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Fiscal Policy in Pakistan Since 1970

Prepared by Nadeem U. Haque and Peter J. Montiel ^{1/}

Authorized for distribution by Malcolm Knight

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Abstract

The analysis in this paper suggests that the large fiscal deficits that Pakistan has experienced over most of the period since 1970 led to some crowding out of private investment, resulting in slower output growth than would otherwise have been observed. Past fiscal deficits have also resulted in a substantial accumulation of domestic and external debt. In addition, the possibilities for currency substitution that have been created by the removal of restrictions on capital flows from Pakistan, as well as on foreign currency holdings of domestic residents, may have limited the potential for collecting the inflation tax. Accordingly, continued effort is likely to be needed to attain a fiscal position that is sustainable over the medium term.

JEL Classification Numbers:

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I. Introduction

Pakistan has experienced relatively large fiscal deficits over much of the last two decades. Repeated attempts by the authorities to bring about fiscal adjustment have generally achieved only temporary improvements. The consolidated fiscal deficit of the federal and provincial governments rose during the 1980s, to over 8 percent of GNP in fiscal 1987/88. ^{1/} It was reduced to about 6 1/2 percent in 1989/90 but rose again in 1990/91. The high deficits have occurred because of a number of factors. Weaknesses in the tax system have led to an inelastic tax structure and a heavy reliance on international trade taxes for revenues. Moreover, with defense expenditures constituting about 25 percent of total fiscal spending, interest payments 15 percent, and administration (including social services) another 15 percent, the structure of expenditures has not been amenable to large cuts.

This paper reviews the experience with fiscal policy in Pakistan over the period since 1970 in order to obtain a better understanding of the relationship between fiscal policy and general macroeconomic outcomes. It also discusses alternative approaches to fiscal deficit reduction.

The paper is divided into four sections. Section II discusses fiscal developments in Pakistan over the last two decades. The following section looks at Pakistan's fiscal policy and economic performance in relation to other groups of developing countries, while the fourth section considers some fiscal adjustment scenarios. Section V studies alternative deficit-reduction strategies, and is followed by a conclusion.

II. A Brief Review of Fiscal Policy in Pakistan

The origin of fiscal deficits in Pakistan is in many ways similar to that in other developing countries. In brief, an upsurge of externally-financed development spending during the early to mid-1970s, primarily in the form of investment by public enterprises, proved to be persistent. In later years, fiscal deficit reduction was thus made more difficult by the inability of the government to achieve significant expenditure reduction and/or increased revenue generation.

An examination of the data and the events of the twenty year period, 1970/71 to 1990/91 suggests that the discussion of fiscal developments can be split into four sub-periods: (a) the years of fiscal expansion during the Zulfikar Ali Bhutto government (1972/73 to 1976/77); (b) the subsequent

^{1/} In Pakistan the fiscal year runs from July 1 to June 30, and the consolidated fiscal deficit includes all current and development expenditures and all tax and non-tax revenues of the central and provincial governments, as well as the operating surplus of certain autonomous bodies. Almost all data used were taken from several issues of the Pakistan Economic Survey.

efforts of the martial law government to contain the fiscal deficit (1977/78 to 1981/82); (c) the mid-eighties (1982/83 to 1986/87) when fiscal control again appeared to weaken; and (d) the late eighties (1987/88 to 1990/91) when the authorities made renewed efforts to regain fiscal control.

1. Developments during 1971 to 1977

The government of Zulfiqar Ali Bhutto, which came to power in 1971, was committed to economic policies that promoted economic equality and a large role for the public sector. The government was given a strong impetus in this direction by plentiful external financing at concessional terms, primarily from Middle Eastern oil producing countries which were then accumulating large external current account surpluses following the first oil price shock. As a result, during these years development expenditures--consisting of investment by the federal and provincial governments, capital transfers to local governments and state enterprises, as well as production subsidies--more than doubled their share of GNP (Figure 1). 1/ The government also nationalized seven major manufacturing and industrial groups, as well as banking, insurance, shipping, and educational institutions. By the mid-seventies the public sector played a significantly larger role in Pakistan than had been the case at the beginning of the decade.

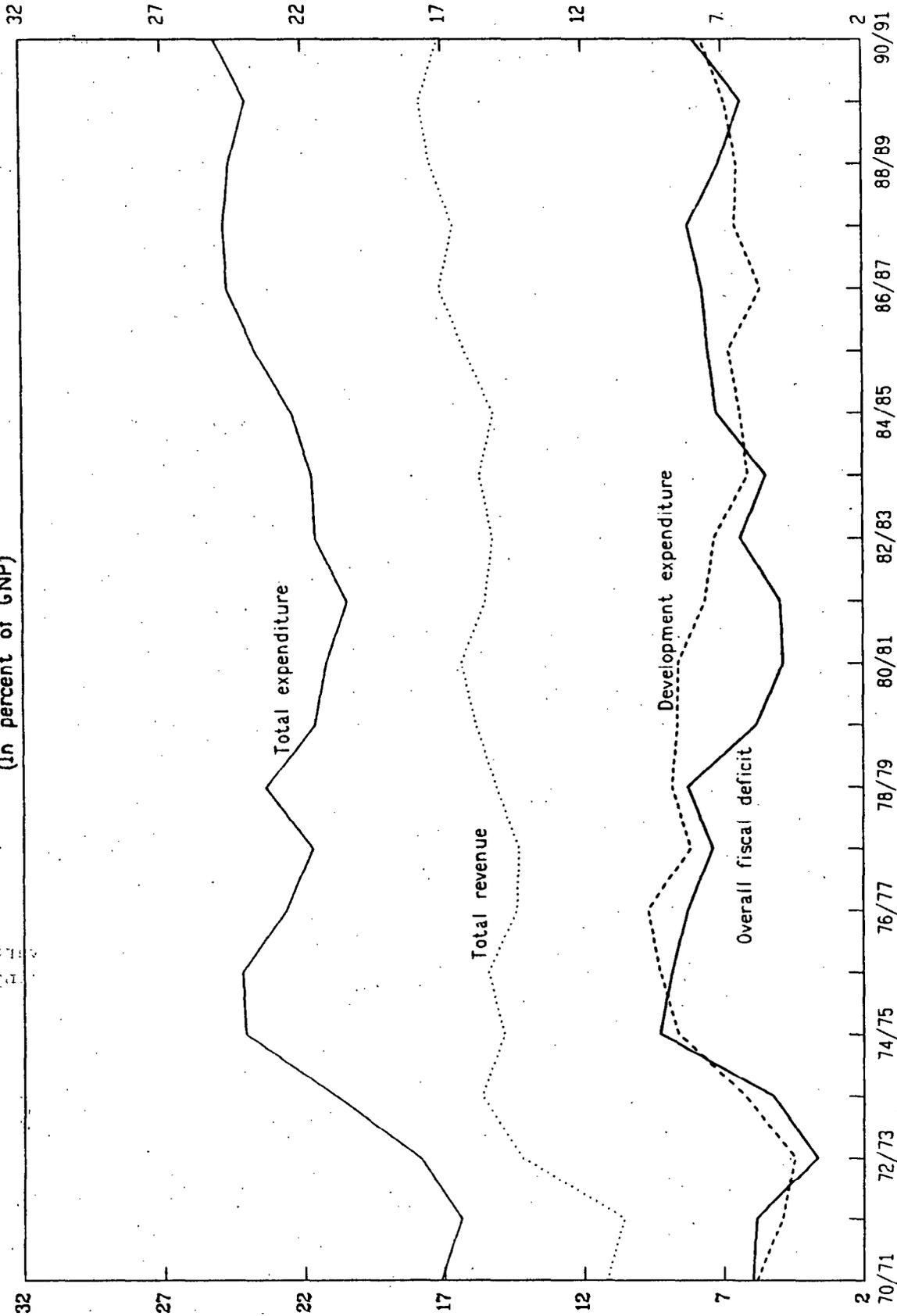
Within the category of current expenditures, a rapid expansion took place in the scale of subsidies. In nominal terms, these increased at an average annual rate of nearly forty percent in the first half of the seventies. During this period the ratio of total government spending to GNP rose at an average annual rate of about 8 percent.

Unfortunately, this expansion in the role of the public sector was not matched by a corresponding rise in revenues. In fact, though expenditures of the federal and provincial governments increased by more than 6 percentage points of GNP from 1972/73 to 1975/76, total revenues rose by only one percent of GNP during the same period, owing primarily to an increase in domestic indirect taxes and nontax revenues. 2/ The result, of course, was an increase in the fiscal deficit amounting to about 5 percent of GNP from 1972/73 to 1975/76 (Figure 1). Since foreign loans were available on favorable terms, almost three quarters of the deficit financing during these years was external.

