

Balance-of-Payments Adjustment in India, 1970-71 to 1983-84

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1. INTRODUCTION

In common with other oil-importing developing countries, India experienced a severe external shock in 1973 when oil prices quadrupled and again after 1979, when oil prices more than doubled. India was able to adjust to both shocks somewhat more easily than other oil-importing developing countries, but there were important differences between the adjustments in the two cases. The adjustment to the first oil shock was remarkably easy, so much so that the current deficit, which peaked in 1974-75, turned to a substantial surplus within two years. The second external shock was more severe, and although a substantial degree of adjustment has taken place since then, especially in comparison with the severe difficulties faced by many developing countries, the adjustment is not yet complete (1984). The current account deficit has been reduced as a percentage of GDP, but with present prospects for the availability of external finance, it will be necessary to reduce the current deficit further in the rest of the decade. This will not be easy to achieve.

This paper examines India's adjustment experience after each of the two oil shocks with a view to identifying the factors at work in each case. It also examines the balance-of-payments prospects in the period up to 1989-90. Section 2 provides an overview of India's balance-of-payments experience in the context of developments in the domestic economy and the evolution of policy. Section 3 presents a quantitative analysis of the factors underlying the observed changes in the current account deficit which followed the first shock and the second, using the decomposition technique outlined in the terms of reference by Edmar Bacha in this issue. Section 4 presents the results obtained from using the simulation model in the said "terms of reference" to explore the prospects for the Indian economy in the rest of the decade.

2. THE BALANCE OF PAYMENTS FROM 1970-71 TO 1983-84

India's balance of payments in the period 1970-71 to 1983-84 is presented in detail in Table 1. A summary view is presented in Table 2, which shows movements in the current account deficit in value terms and also as a proportion of both GDP and exports of goods and services. The two phases of external imbalance are clearly identifiable in Table 2, the first beginning in 1974-75 immediately after the first oil shock, and the second in 1980-81 following the second oil shock in 1979.

(a) *The first oil shock*

The first oil shock hit the economy at a time when economic performance had been weak for some years. A succession of indifferent harvests, first in 1971-72 and again in 1972-73 had depressed agricultural production and GDP growth (Table 3) and also generated inflationary pressure well before the rise in oil prices. The rate of inflation in wholesale prices rose to 10% in 1972-73 and reached 20% in 1973-74 (Table 3), with much of the price increase in 1973-74 occurring before the impact of higher oil prices.

The fourfold increase in international crude oil prices between September 1973 and April 1974 raised the petroleum import bill (crude and products) from Rs.203 crores in 1972-73 to Rs.1,157 crores in 1974-75, an increase of Rs.954 crores in two years. The current account deficit deteriorated by almost the same amount in those years from a surplus of Rs.28 crores in 1972-73 to a deficit of Rs.1,129 crores in 1974-75. Since oil prices were not the only import prices that increased it is more appropriate to assess the effect of the higher oil prices on the current account deficit by considering what would have happened had the unit value of all other imports increased by the same proportion as the unit value of oil imports. This calculation confirms that the price increase was indeed the dominant factor in the current account deterioration. Had unit values of oil imports increased between 1972-73 and 1974-75 by the same proportion as unit values of other imports, the current deficit in 1974-75 would

have been only Rs.111 crores, or less than 0.2% of GDP, whereas in fact it amounted to 1.4% of GDP.

Table 1. Balance of payments* (Rs. crores)

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
I. Current Account														
Exports of goods and n.f.s	1771	1838	2225	2829	3834	4813	6140	6635	7118	8381	9029	10003	10450	11200
Imports of goods and n.f.s	1816	2006	2049	3175	4778	5665	5615	6521	7429	10094	13604	14566	14817	15900
Resource Balance	-45	-168	176	-346	-944	-852	525	114	-311	-1713	-4575	-4563	-4367	-4700
Factor income (net)	-284	-291	-302	-325	-291	-255	-233	-233	-156	153	298	-7	-140	-300
Private transfer (net)	123	163	154	192	274	528	739	1022	1042	1624	2257	2221	2375	3000
current balance	-206	-296	28	-479	-961	-579	1031	903	575	64	-2020	-2349	-2132	-2000
II. Capital account														
External assistance														
(net)	492	461	342	572	834	1220	1090	761	631	799	870	1004	1405	1620
(gross)	(723)	(711)	(629)	(869)	(1104)	(1540)	(1452)	(1243)	(1115)	(1334)	(1556)	(1658)	(2067)	
(Repayment)	(231)	(250)	(287)	(298)	(270)	(320)	(362)	(481)	(464)	(535)	(686)	(654)	(662)	
IMF (net)	-154	-	-	62	485	207	-303	-289	-207	-84	808	602	1893	1330
Allocation of SDRs	75	75	-	-	--	-	-	-	126	126	121	-	-	-
Other Capital(net)	-39	104	-48	48	-364	-473	-371	-362	-8	96	-62	-227	-304	250
Errors and omissions	-257	-245	-355	-119	13	455	-51	542	-137	-632	-233	-648	-237	-
Change in reserves (-increase)	89	-99	33	-84	-7	-810	-1396	-1555	-1000	-369	516	1618	-625	-1200

* The balance-of-payments data presented in the table differ from the data as presented by the Reserve Bank of India because the latter are based on payment data whereas for our exercise we need data corresponding to trade flows. Trade data are obviously more appropriate for integration in the expenditure flows of the national accounts and in any case import breakdowns are only available from trade data. Accordingly we have used trade data for merchandise exports and imports and combined them with payments data on service payments and remittances. The current account deficit in the table is therefore not the same as in the published data of the Reserve Bank of India. The difference shows up as part of the errors and omissions. Data for 1982-83 and 1983-84 were not fully available at the time of completing this study in July 1984 and they are essentially author's estimates based on preliminary information.

