analyze the issues and its implications thoroughly. There are only a few studies which represent at best a partial analysis of this problem. Chaudhary (1988) utilized a two gap model to forecast Pakistan's foreign dependence by the year 2010. However, this model ignored two major aspects: inflow of foreign remittances, which ranged between \$1.4 to 3 billion,<sup>4</sup> and which may have led to underestimation of the demand for new loans. The expected changes in foreign exchange rates were not made a part of this study, which may be important for repayments of foreign debt and debt servicing. Our study has taken care of such aspects for the sake of a realistic assessment of our present and future dependence on foreign resources. A study by Burney (1988) has analyzed the debt problem for Pakistan, but has limited the focus to Pakistan's debt capacity and its determinants. He concluded that the terms of borrowing and growth rate of GDP do not appear to significantly affect the variations in debt servicing ratio. However, it is possible that borrowing may have indirectly served as a source of financing the budget deficit resulting from increased non-development public expenditure.<sup>5</sup>

Our study also focuses on determining the nature of debt by estimating the concessions inherent in government loans. This will provide a basis to evaluate whether the rising debt servicing is a result of conditional and costly debt or not.

There are three studies which have evaluated the grant element in Pakistan's foreign aid. Mahmood (1977) estimated the element of concessionality for the period 1965-1975 and found that it fluctuated greatly between these years. He further found the grace period to have a large transformation elasticity, followed by the repayment period, and interest rate. In their study, Malik and Rizavi (1982) found that concessionality fluctuated between 57 to 78 per cent depending on the discount rate during 1975-80. They found the grant element of foreign aid to be more sensitive to the repayment period than to the interest rate and grace period. Using the methodology employed by Malik and Rizavi (1982), Khan's (1989) study restricted itself only to US-Aid, hence failing to provide the overall picture. Further, the available information on loan concessionality is limited to the 1980s only. No comprehensive study exists to provide any insights on concessional loans during the 1990s. Moreover, the rising debt burden raises the question of liquidity and insolvency of foreign debt. We aim to analyze these issues in this study for the 1990s.

<sup>4</sup>The workers' remittances to Pakistan were \$1.4 billion in 1978-79 which rose to \$2.89 billion in 1982-83. For further details, see p.164, Table 11.11 of the Economic Survey, 1993-94, Government of Pakistan.

<sup>5</sup>The budgetary position of Pakistan has reached an extent where it is facing difficulties to provide local component to utilize foreign loans. Presently, some loans also provide local components. Such a financial position is highly vulnerable. The deficit reached 8.7 per cent of GDP during 1991. One of the major source of this rising deficit is rapid increase in non-development expenditures.

The theory of capital growth, postulates that the capital borrowed on easy terms and invested in profitable projects can accelerate growth, and consequently contribute towards raising output in excess of the cost of borrowing. In other words, gains from such capital inflows may exceed costs and, therefore, making positive contributions to the economy. This study has examined the extent to which foreign debt/capital inflow is significant for accelerating economic growth. It has also examined whether Pakistan's foreign debt burden could lead to insolvency, and whether it may hinder economic growth. To this end, a two gap model, based on the structure of Pakistan's economy, is utilized to forecast expected need for foreign loans.

#### *The Model*

All available evidence suggests that Pakistan is beset with rising debt and debt servicing liability. To analyze the debt situation during the next two decades, a two gap model which provides the basis for such projections is utilized. Such a model has already been applied by Bandera and Luckan (1985); and Chaudhry (1988). The extended model applicable to Pakistan is explained as below:

Given the target exogenous GDP growth rate ( $g$ ), the growth of GDP ( $Y$ ) is given by:

$$y = (1 + g) Y_{-1} \quad (1)$$

Similarly, given the capital-output ratio, the investment function in its conventional form is given as :

$$I = k(Y - Y_{-1}) \quad (2)$$

where  $k$  = capital-output ratio,  $Y$  = current GDP and  $Y_{-1}$  = GDP lagged by one year.

The saving function used is of the Keynesian form as:

$$S = s_0 + s_1 Y \quad (3)$$

where  $s_0$  = autonomous saving and  $s_1$  = the marginal propensity to save.