1/ Public sector investment was devoted to the development of the chemical industry, as well as to cement, fertilizers, engineering, petroleum, steel, and vegetable 'ghee'.

2/ Indirect taxes account for about 80 percent of total tax revenues in Pakistan, and foreign trade taxes represent about half of total indirect tax revenue. Administrative problems have hampered the collection of direct taxes, and the taxation of agricultural incomes has not been politically feasible.

Figure 1
 Fiscal Performance, 1970/71-1990/91
 (In percent of GNP)





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2. Developments during 1978 to 1982

The government that assumed office in July of 1977 initiated a short-term stabilization program supported by an IMF standby arrangement. This program attempted to address some of the structural problems embedded in the economy as well as to correct perceived financial imbalances, the most important of which was the fiscal deficit. An important goal of the new government was to de-emphasize the role of the public sector in the economy. This change in regimes coincided with a reduction in financial assistance from the United States because of Pakistan's nuclear program. The reduced availability of external financing necessitated fiscal adjustment. During this period, therefore, the ratio of the fiscal deficit to GNP was about one percentage point lower than that during the earlier period (Figure 1). In fact, the fiscal deficit fell from over 8 percent of GNP in 1976/77 to under 5 percent in 1981/82.

The fiscal adjustment during this period took the form of both expenditure cuts and revenue increases. The bulk of the spending cuts (more than one percent of GNP) occurred in development spending, consistent with the government's explicit goal of curtailing public involvement in productive activities and leaving these to the private sector. While an effort was also made to reduce current expenditures, this attempt met with limited success as spending of this type contracted by only about 1/2 of one percent of GNP over the course of this period. ^{1/}

The total contribution of revenue increases to the fiscal adjustment (amounting to 2 percent of GNP) exceeded that of spending cuts over this period. However, though there was a serious effort to improve tax administration, only about half of the revenue increase appears to have been the result of discretionary fiscal policy measures. Haque and Montiel (1991) argue that, at best, the revenue resulting from the discretionary revenue measures during this period amounted to less than a sixth of the total increase in tax revenues. The remainder of the rise in tax revenues is accounted for by an increase in taxes on international trade, as both exports and imports rose rapidly during these years. A depreciation in the real effective exchange rate of the rupee in the late seventies, associated with the depreciation of the US dollar against the currencies of Pakistan's trading partners, gave a boost to exports, while a substantial increase in remittances as a consequence of the second oil shock gave rise to an import boom at the end of the seventies.

3. The Mid-eighties (1983 to 1987)

However, improvements in the fiscal stance did not prove to be permanent. After 1981/82 the fiscal deficit began to increase once again, reaching over 8 percent of GNP by 1987/88. There were a number of changes in the composition of revenues during this period. However, since slippages

^{1/} The previous government, however, had already achieved a substantial reduction in public consumption during its last year in office.

in the collection of direct taxes and of domestic indirect taxes tended to be offset by increasing nontax revenues (primarily in the form of profits on the distribution of oil products), the share of public sector revenue in GNP showed no trend. Instead, the increase in the deficit arose from the expenditure side (Figure 1).

This was so in spite of a continued contraction in the share of development expenditures in GNP. 1/ This type of spending, which had peaked at 9 3/4 percent of GNP in 1976/77, had fallen to 8 1/2 percent by 1980/81 and was 6 3/4 percent by 1987/88. The increase in spending instead took the form of higher public consumption (public sector wages and salaries and defense spending) as well as larger interest payments. Budgetary defense spending, which had amounted to 21 percent of total public expenditures in 1978/79, had increased its share to 27 percent by 1984/85. 2/

By far the most rapidly increasing category of fiscal spending during the eighties, however, was total public sector interest payments. This reflects a conscious change in the composition of deficit financing after 1980/81. In an effort to keep inflation in check and to tap directly what was perceived to be a plentiful supply of private saving originating with remittance inflows, the Government of Pakistan limited its borrowing from the domestic banking system after 1980/81 and domestic nonbank borrowing became the residual source of finance. When the international debt crisis reduced the availability of external funds in 1981/82, such funds were also replaced by domestic nonbank borrowing. Thus the combination of an aversion to inflationary finance, reduced availability of external financing public consumption resulted in a substantial increase in domestic nonbank borrowing. As will be shown later, the rising stock of internal debt could be absorbed domestically only by offering higher interest rates, and the combination of a higher debt stock and increasing interest rates caused interest payments to mount over time. Total public sector interest payments, which had amounted to 2 percent of GNP in 1980/81, had more than doubled as a percent of GNP by 1989/90, thereby accounting for about two-thirds of the increase in the deficit-to-GNP ratio over this period. For any given year, therefore, this component of the deficit increase reflected past financing decisions, rather than current fiscal policy.

In sum, the upsurge in fiscal deficits in Pakistan during the period 1980/81 to 1986/87 was the result of two policy choices:

- a. An increase in public consumption in the face of the inability to raise commensurate revenues.

1/ Development expenditures consist of investment expenditures of the federal and provincial governments and those of relevant autonomous bodies (Water and Power Development Authority, Oil and Gas Development Corporation, Pakistan Television Corporation, and Pakistan Telecommunications Corporation).

2/ See Kemal (1987).

b. A change in the financing mix from domestic bank and external financing to domestic non-bank borrowing. This was partly dictated by reduced availability of external funds, but was largely the outcome of a policy choice to curtail bank financing.

4. The period 1987 to 1991

By 1987/88 the effects of expansionary demand management policies had become evident in the form of a sharp increase in the overall fiscal deficit, a widening external current account deficit, and a reduced level of gross official reserves that was declining relative to imports. Gross official reserves had fallen to about 3 weeks of imports by June 1988, despite a sharp accumulation of short-term liabilities and a pickup in exports. To address these growing imbalances the government initiated a medium-term macroeconomic and structural adjustment program supported by the International Monetary Fund and the World Bank. One of the important objectives of the program was to support comprehensive structural reform measures by strengthening demand management. To this end, policies were implemented to address the persistent problem of the fiscal deficit by improving domestic resource mobilization and tightening expenditure control. The equity and elasticity of the tax system were improved by the elimination of various exemptions, introduction of a general sales tax, and reduced reliance on taxes on foreign trade. On the expenditure side several administered prices were increased, thus reducing the subsidy element of those prices, and real wages in the public sector were allowed to decline.

Fiscal performance showed a marked improvement in 1988/89 and 1989/90 as the coverage of the general sales tax as well as other taxes was broadened, while spending was restrained. As a result, the overall fiscal deficit was reduced by 2.2 percentage points of GDP during the first two years of the program, from 8.6 percent in 1987/88 to 6.4 percent in 1989/90. However, owing to difficulties associated with the Middle East crisis and persisting structural weaknesses, fiscal performance weakened in 1990/91. In particular, revenue from the petroleum surcharge and most tax receipts were adversely affected by the crisis; and the ratio of the fiscal deficit to GDP returned to over 8 percent in 1990/91. The increased fiscal deficit was also associated with more rapid expansion in the supply of money and credit, as difficulties were experienced in marketing government debt to the nonbank public at prevailing interest rates. Since the fiscal deficit was beginning to lead to a buildup of inflationary pressures, the authorities initiated further fiscal adjustment measures during the first half of 1991/92.

III. Macroeconomic Developments and Fiscal Policy

Interestingly enough, although Pakistan has experienced fiscal deficits which are larger in relation to the size of its economy than those in many other developing countries, its economic performance has not been as weak as that of other developing countries with fiscal deficits of comparable

magnitudes as a percent of GDP. 1/ Specifically, Pakistan has experienced neither hyperinflation nor repeated external debt reschedulings during the eighties. As measured by the official figures, economic growth has remained quite strong through the last two decades, inflation has not been high by developing country standards, and the external current account deficit has averaged about 2 1/2 percent of GNP, remaining largely financeable without disrupting regular debt servicing.

A comparison of Pakistan's fiscal developments and other macroeconomic indicators with those of several groups of developing countries is provided in Table 1. The table shows that, as a percentage of GDP, Pakistan's fiscal deficit has indeed been higher than the average for all other developing countries during the eighties, and remained higher in the first two years of the present decade. 2/ Moreover, during these years the ratio of the fiscal deficit to GDP in Pakistan has been higher than the average for all Asian countries, as well as the averages for the group of all debtor countries and the group of high inflation countries.