Table 2. Movements in the current account deficit (- indicates a surplus)

Year	Rs. crores	As % GDP	As % exports of goods and non-factor services
1970-71	206	0.51	11.63
1971-72	296	0.68	16.50
1972-73	-28	-0.06	- 1.26
1973-74	479	0.81	16.93
1974-75	961	13.8	25.07
1975-76	579	0.78	12.03
1976-77	-1,031	- 1.29	- 16.79
1977-78	-903	- 1.01	- 13.61
1978-79	-575	-0.59	- 8.08
1979-80	-64	-0.06	- 0.76
1980-81	2,020	1.58	22.37
1981-82	2,349	1.58	23.48
1982-83	2,132	1.30	20.40
1983-84	2,000	1.04	17.86

Table 3. Selected indicators of economic performance (annual growth rates)

	GDP in constant prices	Index of agricultural production	Index of industrial production	Wholesale price index	Consumer price index	GDP deflator
1970-71	5.6	7.4	n.a.	5.5	5.1	3.2
1971-72	1.6	-0.3	5.7	5.6	3.2	5.2
1972-73	-1.1	-8.1	4.0	10.0	7.8	11.2
1973-74	4.7	10.0	0.8	20.2	20.8	18.9
1974-75	0.9	-3.2	3.2	25.2	26.8	17.9
1975-76	9.4	14.9	7.2	-1.1	-1.3	-3.0
1976-77	0.8	-7.0	9.6	2.1	-3.8	6.7
1977-78	8.8	14.3	3.3	5.2	7.6	3.4
1978-79	5.8	3.8	7.6	No ch.	2.2	2.2
1979-80	-5.3	-15.2	-1.4	17.1	8.8	15.8
1980-81	7.8	15.7	4.0	18.2	11.4	11.4
1981-82	5.3	5.6	8.6	9.3	12.5	10.2
1982-83	1.8	-4.0	3.9	2.6	7.8	7.8
1983-84	7.5	13.0	5.5	9.3	12.6	n.a.

The current account deficit of 1.4% of GDP in 1974-75 represented a considerable deterioration from the average level of 0.4% in the preceding three years. The deficit appears small as a percentage of GDP compared with figures for other countries, but this impression is due to the fact that trade flows are small relative to GDP in India, as is the case in most other large economies. The financing problem posed by the larger deficit is better seen when expressed as a percentage of total exports of goods and services. This shows an increase from an average of 8% in 1970-71 to 1972-73 to just over 25% in 1974-75 (Table 2).

As it happened, the economy was able to adjust to the external shock in a remarkably short time. From the peak level of Rs.961 crores in 1974-75, the deficit declined to Rs.579 crores in 1975-76 and was converted into a surplus in 1976-77 amounting to 1.3% of GDP. Thereafter, the current account remained in surplus (though declining as a percentage of GDP) until 1979-80, when the economy experienced the second oil shock. As shown in Table 4, the level of foreign exchange reserves rose in 1975-76, and the pace of reserve accumulation accelerated in the next two years.

This turnaround in the external payments situation was the result of a combination of three very favorable developments which were partly a reflection of favorable external circumstances and partly a reflection of domestic policy. To begin with, there was relatively easy availability of external financing to meet the larger deficit arising from the terms-of-trade deterioration. The availability of finance would normally be expected to reduce the compulsion for adjustment, but in fact there was an impressive adjustment in the trade account resulting from a rapid expansion of exports combined with a slowing down of import growth. There was also a steady and largely unexpected increase in private transfers. Each of these factors, and its contribution to the adjustment process, is discussed below.

(i) External financing

The immediate financing problem posed by the larger current account deficit in 1974-75 was easily met by reliance upon official financing flows, both short term and long term. India drew Rs.293 crores (SDR 311 million) from its gold tranche and first credit tranche in the IMF early in 1974-75 and subsequently drew Rs.194 crores (SDR 200 million) under the 1974 Oil Facility. Thus almost half the current deficit in 1974-75 could be financed from unconditional or low conditionality facilities from the IMF. An additional amount of Rs.207 crores (SDR 201 million) was made available in 1975-76 from the 1975 Oil Facility.

Along with short-term official financing, the flow of external assistance (including loans from multilateral institutions) increased significantly. There was a substantial increase in total aid commitments after 1973-74 (Table 10), including special assistance in the form of concessional loans from some OPEC countries. There was also a shift towards quick disbursing non-project assistance, such as program loans and debt relief, which led to a considerable acceleration in utilization of external assistance flows. As a result of these developments, gross external assistance flows from bilateral donors and multilateral institutions increased from Rs 342 crores (0.7% of GDP) in 1972-73 to Rs.834 crores (1.2% of GDP) in 1974-75 and further to Rs. 1,220 crores (1.6% of GDP) in 1975-76 (Table 1).

(ii) Reduction of the trade deficit

In spite of the comfortable financing position, there was a truly remarkable adjustment in the trade account the trade deficit, which had peaked in 1974-75 turned into a surplus within two years. This surprisingly quick turnaround occurred because of a combination of rapid export growth and a slowdown in imports, both of which had much to do with domestic policy.