The saving investment gap can be calculated from equations (2) and (3) as shown below:

$$G_1 = (I - S) \quad (4)$$

The other gap i.e., the foreign exchange gap is determined through the following two equations:

The average growth rate of exports, assuming it is exogenous, may be estimated as:

$$X = (1 + o) X_{-1} \quad (5)$$

where  $o$  = the growth rate of exports, and  $X_{-1}$  = the exports in the preceding year. The imports function is specified as:

$$M = M_0 + m_1 Y \quad (6)$$

where  $M_0$  = the autonomous imports and  $m_1$  the marginal propensity to import. The trade gap, which comprises only goods and services without debt services is found as:

$$TB = (X - M) \quad (7)$$

We first examine all components of debt service in detail below. Later debt will be made part of the model.

Amortization payments on the initial external debt are given as:

$$DS_0 = D_0 / N \quad (8)$$

where  $D_0$  is the external debt and  $N$  the amortization period. The amortization is also bifurcated into private and public as:

$$DS_1 = FPL/N + FGL/N \quad (9)$$

where  $FPL$  and  $FGL$  are foreign private loans and foreign government loans, respectively, and  $N$  is the amortization period.

Similarly, interest payment on these loans can be calculated as:

$$DS_2 = iFPL_{-1} + iFGL_{-1} \quad (10)$$

where  $i$  is the interest rate.

Expatriates are known to take their incomes out of our country which are counted as payments to foreigners in the following way:

$$DS_3 = P_F \quad (11)$$

where  $P_F$  stands for payments abroad to foreigners working in Pakistan.

The aggregate debt service and payments made abroad are simply given as:

$$DS = DS_1 + DS_2 + DS_3 \quad (12)$$

On the other hand, the inflows due to Pakistani residents working abroad may also be accounted for as:

$$AS = WR + F_y \quad (13)$$

where WR signifies worker's remittances, and  $F_y$  = incomes other than worker's remittance, from abroad.

The net service balance, therefore, is:

$$SB = AS - DS \quad (14)$$

Finally, the country's overall balance of payments which must include all autonomous inflows and outflows including the trade and service balance will be as follows:

$$G_2 = PB = TB + SB \quad (15)$$

This overall balance, not the trade balance alone, represents the external gap which, in case of deficit, must be financed through external borrowing because of the lack of foreign exchange. The internal and external gaps may differ in size because each is generated by its own parametric limitations under the conditions of disequilibrium of the economy.

The country has to borrow an amount equal to (B), which is equivalent to the larger gap, to attain the target rate of growth of GDP,

$$\text{if } G_2 > 0 \text{ and } G_1 < G_2, B = 0,$$

$$\text{if } G_2 > 0 \text{ and } G_1 > G_2, B = G_1 - G_2,$$

$$\text{if } G_2 < 0 \text{ and } G_1 < 0, B = -G_2,$$

$$\text{if } G_2 < 0 \text{ and } G_1 > 0, B = \max(G_1 - G_2).$$

where  $G_1$  and  $G_2$  are the internal and external gaps, respectively, and B is the borrowing requirement of the country.

### *The Data*

The model derived above has been used to forecast the national borrowing requirements upto the year 2009-10. The GDP target growth rate and capital-output ratio for investment for this period have been assumed as seven and three per cent per annum respectively; as is assumed in the 8th Five Year Plan.<sup>6</sup> Further, savings, exports and imports have been projected as a percentage of GNP on the basis of their respective historical pattern. All these variables have been estimated at 1959-60 prices.

The foreign debt which is reported in US dollars, has been converted into Pakistani Rupees by multiplying it with the respective exchange rates and then turned it into real debt by dividing it with the import indices of respective years. The import indices are widely used in the literature to capture the effects of the deterioration of exchange rate on nominal values.

Following World Bank (1992), total debt has been analyzed as private debt and public debt. The World Bank (1992) classifies<sup>7</sup> private credits as suppliers credits (i.e., credits from manufacturers, exporters, or other suppliers of goods), and credits from financial markets which consist of loans from private banks and other development-financial institutions (DFIs). The bilateral and multilateral credits are accounted as government or public credit. The distinction between the private and public debts is important because they have different interest rates and amortization periods.<sup>8</sup> The average interest rate on public foreign loans of Pakistan averages 4 per cent and the average amortization period is 25 years. The interest rate for private foreign loans, on the other hand, averages about 8 per cent and the average amortization period is about 10 years. This shows that the private loans are relatively hard loans in nature as their interest rate is relatively high and the amortization period is short. Based on previous trends, private debt is projected at 11 per cent growth from 1992-93 to 1999-2000 and at 15 per cent from 2000-01 to 2009-10.