Despite these high fiscal deficits, Pakistan's macroeconomic performance compares quite favorably with that of most other groups of developing countries. In particular, Pakistan appears to have experienced higher per capita output growth and lower inflation than developing countries in general. Table 1 shows that its annual average growth rate was higher than that for all developing countries as well as most other groups of developing countries, but not higher than the Asian average. 3/

In many developing countries, fiscal deficits of smaller magnitude than those observed in Pakistan have been associated with a number of adverse macroeconomic developments, chief among them being a high rate of inflation. By contrast, as indicated earlier, Pakistan has performed relatively well in a macroeconomic sense with a high average rate of economic growth, low inflation, and a relative absence of major external imbalances. For

1/ This is not to say, of course, that fiscal deficits of the magnitudes observed exerted no harmful effects, or that performance could not have been improved with lower fiscal deficits, but rather that there is no evidence in Pakistan of the chronic acute macroeconomic crises--typically manifested in extended periods of negative per capita income growth, rapid inflation, and inability to service external debt--that have characterized many other developing countries with comparable fiscal performance.

2/ Strictly speaking, these fiscal deficits may not be comparable, since the definitions of fiscal variables can differ quite significantly across countries.

3/ This is not to deny that Pakistan has had its share of external financing problems. Indeed, since 1970 Pakistan has experienced several episodes of balance of payments difficulties that required exceptional financing. Concurrent with periodic exceptional financing, Pakistan also undertook several episodes of adjustment which may also explain the relatively better macroeconomic performance.

Table 1. Macroeconomic Performance and Fiscal Policy in Developing Countries

	Fiscal Deficit/GDP			Inflation Rates			Per Capita GDP Growth			Current Account/GDP		
	Avg. 83-89	1990	1991	Avg. 83-89	1990	1991	Avg. 83-89	1990	1991	Avg. 83-89	1990	1991
Pakistan ^{1/}	-7.60	-6.04	-8.07	5.37	9.35	12.07	3.01	2.85	2.43	-2.68	-2.97	-2.92
All Developing Countries	-5.26	-3.09	-5.22	39.49	91.03	58.73	1.70	-0.38	-4.91	-0.44	-0.45	-1.87
Africa	-6.29	-2.84	-0.64	17.89	15.36	18.44	-0.96	-2.08	-1.20	-2.20	-0.64	-1.90
Asia	-3.14	-2.82	-2.32	9.03	7.96	8.71	5.63	3.78	4.10	0.02	-0.10	-0.65
Europe	-3.63	-4.45	-11.05	12.07	35.81	109.86	2.46	-2.99	-1.65	0.51	-1.42	-1.63
Western Hemisphere	-5.07	0.06	-0.84	203.65	769.77	154.29	-0.42	-2.12	0.79	-0.87	-0.59	-1.43
Net Debtor Countries	-5.01	-3.25	-4.82	44.29	104.25	65.71	2.27	-1.06	-6.19	-0.68	-0.92	-1.43
Small low-income Countries	-6.88	-6.32	-5.49	33.70	31.47	29.18	0.68	0.40	0.48	-4.62	-5.15	-4.70
Heavily indebted Countries	-4.86	-0.67	-1.30	180.58	628.81	135.81	-0.44	-2.44	-1.38	-0.76	-0.30	-1.60

Source: International Finance Statistics and IMF Staff Estimates.

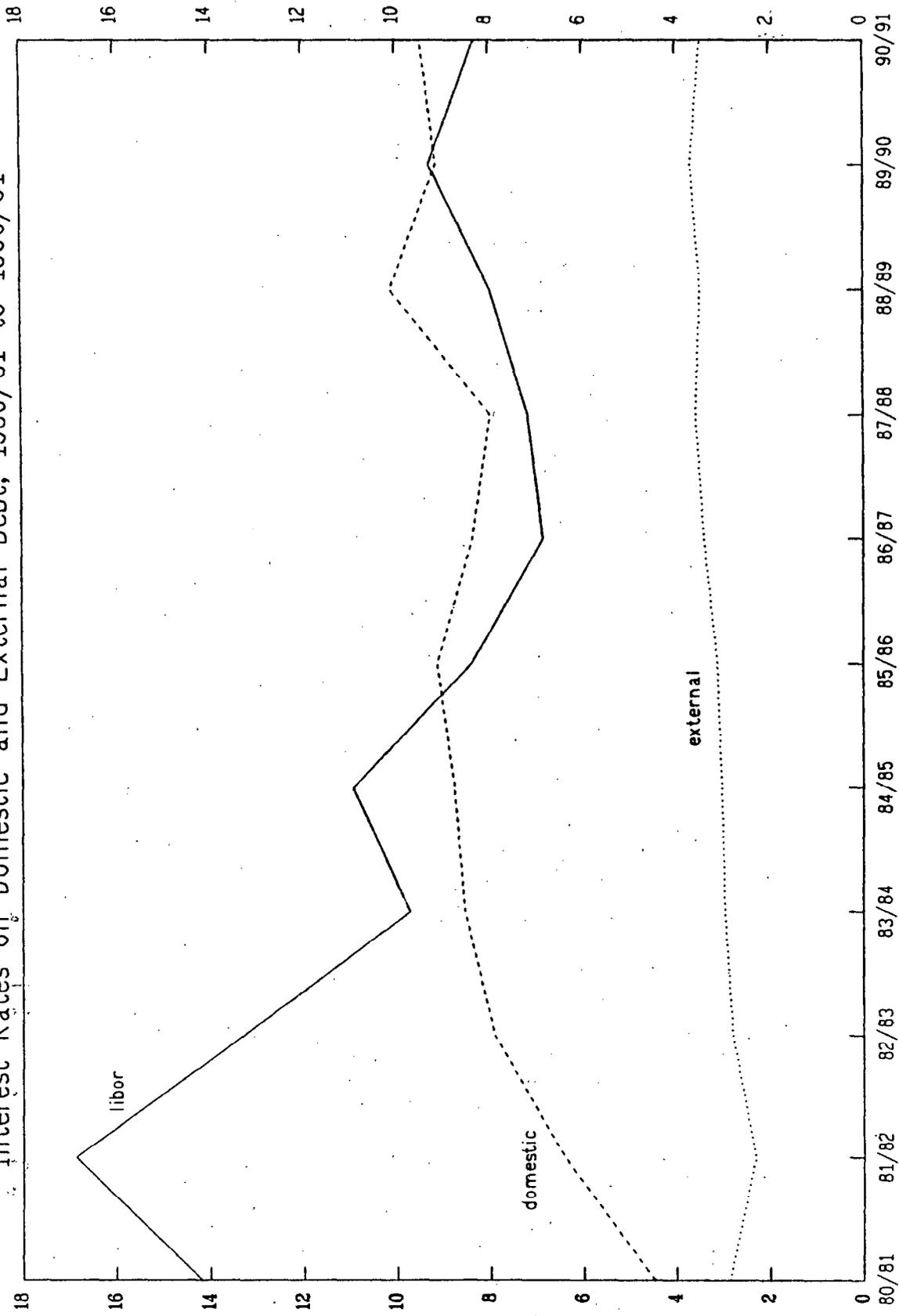
^{1/} Fiscal year basis.