Export growth played an extremely important role in the trade account adjustment. In fact, export performance had improved even before the oil shock from 1972-73 onwards, and this helped to cushion the impact of the oil shock. Exports had grown at an average rate of 25% in 1972-73 and 1973-74 (Table 5). Most of the growth in these two years was attributable to rising unit values, whereas export volumes grew by less than 7% per year; part of the growth reflected aid-financed exports to Bangladesh. In 1974-75 there was an increase of 36% in export values, again mainly

due to rising unit values, but with slightly better volume growth of 8%. The rapid growth in export earnings in this period clearly helped to moderate the impact of the oil shock when it came, for the growth acted as a form of advance adjustment. However, to the extent that the export growth was accounted for mainly by higher prices, it had less to do with conscious policy than with favorable world market conditions.¹

Table 4. India's foreign exchange reserves (Rs. crores)

End of period	Foreign currency assets	Gold	SDRs	Total* reserves	Reserves in terms of months of imports of goods and n.f.s.
	1	2	3	(1+2+3)	
1970-71	438	183	112	733	4.8
1971-72	480	183	186	849	5.1
1972-73	479	183	185	847	S.O
1973-74	581	183	184	948	3.6
1974-75	611	183	176	970	2.4
1975-76	1,492	183	211	1,886	4.0
1976-77	2,863	188	191	3,242	6.9
1977-78	4,500	193	169	4,862	9.0
1978-79	5,220	220	383	5,823	9.4
1979-80	5,164	225	542	5,931	7.1
1980-81	4,822	226	494	5,542	4.9
1981-82	3,355	226	442	4,023	3.3
1982-83	4,265	226	290	4,781	3.9
1983-84	5,498	226	247	5,971	4.5

* Changes in reserves based on these figures differ from reserve changes shown in Table 1 since the latter include reserve valuation changes.

Exports continued to rise rapidly after 1974-75, and the growth in this period was due much more to rising export volumes. In 1975-76 and 1976-77 export earnings grew at an average annual rate of 26%, with volume growing at about 18%. There was a slight decline in volume terms in 1977-78, but exports picked up again in the next two years (Table 5). Between 1973-74, and 1978-79, export growth averaged about 20% per year in value terms and over 9% per year in volume terms. Indian exports in this period expanded considerably faster than world trade, which grew by only a little over 4% per year in volume terms. While exports grew rapidly, imports moderated immediately after the oil shock. The import bill increased by 50% in 1974 when the full impact of the oil shock was felt, but in volume terms imports actually declined in 1974-75 and remained stagnant at about the depressed level of 1974-75 for the next two years. During this period the trade deficit actually turned into a trade surplus. Imports picked up again in both volume and value terms after 1977-78, and the trade account turned into a modest deficit by 1978-79, but even so the deficit was only 0.3% of GDP, a considerable reduction from the peak level of 1.3% of GDP in 1974-75.

Domestic economic policy had an important role to play in the trade account adjustment, and two aspects of policy were particularly important. Macro-economic policy shifted to a restrictive stance early in 1974-75, and this affected both exports and imports. A second factor was that exchange rate movements were highly favorable to exports from 1972 onwards.

Table 5. Export performance (Rs. crores)

	Indian exports of goods and services		World exports*		India's share in world exports (%)	
	Current prices	Constant prices	Current prices (x10 ³)	Constant prices (x10 ³)	Current prices	Constant prices
1970-71	1,771	1,771	215.1	215.1	0.82	0.82
1971-72	1,794	1,805	239.4	223.0	0.75	0.79
1972-73	2,225	1,966	287.6	249.1	0.78	0.79
1973-74	2,829	2,055	417.7	282.5	0.68	0.73
1974-75	3,834	2,222	628.3	301.2	0.61	0.74
1975-76	4,813	2,590	705.9	284.3	0.68	0.91
1976-77	6,140	3,099	828.3	316.5	0.74	0.98
1977-78	6,635	2,981	899.9	332.2	0.74	0.90
1978-79	7,118	3,224	992.8	346.1	0.72	0.93
1979-80	8,381	3,765	1,240.5	372.8	0.74	1.01
1980-81	9,029	3,753	1,483.8	382.8	0.61	0.98
1981-82	10,003	3,816	1,654.4	379.8	0.60	1.00
1982-83	10,450	4,115	1,646.2	364.4	0.63	1.13
1983-84	11,200	3,853	1,716.4	375.4	0.65	1.03

*Source: *International Financial Statistics* published by the IMF. The constant price series in rupees has been calculated by converting the current price series into rupees and deflating by a unit value index in rupees obtained from the dollar unit value index by adjusting for changes in the rupee/dollar rate.

The shift to restrictive macro-economic policy occurred not because of the compulsions of external adjustment but principally because of the need to counteract domestic inflationary pressure, which had built up after 1972-73, with the rate of inflation reaching 20% in 1973-74. Inflationary pressures were further intensified early in 1974-75, when the rabi (winter) crop of 1973-74, which came into the market in the first quarter of 1974-75, proved to be disappointing. The budgetary balance was also threatened because project costs were being revised upward in consequence of the inflation of the previous year, and cost-of-living adjustments of government and public sector wages were considerably higher than expected.

The government took a series of measures in the second quarter of 1974-75 to reduce private disposable income. The measures included the freezing of all wage increases and half of additional cost-of-living increases in the public sector, limitations on dividend distributions by companies, and a new scheme of compulsory (frozen) deposits on the basis of a graduated "slab" for all income tax payers. Excise duties were increased, a tax was imposed on interest income of commercial banks and was to be passed on in the form of higher lending rates, and railway freight rates were raised. These post-budget measures reduced disposable income by about 1% of GDP in 1974-75. Deficit financing by the Central and State governments combined was reduced below the previous year's level, and money supply (M3), which had expanded about 18% in each of the previous two years, grew by only about 11% in 1974-75 (Table 8).