### **III. Empirical Findings**

Table I summarizes the results by the parameters specified in the model. The crucial assumption is that the foreign capital can always accommodate the larger of the two gaps. The external gap turns out not only negative,<sup>9</sup> but it also exceeds the

<sup>6</sup>The approach paper to eighth plan and draft eighth plan initially envisaged this growth rate of GNP. For details, see, 8th Plan (1993-98), Planning Commission, Government of Pakistan.

<sup>7</sup>For details, see, Takagi (1981).

<sup>8</sup>For reference, see, Economic Survey, 1991-92.

<sup>9</sup>The negative external gap implies that trade account of balance of payments shows that earnings from exports etc., are less than imports. Thus, the country may have to borrow to fill this gap.

TABLE 1

## Projected Debt Requirement

(Rs. Billion, Real)\*

Year	GDP	Investment	$G_1$	SB	TB	$G_2=PB$	BR
1992-93	147.07	28.90	14.00	-4.30	-13.13	-17.41	17.41
1995-96	180.16	35.40	16.80	-8.09	-14.75	-22.83	22.83
1999-00	236.16	46.35	21.54	-17.30	-17.14	-34.40	34.40
2005-06	354.41	69.56	31.27	-46.92	-21.24	-68.15	68.15
2009-10	464.56	91.18	40.04	-89.30	-24.30	-113.60	113.58

\* At constant prices of 1959-60.

 $G_1$  = Saving/Investment Gap;  $G_2$  = BP = Balance of Payments; SB = Services Balance; BR = Borrowing Requirement; TB = Trade Balance.

internal gap throughout the analysis period. This implies that the borrowing requirements (BR) for the period under discussion are equal to the external gap. This, in turn, is the result of an ever increasing trade and service balance deficits. The service balance which is determined by total service payments to and incomes from abroad, remains negative throughout the period as the former show a more rapid growth than the latter. Table 1 also shows a negative balance of trade over the period under consideration because the value of imports exceeds that of exports. The saving and investment gap ( $G_1$ ) also exhibits an increasing trend throughout the period because the required investment is always greater than the savings provided by the domestic resources.<sup>10</sup>

*Expected Debt and Debt Servicing*

Table 2 presents the yearly forecast of real debt burden till 2009-10. Figures in the table show that if the present borrowing trend continues, the total real debt is likely to increase from its present level of 32 per cent of GNP to 70 per cent by 2009-10. In other words, the debt burden is likely to be doubled in 18 years.<sup>11</sup> This situation is likely to create serious liquidity problems for Pakistan in the years ahead. The

<sup>10</sup> Average saving rate in Pakistan is 13 to 14 per cent. However, the draft eighth plan indicated this figure to the tune of 15 to 16 per cent. It may be noted that it is still low as compared to its neighbouring counterpart like India

<sup>11</sup> The doubling of debt is in terms of percentage of GNP. If absolute figures for the same are considered, it may be much more than double.



TABLE 2

## Projected Foreign Debt and Debt Servicing

(Rs. Billion, Real)\*

Year	Debt Outstanding	Debt Servicing	Debt Outstanding (% of GNP)	Debt Servicing (% of GNP)
1992-93	43.02	3.92	32	2.9
1959-89	67.69	6.16	39	3.5
2007-08	235.50	22.37	64	6.1
2009-10	295.34	28.06	70	6.6

\* Based on 1959-60 prices

adverse effect of increased debt burden can also be reflected from its servicing liability which is likely to go up from 2.9 per cent of GNP in 1992-93 to 6.6 in 2009-10. It means that over 6 per cent of the economy's total resources would be washed away by the interest payments and amortization of foreign loans. In terms of opportunity cost, it means that fewer domestic resources would be available for other development activities. The increased debt servicing ultimately is expected to impair the credit worthiness and debt servicing capacity of Pakistan. Given the situation, it may be argued that Pakistan has reached the threshold of debt crisis similar to that experienced by many Latin American countries during the 1980s. Thus, it reflects a need for debt rescheduling to reduce the present financial squeeze.