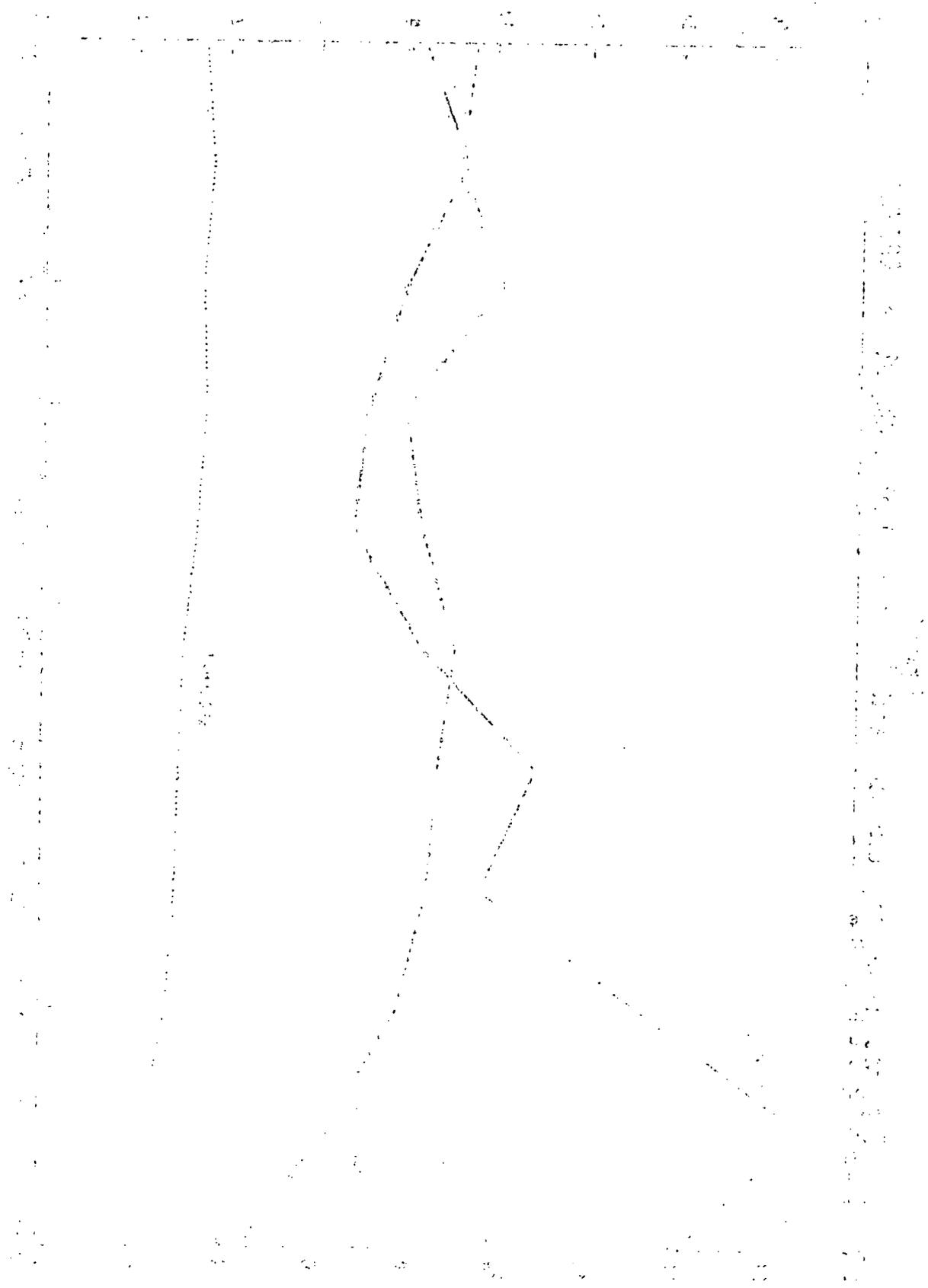
example, during the decade 1981-1990 the consolidated fiscal deficit of the federal and provincial governments averaged about 6 1/2 percent of GNP. Since the 1980 stock of base money amounted to about 12 percent of GNP, financing this deficit solely through the issuance of base money would have implied an inflation rate in excess of 50 percent per year during the eighties, even before allowing for erosion of the monetary base through a rise in velocity. ^{1/} After allowing for such erosion, reliance on the inflation tax to finance a fiscal deficit of this magnitude would have implied inflation rates of Latin American proportions. During 1981-1990 the actual growth of base money in Pakistan was much slower than that of domestic prices (measured by the GDP deflator) and both base money growth and the domestic inflation rate fell substantially short of what the simple analysis would predict.

A key question that arises in connection with fiscal policy in Pakistan is, therefore, why high deficits have not been associated with inflation of the Latin American scale. Haque and Montiel (1991) provided a two part explanation for this question. First, the coexistence of large fiscal deficits and adequate economic performance in recent years could reflect the particular nature of budgetary financing. During the last two decades Pakistan was able to find cheap external as well as domestic financing. Much of Pakistan's external debt during this period was acquired on a bilateral basis on fairly concessional terms. This concessionality in foreign borrowing should actually be regarded as current revenue in the form of transfers from abroad. Domestically, some of the government debt was held by financial institutions to satisfy liquidity requirements. To the extent that such institutions would have had to be offered a higher rate of return to hold these securities willingly, this requirement subjected them to an implicit tax. Figure 2 shows that the interest rates paid by Pakistan on both domestic and foreign debt were much below international interest rates as measured by LIBOR for most of the seventies and eighties. The grant element implicit in the concessional lending available to the government during this period (which is probably understated by this comparison) should, as indicated above, be regarded as a source of revenue rather than financing. Such an adjustment in the measurement of the deficit could provide a partial explanation for the coexistence of low inflation and high fiscal deficits.

^{1/} In popular discussions, the link between fiscal deficits and inflation in developing countries is typically seen as being quite direct. In the absence of secondary securities markets, government borrowing from the central bank expands the supply of base money. Hence, the rate of growth of the money supply is taken to depend primarily on the size of the fiscal deficit. With the rate of inflation in turn being determined by the rate of growth of the money supply, the link between fiscal deficits and inflation follows. In reality, however, matters are much more complicated than this for a number of reasons, such as the cyclical behavior of velocity and the government's ability to borrow (See Haque and Montiel (1991) for a fuller discussion).

Figure 2
Interest Rates on Domestic and External Debt, 1980/81 to 1990/91





Second, the high growth that the country experienced during the last two decades also supplies an important part of the explanation for the absence of high inflation during this period. Because of the strong growth experienced by Pakistan, the base for both conventional taxes and seignorage continued to expand. A higher fiscal deficit than would have been possible in a slow growth economy was sustainable, therefore, without igniting an inflationary episode.

Although these arguments may explain part of the puzzle, it is still possible that the fiscal deficits actually observed in Pakistan have nevertheless been "too high" in the sense that macroeconomic performance might have been better had the deficits been smaller. To study this issue, we conducted several counterfactual simulation experiments for the eighties using an empirical macroeconomic model for Pakistan which is presented in Appendix A.

In the first simulation we examine the macroeconomic consequences of limiting the buildup of domestic debt by the public sector after 1982/83 by increasing use of money financing. Specifically, we reduce the flow of new domestic debt in each year during 1983/84 to 1987/88 by 10 percent, and assign the role of residual financing to the issuance of base money. A reduction in the flow of debt by 10 percent each period keeps the stock of debt below its baseline value, but the percentage deviations from that value vary over time. The increased nominal money stock in the counterfactual is absorbed by a combination of higher prices and lower nominal interest rates. ^{1/} Consequently, domestic real interest rates would have been below the levels that were actually experienced, leading to increased private investment; as a result, real GDP would have attained higher levels in the short run. Although factor income would have been higher, lower domestic interest rates and higher prices would have squeezed private disposable income, resulting in lower private consumption. With higher output and lower private consumption, the trade deficit would have fallen in spite of the increase in private investment. In fact, lower debt and lower interest rates would have implied a lower value of the fiscal deficit to GDP ratio itself. In short, the mode of financing actually chosen seems to have operated, as intended, to contain the price-level consequences of the fiscal deficit. But this was achieved at the expense of somewhat lower investment--and therefore economic growth--than would otherwise have been observed during this period.

We also simulated a ten percent reduction in the level of the fiscal deficit in each year from 1983/84 onwards, brought about by cutting public sector investment with debt issuance as the residual mode of financing. A 10 percent reduction of the fiscal deficit in each year would have required larger and larger cuts in public investment relative to the baseline. As is evident, this would have implied progressively larger reductions in real output growth, both because of the lower public capital stock and because of the induced decrease in the private capital stock--since the smaller public

^{1/} Since the model does not incorporate rational expectations there is no feedback from price expectations.

capital stock would have depressed private investment as well. Crowding-in through lower interest rates does not materialize in this case because the lower public capital stock represents a substantial negative supply shock; in the simulation this raises prices and thus actually increases the domestic interest rate. Reduced output and higher prices both depress private consumption. However, the reductions in both public and private investment, together with that in private consumption, do succeed in reducing the external trade deficit in spite of the lower level of output.

Overall, then, the simulation experiments suggest that the macro-economic effects of Pakistan's fiscal deficits in the eighties depend on the nature of the fiscal policy. It appears that reducing the fiscal deficit by cutting public investment, which has tended to be a favorite vehicle for deficit control in Pakistan, could have had favorable trade balance effects, but at a cost to economic growth and with little payoff in terms of price level objectives. The way in which the historical deficits were financed had an important effect on the economy's macroeconomic performance during the eighties. According to our simulation results, altering the composition of deficit financing from domestic borrowing to the issuance of money would have had fairly predictable effects. A shift to increased money financing would have meant lower interest rates and higher growth in the short run. 1/

IV. Debt and Fiscal Policy

1. Implications of the accumulated stock of government debt

As already noted, the government resorted to borrowing from domestic nonbank sources in order to avert the inflationary consequences of a fiscal deficit. This policy choice resulted in the accumulation of debt levels that are high in relation to the size of the economy. Although the average cost of servicing this debt may have been low in the past, the marginal cost of debt service can be expected to rise in the coming years since, as a result of the recent opening up of the economy, international interest parity is likely to prevail.