Aggregate demand restraint combined with increased imports succeeded in dampening inflation, and prices, which had been rising steadily for over two years, fell in September and continued to decline in the rest of the year (although the average level of prices in 1974-75 was nevertheless 25% above the level in 1973-74 because of rapid inflation up to September 1974). Fiscal policy remained cautious in 1975-76, and in terms of deficit financing by the Centre and States combined there was a shift from a modest deficit to a surplus in 1975-76. The growth of high-powered money was reduced to 2.7%. However, overall monetary policy was not restrictive and M3 increased by 15% which was not excessive since GDP increased by 9.4% in real terms (Table 3). The average level of prices declined in 1975-76, reflecting the impact of cautious fiscal policy combined with continued food imports and a good harvest which promised increased supplies in the second half of the year. The policy of demand restraint undoubtedly provided a short-run stimulus to exports by reducing the pressure of demand in the domestic market and thus increasing export availability and also enhancing the relative incentive to export as domestic sales and profitability declined. A stimulus of this type based on the short-run consideration of exporting to cover variable cost when domestic demand weakens, is not of course the same thing as longer-term dynamism in the export sector, which depends upon sustainable cost competitiveness. However, it certainly helps to reduce the balance-of-payments deficit and in the longer run it also helps to expose industry to foreign market opportunities. Both these features were evident in the export performance after 1974-75.

The restrictive stance of fiscal policy also helped to reduce imports (other than food imports) in volume terms, though import values increased sharply. Lower import volumes resulted from the depressive effect of fiscal restraint upon public investment, which has a higher import content than private investment because of its sectoral composition. Public fixed capital formation in nominal terms increased by 6.6% in 1974-75 and by 31% in 1975-76 (Table 7). However, in real terms there was a decline of 14.5% in 1974-75 followed by a recovery in 1975-76 which did no more than restore public investment to the level of 1973-74. Private investment increased in real terms in 1974-75 but it did not offset the decline in public investment, so that total fixed capital formation in the economy in 1974-75 declined by about 3%. It increased by 9.6% in 1975-76, but this raised it only to 6.4% above the level of two years earlier, and even that rise was mainly accounted for by the private investment component. The slackening of investment, especially public investment, in these years was clearly one of the factors underlying the low level of capital goods imports after 1974-75 (Table 6).

Exchange rate movements in the mid-1970s were an important factor underlying the very favorable export performance in that period. In June 1972 the rupee was delinked from the dollar and pegged to the pound sterling, which proved to be a weak currency, depreciating substantially against most currencies in the subsequent two years. As the rupee depreciated with the pound, the index of the nominal exchange rate of the rupee against the currencies of India's major trading partners depreciated by about 11% from the average level in 1972 to the average in 1975 (Table 7). The index of the real effective exchange rate (which corrects for relative price movements) also depreciated by 8% in this period. In September 1975 the rupee was pegged to a basket of currencies of India's major trading partners. The shift to a multi-currency basket stabilized exchange rate movements to some extent, and the nominal effective exchange rate index depreciated by only 8% between 1975 and 1979. However, the real effective exchange rate depreciated by 17% because prices in India remained remarkably stable in this period, rising at an average rate of less than 2% per year in the four years after 1974-75. This price stability was achieved initially because of the success of the anti-inflationary policy in 1974-75 and 1975-76, and was maintained subsequently even when fiscal policy became expansionary, because of relatively good agricultural production in 1977-78 and 1978-79. In any event, the combination of a mild nominal depreciation combined with remarkable price stability provided a strong stimulus for exports.

Apart from exchange rate movements, there were other policy initiatives taken in this period to give additional incentives to exporters, especially through a series of steps providing preferred access to imports for exporters to enable them to meet their import needs. These schemes were undoubtedly important, but the change in the level of these incentives was quantitatively probably

much less important as a stimulus to exports than the movement in the real effective exchange rate.

In retrospect the trade account adjustment that took place after 1974-75 had many of the ingredients of a "classical" adjustment program. Fiscal policy emphasized demand restraint at an early stage creating conditions of price stability which were broadly conducive to external adjustment. Overall incentives to exports increased substantially as reflected in movements in the real effective exchange rates. There was a depressive effect upon investment in the first two years after which investment levels began to recover.

(iii) Private transfers

The third major element in the current account adjustment after 1974-75 was the growth in private transfers. These had been a modest element in the balance of payments earlier, but rose spectacularly after 1974-75 because of the foreign -currency remittances from Indian workers who had gone abroad, especially to the Gulf countries in the wake of the oil boom. As shown in Table 1, these transfers constituted the most dynamic item on the receipts side, growing at an average rate of over 40% per year in the five years after the first oil shock. In 1978-79 private transfers were three times as large as the trade deficit, turning the modest trade deficit into a substantial current account surplus.

The rapid growth of private transfers reinforced the trade account adjustment to make the current account situation that much more comfortable. The current account moved from a deficit of Rs.961 crores in 1974-75 to a surplus of Rs. 1,031 crores a mere two years later, and continued in substantial surplus for the next two years. The result of the unexpectedly rapid turnaround combined with the expanded financial inflows was a substantial build-up of foreign reserves. Some reserve build-up was desirable because total reserves at the end of 1974-75 were equivalent to just over two months' imports of goods and services, but the build-up that actually took place was clearly excessive in that foreign) reserves were equivalent to more than nine' months' imports by the end of 1978-79 (Table 4).