#### *Concessionality Element*

Foreign loans are well known as foreign assistance/aid which include some element of grants. The existence of grants in foreign loans is referred to as concessionality in loans. It may be in the form of financing of certain services which may not be repayable, or have a long grace period, or it may carry a low interest rate. Besides, repayment in terms of hard or soft currency is another aspect of this element. The concessionality (grant) element is the difference between the face value of a loan and the discounted sum of payment of interest and principal of the loans. The grant element will be positive if the discounted sum of payments is less than the face value of the loan. The grant element is negative if discounted sum of payments is greater than the face value of loan. The results obtained regarding grants are discussed below. The methodology used for estimation is provided Appendix-I.

*The Results*

The weighted average annual values of the grant element for the period 1981-1991, as shown in Table 3, indicates a fluctuating trend. The grant element increased from 1981-82 through 1983-84 due to long repayment and grace periods. During 1984-85 and 1985-86 the grant element decreased and the grace period became shorter. Although the grant element of foreign loans increased in a couple of subsequent years due to the long repayment periods contracted in them, but it has generally declined since 1990-91. Such a fluctuating trend in the grant element was also detected by Mahmood (1977) for the 1960s, and Malik and Rizavi (1982), for the 1970s. In our analysis, the grant element has declined irregularly, particularly, for the last three years.<sup>12</sup> It may thus be inferred, that foreign loans for Pakistan are becoming costlier day by day due to their declining concessionality. It indicates that if this trend of decreasing concessionality element continues, the repayment and debt servicing problems of Pakistan will definitely worsen in future.<sup>13</sup>

**TABLE 3**  
Weighted Annual Values of the Grant Element

Year	Grant Element %	Rate of Interest %	Grace Period (Years)	Repayment Period (Years)
1981-82	60.1	4.0	8.0	22.0
1982-83	60.3	4.1	8.5	20.8
1983-84	66.0	3.6	7.8	21.4
1984-85	63.3	3.4	7.0	22.8
1985-86	58.1	4.2	7.4	21.5
1986-87	58.8	4.0	7.1	21.4
1987-88	59.9	3.9	7.2	21.6
1988-89	55.6	4.3	6.9	20.1
1989-90	54.4	4.5	6.5	20.4
1990-91	52.8	4.4	6.3	19.3

\*Calculated by the authors.

<sup>12</sup> During the last three years, not only has the grant element shrunk but the loan volume was also squeezed. The new loans are decreasing by 4 percentage points per year. See, *Economic Survey*, 1992-93.

<sup>13</sup> Our study has not incorporated this change. However, it could be visualized that the debt burden will be bigger if this trend continues.

The impact of reduced concessionality in grant element of foreign loans may also be examined with respect to its transformation elasticity in relation to changes in interest rate, the grace period and the repayment period. The grant element of foreign loans is inversely related to the interest rate because an increase in interest rate reduces the value of grant element. Its sign with respect to interest rate is, therefore, expected to be negative. On the other hand, the transformation elasticities with respect to the repayment and grace periods are expected to bear a positive sign because they are positively related with the grant element. An increase in one or both of them increases (a decrease reduces) the value of the grant element.

The analysis gave the transformation elasticities with respect to the interest rate, the grace period and the repayment period as -0.70, 0.50 and 1.10, respectively. Coefficient of greater than one associated with the repayment period suggests that the element of concessionality in our foreign aid is elastic to the repayment period. Alternatively expressed, a one per cent increase in the repayment period leads to a more than one per cent increase in the grant element. This is comparable with what Mahmood (1977), and Malik and Rizavi (1982) found for earlier period in their studies. Specifically, Mahmood (1977) found the grace period as the most influential variable affecting the grant element during the period 1965–1975, followed by the repayment period and the interest rate. Malik and Rizavi (1982) found the repayment period to be the most influential variable during the period 1975–1980 followed by the grace period and the interest rate. Our study has indicated the repayment period as the key variable in affecting the grant element followed by the interest rate and the grace period during the period 1981–1991. This analysis suggests that, whereas, the grace period has been the main determinant of concessionality of the loans in the early 1970s, the repayment period has taken over it as the main factor during the late 1980s.

