

**MACROECONOMIC
FRAMEWORK
FOR DEBT MANAGEMENT**

Policy Paper No. 19

**MACROECONOMIC FRAMEWORK
FOR DEBT MANAGEMENT**

By

*Hafiz A. Pasha
Aisha Ghaus-Pasha*

2000

Social Policy and Development Centre

MACROECONOMIC FRAMEWORK FOR DEBT MANAGEMENT?

Pakistan finds itself in a severe debt trap. Already, the inability to service external debt obligations has led to the rescheduling of debt payments by the Clubs of Paris and London. This relief comes to an end in December 2000. Given the inability to improve significantly the balance of payments position and the level of foreign exchange reserves in the interim period, Pakistan will be compelled to seek a second round of exceptional financing from the IMF and other donors. This is clearly an unsustainable situation in the long run and highest priority must be placed on development and implementation of a strategy which brings about a significant reduction in the debt burden in the foreseeable future. The objective of this paper is to present such a strategy.

The paper is organised as follows: Section 2 identifies the macro determinants of the rate of debt accumulation in an economy. Based on this identification, Section 3 highlights the reasons for the relatively rapid increase in the debt to GDP ratio in the decade of 80s and the moderation in the rate of increase in the 90s. Section 4 sets up criteria for determining the sustainable levels of debt and accordingly sets up a range of targets for 2007-2008, the last year of the Tenth Plan period. Section 5 lays out the key elements of the strategy for achieving the targeted reduction in debt burden. Section 6 highlights the differences between two scenarios which achieve varying levels of reduction in the debt burden. Section 7 gives the projected levels of key macroeconomic and public finance magnitudes in the two scenarios and the resulting levels of debt. Finally, in Section 8 are given the principal conclusions.

2 MACRO DETERMINANTS OF DEBT ACCUMULATION

The basic equation for debt accumulation in an economy, derived in Van Wijnbergen [1989] and Pasha and Ghaus [1996], is as follows:

$$d\left(\frac{D}{y}\right) = \frac{PB}{y} - \frac{D^d}{y}(i-g) - \frac{D^e}{y}(r-g) - \frac{D^e}{y} \cdot \frac{de_r}{e_r} \dots\dots\dots [1]$$

?This paper is based on the work done by the Macroeconomic Sub-Group of the Debt Reduction and Management Committee of which one of the authors is a member. Inputs from the State Bank of Pakistan and

the Economic Advisers Wing, Ministry of Finance are acknowledged along with the research assistance of Mr. Kalim Hyder. Any defects that remain are the responsibility of the authors.

where d represents the magnitude of change. The variables represent the following: D = total debt, y = nominal GDP, PB = primary budget¹ deficit / surplus, D^d = domestic debt, i = real interest rate² on domestic debt, g = real GDP growth rate, D^e = external debt (in dollars), e = exchange rate (rupees per dollar), r = real interest rate on external debt³, e_r = real effective exchange rate.⁴

Therefore, according to (1) the change in the debt to GDP ratio is caused by the following factors:

- (i) whether the primary budget is in deficit or surplus. If there is a deficit this will tend to raise the debt to GDP ratio whereas if it is in surplus then this will lead to a fall in the ratio. The rate of increase / decrease will depend upon the size of the primary budget deficit / surplus
- (ii) the extent to which the domestic real interest rate on domestic debt exceeds the economy's growth rate. If r is small and g is relatively large such that $(r - g)$ is negative then this will exert a downward pressure on the debt to GDP ratio. Alternatively, if r is large and g is relatively small such that $(r - g)$ is positive then the ratio will tend to rise
- (iii) the extent to which the external real interest rate exceeds the real GDP growth rate. If $(i - g)$ is negative / positive then the debt to GDP ratio will fall / rise
- (iv) the extent of capital loss on external debt due to real exchange rate depreciation. If the rate of nominal exchange rate depreciation exceeds the difference between domestic and world rates of inflation then the debt to GDP ratio will tend to rise. Alternatively, if there is a real appreciation in the value of the rupee then the debt to GDP ratio will tend to fall.

¹Primary budget deficit / surplus = revenues - non-interest expenditure

^{2, 3}Real interest rate is the nominal interest cost less rate of inflation

⁴ $e_r = e \cdot \frac{P_w}{P}$, where p_w = world price index, P = domestic price index.

Therefore, the change in the debt to GDP ratio during a particular period depends on the average annual values of PB/y , i , g , r , de_r/e_r from the first to the last year of the period.

If the objective is to focus on another indicator of debt burden like the debt to revenues ratio, rather than the debt to GDP ratio, then

$$d\left(\frac{D}{R}\right) = \frac{1}{\left(\frac{R}{y}\right)} \cdot \left[d\left(\frac{D}{y}\right) - \frac{D}{y} \cdot d\left(\frac{R}{y}\right) \right] \dots\dots\dots [2]$$

where $d(D/y)$ is given by (1) and R = total revenues. Therefore, in addition to the factors listed above the debt to revenues ratio also depends upon the ratio of revenues to the nominal GDP. If R/y rises, then, even if PB remains unchanged, the debt to revenues ratio falls.

3 THE HISTORICAL EXPERIENCE

Table 1 shows that over the last two decades Pakistan's total debt to GDP ratio has risen from 66 per cent to close to 100 per cent. Much of the increase has occurred during the decade of the 80s (especially in the second half). By 1989-90, the debt to GDP ratio had reached the level of 92 per cent.

The question that arises is what explains the rapid accumulation of debt during the decade of the 80s? Why has the growth moderated in the 90s? Magnitudes of the macro determinants of the debt burden

Years	External Debt	Domestic Debt	Total Debt
<u>1979-1980</u>	<u>41.0</u>	<u>25.5</u>	<u>66.5</u>
1984-1985	39.1	31.8	70.9
<u>1989-1990</u>	<u>48.7</u>	<u>43.7</u>	<u>92.4</u>
1990-1991	44.1	43.0	87.1
1991-1992	46.2	42.9	89.1
1992-1993	47.9	44.8	92.7
1993-1994	53.1	44.2	97.3
1994-1995	47.3	42.0	89.3
1995-1996	44.1	42.2	86.3
1996-1997	47.2	42.2	89.4
1997-1998	49.5	43.1	92.6
1998-1999	53.5	47.8	101.3
<u>1999-2000 (E)</u>	<u>53.3</u>	<u>46.0</u>	<u>99.3</u>

E = Estimated.
Source: Ministry of Finance, Government of Pakistan.

are presented in Table 2. It appears that the major reason for the rapid increase in the 80s was the relatively large size of the primary budget deficit at over 3 per cent of the GDP annually as compared to the average of 0.5 per cent of the GDP during the 90s.

It is also significant to note that the real interest rate on domestic debt was higher during the 80s. Despite the fact that nominal interest cost was lower, the lower rate of inflation implied a higher real interest rate. However, this negative factor was neutralised by the significantly higher GDP growth rate in the 80s as compared to the 90s.

TABLE 2
MACROECONOMIC FACTORS DETERMINING
EVOLUTION OF DEBT TO GDP RATIO

Factor	Decade of 80s	Decade of 90s
Primary Budget Deficit (-) / Surplus (+) as % of GDP	-3.2	-0.5
Nominal Interest Rate on Domestic Debt (%)	9.5	11.7
Nominal Interest Rate on External Debt (%)	2.8	3.9
Rate of Nominal Exchange Rate Depreciation (%)	8.2	9.4
Rate of Domestic Inflation (%)	7.3	9.8
Real Interest Rate on Domestic Debt (%)	2.2	1.9
GDP Growth Rate (%)	6.1	4.6

Source: State Bank of Pakistan, Annual Reports.
Ministry of Finance, Pakistan Economic Survey.

Throughout the last two decades a major factor contributing to depressing the debt to GDP ratio has been the extremely low real interest rate on external debt. Much of Pakistan's international borrowings has been on highly concessional terms. If the terms had been more commercial then Pakistan's debt to GDP ratio would have been significantly higher today.

Finally, the extent of real exchange rate depreciation appears to have been significantly higher in 80s, thereby contributing to larger capital losses on external debt. This conclusion can be reached by making a comparison of the nominal rate of exchange rate depreciation with the rate of inflation. The latter was larger than the former in the 80s while the opposite is the case in the 90s.

4 SUSTAINABLE DEBT

Most of the literature on sustainability of debt is concerned with quantification of the level of primary budget surplus or deficit which keeps unchanged over time the debt to GDP ratio at its present level [Hopkin and Reddaway (1994) and Horne (1991)]. In this sense, it does not question whether the present level of debt is too high or not. Clearly, this is not a useful approach as the current level of debt, especially external debt, has been found to be unsustainable and Pakistan has had to seek debt rescheduling.