The indebtedness of the government could affect both the marginal cost of debt and the government's ability to create additional debt. The high level of government indebtedness implies that debt servicing constitutes a significant proportion of government expenditures and has the potential to frustrate future deficit reduction plans. If lenders were to perceive the debt burden to be beyond the normal servicing capacity of the government, this could make them unwilling to supply further funds to the government. In such a case the additional lending to the government would also need to be induced by raising the rate of return on government debt, and further crowding-out of private investment.

1/ For some additional information on the influence of foreign financing on fiscal policy in Pakistan, see Haque, Husain and Montiel (1991).

Because of the likelihood that the marginal cost of borrowing will rise owing to the factors discussed above, we have attempted to analyze the effects of such increases on fiscal policy in Pakistan. We assume here that the present outstanding stock of government domestic and foreign debt continues to be financed at the existing interest rates. 1/ However, all debt financing from 1992 onwards is assumed to be conducted at the market rate. Since restrictions on foreign exchange movements from the country and on the holding of foreign exchange by domestic residents were removed early in 1991, we assume that a high degree of capital mobility will hold in the coming years. 2/ This implies that uncovered interest parity will hold at least approximately--i.e., that the domestic interest rate will be equal to the rate in international markets plus the expected rate of depreciation of the rupee. Consequently, we assume that from 1992 onward, additional government debt will be sold at this uncovered interest parity rate.

Through the five years (1992-96) that are considered revenue, government consumption, and investment expenditures are all held constant as percentages of GNP (see Figure 3). Consequently, the increases in total expenditures (and therefore in the fiscal deficit) that occur in each of the five years are entirely due to increased debt servicing arising from the higher interest rates charged on additional lending to the government. The projection illustrates the point that in the absence of corrective fiscal measures increased interest payments may themselves pose a threat to the budget. Over the five years, expenditures as well as the deficit rise by more than one percent of GNP. 3/ Note that this happens despite a decline in the debt/GNP ratios.

2. Illustrative estimates of the sustainable fiscal deficit

At each point in time it is possible to determine a level of fiscal deficit that can be financed without altering the total debt to GNP ratio and without requiring macroeconomic adjustments, such as in the rate of inflation or the rate of growth. In other words, this is the fiscal deficit that is consistent with the existing ratio of government liabilities--debt and money--to GNP and the assumed growth and inflation paths. The path of

1/ Other underlying assumptions are: growth of real GNP constant at 5.8 percent, approximately the growth rate in 1991; inflation at 6 percent; LIBOR at 7 percent; and exchange rate depreciation at 10 percent per annum, the average annual rate that actually occurred during the eighties.

2/ In any case, Haque and Montiel (1991a, b) have shown that capital restrictions do not hold in most developing countries; capital tends to be mobile internationally.

3/ If a further assumption is made on the maturity structure of the debt stock held at end-1991, then a certain percentage of that debt stock would have to be rolled over at higher market interest rates through the years 1992-96. Expenditures would be further increased in each year, and the fiscal deficit to GNP ratio would be higher. On the assumption of a five-year maturity structure, our calculations show the deficit/GNP ratio rising to more than 8 percent.

fiscal deficits defined thus is termed the intertemporal budget constraint of the government. By managing fiscal policy such that the intertemporal budget constraint is not violated, excessive imbalances and inflationary episodes can be avoided.

In this section we will use the intertemporal budget constraint of the government to determine the fiscal deficit level that appears sustainable at a point in time. The relevance of this exercise lies primarily in illustrating the use of the intertemporal budget constraint. Although we derive illustrative estimates for the sustainable level of the fiscal deficit under different assumptions concerning the expected time path of key variables such as the rate of inflation, growth, and the foreign interest rate, these numbers have to be interpreted with considerable care for at least four reasons. First, a study such as this is primarily focused on methodology. A more practical policy-oriented study would dwell more on data and data definitions in accordance with the needs of the policymaker. Second, the estimates depend on the assumptions regarding the rate of growth of the economy, the rate of inflation, the continued availability of foreign finance, and the interest rate at which foreign financing will become available. All of these assumptions would require careful scrutiny or econometric analysis before the sustainable fiscal deficit could be used to derive any policy implications. Third, even as these calculations are refined they have to be continuously updated in light of new information that is made available as the domestic and external economies evolve. Fourth, the estimates are sensitive to the specification of the parameters, many of which are subject to change on account of the structural improvements that have been made in the economy of Pakistan in recent years. Consequently, as with all such research, the interest of this paper lies primarily in presenting a methodological approach with illustrative estimates.

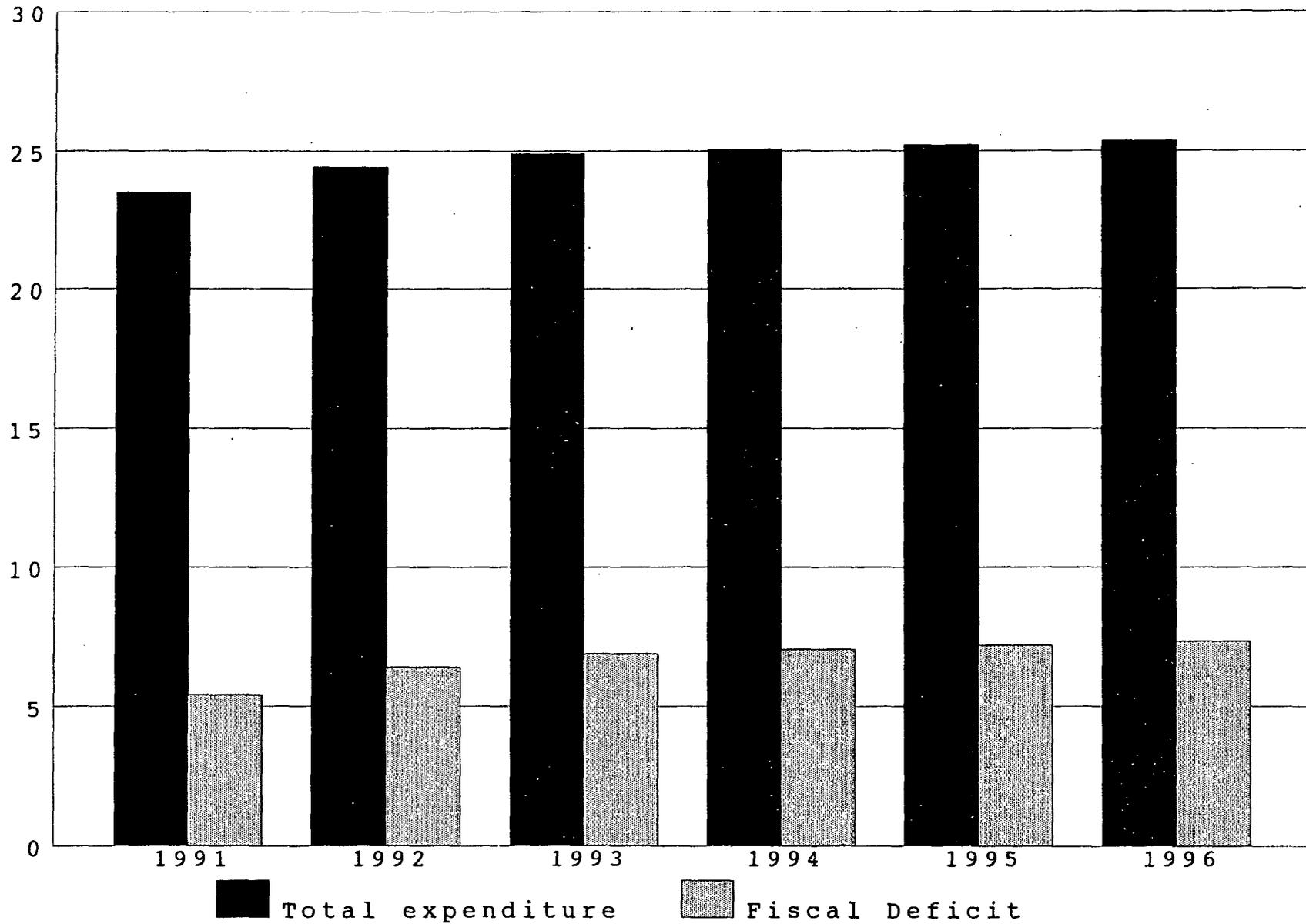
Consider the public sector's solvency constraint, which can be written as follows. 1/ 2/