The analysis shows that the concessionality of foreign loans of Pakistan, which accounted earlier for more than 60 per cent has now reduced to 50 per cent, making foreign loans more and more expensive over time. This suggests that the government should exercise restraint in external borrowing on strict terms and search for concessional terms, particularly, of longer repayment periods. It will reduce the future debt servicing liability.

#### IV. A Way to Get Out of Debt: Alternative Strategies

##### *i) Increasing Exports*

Given the export performance of Pakistan, it is proposed that if Pakistan can increase its exports by 2 per cent, above the historical growth of exports,<sup>14</sup> it can

<sup>14</sup> During the 1970s, exports grew by 11 per cent per annum, which increased to 18 per cent per annum, during 1979–80 to 1992–93. For details, see, Economic Survey, 1994–95, p. 153, Table 11.4 (R-5), Statistical Appendix. Exports grew by 10 per cent during 1994–95 which shows the potential to accelerate exports and trade.

decrease its borrowings by a substantial amount. In this scenario, the real debt would decrease by 12 percentage points. More specifically, the real debt would reduce from 70 per cent of 58 per cent of GNP by the year 2009-10. Debt service as a ratio of GNP would reduce to 5.5 per cent or by 1.1 per cent less than what it would be without any policy interventions (Appendix II). For this purpose, there is the need for increasing not only the quantity of exports but also their range, because our exports are limited mainly to cotton, rice, leather and carpets, etc. Out of these, the cotton group occupies more than 58 per cent of total exports. In the cotton group, cotton yarn and cotton fabrics alone comprise 50 per cent of cotton group exports. If these are exported in the form of manufactured garments/hosiery instead of cotton yarn and fabrics, the value of exports would increase manifold. Hence, the target growth of exports can also be achieved by exploring new avenues for exportable products. Thus, diversification of exports seems to be a rational policy target.<sup>15</sup>

#### *ii) Reducing Imports*

Reduction in imports is also expected to attenuate real debt. A two per cent reduction in the historical growth rate of imports will decrease the real debt from 70 per cent to 56 per cent of GNP by the year 2010. As a result, debt servicing would also go down by 1.3 percentage points without any policy change. This level of reduction in imports seems plausible because there are several areas of imports which could be curtailed without any special disturbance. It may be noted, that Pakistan is predominantly an agricultural economy with more than 50 per cent of its labour force directly employed in agriculture, 70 per cent of population is dependent on this sector and 24 per cent of Pakistan's GNP is derived from agriculture. Nonetheless, she is importing wheat, edible oil, lentils and other agricultural products to meet the domestic demand for these commodities. Besides, several agricultural inputs like fertilizers, pesticides and machinery, etc., are also imported which can be substituted by domestic production. Presently, the import of wheat, tea and sugar each occupies more than 2 per cent share in total imports. If Pakistan cuts down these imports and invest the saving in agriculture, it can achieve food self-sufficiency. A simultaneous impact of increasing exports and decreasing imports is presented below.

#### *iii) Increasing Exports and Reducing Imports Simultaneously*

A policy option focusing on trade is proposed for Pakistan. By increasing the export growth rate by 2 percentage points and reducing the imports by 2 percentage points, from the historical growth rates simultaneously, Pakistan can substantially reduce its dependence on foreign loans. Table 4 shows that by adoption of this

<sup>15</sup> The eighth Plan envisages much higher growth of exports than that of our policy target. We have attempted to focus on a realistic targets rather a vicious policy. Of course, for success of such a policy, new markets have to be explored since there are several trade restrictions on the international trade.