The rapid growth in private transfers was clearly unforeseen, and there was considerable uncertainty in the initial stages about the continuation of these flows. These flows really did not form part of the government's strategy for adjustment. They were simply superimposed on the strong trade account adjustment taking place and produced a build-up of excess reserves. In time, however, as these flows gained acceptance as an important element of foreign exchange receipts which was likely to continue, the question how to utilize these flows began to be asked. The Government's Economic Survey for 1977-78 presented to Parliament in February 1978. explicitly noted "the paradoxical situation of a poor country lending abroad — which is what the growth in foreign exchange reserves really amounts to" and in this context called for "an overall strategy of growth which will utilize the increasing foreign exchange reserves." The logical policy response to the problem of utilizing available foreign resources for development is some combination of raising investment and liberalizing access to imports. Both were tried, with different degrees of success.

A conscious effort at import liberalization was indeed made in a series of steps taken after 1976-77 but most clearly articulated in the import policy for 1978-79, which embodied main of the recommendations of the Alexander Committee. The new policy was not intended as a radical liberalization of imports in the sense of an abandonment or sharp curtailment of the system of import licensing. It was more in the nature of a major simplification of procedures and rational of licensing, combined with some reduction in the degree of import control, especially with respect to imported intermediate inputs into industry. A major change was the shift from a system with positive lists of permitted imports to a negative list system in which whatever is not specifically restricted or licensed is freely allowable. However, this change was accompanied by a fairly extensive list of imports subject to licence. Nevertheless the new framework of import policy was more liberal than in the past, and provided much greater flexibility to producers for obtaining access to imports.

Table 6. Imports at current prices and at constant prices* (Rs. crores)

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-78	1980-81	1981-82	1982-83	1983-84	
Imports at current prices															
1	Petroleum	136.0	194.1	204.0	560.3	1156.9	1226.1	1413.4	1551.8	1686.9	3332.9	5263.5	4939.5	4,440.7	3285.0
2	Capital good.	404.0	482.7	550.8	673.5	723.3	967.7	1079.4	1148.8	1306.1	1458.5	1910.3	2096.2	2368.3	2804.0
3	Others	1,276.0	1328.9	1294.2	1941.6	2898.2	3471.4	3122.4	3820.8	4436.0	5302.8	6430.2	7530.3	8008.0	9811.0
4	Total	1,816.0	2005.7	2049.0	3175.4	4778.4	5665.2	5615.2	6521.4	7429.0	10094.2	13604.0	14566.0	14817.0	15900.0
Imports at constant prices															
1	Petroleum	136.0	204.3	261.5	287.3	196.1	237.6	250.3	309.5	366.2	402.4	311.2	311.2	268.2	220.5
2	Capital goods	404.0	502.8	487.4	552.1	428.0	437.0	524.6	464.8	429.0	819.9	957.2	957.2	1025.0	1154.0
3	Others	1276.0	1451.7	1374.5	1454.7	1366.9	1380.3	1837.7	2086.5	2005.8	2877.1	2817.9	2817.9	2883.6	3364.5
4	Total	1816.0	2158.8	2123.4	2.3	1991.0	2015.0	2612.6	2860.8	2801.0	4099.4	4099.4	4086.3	4176.8	4739.0

* Comprises imports of goods and services. Service imports are included in other imports for computing imports at constant prices, unit values for this category have been assumed to be the same as the unit values for other imports of goods only.

Table 7. Nominal and real effective exchange rate index

Year	Nominal	Real
1970	120.5	108.9
1971	199.0	109.2
1972	112.3	108.5
1973	104.7	105.4
1974	102.4	107.9
1975	100.0	100.0
1976	97.3	89.4
1977	96.8	89.6
1978	93.3	82.5
1979	92.2	82.7
1980	94.3	89.2
1981	90.2	89.5
1982	88.3	86.6
1983	84.6	88.3

The indices are based on exchange rate movements *vis-a-vis* the US dollar, the pound sterling, deutsche mark and yen using export weights. The exchange rate is defined as foreign currencies per rupee, hence a downward movement in the index implies a depreciation.

The response in terms of accelerating the pace of investment activity fell short of what was feasible. Total fixed investment in the economy, which had increased by almost 13% in real terms in 1976-77 thus recovering substantially from the restrictive phase in 1974-75 and 1975-76, slowed to 9.8% growth in 1977-78 and then remained stagnant in 1978-79. The stagnation was common to both Government and private fixed investment.³ At a time when foreign reserves were mounting and good agricultural performance had created large stocks of foodgrains, the slow-down in investment was clearly a lost opportunity. In retrospect, it is clear that public investment activity could have been more expansionary in 1977-78 and 1978-79.

Perhaps the most remarkable feature of the adjustment after the first oil shock is that it was accomplished with an acceleration in economic growth, with GDP growth averaging about 5.1% in the period 1974-75 to 1978-79 compared with the earlier trend rate of about 3.5%. The main reason for this acceleration was the improvement in agricultural performance in this period, when agricultural production rose at a rate averaging 4.6% per year compared with the earlier trend rate of 2.5% (Table 3). Improved agricultural performance reflected the success of the strategy consistently followed since the late 1960s of expanding irrigation and the supply of biochemical inputs, including especially high-yielding wheat and rice varieties and fertilizers. This strategy had produced an acceleration in output growth in the late 1960s, followed by an apparent set-back in the early 1970s because of poor weather. There was a strong revival after the mid-1970s, when the weather was more normal and the expansion in agriculture in turn stimulated industrial production, especially as there was an element of excess capacity in industry in the mid-1970s.