Therefore, the objective must be to bring down the debt to GDP (or debt to revenues) ratio substantially down from its present level over the next decade. In 1998-99 the debt to GDP ratio was slightly in excess of 100 per cent (see Table 1). A long run sustainable debt to GDP ratio is probably between 65 to 75 per cent. This would mean bringing down the ratio close to the level prevailing at the end of the decade of the 70s, prior to the big build up of debt in the 80s. Initially, if Pakistan is able to get a second round of debt rescheduling, much of the decline is likely to come in the domestic debt to GDP ratio. During the period when the debt rescheduling is operative the external debt to GDP ratio may remain largely unchanged or even rise. Beyond the period of debt rescheduling it should start falling rapidly.

In terms of the targeted change in the total debt to revenues ratio the level in 1998-99 was 642 per cent, which is extraordinarily high. As the debt to GDP ratio comes down from over 100 per cent to between 65 per cent and 75 per cent, while the revenue to GDP ratio demonstrates some buoyancy, it should be possible to bring the debt to revenues ratio down to between 350 per cent and 450 per cent by 2007-08.

5 STRATEGY FOR REDUCTION OF DEBT BURDEN

The previous sections have highlighted the role of different factors in changing the level of debt in Pakistan during the last two decades. Based on these factors, a strategy can be developed for bringing about the reduction in the particular measure of debt burden, say the debt to GDP or revenues ratio, to the targeted levels given in the previous section in the specified time period.

The principal elements of such a strategy would include the following:

(1) Achieve primary budgetary surpluses: In 1998-99, the federal and provincial governments combined have managed to convert primary budget deficits into a significant surplus for the first time. Achieving faster reduction of the debt burden will require that the primary budgetary surplus be increased as rapidly as possible from 1999-2000 to 2007-2008.

For this to be accomplished the revenues (tax + non-tax) to GDP ratio will have to be raised faster than the non-interest expenditure (total expenditure minus interest payments) to GDP ratio. Of course, the outcome would be even more favourable if while the revenues to GDP ratio is rising the non-interest expenditure to GDP ratio is actually falling. In such a situation the debt to revenues ratio would fall rapidly due to the increase simultaneously in the primary budget surpluses and the revenues to GDP ratio.

However, it is important to emphasise that curtailment of public expenditure may have negative Keynesian type of effects on the level of national income and consequently on g , the real growth rate of GDP. Also, increases in the tax to GDP ratio brought about by enhancements of tax rates may have deleterious supply-side effects on the economy and thereby also affect the GDP growth rate. Therefore, a successful strategy will avoid creating a trade off between increasing the primary budget surplus and adversely affecting the growth momentum of the economy. In particular, an important lesson from Pakistan's experience is that during the process of fiscal adjustment large cuts in development expenditure should be avoided because this runs the maximum risk of affecting the growth potential of the economy.

Therefore, an ideal scenario from the viewpoint of implementation of the strategy for reduction of debt burden over the next eight years is as follows:

- ! steady increase in the revenues to GDP ratio (achieved not by enhancements in tax rates but by reducing tax evasion, simplifying and broad-basing the tax system and by

improvements in tax administration) which may be partly used for raising the level of development expenditure

- ! reduction over time in the non-interest current expenditure achieved by savings in defence, civil administration, subsidies, etc., which are diverted to enhancing the level of development expenditure.

(2) Reduce the real interest rate on domestic debt: A reduction in i , the real interest rate on domestic debt, contributes to slower growth in debt. Fortunately, there is a real opportunity here. The inflation rate of Pakistan has currently come down to historically low levels of 4 to 5 per cent. Consequently, nominal returns on various debt instruments can be reduced accordingly without reducing real rates of return significantly (as has been done recently on NSS).

However, the 'lock-in' effect creates a problem. To the extent that domestic debt is long term in character the ability to reduce the overall interest cost in the short run is limited. There is, in fact, a danger that in the interim period while the inflation rate is low, the nominal interest cost remains high because bulk of the outstanding debt was contracted earlier at high nominal rates when the rate of inflation was high (as in the mid-90s) and, consequently, there is actually a rise in the real interest rate on domestic debt. This hump in the real interest rate in the next few years will, therefore, imply faster debt accumulation. Therefore, it is important that the government attempts to reduce to the extent possible interest rates at the margin on new debt of all forms including treasury bills, NSS, etc.

(3) Raise the GDP growth rate: To the extent possible, the government must pursue a strategy which while achieving fiscal adjustment does not jeopardise the growth performance of the economy because a higher g is conducive for reduction in the debt burden. As emphasised earlier, it is important that the level of development expenditure be enhanced to the extent possible by resource mobilisation and by diversion of savings from current expenditure. The strategy will also require a tax system which is investor friendly and targets fiscal incentives towards sectors with significant excess capacity such that production can be expanded rapidly in the short run.

(4) Preserve Exchange Rate Stability: The SBP has had considerable success recently in preserving exchange rate stability while simultaneously improving the current account of the balance of payments. Such a policy will have to be continued in the future if major capital losses on external debt are to be avoided. However, the objective must be to preserve real effective exchange rate and not nominal exchange rate stability, if a trade off with respect to export promotion and import substitution necessary for improving the balance of payments is to be avoided.

Altogether, a strategy which achieves, first, larger primary budgetary surpluses while protecting and raising the level of development expenditure through resource mobilisation and containment of current expenditure, second, which brings down nominal interest rates in line with the lower rate of inflation and, third, which preserves exchange rate stability, is likely to have the maximum success in reducing the debt burden in coming years.

6 ALTERNATIVE SCENARIOS

The section on sustainability of debt has indicated that efforts should be made to bring down the debt to GDP ratio from the present level of close to 100 per cent to between 65 per cent and 75 per cent. Accordingly, we set up two scenarios. Scenario I attempts to achieve a target debt to GDP ratio of close to 75 per cent in 2007-08. Scenario II is more ambitious and attempts to bring the ratio down to 65 per cent. It must be stated upfront that there has been no period in Pakistan's history when the debt to GDP ratio has shown a sustained downward trend. Reversing the rising trend will require a strong policy framework and a concerted effort at implementation. Key elements of the strategy for reducing the debt burden, have already been defined. In this section, the set of policy actions required to operationalise the strategy framework is described.

Common assumptions underlying both the scenarios are as follows:

- (i) presence of a new IMF program with second round of debt relief, absence of capital controls, attractive investment and privatisation policies, settlement of the longstanding IPP dispute, all lead to restoration of foreign investor confidence and growth in foreign

direct investment. Simultaneously, domestic investment also picks up aided by the fall in interest rates. In scenario I, private investment increases from 8.2 per cent in 1998-99 to 11.6 per cent by 2007-08. In the more optimistic scenario the rise is more rapid and private investment reaches 12.2 per cent of the GDP by the end of the tenth plan period.

- (ii) restoration of buoyancy in home remittances due to an exchange rate policy which minimises the differential between the official and the kerb rate and due to a rise in wage incomes of expatriate workers in the Middle East (consequent to the increase in oil revenues of OPEC)
- (iii) moderation in prices of imports, especially as oil prices fall from the peak levels attained in late 1999 and early 2000

Fiscal targets vary in the two scenarios as follows:

- (i) On the fiscal side, achievement of a primary budget surplus of 2 per cent of GDP by 2002-03 and 2.3 per cent of GDP by 2007-08 in the scenario I. This surplus level has to be about 0.5 per cent of the GDP higher on average each year in scenario II.
- (ii) The strategy to achieve the primary budget surplus is somewhat different in the two scenarios. In the scenario I the surplus is achieved by, more or less, a constancy in non-interest expenditure coupled with an increase in resource mobilisation (see Table 3). In the scenario II, an increase in the level of non-interest expenditure (of about 1½ per cent of GDP by 2007-08), primarily due to rise in development expenditure, is made possible by more aggressive resource mobilisation effort (see Table 4).
- (iii) Policies for resource mobilisation which lead to an increase between 1998-99 and 2007-08 in the overall tax-to-GDP ratio of 1 per cent in scenario I and over 2.5 per cent in scenario II. This is achieved by broad-basing of the GST to retail trade and services, development of the agricultural income tax, more effective

TABLE 3
PROJECTED PRIMARY BUDGET SURPLUS IN SCENARIO I
(as % of GDP)