policy, Pakistan's real debt could amount to 48 per cent of GNP and debt servicing to 4.5 per cent of GNP rather than 70 per cent and 6.6 per cent, respectively, in the year 2010. This implies that the burden of debt and debt servicing could be reduced to a manageable level as the real debt would be 22 percentage points less than that of our forecast. Similarly, the debt servicing could be reduced by 2.1 percentage points from what it would be under conditions of no policy intervention. Thus, the dependence on foreign resources could be reduced considerably by means of exploiting domestic resource and following trade expansion. A policy to increase exports by 3 percentage points and a cut in imports by 3 percentage points (over the historical pattern) has also been analyzed [Chaudhry (1988)]. Of course, such a policy will be more beneficial, as compared to the one discussed above. It has already been pointed out that the potential for such trade expansion does exist in Pakistan. Similar achievements were made during the Second and the Third Five Year Plan periods, when trade was recognized as an engine of growth. Unfortunately, such a policy was not followed consistently and, as a result, Pakistan got trapped in heavy balance of payment deficit. It is believed that trade expansion could still lead the economic growth in Pakistan.

TABLE 4  
Debt Management Under Trade Policy

(Rs. Million, Real)\*

Year	Debt Outstanding	Debt Servicing	GNP** Real	Debt Outstanding as (% GNP)	Debt Servicing as (% GNP)
1992-93	43015	3914	133585	32	2.9
1997-98	61657	5857	187359	33	3.1
2002-03	100085	9508	262781	38	3.6
2007-08	169535	16106	368564	46	4.4
2009-10	202545	18989	421969	48	4.5

\* At 1959-60 prices.

\*\* Based on 7 per cent growth rate.

*iv) Sustainable Debt Strategies and Economic Growth Targets*

The present volume of foreign debt of Pakistan has yet not raised very serious problems. However, if appropriate measures are not taken to contain it within limits, it will pose a serious threat to Pakistan's economy. Keeping this in mind, we have examined different debt strategies under which Pakistan can avoid such a problem.

The first strategy is to maintain the present debt/GNP ratio constant and to finance deficit through internal and/or external borrowings. How the relevant variables are expected to behave is discussed below.<sup>16</sup> During the 1980s overall fiscal deficit was reported to be 6.5 per cent of GNP. It rose to 7.4 per cent of GNP during 1985-93.<sup>17</sup> The overall target deficit for the Eighth Plan period (1993-98) is targeted at around 5.5 per cent of the GNP. Under our debt strategy, the sustainable deficit will be 3.72 per cent of GNP, provided that the GNP grows by 5.5 per cent and inflation remains 7 per cent. In other words, we must reduce such amount from borrowing and only 1.72 per cent (of GNP) deficit will be sustainable during the Plan. However, if targeted GNP growth and inflation rate is desired at 6 per cent, the sustainable deficit required to be filled through borrowing, will be 3.17 per cent of GNP. In other words the deficit must be reduced by 2.53 percentage points from the target. Our model has shown that higher inflation and GNP growth rates help in sustaining higher debt and deficit.

The second strategy is to keep domestic debt to tax revenue, and foreign debt to exports ratios constant. If the GNP grows at 5.5 per cent and inflation is maintained around 7 per cent there will be a need to reduce deficit by one per cent of GNP during the Eighth Plan period. It means that the deficit of about 4.5 per cent of GNP could be met from borrowing. If higher GNP growth is not achieved, but higher inflation is allowed, even then the targeted Eighth Plan deficit financing and borrowing will be sustained. However, high inflation will be neither bearable nor desirable over a long period of time.

Sustainable debt and deficit, based upon the above two strategies, have also been worked out for the perspective plan period (1993-2008). It may be noted that the average target deficit for the perspective plan is 4.5 per cent, even less than that for the Eighth Plan. If GNP growth rate is assumed as 5.5 per cent and inflation as 7 per cent, then there will be a need under the first strategy to reduce overall deficit by 2.9 per cent. It means that only a deficit of 2.6 per cent of GNP will be sustainable and

<sup>16</sup>The results discussed here are based upon a detailed model which incorporates changes in foreign exchange rate, inflation, interest rates, domestic and foreign debt, public revenue, inflation tax, monetization and foreign reserve, etc. Only the results are presented here, since it is itself a comprehensive study which is mainly focussed on debt and deficit, while in this paper our main focus is on foreign debt. The final equations estimated for above strategies are given in the Appendix II.