Table 8. Rate of growth of money supply (%)

Year	Narrow money M1	Broad money M3	High money
1970-71	11.2	13.2	8.5
1971-72	12.9	15.2	11.6
1972-73	16.6	18.3	12.1
1973-74	15.5	17.4	20.6
1974-75	6.9	10.9	4.6
1975-76	11.3	15.0	2.7
1976-77	20.3	23.6	25.5
1977-78	*	18.4	11.7
1978-79	20.2	21.9	28.7
1979-80	15.7	17.7	17.7
1980-81	17.1	18.1	17.4
1981-82	6.5	12.5	7.9
1982-83	14.4	16.1	10.1
1983-84†	14.7	17.0	24.8

Reserve Bank of India data are on the basis of closure of Government accounts from 31 March 1971 onwards. Therefore, the growth rates given for 1970-71 have been worked out from the earlier series which was not adjusted for the closure of Government accounts.

* It is not possible to compare the growth rate of M1 in 1977-78 because of a change in definition which affects the distribution of savings deposit into demand and time components. The series incorporating the new definition is available from 1977-78 onwards and the old series up to 1976-77.

† Refers to growth rates computed from 31 March 1983 up to the last Friday of 1984.

Table 9. Gram domestic fund capital formation (Rs. crores)

	Public	At current prices Private	Total	Public	At 1970-71 prices Private	Total
1970-71	2,494	3,911	6,305	2,394	3,911	6,305
1971-72	2,802	4,272	7,074	2,648	4,038	6,686
1972-73	3,619	4,447	8,066	3,166	3,893	7,059
1973-74	4,009	5,020	9,029	3,134	3,926	7,060
1974-75	4,272	6,658	10,930	2,680	4,176	6,856
1975-76	5,600	7,648	13,248	3,176	4,338	7,514
1976-77	7,048	8,219	15,267	3,918	4,567	8,485
1977-78	7,697	9,449	17,146	4,181	5,134	9,315
1978-79	8,376	10,449	18,825	4,186	5,223	9,409
1979-80	9,974	10,928	20,902	4,312	4,726	9,038
1980-81	11,629	13,588	25,217	4,486	5,242	9,728
1981-82	14,489	15,227	29,716	4,895	5,145	10,040
1982-83	17,787	16,162	33,949	5,419	4,924	10,343
1983-84	—	—	—	5,961*	5,416*	11,377*

*Author's estimate.

To summarize, the economy adjusted to the first oil shock faster and more easily than might have been expected. This result was partly due to exogenous factors such as private transfers, but there was also a very strong trade account adjustment which was helped by the adoption of policies characteristic of traditional adjustment packages, including especially demand restraint in the early stages and unproved incentives to export. This strategy was effective in achieving external adjustment with growth because supply elasticities in the economy were favorable, with a substantial growth in agricultural production, and also because external demand conditions permitted rapid growth of exports in response to unproved incentives.

(b) The second oil shock

Oil prices more than doubled in the course of 1979, raising India's oil import bill from Rs.1,678 crores in 1978-79 to Rs.5,264 crores in 1980-81. The current account position in those years moved from a surplus of Rs.575 crores to a deficit of Rs.2,020 crores respectively (Table 1). As a percentage of GDP, the current account moved from a surplus of 0.6%, to a deficit of 1.6% a deterioration of 2.2% compared with a deterioration of 1.4% between 1972-73 and 1974-75. In this respect the magnitude of the second shock was greater than that of the first.

The adjustment to the second oil shock differed greatly from the adjustment to the first one. Whereas earlier the current account deficit was turned into a surplus within two years, it declined only gradually on the second occasion from the peak level of 1.6% of GDP in 1980-81 and 1981-82, to a little over 1% in 1983-84. Impressive as it is, the adjustment will have to be carried further. The high deficits after 1980-81 had to be covered by recourse to short- to medium-term financing and this has led to a build-up of debt service payments for the rest of the decade. Owing to severe constraints on long-term flows, the amount of net financing available from likely levels of gross borrowings in the future will be limited, and hence the current deficit will have to be reduced further in the years ahead.

(i) External financing

The external financing environment facing India after the second oil shock has been much less supportive than it was in the mid- 1970s. The immediate financing needs of the economy were adequately met by short- and medium-term finance from the IMF, but there has been a distinct (deterioration in the current and future availability of long-term concessional flows, the effects of which will be felt in the years ahead.

A large part of the current deficits in the period 1980-81 to 1983-84 was effectively covered by short- and medium-term resources from various IMF facilities. In 1980-81 India drew Rs.541 crores (SDR 530 million) from the Trust Fund and Rs.274 crores (SDR 266 million) from the Compensatory Financing Facility, both low conditionally facilities. In November 1981 India entered into an extended arrangement with the Fund in support of a medium-term adjustment program under which India could draw up to SDR 5 billion over a three-year period. An important feature of this adjustment program was that it was much more oriented to the requirements of structural adjustment, with particular emphasis upon achieving investment targets in critical sectors, especially energy. Actual drawings under this arrangement up to the end of 1983-84 amounted to SDR 3.7 billion.⁴ Thus in the four-year period 1980- 81 to 1983-84, India obtained a total of about Rs.4,700 crores from IMF sources, equivalent to about 55% of the cumulative deficit in those years.

While short- to medium-term finance was adequate, long-term concessional flows, which traditionally have been India's main source of external financing, did not respond as earlier. Gross external assistance flows as recorded in the balance of payments increased by 50% between 1978-79 and 1981-82 whereas they had increased by 120% between 1972-73 and 1975-76 (Table 1). Much of the increase after 1980-81 reflects growing disbursements in consequence of the earlier growth of assistance committed in the past. New aid commitments, which will determine disbursements in the years ahead, have been far more sluggish, increasing from about Rs.2,336 crores in 1978-79 to Rs. 2,903 crores in 1982-83, an increase of only 24% in four years (Table 10).