	Total Revenues	Non-Interest Current Expenditure	Development Expenditure	Non-Interest Expenditure	Primary Budget Deficit (-) / Surplus (+)
1998-1999	15.80	11.40	3.30	14.70	1.10
1999-2000	15.60	11.25	2.76	14.01	1.59
2000-2001	15.81	11.05	2.96	14.01	1.80
2001-2002	16.05	10.95	3.20	14.15	1.88
2002-2003	16.31	10.85	3.46	14.31	2.00
2003-2004	16.41	10.79	3.57	14.36	2.05
2004-2005	16.54	10.73	3.69	14.42	2.12
2005-2006	16.66	10.67	3.80	14.47	2.19
2006-2007	16.79	10.61	3.93	14.54	2.25
2007-2008	16.91	10.55	4.06	14.61	2.30

TABLE 4
PROJECTED PRIMARY BUDGET SURPLUS IN SCENARIO II
(as % of GDP)

	Total Revenues	Non-Interest Current Expenditure	Development Expenditure	Non-Interest Expenditure	Primary Budget Deficit (-) / Surplus (+)
1998-1999	15.76	11.40	3.30	14.70	1.10
1999-2000	15.60	11.25	2.76	14.01	1.59
2000-2001	16.51	11.05	3.16	14.21	2.30
2001-2002	17.18	11.05	3.54	14.59	2.59
2002-2003	17.63	11.05	3.96	15.01	2.62
2003-2004	18.04	10.99	4.21	15.20	2.84
2004-2005	18.17	10.93	4.47	15.40	2.77
2005-2006	18.30	10.87	4.75	15.62	2.68
2006-2007	18.43	10.81	5.05	15.86	2.57
2007-2008	18.51	10.75	5.36	16.11	2.40

exploitation of the revenue potential of the urban property tax, major tax reforms which lead to simplification of the tax system and fundamental improvements in tax administration by 2002-03. The tax-to-GDP ratio is higher in Scenario II primarily because of higher sales tax and income tax collections which lead to reduction in levels of tax evasion. Also, surcharges yield larger revenues in scenario II primarily because of indexation of the rates of petroleum development surcharge to inflation.

- (iv) containment of costs of civil administration through recruitment bans and right sizing; continued reduction in the share of defence expenditure in GDP by linking increase in allocations, more or less, to inflation

A rise in tax-to-GDP ratio and reduction in current expenditure creates fiscal space, which enables an increase in the share of development expenditure in the GDP by one percentage point in scenario I and 2 percentage points in scenario II. This is achieved along with a reduction in fiscal deficit. Initially, the fiscal deficit falls to 4 per cent and 3.3 per cent of the GDP respectively in the two scenarios by 2002-03. Thereafter the budget deficit declines further to 3 per cent and 2 per cent of the GDP by 2007-08 in the two scenarios.

For other macroeconomic variables, we make the following assumptions in both scenarios:

- (i) Private savings will be restored to at least the level prevailing in the mid 90s.
- (ii) To reduce the ICOR, taxation, credit and other policies will focus on those sub-sectors of the economy where there appears to be a margin of excess capacity so as to achieve increases in production without significant new investment. Such a policy would target industries like textiles, cement and engineering goods where considerable underutilised capacity exists today. In agriculture, the focus would be on crops like cotton where current yields are below peak levels attained in the past.
- (iii) public sector development program and bank credit allocations will be oriented towards projects and sectors which are less capital intensive. For example, this would imply a shift in public sector development priorities away from sectors like highways to agricultural infrastructure. Also, the distribution of funds in the PSDP would need

to be tilted towards low gestation period projects and projects which are nearing completion so as to maximise the development impact. This element of the strategy would also argue for focusing bank credit increasingly towards micro credit for small-scale activities which are traditionally more labour intensive.

It is projected that as a result of the above measures the ICOR can be lowered to 2.9 in Scenario I and 2.8 in Scenario II in the next three years.

Finally, significant institutional strengthening is assumed in both the scenarios, for development and implementation of the policies required to achieve strong fiscal adjustment while enhancing the growth rate of the economy

7 PROJECTIONS

Based on the assumptions, detailed projections are made of macroeconomic and public finance magnitudes in both scenarios. These are presented in Tables A-1 to A-10 in the Statistical Appendix.

Growth Rate

The future growth path is derived on the basis of availability of resources, foreign and national, for financing investment in the economy and thereafter applying the incremental capital output ratio to determine the economy's growth rate given the projected level of investment. National savings in the scenario I are projected to increase from the historically low level of 10.9 per cent in 1998-99 to the average attained in the 90's by 2002-03. This is expected to increase further by about 3 percentage points by 2007-08. An important contribution to this rise would be of public savings which are expected to rise following the successful implementation of the resource mobilisation strategy and improvement in the financial health of public corporations. Private savings in this scenario are projected to be at the level attained in the decade of the 80s in the next three years. Over the longer-term, it will surpass this average.

In scenario II, public savings rise much more rapidly given a much more aggressive taxation effort. Consequently in this scenario, the rise in the private savings in the long term is somewhat flatter. On

the whole, national savings increase by 5½ percentage points from the current low level by 2002-03 and register a rise of another 2 per cent by the end of the tenth plan period.

Given limits to external finances, the projected level of foreign savings in the economy stabilises at about 1½ per cent of the GDP by 2002-03 and remains constant thereafter. The derived level of fixed investment rate, therefore, increases from 13.2 per cent in 1998-99 to 16.4 per cent in scenario I and 14.4 per cent in the scenario II by 2002-03. Subsequently the investment rate increases to 17.3 per cent and 18.5 per cent of the GDP by 2007-08 in the two scenarios respectively. This implies that investment will have to increase to the 90's average in scenario I and surpass this by a over half a percent in scenario II.

The efficiency of capital was artificially depressed in 1998-99, exhibiting a very high incremental capital-output ratio, due primarily to import restrictions which reduced the rate of capacity utilisation. Its historical level is about 3 in Pakistan. Given the existing idle capacity, growth momentum can be significantly enhanced by fuller utilization of existing capacity. The growth rate in the economy therefore can be increased to 5 per cent in Scenario I and 5.8 per cent in Scenario II in the next three years, given the projected level of investment. It appears that the long run growth rate of the economy is about 5.7 per cent in Scenario I and 6.3 per cent in Scenario II. The inflation rate in the two respective scenarios is projected to rise to 6 per cent and 6.6 per cent respectively.

Trend in Revenues

In the aftermath of the implementation of the structural reforms CBR tax revenues are projected to increase from 10.2 per cent of GDP in 1998-99 to over 12 per cent of GDP by 2002-03 and subsequently to almost 13 per cent in scenario I. The buoyancy is largely a consequence of growth in the sales tax, followed by direct taxes. Revenues from customs duty, following tariff reforms, will do well to keep pace with the nominal growth in GDP. Following substitution by general sales tax and rise in oil prices surcharges are no longer a buoyant source of revenue and are expected to fall to about 0.5 per cent of the GDP during the period of analysis. Provincial taxes will recover ground lost during the 80s and 90s and increase to about 1 per cent of the GDP especially as agricultural income tax and the

urban property tax are developed. With non-tax sources demonstrating a downward trend, overall revenues in scenario I will increase to 16.3 per cent by 2002-03 and 17.9 per cent by the end of the tenth plan period.

Revenues demonstrate a more rapid rise in scenario II, increasing to 17.6 per cent of the GDP by 2002-03 and to 18½ per cent by 2007-08. The rise is largely due to increase in the CBR revenues, to 13.9 per cent of the GDP by 2007-08, largely as a result of a substantial rise in sales tax and direct tax revenues which increase to 5.2 per cent and 5.1 per cent of GDP respectively.

Trend in Expenditures

As discussed earlier, total non-interest expenditure as a percentage of GDP remains, more or less, constant in scenario I. The savings in defence expenditure (of over 1 per cent of the GDP) are diverted to development expenditure to stimulate the growth process in the economy. As compared to this non-interest expenditure show a rising trend in scenario II, due primarily to the buoyancy in development expenditure, which is expected to increase from 3.3 per cent of the GDP in 1998-99 to 5.4 per cent by 2007-08. This is one of the key factors responsible for the economy getting back eventually to a high growth path once again.

Expenditure on interest payments is expected to start falling as a percentage of the GDP in both scenarios. This stood at about 7 per cent of the GDP in 1998-99, and is expected to fall to 6.2 per cent of the GDP by 2002-03. Beyond this, it falls more rapidly in scenario II to 4.4 per cent of the GDP by 2007-08, as compared to 5.3 per cent in scenario I. The faster decline in the former scenario is attributable, first, to the steeper path of fiscal adjustment which leads to lower debt to GDP ratios and, second, to greater success in bringing down the real interest rate on domestic debt.