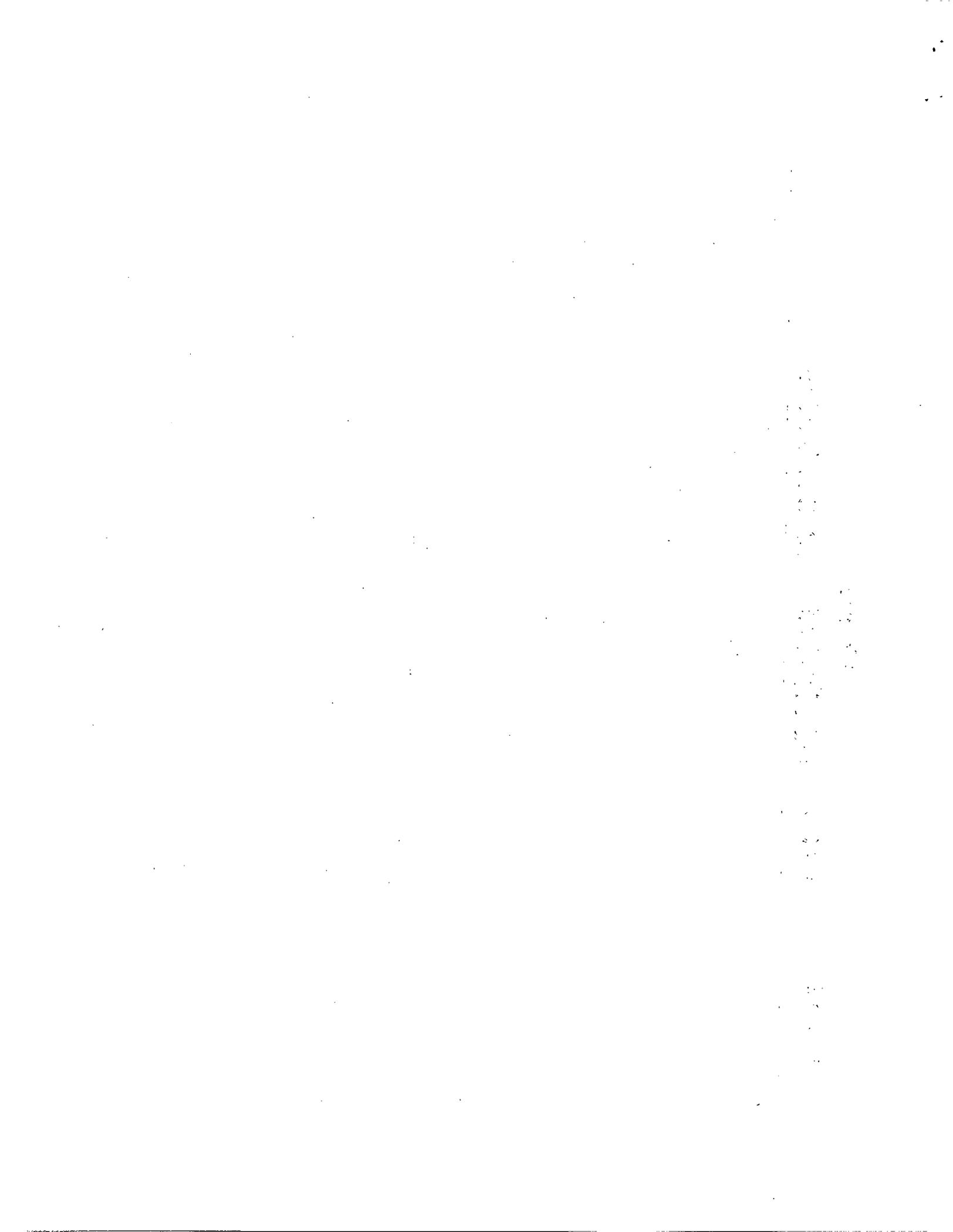
$$(1) \quad \dot{b} + \dot{s}f_G + \dot{m} - k_G = d - (r_k - n)k_G + (r_B - n)b + (r_F + \hat{s} - n)sf_G - (\pi + n)m,$$

1/ For a fuller discussion of the theoretical underpinnings of this section, see Haque and Montiel (1991).

2/ A dot (•) over a variable denotes a time derivative, whereas a hat (^) denotes a proportional rate of change.

Figure 3
Effects of Market Interest Rates





Where,

b = the ratio to GNP of the public sector's (including the central bank) stock of debt to the domestic private sector,

s = the nominal exchange rate,

k_G = the ratio to GNP of the public sector's capital stock,

f_G = the ratio to GNP of public external debt,

d = the ratio to GNP of the primary fiscal deficit,

m = the ratio to GNP of the stock of base money

r_B = the real interest rate on domestic borrowing,

r_K = the net real (pecuniary) rate of return on public investment,

r_F = the real interest rate paid on foreign debt,

r^* = the real interest rate prevailing in international capital markets (external interest rate plus rate of depreciation of domestic currency, less domestic inflation),

n = the rate of growth of real GNP

π = the rate of inflation.

Equation (1) can be transformed into:

$$(2) \quad \dot{b} + s\dot{f}_G - \dot{k}_G = \dot{d} + (r^* - n)(b + sf_G - k_G) - [m + (\pi + n)m]$$

where $\dot{d} = d + (r_B - r^*)b + (r_F + \hat{s} - r^*)sf_G + (r^* - r_K)k_G$ is the "adjusted"

primary fiscal deficit--i.e., the primary deficit plus the excess of the interest rate that has to be paid on Pakistan's domestic debt and foreign debt over that prevailing in international capital markets, plus the shortfall in the return on the public capital stock relative to the external interest rate.

The initial net worth of the public sector is given by $(k_G - b - sf_G)$, and the public sector is solvent if the present value (using the growth-corrected interest rate $r^* - n$) of its anticipated future debt service is at least equal to its net debt, i.e.:

$$(3) \quad PV (m + (\pi + n) m - d) \geq b + sf_G - k_G$$

The resources available to the public sector to service debt consist of future seignorage revenue, given by $m + (\pi + n)m$, and future "adjusted" primary surpluses, given by $- \bar{d}$. Notice that, other things equal, an increase in the present value of the stream of future deficits requires a rise in the present value of the inflation tax, πm . It is in this present-value sense that higher fiscal deficits are related to higher inflation.

Notice also that a number of factors influence the present value of the inflation tax associated with a given path of the primary deficit. The following observations are germane:

a. The relevant value of the primary fiscal deficit is the "adjusted" deficit--i.e., that which takes account of differences between the interest rate on domestic borrowing, the marginal product of public capital, and the actual interest paid on external borrowing on the one hand; and the marginal cost of external funds on the other. Access to domestic or external funds at favorable interest rates, or particularly productive public capital, reduces the present value of the inflation tax associated with a given unadjusted deficit.

b. The amount of seignorage required to finance a given path of the adjusted deficit is smaller the lower is the initial net stock of debt.

c. Given the amount of seignorage required, the requisite inflation tax is smaller the larger the rate of growth of output and the greater the secular growth in the money-income ratio.

Rearranging equation (2) permits us to write:

$$(4) \quad b + sf_G + m = \bar{d} - [(\pi + n)(b + sf_G + m) - \hat{s}sf_G],$$

where $\bar{d} = d + (r_B + \pi)b + (r_F + \pi)s f_G + k_G$ is the conventional fiscal deficit to GNP ratio. The expression on the right-hand side of (4) is the inflation- and growth-adjusted deficit ratio--i.e., the actual deficit minus the portion that can be financed without altering the ratio of total debt to GNP. When the value of this expression is zero, the conventional deficit can be accommodated without requiring macroeconomic adjustments--including in the rate of inflation--because the requisite amount of financing will presumably be forthcoming. In other words, $[(\pi + n)(b + s f_G + m) - s s f_G]$ is the deficit ratio that is consistent with macroeconomic equilibrium for inflation rate π and real growth rate n , and is termed here the "sustainable" deficit.

Our estimates suggest that for most years since the early eighties, actual fiscal deficits in Pakistan have been larger than the "sustainable" deficit, i.e. the level of deficit consistent with macroeconomic equilibrium. 1/ These deficits were financed by increased recourse to domestic nonbank borrowing, resulting in rising ratios of domestic public debt to GNP and, until quite recently, to rising interest rates on such debt. While this policy choice served to mitigate the inflationary consequences in the eighties, the legacy of debt and debt servicing that it left will constrain the options for fiscal deficit reduction in the future. Total interest payments now amount to some 26 percent of public sector expenditures.