This limited increase in volume hides a considerable deterioration in average terms. The International Development Association (IDA), which was India's major source of concessional assistance, has run into difficulties. The term of the sixth replenishment of IDA (IDA VI), originally envisaged as three years, had to be stretched to four years ending in 1983-84. New commitments from IDA declined after 1981-82 and though they were offset by higher IBRD funding, the compositional shift represents a major deterioration in the average terms of the financial flows from the World Bank Group to India. Nor is this only a temporary phenomenon. As the funds for IDA VII have been settled at \$9 billion, and as India's share has been reduced in consequence of China's entry as an eligible borrower, the new commitments from IDA will be no more than \$700 million per year up to 1986-87. Although IBRD flows are expected to expand, the total commitments of IDA and ' IBRD will show only a modest increase and average terms will deteriorate further as the , IBRD share rises.⁵

Aid commitments from bilateral sources have been more or less stagnant in recent years and are expected to show only very modest growth in nominal terms in the years ahead.

These developments have forced India to resort to commercial borrowing, in order to supplement the finance available from traditional sources. In the past commercial borrowing was restricted to a few special areas, such as the purchase of ships and aircraft, and amounted to only a few hundred million dollars a year. From 1981-82 onwards commercial borrowings have been used to finance selected projects in the public sector, and the volume of new commitments has increased to an average of about \$1 billion a year.⁶

(ii) Current account adjustment

The slower current account adjustment after 1980-81 reflects a reversal in the behavior of the major elements in the current account compared with the experience after the first oil shock. Earlier, there was a rapid growth in export volumes and a slow-down in imports, reinforced by rapidly growing private transfers. By contrast, export growth slowed down after 1978-79 while imports accelerated and private transfers ceased to grow. Different factors were at work in each case.

Private transfers did not increase in the way they had done after 1974-75, entirely because of changed international circumstances. Unlike the first oil price rise, the second one did not generate a sustained oil boom in the Gulf, partly because the world economy slowed down considerably, and consequently the volume of oil exports declined, and partly also because of political developments in the Gulf region, especially the Iran-Iraq war. In addition, labor and employment policies in many countries of the Gulf region were changed in a manner restricting the absorption of foreign labor into the region. For all these reasons the flow of private transfers, while remaining at a fairly high level, slowed down after 1980-81 and hence an important corrective factor which had operated after the first oil shock, was inoperative after the second. There was a sharp increase in 1983-84, but this reflects a once-for-all increase representing capital transfers as workers returned home from the Gulf.

Commitments are recorded according to the date of signature of aid agreements; this method of recording frequently causes spillovers across fiscal years especially since the fiscal years of many important donors (including the multilateral institutions) run from July to June.

The growth rate of exports slowed down dramatically from 9.4% in volume terms in the period 1973-74 to 1978-79 to only 3.6% in the period 1978-79 to 1983-84. The available evidence suggests that the slow-down was largely due to the behavior of world trade. In the period 1973-74 to 1978-79, when Indian exports grew by 9.4% in volume terms, world exports had grown by about 4.1% (Table 5). In the second period, the rate of growth of India's exports slowed down to 3.6% but that of world exports had also slowed down to a rate of only 1.6% in volume terms. In both periods, India's exports grew faster than world exports, and with a very respectable elasticity of 2.3 in each case, clearly suggesting that India's slower export growth in the second period was primarily due to slower growth in world markets.

Domestic policy towards exports remained broadly supportive after 1980-81, with a further strengthening of the policy of giving exporters specially favorable access to imports of raw materials, capital goods and also technology. Special schemes such as the scheme of 100% Export-Oriented Units were introduced, offering facilities similar to free-trade zones for bonded units located anywhere in the country, with provisions for declaring a part of an existing unit as a 100% EOU provided that bonding could be ensured. The import policy for exporters was also liberalized with a view to expanding the volume, as well as the flexibility in use, of special licences (replenishment licences) issued to exporters for the import of otherwise restricted items.

Exchange rate movements after the second oil shock were not as favorable as after the first. There was a mild appreciation in the nominal exchange rate in 1980, which was reversed in 1981. However, the domestic rate of inflation in India in 1980 exceeded inflation rates in India's main trading partners, so that the real effective exchange rate index showed a significant appreciation in 1980. It stayed at that level in 1981 but there was a depreciation in 1982 followed by a slight appreciation again in 1983 (Table 7). In general, the real effective exchange rate has been somewhat higher than in the years immediately preceding the second oil shock though it remains below the level of 1977. Real effective exchange rates are not, however, the only relevant index for export competitiveness. Account must also be taken of other incentives which were strengthened, especially the liberalization of import policy for exporters, and when allowance is made for this factor it is likely that the total level of incentives after the second oil shock was at about the same level as before.

Table 10. Aid commitments (in terms of agreements signed) (Rs. crores)

Fiscal year	World Bank Group		Other Consortium	Others	Total
	IDA	IBRD	countries		
1970-71	126	41	592	3	762
1971-72	335	45	547	2	929
1972-73	200	—	476	—	676
1973-74	437	55	577	102	1,171
1974-75	582	129	707	253	1,671
1975-76	714	84	764	1,092	2,654
1976-77	—	285	815	186	1,286
1977-78	712	163	693	329	1,897
1978-79	1,287	228	757	64	2,336
1979-80	421	204	989	246	1,860
1980-81	1,539	362	783	622	3,306
1981-82	1,307	533	862	141	2,843
1982-83	758	1,081	951	113	2,903

The third reason for the slower current adjustment after 1980-81 was that imports grew much faster than after the first oil shock. The volume growth in imports in the period 1973-74 to 1978-79 had averaged only 4.5% per year. It increased to 10.6% in the period 1978-79 to 1983-84. This increase in total imports was composed of a decline in the volume of oil imports, a very rapid growth in capital goods imports and rapid growth in other imports. The acceleration in import growth in volume terms in the second period reflects developments in the domestic economy and especially the strategy of external adjustment.