Trend in Deficit

Given the trend in revenues and expenditures, the overall fiscal deficit will decline to about 4 per cent of GDP in scenario I and 3.2 per cent of GDP in the scenario II by 2002-03. Maintaining the declining trend thereafter, fiscal deficit will fall to about 3 per cent in scenario I and 2 per cent in scenario II by the end of the tenth plan period. Revenue deficit will systematically fall in both the scenarios and the economy will start generate revenue surpluses from 2004-05 onwards in scenario I and earlier, by 2002-03, in scenario II. These revenue surpluses are expected to exceed 1 per cent of the GDP in scenario I and 3.4 per cent of the GDP in scenario II by 2007-08. This is a major factor which will contribute to enhancing the debt repayment capacity of the economy.

Trend in Debt

We are now in the position to project the rate of accumulation of debt implied by the two scenarios. Pakistan will continue to carry fiscal deficits in the foreseeable future, albeit of a smaller magnitude. As such the need for borrowing continues to exist. Beyond the period of debt rescheduling, access to external sources of financing will become increasingly difficult and a large component of the deficit will have to be financed by domestic bank and non-bank sources. We assume that about two thirds of the deficit in the scenario I and about 60 per cent of the deficit in the scenario II will have to be financed by domestic sources. Given this financing pattern the domestic debt to GDP ratio can be brought down to about 31 per cent in scenario I and about 26 per cent in scenario II by the year 2007-08, a decline of about 17 to 22 per cent of the GDP from the level prevailing in 1998-99. Simultaneously, foreign debt burden will be reduced to about 43 per cent in Scenario I and 40 per cent in the Scenario II. This implies that total debt will be lowered from the level of over 101 per cent of the GDP to the higher target level of 75 per cent in scenario I and to the lower target level of 65 per cent in scenario II. It is also of significance to note that the debt to revenues ratio falls to 440 per cent in scenario I and to 356 per cent in scenario II by the terminal year of the projections.

The evolution of foreign debt is of crucial importance given the limited ability of Pakistan to service its external obligations. On the assumption of a second round of debt rescheduling the level of external debt is expected to remain high in the first few years at about 52 per cent of the GDP in scenario I and

at 50 per cent of the GDP in scenario II in 2002-03. Thereafter, it is expected to start falling to about 44 per cent of the GDP in scenario I and to 40 per cent of the GDP in scenario II. The fall may be even sharper if Pakistan is unable to mobilise significant net (of debt repayment) amounts of external assistance beyond the period of expiry of the second round of debt rescheduling.

The overall decline in the debt to GDP ratio in the two scenarios is primarily a consequence of the success in generating larger primary budget surpluses (see Table 5). Also, the growth rate of the

TABLE 5
MACROECONOMIC FACTORS DETERMINING
EVOLUTION OF DEBT TO GDP RATIO
[2000-01 to 2007-08]

Factor	Decade of 90's	Scenario I	Scenario II
Primary Budget Deficit (-) / Surplus (+) as % of GDP [?]	-0.5	2.1	2.6
Nominal Interest Rate on Domestic Debt (%)	11.7	10.5	10.6
Nominal Interest Rate on External Debt (%)	2.9	3.9	3.9
Rate of Nominal Exchange Rate Depreciation (%)	9.4	4.7	5.2
Rate of Domestic Inflation (%)	9.8	5.6	6.0
Real Interest Rate on Domestic Debt (%)	1.9	4.9	4.6
GDP Growth Rate (%)	4.6	5.3	5.8

economy is higher than the real domestic interest rate, there is a downward pressure on debt, more so in scenario II than in scenario I. On top of this, capital losses occurring due to a real exchange rate depreciation are eliminated. However, as hypothesised earlier, the real interest rate on domestic debt is expected to be higher in the next few years due to the 'lock-in' effect.

Finally, a note of caution is on order here. Both scenarios I and II assume smooth movements of all key variables. Given the vulnerability of the economy to shocks and the randomness which

characterises many economic activities (especially agriculture), it needs to be emphasised that the process of fiscal adjustment and move towards lower debt burden can be interrupted by an unanticipated event like crop failure, rise in international prices, foreign exchange crisis leading to steep devaluation of the currency, etc. Economic managers will have to maintain a constant vigil to ensure that any of these shocks do not fundamentally alter the fiscal picture of the economy and lead to upward movement once again in the debt to GDP or debt to revenues ratios.

8 CONCLUSIONS

The paper has set up alternative macroeconomic frameworks for debt management which target for varying levels of reduction in the debt burden. From the present level of close to 100 per cent, two scenarios are set up which attempt to get the debt to GDP ratio down to about 65 per cent and 75 per cent respectively by 2007-08. Magnitudes of the key parameters like primary budget surplus, real interest rates and the GDP growth rate are quantified which are consistent with the achievement of these targets. The paper demonstrates that while the achievement of a substantial reduction in the debt burden is possible it will require implementation of strong and wide ranging policies to tackle the many structural problems that confront the economy. More than any thing else, it will require perhaps the highest standard of economic governance.

BIBLIOGRAPHY

- Barro, Robert J., "On the Determination of the Public Debt," Journal of Political Economy, 87(5), Part I, October 1979, pages 940-71.
- Boehm, E.A., and P.B. Wade "The Anatomy of Australia's Public Debt," Economic Record, 47(119), September 1971, pages 315-37.
- Boothe, Paul M. and Bradford G. Reid, "The Market Value and Maturity Structure of Government of Canada Debt, 1967-83," Canadian Journal of Economics, 19(3), August 1986, pages 443-68.
- Borensztein, Eduardo, "Will Debt Reduction Increase Investment?," Finance and Development, 28(1), March 1991, pages 25-27.
- Buiter, Willam H; Kletzer, Kenneth M., "Who's Afraid of the Public Debt?," American Economic Review, 82(2), May 1992, pages 290-94.
- Buiter, Willam H and Patel, Urjit R., "Debt, Deficits and Inflation: An Application to the Public Finance of India," Journal of Public Economics, 47(2), March 1992, pages 171-205.
- Calvo, Guillermo A., and Pablo E., "Credibility and Nominal Debt: Exploring the role of Maturity in Managing Inflation," IMF Staff Papers, 37(3), September 1990, pages 612-35.
- Calvo, Guillermo A., and Pablo E. Guidotti, "Management of the Nominal Public Debt Theory and Applications," International Monetary Fund Working Paper: WP/90/115, December 1990, pages 20.

- Cebula, Richard J., and Rupert B. Rhodd, "A Note on Budget Deficits, Debt Service Payments and Interest Rates," Quarterly Review of Economic and Business, 33(4), Winter 1993, pages 439-45.
- Chelliah, Raja J., "The Growth of Indian Public Debt: Dimensions of the Problem and Corrective Measures," International Monetary fund Working Paper: WP/91/72, July 1991, pages 45.
- Chowdhury, K., "A Structural Analysis of External Debt," Applied Economics, Vol.26, December 94, pages 1121-31.
- Cline, W.R., "Managing International Debt: How One Big Battle was Won" The Economist, Vol.334, February 18, 1995, pages 17-19.
- Cohen, Daniel (1988), "The Management of Developing Countries Debt: Guidelines and Applications to Brazil," The World Bank Economic Review, Vol.2, No.2.
- Easterly, W.J., and Stanley Fischer (1990), "The Economics of the Government Budget Constraint," The World Bank Research Observer, Vol.5, No.2.
- Germmell, Norman "Debt Servicing Costs and the Growth of Public Expenditure," Public Finance, 43(2), 1988, pages 223-35.
- Giovannini, Alberto and Martha de Melo, "Government Revenue from financial Repression," National Bureau of Economic Research Working Paper 3604, January 1991, pages 30.
- Guidotti, Pablo and Kumar, Manmohan S, "Managing Domestic Pubic Debt," Finance and Development, Vol.29, September 1992, pages 9-12.
- Haque, Nadeem and Montiel, Petu, J. "Fiscal Adjustment in Pakistan: Some Simulation Results," IMF Staff Papers, Vol.40, June 1993, pages 471-80.