<sup>17</sup>It may be noted that deficit in Pakistan reached to 8.7 per cent of GDP during 1991. It is the deficit gap which leads to heavy borrowing and puts a country under debt burdens since it fails to mobilize revenue from domestic resources. For such details, see, Economic Survey, 1994-95.

financeable by borrowing. However, if GNP grow by 5 per cent and inflation rate is maintained at 10 per cent, then there will be a need to reduce the borrowing (deficit) by one per cent of GNP. In other words, a deficit of about 3.5 per cent of GNP could be sustainable. A higher GNP growth rate and a higher inflation rate both help to sustain more debt and deficit. The present level of deficit and double digit inflation can not be sustained under either strategy. It may be the very reason that our debt forecast, presented in the earlier section, indicated that foreign debt may become a threat for Pakistan's economy.

## V. Conclusion

The focus of this study has been to determine the extent of Pakistan's dependence on foreign loans in the year 2009-10. Our analysis has revealed that the burden of foreign loan will be more than double in the next fifteen to eighteen years. The real foreign loans in absolute terms will increase by 6.5 times by 2009-10. Similarly, debt servicing will also be more than double during the same period. These figures foretell a formidable situation for Pakistan. It appears from the analysis that Pakistan is moving fast towards insolvency.

The concessionality (grant) element in foreign loans has been found to be declining irregularly and debt servicing ratio has been constantly increasing. The result is that borrowing from abroad has become more and more expensive, and foreign loans have become burdensome. If trade expanding policies are not followed now, these loans may reach a stage where they will be eroding the fruits of development and will ultimately destroy the growth momentum.

The present economic problems of Pakistan like debt, deficit and inflation seem to be getting out of control. In spite of a hard struggle, Pakistan is unable to control the fiscal deficit and inflation within target level. Our analysis of debt strategies regarding sustainable debt, deficit and inflation revealed that deficit and debt have to be curtailed to a substantial level to bring them to a manageable limit. The analysis was based upon a strategy of keeping debt/GNP and debt/exports ratio's constant and by curtailing the deficit.

The present structure of our trade could be diverted to increase exports, reduce imports and to focus on expanding value added exports. As a result, the debt bomb could be defused by expansion of trade. However, special attention is needed to achieve these objectives. Of course, further search for finding other avenues to defuse the debt bomb could also be beneficial. It is recommended that it is high time that Pakistan realise this cancer now rather than wait until it is spread across the economy. A temporary respite could, however, be sought from rescheduling the debt. The way to find a permanent cure is by following trade expansion policies.

## APPENDIX I

### Methodology for Grant Element

The main variables which affect the degree of concessionality of a loan are: (i) interest rate, (ii) grace period, and (iii) repayment period. It is assumed that interest remains the same throughout the loan period and an average interest rate is used. The instalments for repayment are calculated as per formula given below.

$$A = \frac{rD(1 + \frac{r}{100})^t (1 + \frac{P}{100})^g}{100(1 + \frac{r}{100})^{t+1}}$$

A = Debt instalment.

D = Principal debt.

P = Grace period's interest rate.

g = Grace period.

r = Interest on loan.

t = Repayment period

The present value of debt servicing incurred on loans is given

$$PV = \frac{A}{\frac{i}{100} (1 + \frac{i}{100})^g} \left[ 1 - \frac{1}{(\frac{i}{100})^t} \right] \quad (2)$$

PV = Present value.

i = Discount rate.

A = Annual instalments.

A discount rate of 10 per cent is utilized for the study.

Given the present value, the grant element can be calculated as given below.

$$GE = \frac{D - PV}{D} * 100 \quad (3)$$

GE = Grant element.

The grant element is the difference between the face value and discounted sum of loans. To check the sensitivity of the interest rate, grace period, the loan period elasticities can be calculated as given below.

$$\frac{\frac{dGE}{GE}}{\frac{dX_i}{X_i}} \quad (4)$$

$X_i$  = One of three variables of the loans i.e., interest rate etc. These elasticities are estimated by regression, using natural log of GE on  $X_i$ .