We estimated an illustrative "sustainable" fiscal deficit for three alternative growth-cum-inflation scenarios: a continuation of the trends of the eighties is termed the "baseline" scenario; a second set of projections incorporating high growth, low inflation, and continued availability of cheap external financing is termed Scenario A; by contrast, a combination of low growth, high inflation, and external financing at high market rates is dubbed Scenario B. 2/ The "sustainable" deficit estimate may be seen as lying in the range of estimates. The scenarios discussed below are based on our estimate of the stock of net (interest-bearing and non-interest-bearing) public sector debt at the end of fiscal 1990/91, as well as on the assumption that all such debt was willingly held. Uncertainty surrounds not just the netting out procedure used to calculate 1990/91 net debt, but also the degree to which the debt can be considered to be "willingly held" by creditors. Complications arise in the latter regard because some of the domestic debt was held by domestic banks which were subject to regulation, and because much of the external debt consisted of bilateral lending. 3/

1/ See Haque and Montiel (1991).

2/ As noted earlier, all the projections presented in the paper are illustrative based on various assumptions, and are in no way intended to forecast the future behavior of either the economy or economic policy.

3/ See Haque and Montiel (1991) for an extensive discussion of the issue of the effect of "willingly held" debt on the sustainability calculation.

As discussed above, over the seventies and eighties the government was able to borrow domestically at interest rates that were generally lower than those available internationally. Since a substantial degree of capital account convertibility was introduced by the 1991 legislation, the existing stock of domestic debt was adjusted so that this level of domestic debt would be willingly held at the sum of the interest rate prevailing in international markets and the expected rate of depreciation of the rupee.

The results of our illustrative calculations show that, given earlier qualifications, an average fiscal deficit of some 4 percent of GNP in the coming years could be consistent with lower macroeconomic imbalances. To attain this level of the overall fiscal deficit, the primary deficit, calculated as the difference between non-interest expenditures and total revenue, would have to be in surplus by about 1 percent of GNP, since interest expenditures amount to about 5 percent of GNP. Scenario B, since it assumes a lower growth rate, associates a higher rate of inflation with a similar level of the equilibrium deficit. Only in the case of the high-growth scenario A is a higher deficit feasible at a low rate of inflation without generating any macroeconomic imbalances.

V. Fiscal Deficit Reduction Strategies

1. Description of the model

The preceding section has served to show the importance of fiscal discipline in Pakistan in the coming years. We now turn to the study of alternative fiscal deficit reduction strategies. In order to reduce the deficit the government has only two alternatives, either to cut expenditures or to increase taxation. Of course within expenditures the government can make the choice of reducing its consumption or investment. In this section we examine the effects of three alternatives--a reduction in government investment expenditures, a reduction in government consumption expenditures, or an increase in tax revenues--using simulations with an econometric model developed for the purpose. For the convenience of the reader the estimated equations as well as the identities are presented in Appendix A, and only a brief description of the model and its workings is presented below. ^{1/}

This model is well suited for attempting to understand the relationship between fiscal policy and macroeconomic performance since: (a) the estimates are based on data for Pakistan for the last twenty years; and (b) the model identifies several direct channels through which fiscal policy may have affected macroeconomic outcomes in Pakistan. For example, we see that the data lend some support to the Ricardian equivalence hypothesis, and that there is some direct crowding-out of private consumption by public consumption. Taxation serves to reduce household wealth and disposable income; hence it negatively affects household consumption and saving.

^{1/} For a fuller understanding of the model, see Haque and Montiel (1991).

We also see that the accumulation of government capital via government investment is both directly and indirectly productive; not only does it serve to increase economic growth as a direct input in the production function, but also such capital has a complementary relationship with private investment and helps to increase the private capital stock. 1/

Let us examine how the model works. Basically, public sector consumption, investment, and tax revenues are taken to be policy determined fiscal variables. 2/ Monetary policy variables consist of the supply of base money, borrowing by the public sector from the commercial banks, lending by the central bank to the commercial banks, and the required reserve ratio. In addition, we shall treat public sector external borrowing as an exogenous variable. As can be seen from the public sector budget constraint, this implies that domestic nonbank borrowing becomes the residual mode of financing for the public sector. This would seem to be the appropriate assumption to make for Pakistan during the decade of the eighties.

The model is solved as follows: at the beginning of each period, real output is a predetermined variable given as a function of the inherited private and public capital stocks. Beginning-of-period asset stocks are also predetermined, since they are given by last period's government financing decisions and private sector portfolio allocations. The domestic-currency value of the private sector's stock of foreign assets, however, is also affected by this period's official exchange rate. For these assets to be willingly held the price level (which affects the demand for currency), the interest rate on public sector securities, and the interest rate on deposits, all adjust endogenously to their equilibrium levels. 3/ The interest rate on public sector securities in turn determines the rental rate on capital. 4/ This, together with public consumption and investment decisions and other contemporaneous exogenous determinants of private disposable income, determine private consumption, investment and saving, as well as the fiscal deficit and the merchandise trade balance. Public sector financing decisions will then determine this period's increments to the domestic components of the private sector's asset portfolio that are to be carried over to the next period. The total size of the portfolio depends

1/ The nature of these relationships suggests one set of reasons why fiscal deficits may not have greatly inhibited Pakistan's growth performance--public dissaving in the form of consumption may have been partly offset by private saving, thereby limiting the claims of the former on resources for investment. Simultaneously, public investment has itself been directly productive and may have tended to stimulate private investment.

2/ This assumes, implicitly, that tax rates are adjusted to offset deviations in the tax base from baseline values.

3/ For the simulation exercises interest rates are treated as endogenous variables and the nominal exchange rate as a policy instrument.

4/ The expected rate of inflation is treated as an exogenous variable in these simulations.

on private saving, and on the amount of lending that banks are able to make available to the private sector after satisfying the public sector's financing needs. Any discrepancy between the increase in the private sector's portfolio and the total new liabilities issued by the public sector and the banks is accumulated by the private sector in the form of net foreign assets. With the stocks of private and public capital determined from this period's net investment by the respective sectors, next period's output becomes determined and the model is ready to be solved again.

2. Fiscal shocks

As noted above, we use the model to study three alternative fiscal deficit reduction scenarios. Specifically, we study a situation in which, in each of the five years of the simulation, the government reduces either investment or consumption, or increases taxation, such that in each year the nominal fiscal deficit is reduced by 10 percent of its level in the preceding year. The simulations are performed on hypothetical data for the years 1991 to 1998. No attempt is made to forecast the economy over the coming years, given the inherent difficulties associated with such an exercise. ^{1/} Instead, the baseline is established on the expectation that the economy will continue on current trends. Our simulations are, therefore, only indicative of the qualitative direction in which the economy is expected to move as a result of the fiscal policy changes. For each of the scenarios, we shall be concerned primarily with the growth, inflation and balance of payments outcomes, since these are the variables that planners and policymakers are most likely to be concerned with. The results of the simulations are presented in Table 2, and are discussed below.

a. A reduction in government consumption

As Table 2 shows, this shock is the least inflationary and entails the least decline in the growth rate, but it does not achieve the improvement in the external current account that the other shocks do. We find some evidence of Ricardian behavior in this shock. Government consumption shrinks each year, in keeping with the deficit reduction program. As a result, domestic aggregate demand is reduced. This reduction is, in part, offset by the increase in private consumption. Consequently, although the external current account improves, the offsetting private sector behavior mitigates the improvement somewhat.

Reduced domestic demand serves to reduce the domestic price level and the rate of inflation. Given the lower government borrowing needs, domestic interest rates fall, allowing for the crowding-in of domestic investment, which serves to increase output marginally over time.

^{1/} See Lucas (1976).

Table 2. Deficit Reduction Strategies--Simulation Results 1/

	Growth	Inflation	Ratio of Current Account to GNP
	(Annual Averages of Deviations from Baseline)		
Adjustment in government consumption:			
Short Run say 1992 to 1994	0.3	-1.3	-0.5
Long Run say 1995 to 1998	0.4	2.7	0.2
Adjustment in government investment:			
Short Run say 1992 to 1994	-0.3	4.2	1.0
Long Run say 1995 to 1998	-0.5	1.5	0.6
Adjustment in taxation:			
Short Run say 1992 to 1994	0.1	2.1	0.4
Long Run say 1995 to 1998	0.0	2.1	0.5

1/ 10% per annum reduction in the nominal deficit with the indicated variable adjusting to bring about the deficit reduction.

b. A reduction in government investment

Although it was the preferred course for fiscal deficit reduction in Pakistan through much of the seventies, the alternative of reducing government investment has the least beneficial growth and inflation effects. However, by choking off the domestic economy it does impact favorably on the external balance. Reducing the deficit by 10 percent of its previous level in each year would have required larger and larger reductions in public investment relative to the baseline. This would have implied progressively larger reductions in the rate of growth of real output, both because of the lower public capital stock and because of the induced decrease in the private capital stock, since the smaller public capital stock would have depressed private investment. Crowding-in through lower interest rates does not materialize in this case because the lower public capital stock represents a negative supply shock which raises prices and thus actually increases the domestic interest rate. Reduced output and higher prices both depress private consumption. However, the reductions in both public and private investment, together with that in private consumption, do succeed in improving the trade balance in spite of the lower level of output.

c. An increase in taxation

The results are quite different when the fiscal deficit reduction is brought about by an increase in tax revenue. In this case, since government borrowing is reduced, domestic interest rates fall, and this stimulates increased private investment. Because of the increase in the private capital stock, real GDP is somewhat higher. But higher taxes imply lower private consumption. Interestingly, prices are simulated to rise in this scenario. The reason is that higher taxes reduce private disposable income, causing private saving to fall. Private wealth is therefore smaller, but since money financing of the fiscal deficit is exogenous the stock of currency increases markedly as a share of private portfolios. For this much currency to be absorbed willingly into private portfolios requires an increase in the price level. This, in turn, reinforces the effect of the tax increase in reducing private disposable income and consumption. The decrease in private consumption again leads to an improvement in the trade balance. However, as domestic prices continue to rise the interest rate reduction is eventually reversed, causing private investment to fall. While this magnifies the trade balance improvement, it cuts off the positive deviation in real GDP from its baseline value.