- Hicks, Norman L., "Expenditure Reductions in High-Debt Countries," Finance and Development, 26(1), March 1989, pages 35-37.
- Hopkin, Brayan and Brian Reddaway, "The Meaning and Treatment of an 'Unsustainable' Budget Deficit," Banca Nazionale del Lavoro Quarterly Review, 48(190), September 1994, pages 295-308.
- Horne, Jocelyn "Indicators of Fiscal Sustainability," International Monetary Fund Working Paper: WP/91/5, January 1991, pages 27.
- Kotlikoff, Laurence J, "Economic Impact of Deficit Financing," IMF Staff Papers, 31(3), September 1984, pages 549-82.
- Lane, Timothy D., "Can Market Forces Discipline Government Borrowing," Finance Development, 30(1), March 1993, pages 26-29.
- Leite, Sergio Pereira, "Coordinating Public Debt and Monetary Management," Finance and Development, Vol.30, March 1993, pages 30-33.
- McMillin, W.Douglas and Faikkoray, "An Empirical Analysis of the Macroeconomic Effects of Government Debt: Evidence from Canada," Applied Economics, 21(1), January 1989, pages 113-24.
- Mehran, Hassanali, "External Debt Management," Finance and Development, 23(2), June 1986, pages 40-41.
- Pasha, Hafiz A. and A.F. Aisha Ghaus, "Growth of Public Debt and Debt Servicing in Pakistan," Research Report No.17, 1996, Social Policy and Development Centre.
- Pollin, Rober "Stability and Instability in the Debt - Income Relationship," American Economic Review, 75(2), May 1985, pages 344-50.

“Proactive Debt Management using Mun-Ease,” Government Finance Review, Vol.5, October 1989, pages 36-37.

Rudi Dornbusch “Bailouts are Bad Medicine in Mexico or Elsewhere,” Business Week, March 13, 1995, page 24.

Seater, John J., “Does Government Debt Matter? A Review,” Journal of Monetary Economics, 16(1), July 1985, pages 121-31.

Sill, D. Keith, “Managing the Public Debt,” Federal Reserve Bank of Philadelphia Business Review, 0(4), July - August 1994, pages 3-13.

Sill, D. Keith “Managing the Public Debt,” Federal Reserve Bank of Philadelphia Business Review, July/August 1994, pages 3-13.

Tanzi, Vito., Blegjer, Mario I., and Mario D. Teijerio, “Inflation and the Measurement of Fiscal Deficits,” IMF Staff Papers, December 1987, pages 711-38.

Tanzi, Vito and Mark S. Lutz, “Interest Rates and Government Debt,” Finance and Development, 28(4), December 1991, pages 30-32.

Van Wijnbergen, S., (1989), “External Debt, Inflation and the Public Sector: Towards Fiscal Policy for Sustainable Growth,” World Bank Economic Review, Vol.3, No.3.

Vickery, W., “Meaningfully Defining Deficits and Debt,” American Economic Review, 82(2), May 1992, pages 305-10.

STATISTICAL APPENDIX

**DETAILS OF PROJECTIONS OF
MACROECONOMIC AND PUBLIC FINANCE
MAGNITUDES IN THE TWO SCENARIOS**

(i)

TABLE A-1
GROWTH PATH
(Scenario I)

Items	(% of GDP)											
	1998- 1999	1999- 2000	2000- 2001	2001- 2002	2002- 2003	2003- 2004	2004- 2005	2005- 2006	2006- 2007	2007- 2008		
Fixed Investment	13.2	12.9	13.3	13.9	14.4	15.2	15.9	16.6	17.1	17.3		
! Public	5.0	4.8	5.0	5.1	5.2	5.3	5.4	5.5	5.6	5.7		
! Private	8.2	8.1	8.3	8.8	9.2	9.9	10.5	11.1	11.5	11.6		
National Savings	10.9	11.7	12.7	13.9	14.4	15.2	15.9	16.6	17.1	17.3		
Foreign Savings	3.9	2.7	2.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5		
ICOR	4.8	2.9	2.9	2.9	2.9	2.9	2.9	3.0	3.0	3.0		
<u>Growth Rate</u>	<u>3.1</u>	<u>4.4</u>	<u>4.6</u>	<u>4.8</u>	<u>5.0</u>	<u>5.3</u>	<u>5.5</u>	<u>5.6</u>	<u>5.7</u>	<u>5.7</u>		
Inflation Rate	5.7	4.7	5.0	5.2	5.4	5.6	5.8	5.9	6.0	6.0		

TABLE A-2
TRENDS IN REVENUE
(Scenario I)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Revenue</u>	477.6 (15.76)	520.2 (15.60)	579.0 (15.81)	648.2 (16.05)	728.8 (16.31)	815.4 (16.41)	917.3 (16.54)	1033.3 (16.66)	1166.8 (16.79)	1316.5 (16.91)	
<u>Tax Revenue</u>	410.0 (13.55)	425.2 (12.75)	478.3 (13.06)	541.2 (13.40)	614.9 (13.76)	690.7 (13.90)	780.3 (14.07)	882.6 (14.23)	1000.7 (14.40)	1133.5 (14.56)	
<u>CBR</u>	308.5 (10.20)	362.0 (10.86)	416.0 (11.36)	472.4 (11.70)	538.9 (12.06)	607.2 (12.22)	686.0 (12.37)	777.1 (12.53)	882.5 (12.70)	1001.2 (12.86)	
Direct Tax	110.4 (3.65)	123.5 (3.70)	142.5 (3.89)	165.1 (4.09)	192.1 (4.30)	217.6 (4.38)	247.3 (4.46)	281.6 (4.54)	321.0 (4.62)	365.9 (4.70)	
Excise Duty	60.9 (2.01)	63.5 (1.90)	67.7 (1.85)	72.7 (1.80)	78.2 (1.75)	84.5 (1.70)	91.5 (1.65)	99.2 (1.60)	107.7 (1.55)	116.8 (1.50)	
Sales Tax	71.9 (2.38)	107.0 (3.21)	131.1 (3.58)	152.2 (3.77)	177.4 (3.97)	203.7 (4.10)	234.1 (4.22)	269.8 (4.35)	312.0 (4.49)	359.7 (4.62)	
Customs Duty	65.3 (2.16)	68.0 (2.04)	74.7 (2.04)	82.4 (2.04)	91.2 (2.04)	101.4 (2.04)	113.1 (2.04)	126.5 (2.04)	141.8 (2.04)	158.8 (2.04)	
<u>Provincial</u>	21.3 (0.70)	23.6 (0.71)	29.7 (0.81)	34.7 (0.86)	40.7 (0.91)	45.2 (0.91)	52.7 (0.95)	60.2 (0.97)	68.8 (0.99)	78.6 (1.01)	
<u>Surcharges</u>	78.3 (2.59)	37.9 (1.14)	30.8 (0.84)	31.9 (0.79)	33.1 (0.74)	35.8 (0.72)	38.8 (0.70)	42.2 (0.68)	45.9 (0.66)	49.8 (0.64)	
<u>Others</u>	1.9 (0.06)	1.7 (0.05)	1.8 (0.05)	2.2 (0.05)	2.2 (0.05)	2.5 (0.05)	2.8 (0.05)	3.1 (0.05)	3.5 (0.05)	3.9 (0.05)	
<u>Non-Tax Revenue</u>	67.6 (2.23)	95.0 (2.85)	100.7 (2.75)	107.0 (2.65)	113.9 (2.55)	124.7 (2.51)	137.0 (2.47)	150.7 (2.43)	166.1 (2.39)	183.0 (2.35)	
<u>GDP</u>	3025.7	3334.3	3662.1	4037.4	4468.2	4968.5	5545.8	6201.9	6948.7	7785.5	

Figures in parenthesis give percentages of GDP

(ii)

(iii)