## APPENDIX II

## Methodology for Debt Strategy\*

A)

$$\text{RDR} = \bar{d} + \bar{r}\bar{b} + (r^* + \hat{e}) (\bar{f}^* - \bar{a}^*) - [\bar{n}\bar{b} + \bar{y}(\bar{f}^* - \bar{a}^*) + \bar{n}\bar{y}\bar{m} + \bar{\pi}\bar{m}]$$

B)

$$\text{RDR} = \bar{d} + \bar{r}\bar{b} + (r^* + \hat{e}) (\bar{f}^* - \bar{a}^*) - [\bar{n}\bar{y}\bar{b} + \bar{n}\bar{y}(\bar{f}^* - \bar{a}^*) + \bar{n}\bar{y}\bar{m} + \bar{\pi}\bar{m}]$$

RDR = Required deficit reduction (as a per cent of GNP).

$\bar{d}$  = Ratio of primary deficit to GNP (real).

$\bar{r}$  = Real rate of interest on domestic debt.

$\bar{b}$  = Ratio of domestic debt to GNP (real).

$r^*$  = Real rate of interest on foreign debt.

$\bar{f}^*$  =  $f e/y$  ratio of foreign debt to GNP (real).

$\bar{a}^*$  = Ratio of net foreign assets to GNP (real).

$\bar{m}$  = Ratio of base money to GNP (real).

$\bar{m}^*$  = Ratio of adjusted base money to GNP (real).

$\bar{\pi}$  = Rate of inflation (domestic).

$\bar{n}\bar{y}$  = Growth rate of GNP.

$\bar{n}\bar{T}$  = Growth rate of tax revenue.

$\bar{e}$  = Exchange rate.

\*For rationale and derivation of these equations, see, Chaudhary and Anjum (1994), Quaid-i-Azam University, Islamabad (working paper).

## References

- Bandera, V.N., and J.A. Lukcan, 1985, Simulation of a debtor country: The experience of Columbia, *Journal of Policy Modeling*, 7(3).
- Burney, N. A., 1988, Determinants of debt problem in Pakistan and its debt servicing capacity, *The Pakistan Development Review*, 27(4): Part-II (Papers and Proceedings).
- Chaudhry, M. Aslam, 1988, International debt and foreign dependency: Policy options for Pakistan, *The Pakistan Development Review*, 27(4): Part-II (Papers and Proceedings).
- Chaudhry, M. A. and S. W. Anjum (1994), Quaid-i-Azam University, Islamabad, Working Paper No.15.
- Chenery, H. B., and A. Strout, 1966, Foreign assistance and economic development, *American Economic Review*, 56(4): Part-I.
- Gersovitz, M., 1982, The estimation of two gap model, *Journal of International Economics*, 12(1 & 2).
- Government of Pakistan, Ministry of Finance (E.A.Wing), Economic Survey, Various issues, Islamabad, Pakistan.
- International Monetary Fund, 1992, *International Financial Statistics*, Year Book, Washington, D.C., USA.
- Khan, M. A., 1989, Grant element in US aid to Pakistan, *Economic Journal*, Government College, Lahore, Pakistan.
- Lee, Jungsoo, 1983, Long run debt capacity of Asian developing countries, *Asian Development Bank*, Staff Paper No.16.
- Mahmood, M. A., 1977, An estimation of grant element in foreign aid, *The Pakistan Development Review*, 16(1).
- Mandle, Jay, 1982, *Patterns of Caribbean development, An interpretive essay in economic change*, New York: Gordon and Breach.
- Mumtaz, Malik, and S. S. Rizavi, 1982, An estimation of grant element in foreign aid flow to Pakistan, *Journal of Institute of Bankers in Pakistan*, 48(4).
- Rehman, Shahid-ur, 1994, Public sector deficit: Issues, determinants, measurement and macroeconomic linkages, A case study of Pakistan, M. Phil. Thesis, Department of Economics, Quaid-i-Azam University, Islamabad.
- Ruttan, V.W., 1989, Why foreign economic assistance? *Economic Development & Cultural Change*, 37(2).
- Takagi, Y., 1981, Aid and debt problem in less developed countries, *Oxford Economic Papers*, 33(2).
- The International Debt Crisis, 1987, A. E. A. Papers and proceedings, *The American Economic Review*, 77(2).
- Tyler, W.G., 1981, Growth and export expansion in developing countries: Some empirical evidence, *Journal of Development Economics*, 9(1).
- World Bank, 1979 and 1992, *World Development Report*, Oxford University Press.