It appears, therefore, that reducing the fiscal deficit by cutting public investment could have 'favorable' trade balance effects, but at a cost to economic growth, and with little payoff in terms of price level objectives. The alternative favored by many observers--an increase in tax revenues--could achieve an external adjustment of similar magnitude while reducing the output cost. A preferred course may, therefore, be the containment of government consumption.

VI. Summary and Conclusions

Like many other developing countries, Pakistan adopted a policy in the seventies that resulted in enlarging the role of the public sector. This expansion of the public sector, combined with the difficulties that the government faced with regard to cutting defense expenditures and consumer subsidies in the eighties, sustained a high level of public expenditure over the past two decades. Revenues, on the other hand, did not expand as a proportion of GDP because of various administrative and political difficulties, resulting in fiscal deficit levels during this period that were high in relation to the size of the economy. During much of the period, the ready availability of external finance at concessionary rates, as well as the ability to tap a relatively elastic supply of domestic nonbank finance at controlled yields, mitigated the adverse effects of these high fiscal deficits.

Increased recourse to domestic nonbank borrowing during the eighties resulted in rising ratios of domestic public debt to GNP and to rising interest rates on such debt. Simulation experiments with an econometric model suggest that although the use of this source of finance may have mitigated the inflationary consequences of the deficits, this was done at the expense of some crowding-out of private investment, implying slower growth than would otherwise have been observed. Controlling the fiscal deficit over this period would have contributed to more favorable macroeconomic outcomes--at least with respect to growth and the external accounts--but not if the fiscal deficit reduction had been brought about through reducing public investment.

As a result of these developments, continued high priority may need to be given to fiscal adjustment both because of the high level of debt outstanding and because future supplies of additional external financing at concessional rates may not be easily forthcoming. Not only are the sources of external financing at concessional rates dependent on geopolitical factors, but the accumulation of domestic debt and increased costs of borrowing at home both require the generation of lower primary deficits. We have seen that debt servicing costs alone could increase the fiscal deficit if the additional debt required to finance the future deficits were contracted at market rates.

The fiscal deficit may also remain an important policy issue, given the recent increase in the openness of the economy. If the government finds that its ability to borrow or to reduce spending is limited, it is left with only two options: either to monetize the deficit and collect a higher inflation tax or to increase revenues by other means of taxation. However, the potential for collecting the inflation tax may now be reduced by the possibilities for currency substitution that have been created by the removal of restrictions on capital flows from Pakistan as well as on foreign currency holdings by domestic residents. The perception that the cost of servicing the stock of government debt represents a severe drain on government resources, together with perceived structural rigidities in government expenditure, could lead economic agents to the expectation that the

government would increase money financing. In anticipation of such taxation currency substitution could increase, thus shrinking the inflation tax base. As a result, in the absence of a successful attempt at fiscal deficit reduction, inflation might tend to accelerate to higher levels than those observed in the past.

The question of alternative modes of fiscal deficit reduction is, therefore, likely to be an important issue for policy in the nineties. Simulation experiments suggest, not surprisingly, that of the three alternative policies for deficit reduction--reducing government current expenditures, reducing government investment expenditures, and increasing taxation--the least desirable in terms of growth and inflation objectives is the reduction of government investment. The most favorable growth and inflation outcomes result from a policy of reducing government current consumption. In reality, however, a combination of current expenditure control and revenue increases may be the most desirable policy choice to achieve a lasting fiscal adjustment for the nineties.

Appendix A. The Equations of the Haque-Montiel Model

(1) Permanent income

$$y_t^p = -2730.86 + 1.07 y_{t-1}^d - 0.26[MA(1)]$$

(2) Consumption function (cointegrating form)

$$c_t^p = -0.45 + 1.35 y_t^p - 0.56 c_t^g - 1.11 \pi_t$$

(3) Consumption function (error correction form)

$$\Delta c_t^p = 0.23 + 0.19 \Delta y_t^p + 0.58 \Delta y_t^d - 0.41 \Delta c_t^g - 0.22 ec_{t-1}$$

(4) Investment function (cointegrating form)

$$K/Y^p = -0.07 - 1.26 r^K + 2.09 K/Y^G - 0.09 DUM$$

(9) Demand for currency

$$\log \left(\frac{C}{W} \right) = -.079 i^D + .996 \frac{Y}{W} + .97 \left[MA(1) \right]$$

(10) Demand for government debt

$$\log \frac{B}{W} = .058 i^D - .002 i^* + .932 \log \left[\frac{B}{W} \right] - .464 (MA(1))^{-1}$$

(11) Currency substitution

$$\log \left(\frac{D}{SF^P} \right) = .271 i^d - .008 \hat{s} + 1.505 DUM + 1.635 (MA(1))$$

$$i^* = i^F + \hat{s}$$

(12) Public sector budget constraint

$$\Delta H + \Delta B + S \Delta F_G + (\Delta L_G^{CB} - \Delta L_{CB}^G) = DEF$$

(13) Public sector deficit

$$DEF = (C^G + I^G - T)P + i^B B_{-1} + i^F SF_{-1}^G + i^{CB} (L_G^{CB} - L_{CB}^G)$$

(14) Public sector capital accumulation

$$K^G = I^G + (1 - \delta^G) K_{-1}^G$$

(15) High-powered money

$$H = C + rrD$$

(16) Commercial banks' balance sheet

$$L_P^{CB} = (1 - rr)D - L_G^{CB} - B^{CB} + L_{CB}^G$$

(17) Deposit interest rate

$$i^D = (1/(1 - rr))i^{CB}$$

(18) Household disposable income

$$Y^D = Y + Z - T + (i_{B_{-1}}^{B^P} + i_{SF_{-1}}^{*P} + i_{D_{-1}}^D - i^{CB} L_P^{CB})/P$$

(19) Household budget constraint

$$\Delta W = (Y^D - C^P - I^P)P + (S - S_{-1})F_{-1}^P$$

(20) Private investment

$$I^P = (K^P/Y)Y - (1 - \delta^P)K_{-1}^P$$

(21) Rental cost of capital

$$r^K = (i^B - \pi + \delta^P)P^K/P$$

(22) Relative price of capital

$$P^K/P = \alpha_0$$

(23) Equilibrium condition for public-sector securities

$$B = B^P + B^{CB}$$

(24) Trade balance

$$TB = Y - C^P - C^G - I^P - I^G$$

Definition of Variables

- c^P = log of real per-capita private consumption,
- y^P = log of real per-capita permanent income obtained,
- c^G = log of real per-capita government consumption,
- A = financial assets,
- C = domestic Currency,
- D = domestic deposits
- B^P = government Bonds,
- F^P = foreign currency assets.
- W = household financial wealth
- L_p^{cb} = lending to the private sector by the banking system,
- K^G = government capital stock,
- K^P = private capital stock,
- F_G = foreign debt of the public sector
- CB
- L_G = commercial bank lending to the public sector
- G
- L_{CB} = central bank lending to commercial banks
- H = high-powered money
- B = total public sector securities outstanding
- DEF = public sector deficit
- I^G = public investment
- T = taxes

i^B = interest rate on public sector securities

i^F = interest rate on foreign debt

i^{CB} = commercial bank lending rate

rr = reserve ratio

Y^D = household disposable income

Z = foreign remittances

δ^P = rate of depreciation on private capital stock

δ^G = rate of depreciation on public capital stock

p^K = price of capital goods

TB = trade balance

r^K = rental Cost of Capital

i^D = interest rate on deposits

s = Nominal exchange rate

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