TABLE A-3
TRENDS IN EXPENDITURE
(Scenario I)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Expenditure</u>	<u>656.4</u> (21.7)	<u>695.5</u> (20.86)	<u>752.9</u> (20.55)	<u>823.2</u> (20.39)	<u>905.3</u> (20.26)	<u>1001.8</u> (20.16)	<u>1113.5</u> (20.08)	<u>1239.8</u> (20.0)	<u>1384.1</u> (19.92)	<u>1546.2</u> (19.86)	
<u>Current Expenditure (Federal)</u>	<u>432.4</u> (14.3)	<u>468.2</u> (14.04)	<u>488.9</u> (13.35)	<u>522.4</u> (12.94)	<u>560.8</u> (12.55)	<u>613.2</u> (12.34)	<u>673.2</u> (12.14)	<u>740.5</u> (11.94)	<u>815.7</u> (11.74)	<u>899.2</u> (11.55)	
<u>Interest Payments</u>	<u>213.3</u> (7.0)	<u>228.3</u> (6.85)	<u>239.9</u> (6.55)	<u>251.9</u> (6.24)	<u>265.9</u> (5.95)	<u>288.2</u> (5.80)	<u>313.9</u> (5.66)	<u>342.3</u> (5.52)	<u>373.8</u> (5.38)	<u>408.7</u> (5.25)	
! Domestic	175.3	179.3	181.1	182.6	184.9	194.2	205.4	217.8	231.5	247.3	
! Foreign	(5.8)	(5.38)	(4.94)	(4.52)	(4.14)	(3.91)	(3.70)	(3.51)	(3.33)	(3.18)	
	38.0	49.0	58.8	69.3	81.0	94.0	108.4	124.5	142.3	161.4	
Defence	(1.3)	(1.47)	(1.61)	(1.72)	(1.81)	(1.89)	(1.95)	(2.01)	(2.05)	(2.07)	
	143.0	142.7	149.4	160.7	173.4	189.8	208.5	229.5	252.9	278.7	
Other	(4.7)	(4.28)	(4.08)	(3.98)	(3.88)	(3.82)	(3.76)	(3.70)	(3.64)	(3.58)	
	76.1	97.3	99.6	109.8	121.5	135.1	150.8	168.7	189.0	211.8	
	(2.5)	(2.92)	(2.72)	(2.72)	(2.72)	(2.72)	(2.72)	(2.72)	(2.72)	(2.72)	
<u>Current Expenditure (Provincial)</u>	<u>124.2</u> (4.1)	<u>135.2</u> (4.05)	<u>155.6</u> (4.25)	<u>171.6</u> (4.25)	<u>189.9</u> (4.25)	<u>211.2</u> (4.25)	<u>235.7</u> (4.25)	<u>263.6</u> (4.25)	<u>295.3</u> (4.25)	<u>330.9</u> (4.25)	
<u>Total Current Expenditure</u>	<u>556.6</u> (18.4)	<u>603.4</u> (18.10)	<u>644.5</u> (17.60)	<u>694.0</u> (17.19)	<u>750.7</u> (16.80)	<u>824.4</u> (16.59)	<u>908.9</u> (16.39)	<u>1004.1</u> (16.19)	<u>1111.0</u> (15.99)	<u>1230.1</u> (15.80)	
<u>Development Expenditure</u>	<u>99.8</u> (3.3)	<u>92.1</u> (2.76)	<u>108.4</u> (2.96)	<u>129.2</u> (3.20)	<u>154.6</u> (3.46)	<u>177.4</u> (3.57)	<u>204.6</u> (3.69)	<u>235.7</u> (3.80)	<u>273.1</u> (3.93)	<u>316.1</u> (4.06)	
<u>GDP</u>	<u>3025.7</u>	<u>3334.3</u>	<u>3662.1</u>	<u>4037.4</u>	<u>4468.2</u>	<u>4968.5</u>	<u>5545.8</u>	<u>6201.9</u>	<u>6948.7</u>	<u>7785.5</u>	

TABLE A-4
TRENDS IN PUBLIC FINANCE
(Scenario I)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Revenue</u>	477.6 (15.8)	520.2 (15.60)	579.0 (15.81)	648.2 (16.05)	728.8 (16.31)	815.4 (16.41)	917.3 (16.54)	1033.3 (16.66)	1166.8 (16.79)	1316.5 (16.91)	
<u>Tax Revenue</u>	410.0 (13.5)	425.2 (12.75)	478.3 (13.06)	541.2 (13.4)	614.9 (13.76)	690.7 (13.90)	780.3 (14.07)	882.6 (14.23)	1000.7 (14.40)	1133.5 (14.56)	
<u>CBR</u>	308.5 (10.2)	362.0 (10.86)	416.0 (11.36)	472.4 (11.70)	538.9 (12.06)	607.2 (12.22)	686.0 (12.37)	777.1 (12.53)	882.5 (12.70)	1001.2 (12.86)	
Surcharges	78.3 (2.6)	37.9 (1.14)	30.8 (0.84)	31.9 (0.79)	33.1 (0.74)	35.8 (0.72)	38.8 (0.70)	42.2 (0.68)	45.9 (0.66)	49.8 (0.64)	
Other	1.9 (0.06)	1.7 (0.05)	1.8 (0.05)	2.2 (0.05)	2.2 (0.05)	2.5 (0.05)	2.8 (0.05)	3.1 (0.05)	3.5 (0.05)	3.9 (0.05)	
Provincial	21.3 (0.7)	23.6 (0.71)	29.7 (0.81)	34.7 (0.86)	40.7 (0.91)	45.2 (0.23)	52.7 (0.95)	60.2 (0.97)	68.8 (0.99)	78.6 (1.01)	
<u>Non-Tax Revenue</u>	67.6 (2.2)	95.0 (2.85)	100.7 (2.75)	107.0 (2.65)	113.9 (2.55)	124.7 (2.51)	137.0 (2.47)	150.7 (2.43)	166.1 (2.39)	183.0 (2.35)	
<u>Total Expenditure</u>	656.4 (21.7)	695.5 (20.86)	752.9 (20.55)	823.2 (20.39)	905.3 (20.26)	1001.8 (20.16)	1113.5 (20.08)	1239.8 (20.0)	1384.1 (19.92)	1546.2 (19.86)	
<u>Current Expenditure</u>	556.6 (18.4)	603.4 (18.10)	644.5 (17.60)	694.0 (17.19)	750.7 (16.80)	824.4 (16.59)	908.9 (16.39)	1004.1 (16.19)	1111.0 (15.99)	1230.1 (15.80)	
<u>Development Expenditure</u>	99.8 (3.3)	92.1 (2.76)	108.4 (2.96)	129.2 (3.20)	154.6 (3.46)	177.4 (3.57)	204.6 (3.69)	235.7 (3.80)	273.1 (3.93)	316.1 (4.06)	
<u>Fiscal Deficit</u>	-178.8 (-5.9)	-175.3 (-5.25)	-173.9 (-4.74)	-175.0 (-4.33)	-176.5 (-3.95)	-186.4 (-3.75)	-196.2 (-3.54)	-206.5 (-3.33)	-217.3 (-3.13)	-229.7 (-2.95)	
<u>Revenue Deficit / Surplus</u>	-79.0 (-2.6)	-83.2 (-2.50)	-65.5 (-1.79)	-45.8 (-1.13)	-21.9 (-0.49)	-9.0 (-0.18)	8.4 (0.15)	29.2 (0.47)	55.8 (0.80)	86.4 (1.11)	
<u>Primary Deficit / Surplus</u>	34.5 (1.1)	53.0 (1.59)	66.0 (1.80)	76.0 (1.88)	89.4 (2.00)	101.8 (2.05)	117.7 (2.12)	135.8 (2.19)	156.5 (2.25)	179.0 (2.30)	

(v)

TABLE A-5
TRENDS IN DEBT
(Scenario I)

Items	[Rs in Billion]									
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008
<u>Total Revenue</u>	477.6 (15.8)	520.2 (15.60)	579.0 (15.81)	648.2 (16.05)	728.8 (16.31)	815.4 (16.41)	917.3 (16.54)	1033.3 (16.66)	1166.8 (16.79)	1316.5 (16.91)
<u>Total Expenditure</u>	656.4 (21.7)	695.5 (20.86)	752.9 (20.55)	823.2 (20.39)	905.3 (20.26)	1001.8 (20.16)	1113.5 (20.08)	1239.8 (20.0)	1384.1 (19.92)	1546.2 (19.86)
<u>Fiscal Deficit</u>	-178.8 (-5.9)	-175.3 (-5.25)	-173.9 (-4.74)	-175.0 (-4.33)	-176.5 (-3.95)	-186.4 (-3.75)	-196.2 (-3.54)	-206.5 (-3.33)	-217.3 (-3.13)	-229.7 (-2.95)
<u>Financing of Deficit</u>	178.8 (5.9)	175.3 (5.25)	173.9 (4.74)	175.0 (4.33)	176.5 (3.95)	186.4 (3.75)	196.2 (3.54)	206.5 (3.33)	217.3 (3.13)	229.7 (2.95)
! Domestic	33.8 (1.1)	87.6 (2.62)	84.6 (2.31)	84.8 (2.10)	85.8 (1.92)	95.4 (1.92)	105.9 (1.91)	117.8 (1.90)	132.0 (1.90)	151.8 (1.95)
! Foreign	145.0 (4.8)	87.8 (2.63)	89.3 (2.43)	90.2 (2.23)	90.7 (2.03)	91.0 (1.83)	90.3 (1.63)	88.7 (1.43)	85.3 (1.23)	77.8 (1.00)
<u>Domestic Debt</u>	1447.6 (47.8)	1535.2 (46.04)	1619.8 (44.23)	1704.6 (44.22)	1790.4 (40.07)	1885.8 (37.96)	1991.7 (35.91)	2109.5 (34.01)	2241.5 (32.26)	2393.3 (30.74)
<u>Foreign Debt</u>	1619.7 (53.5)	1777.5 (53.31)	1960.3 (53.53)	2132.8 (52.83)	2313.2 (51.77)	2505.5 (50.43)	2711.1 (48.89)	2930.3 (47.25)	3162.1 (45.51)	3397.9 (43.64)
<u>Total Debt</u>	3067.3 (101.3)	3312.7 (99.35)	3580.1 (97.76)	3837.4 (95.05)	4103.6 (91.84)	4391.3 (88.38)	4702.8 (84.80)	5039.8 (81.26)	5403.6 (77.76)	5791.2 (74.38)
Domestic Debt as % of Total Revenues	303.1	295.1	279.8	263.0	245.7	231.3	217.1	204.2	192.1	181.8
Total Debt as % of Total Revenues	642.2	636.8	618.3	592.0	563.1	538.5	512.7	487.7	463.1	439.9
MEMO ITEMS										
Exchange Rate	50.06	52.15	54.90	57.20	59.60	62.22	65.08	68.21	71.62	75.20
Foreign Debt (\$ billion)	32.40	34.08	35.71	37.29	38.81	40.27	41.66	42.96	44.15	45.18
Interest Rate on Foreign Debt (%)	2.35	2.76	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75
Interest Rate on Domestic Debt (%)	12.10	11.7	11.2	10.7	10.3	10.3	10.3	10.3	10.3	10.3

TABLE 6
GROWTH PATH
(Scenario II)

Items	(% of GDP)															
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Fixed Investment	13.2	12.9	13.8	15.0	16.4	17.0	17.8	18.1	18.3	18.5						
! Public	5.0	4.8	5.2	5.5	5.7	5.9	6.0	6.1	6.2	6.3						
! Private	8.2	8.1	8.6	9.5	7.0	11.1	11.8	12.0	12.1	12.2						
National Savings	10.9	11.7	13.2	15.0	16.4	17.0	17.8	18.1	18.3	18.5						
Foreign Savings	3.9	2.7	2.1	1.5	1.5	1.5	1.5	1.5	1.5	1.5						
ICOR	4.8	2.9	2.8	2.8	2.8	2.8	2.9	3.0	3.0	3.0						
Growth Rate	3.1	4.4	5.0	5.3	5.8	6.0	6.1	6.1	6.2	6.3						
Inflation Rate	5.7	4.7	5.2	5.5	5.8	6.0	6.2	6.4	6.5	6.6						

TABLE A-7
TRENDS IN REVENUE
(Scenario II)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Revenue</u>	477.6 (15.76)	520.2 (15.60)	611.1 (16.51)	706.3 (17.18)	811.3 (17.63)	932.8 (18.04)	1058.6 (18.17)	1203.6 (18.30)	1371.0 (18.43)	1560.3 (18.51)	
<u>Tax Revenue</u>	410.0 (13.55)	425.2 (12.75)	509.3 (13.76)	597.4 (14.53)	694.0 (15.08)	803.0 (15.53)	914.7 (15.70)	1043.8 (15.87)	1193.2 (16.04)	1362.2 (16.16)	
<u>CBR</u>	308.5 (10.20)	362.0 (10.86)	435.2 (11.76)	511.4 (12.44)	592.7 (12.88)	688.2 (13.31)	784.2 (13.46)	895.1 (13.61)	1023.6 (13.76)	1168.3 (13.86)	
Direct Tax	110.4 (3.65)	123.5 (3.70)	148.4 (4.01)	178.8 (4.35)	216.7 (4.71)	247.7 (4.79)	283.7 (4.87)	325.6 (4.95)	374.2 (5.03)	430.7 (5.11)	
Excise Duty	60.9 (2.01)	63.5 (1.90)	68.5 (1.85)	74.0 (1.80)	80.5 (1.75)	87.9 (1.70)	96.1 (1.65)	105.2 (1.60)	115.3 (1.55)	126.4 (1.50)	
Sales Tax	71.9 (2.38)	107.0 (3.21)	142.8 (3.86)	174.7 (4.25)	201.6 (4.38)	247.1 (4.78)	285.5 (4.90)	330.1 (5.02)	382.3 (5.14)	439.2 (5.21)	
Customs Duty	65.3 (2.16)	68.0 (2.04)	75.5 (2.04)	83.87 (2.04)	93.9 (2.04)	105.5 (2.04)	118.9 (2.04)	134.2 (2.04)	151.7 (2.04)	171.9 (2.04)	
<u>Provincial</u>	21.3 (0.70)	23.6 (0.71)	30.0 (0.81)	37.0 (0.90)	46.5 (1.01)	53.3 (1.03)	61.2 (1.05)	70.4 (1.07)	81.1 (1.09)	93.6 (1.11)	
<u>Surcharges</u>	78.3 (2.59)	37.9 (1.14)	42.2 (1.14)	46.9 (1.14)	52.5 (1.14)	58.9 (1.14)	66.4 (1.14)	75.0 (1.14)	84.8 (1.14)	96.1 (1.14)	
<u>Others</u>	1.9 (0.06)	1.7 (0.05)	1.9 (0.05)	2.1 (0.05)	2.3 (0.05)	2.6 (0.05)	2.9 (0.05)	3.3 (0.05)	3.7 (0.05)	4.2 (0.05)	
<u>Non-Tax Revenue</u>	67.6 (2.23)	95.0 (2.85)	101.8 (2.75)	108.9 (2.65)	117.3 (2.55)	129.8 (2.51)	143.9 (2.47)	159.8 (2.43)	177.8 (2.39)	198.1 (2.35)	
<u>GDP</u>	3025.7	3334.3	3700.6	4111.1	4601.8	5170.6	5826.1	6577.1	7438.9	8429.4	

TABLE A-8
TRENDS IN EXPENDITURE
(Scenario II)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Expenditure</u>	656.4 (21.7)	695.5 (20.86)	768.3 (20.76)	854.6 (20.79)	962.2 (20.91)	1077.0 (20.83)	1206.1 (20.70)	1356.3 (20.62)	1529.4 (20.56)	1727.2 (20.46)	
<u>Current Expenditure</u> <u>(Federal)</u>	432.4 (14.3)	468.2 (14.04)	494.1 (13.35)	530.3 (12.90)	575.2 (12.50)	629.2 (12.17)	686.4 (11.78)	751.2 (11.42)	822.7 (11.06)	900.3 (10.68)	
<u>Interest Payments</u>	213.3 (7.0)	228.3 (6.85)	242.4 (6.55)	254.9 (6.20)	271.5 (5.90)	291.1 (5.63)	308.8 (5.30)	328.9 (5.00)	349.6 (4.70)	369.2 (4.38)	
! Domestic	175.3 (5.8)	179.3 (5.38)	183.7 (4.96)	185.8 (4.52)	190.8 (4.15)	197.5 (3.82)	200.8 (3.45)	205.0 (3.12)	208.1 (2.80)	208.3 (2.47)	
! Foreign	38.0 (1.3)	49.0 (1.47)	58.7 (1.59)	69.1 (1.68)	80.7 (1.75)	93.6 (1.81)	107.9 (1.85)	123.9 (1.88)	141.5 (1.90)	160.9 (1.91)	
Defence	143.0 (4.7)	142.7 (4.28)	151.0 (4.08)	163.6 (3.98)	178.5 (3.88)	197.5 (3.82)	219.1 (3.76)	243.4 (3.70)	270.8 (3.64)	301.8 (3.58)	
Other	76.1 (2.5)	97.3 (2.92)	100.7 (2.72)	111.8 (2.72)	125.2 (2.72)	140.6 (2.72)	158.5 (2.72)	178.9 (2.72)	202.3 (2.72)	229.3 (2.72)	
<u>Current Expenditure</u> <u>(Provincial)</u>	124.2 (4.1)	135.2 (4.05)	157.3 (4.25)	178.8 (4.35)	204.8 (4.45)	230.1 (4.45)	259.3 (4.45)	292.7 (4.45)	331.0 (4.45)	375.1 (4.45)	
<u>Total Current Expenditure</u>	556.6 (18.4)	603.4 (18.10)	651.4 (17.60)	709.1 (17.25)	780.0 (16.95)	859.3 (16.62)	945.7 (16.23)	1043.9 (15.87)	1153.7 (15.51)	1275.4 (15.13)	
<u>Development Expenditure</u>	99.8 (3.3)	92.1 (2.76)	116.9 (3.16)	145.5 (3.54)	182.2 (3.96)	217.7 (4.21)	260.4 (4.47)	312.4 (4.75)	375.7 (5.05)	451.8 (5.36)	
<u>GDP</u>	3025.7	3334.3	3700.6	4111.1	4601.8	5170.6	5826.6	6577.1	7438.9	8429.4	

Figures in parenthesis give percentages of GDP.

TABLE A-9
TRENDS IN PUBLIC FINANCE
(Scenario II)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Revenue</u>	477.6 (15.8)	520.2 (15.60)	611.1 (16.51)	706.3 (17.18)	811.3 (17.63)	932.8 (18.04)	1058.6 (18.17)	1203.6 (18.30)	1371.0 (18.43)	1560.3 (18.51)	
<u>Tax Revenue</u>	410.0 (13.5)	425.2 (12.75)	509.3 (13.76)	597.4 (14.53)	694.0 (15.08)	803.0 (15.53)	914.7 (15.70)	1043.8 (15.87)	1193.2 (16.04)	1362.2 (16.16)	
<u>CBR</u>	308.5 (10.2)	362.0 (10.86)	435.2 (11.76)	511.4 (12.44)	592.7 (12.88)	688.2 (13.31)	784.2 (13.46)	895.1 (13.61)	1023.6 (13.76)	1168.3 (13.86)	
<u>Surcharges</u>	78.3 (2.6)	37.9 (1.14)	42.2 (1.14)	46.9 (1.14)	52.5 (1.14)	58.9 (1.14)	66.4 (1.14)	75.0 (1.14)	84.8 (1.14)	96.1 (1.14)	
<u>Others</u>	1.9 (0.1)	1.7 (0.05)	1.9 (0.05)	2.1 (0.05)	2.3 (0.05)	2.6 (0.05)	2.9 (0.05)	3.3 (0.05)	3.7 (0.05)	4.2 (0.05)	
<u>Provincial</u>	21.3 (0.7)	23.6 (0.71)	30.0 (0.81)	37.0 (0.90)	46.5 (1.01)	53.3 (1.03)	61.2 (1.05)	70.4 (1.07)	81.1 (1.09)	93.6 (1.11)	
<u>Non-Tax Revenue</u>	67.6 (2.2)	95.0 (2.85)	101.8 (2.75)	108.9 (2.65)	117.3 (2.55)	129.8 (2.51)	143.9 (2.47)	159.8 (2.43)	177.8 (2.39)	198.1 (2.35)	
<u>Total Expenditure</u>	656.4 (21.7)	695.5 (20.86)	768.3 (20.76)	854.6 (20.79)	962.2 (20.91)	1077.0 (20.83)	1206.1 (20.70)	1356.3 (20.62)	1529.4 (20.56)	1727.2 (20.46)	
<u>Current Expenditure</u>	556.6 (18.4)	603.4 (18.10)	651.4 (17.60)	709.1 (17.25)	780.0 (16.95)	859.3 (16.62)	945.7 (16.23)	1043.9 (15.87)	1153.7 (15.51)	1275.4 (15.13)	
<u>Development Expenditure</u>	99.8 (3.3)	92.1 (2.76)	116.9 (3.16)	145.5 (3.54)	182.2 (3.96)	217.7 (4.21)	260.4 (4.47)	312.4 (4.75)	375.7 (5.05)	451.8 (5.36)	
<u>Fiscal Deficit</u>	-178.8 (-5.9)	-175.3 (-5.25)	-157.2 (-4.25)	-148.3 (-3.60)	-150.9 (-3.28)	-144.2 (-2.79)	-147.5 (-2.53)	-152.7 (-2.32)	-158.3 (-2.13)	-166.9 (-2.00)	
<u>Revenue Deficit / Surplus</u>	-79.0 (-2.6)	-83.2 (-2.50)	-40.3 (-1.09)	-2.8 (-0.07)	31.3 (0.68)	77.6 (1.50)	112.9 (1.94)	159.7 (2.43)	217.3 (2.92)	284.9 (3.38)	
<u>Primary Deficit / Surplus</u>	34.5 (1.1)	53.0 (1.59)	85.2 (2.30)	106.6 (2.59)	120.6 (2.62)	146.9 (2.84)	161.3 (2.77)	176.2 (2.68)	191.3 (2.57)	203.3 (2.40)	

Figures in parenthesis give percentages of GDP.

TABLE A-10
TRENDS IN DEBT
(Scenario II)

Items	[Rs in Billion]										
	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	
<u>Total Revenue</u>	477.6	520.2	611.1	706.3	811.3	932.8	1058.6	1203.6	1371.0	1560.3	
<u>Total Expenditure</u>	(15.76)	(15.60)	(16.51)	(17.18)	(17.63)	(18.04)	(18.17)	(18.30)	(18.43)	(18.51)	
	656.4	695.5	768.3	854.6	962.2	1077.0	1206.1	1356.3	1529.4	1727.2	
	(21.7)	(20.86)	(20.76)	(20.79)	(20.91)	(20.83)	(20.70)	(20.62)	(20.56)	(20.46)	
<u>Fiscal Deficit</u>	-178.8	-175.3	-157.2	-148.3	-150.9	-144.2	-147.5	-152.7	-158.3	-166.9	
	(-5.9)	(-5.25)	(-2.4)	(-3.60)	(-3.28)	(-2.79)	(-2.53)	(-2.32)	(-2.13)	(-2.00)	
<u>Financing of Deficit</u>	(178.8)	-175.3	-157.2	-148.3	-150.9	-144.2	-147.5	-152.7	-158.3	-166.9	
	(5.9)	(-5.26)	(-4.25)	(-3.61)	(-3.28)	(-2.79)	(-2.53)	(-2.32)	(-2.13)	(-1.98)	
! Domestic	33.8	87.6	72.6	66.6	72.2	68.2	74.3	82.1	90.2	101.2	
	(1.1)	(2.63)	(1.96)	(1.62)	(1.57)	(1.32)	(1.28)	(1.25)	(1.21)	(1.20)	
! Foreign	145.0	87.8	84.6	81.7	78.7	76.0	73.2	70.6	68.1	65.7	
	(4.8)	(2.63)	(2.29)	(1.99)	(1.71)	(1.47)	(1.26)	(1.07)	(0.92)	(0.78)	
<u>Domestic Debt</u>	1447.6	1535.2	1607.8	1674.4	1746.6	1814.8	1889.1	1971.2	2061.4	2162.6	
	(47.8)	(46.04)	(43.45)	(40.73)	(37.95)	(35.10)	(32.42)	(29.97)	(27.71)	(25.66)	
<u>Foreign Debt</u>	1619.7	1777.5	1955.4	2126.1	2305.6	2496.4	2699.2	2916.2	3144.5	3386.8	
	(53.5)	(53.31)	(52.84)	(51.72)	(50.10)	(48.28)	(46.33)	(44.34)	(42.27)	(40.18)	
<u>Total Debt</u>	(3067.3)	3312.7	3563.2	3800.5	4052.2	4311.2	4588.3	4887.4	5205.9	5549.4	
	(101.3)	(99.35)	(96.29)	(92.44)	(88.06)	(83.38)	(78.75)	(74.31)	(69.98)	(65.83)	
Domestic Debt as % of Total Revenues	303.1	295.1	263.1	237.1	215.3	194.6	178.5	163.8	150.3	138.6	
Total Debt as % of Total Revenues	642.2	636.8	583.1	538.1	499.5	462.2	433.7	406.1	379.7	355.7	
MEMO ITEMS											
Exchange Rate	50.06	52.15	54.90	57.40	60.12	63.12	66.40	70.00	73.85	78.00	
Foreign Debt (\$ billion)	32.40	34.08	35.62	37.04	38.35	39.55	40.65	41.66	42.58	43.42	
Interest Rate on Foreign Debt (%)	2.35	2.76	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	
Interest payments on Domestic Debt (%)	12.10	11.7	11.4	11.1	10.9	10.8	10.6	10.4	10.1	9.7	

Figures in parenthesis give percentages of GDP.

MACROECONOMIC FRAMEWORK FOR DEBT MANAGEMENT

By

Dr. Aisha Ghaus-Pasha

Dr. Hafiz A. Pasha

May 2000

**SOCIAL POLICY AND DEVELOPMENT CENTRE
KARACHI**