	Annual average growth rate of import volume (percentages)	
	1973-74 to 1978-79	1978-79 to 1983-84
Oil imports (net)	1.5	-6.6
Capital goods	-0.4	19.9
Others	7.5	10.0
Total	4.5	10.6

The reduction in oil imports reflects the success of one of the key elements in the Government's adjustment program. The Sixth Five- Year Plan launched in 1980 emphasized the need for increased production in the energy sectors, especially petroleum. Shortly after the Plan had been approved an "accelerated program" of petroleum production and development was adopted with increased investments for the petroleum sector and the objective of raising domestic production of petroleum even beyond the original targets of the Sixth Plan. The program succeeded in raising crude production from 11.6 million tons in 1978-79 to over 26 million tons in 1983-84 (Table 13). Domestic crude production as a proportion of domestic consumption of petroleum products (in crude equivalent) increased from 38% in 1978-79 to 68% in 1983-84, a major success in import substitution in a critical area. The rapid growth of other imports, including specially capital goods, must be ascribed to two factors. One was the liberalization of import policy in the late 1970s, which provided easier access to imports needed either as inputs into production or as capital goods. These features of the import policy were strengthened in subsequent years in recognition of the need to upgrade and modernize production and technology in Indian industry. The growth of capital goods and other imports was especially rapid up to 1980-81, reflecting the once-for-all adjustment to a higher level of imports after which the rate of expansion slowed down in line with GDP. These developments are reflected in the behavior of the coefficient (J_{ck}) relating capital goods imports to investment which shows a strong increase up to 1981-82 and only a modest increase thereafter (Table 11). The effect of import liberalization is also evident in the movement of the coefficient (J_{yno}) relating other non-oil imports to GDP which rose sharply up to 1980-81.

Table 11. Import coefficients

Year	Capital goods J_{ck}	Oil imports J_{vo}	Non-oil imports J_{yno}
1970-71	0.064	0.003	0.032
1971-72	0.075	0.005	0.035
1972-73	0.069	0.006	0.034
1973-74	0.078	0.007	0.034
1974-75	0.062	0.005	0.032
1975-76	0.058	0.004	0.030
1976-77	0.052	0.005	0.029
1977-78	0.056	0.005	0.036
1978-79	0.049	0.006	0.038
1979-80	0.048	0.007	0.039
1980-81	0.084	0.007	0.052
1981-82	0.095	0.005	0.048
1982-83	0.099	0.004	0.048
1983-84	0.101	0.003	0.053

J_{yk} is the coefficient relating the capital goods imports to fixed investment in 1970-71 prices. J_{yo} and J_{yno} are coefficients relating oil imports and other imports, respectively, to GDP in constant 1970-71 prices.

The second factor behind the rapid growth of imports was the growth and sectoral composition of public investment after 1980-81. Total fixed investment in the economy in constant prices did not rise faster after the second shock than after the first, but public investment rose more rapidly, and the sectors which received priority in public investment were petroleum, coal, power and fertilizers. These were seen as critical sectors in which capacity and production had to be increased in order to remove key supply bottlenecks in the economy. They also happened to be sectors which were relatively import-intensive in terms of their capital goods requirements. The behavior of public investment after the second oil shock was in marked contrast to the experience after the first oil shock and reflects a basic difference in the stance of macro-economic policy. On the earlier occasion there had been a shift to a restrictive macro-economic policy principally because of the perceived dangers of inflation, and this policy had depressed public investment in real terms. By contrast macro-economic policy in 1980-81 was not restrictive, and public investment in 1981-82 was 13.5% higher than in 1979-80. There were superficial similarities in the economic situation, which might have argued for a restrictive response as on the earlier occasion. There was an upsurge of inflation in 1979-80 caused by the severe drought in 1979, and control of inflation received high priority attention. However, the approach to controlling inflation on this occasion placed much more emphasis on removing short-term and medium-term supply bottlenecks. One reason for this change of emphasis is that the balance of macro-economic policy was set in the light of priorities outlined in the Sixth Five-Year Plan which covered the period 1980-81 to 1984-85. The Plan emphasized the importance of investment in several critical areas, especially in the energy transport infrastructure. These areas had suffered from a measure of under investment in earlier years which needed to be corrected, and in any case, the second oil price increase made these investments even more urgent so as to reduce dependence on imported energy as a means of external adjustment.

Table 12. Movements in import and export price (of the GDP deflator P_{yt})

Year	Price of capital goods imports (P_{kr}/P_{yt})	Price of oil imports (P_{iot}/P_{yt})	Price of other imports (P_{inor}/P_{yt})	Export prices (P_{xr}/P_{yt})	Terms of trade (P_{xt}/P_{mt})
1970-71	1.0	1.0	1.0	1.0	1.0
1971-72	0.912	0.903	0.870	0.968	1.10
1972-73	0.966	0.667	0.805	0.968	1.17
1973-74	0.877	1.402	0.959	0.990	0.99
1974-75	1.031	3.597	1.293	1.052	0.72
1975-76	1.402	3.841	1.581	1.168	0.66
1976-77	1.455	3.504	1.329	1.167	0.73
1977-78	1.247	3.531	1.184	1.268	0.89
1978-79	1.567	3.039	1.185	1.231	0.85
1979-80	1.637	4.382	1.273	1.072	0.62
1980-81	1.007	5.653	0.966	1.040	0.72
1981-82	0.859	6.222	1.048	1.054	0.75
1982-83	0.841	6.024	1.011	1.026	0.79
1983-84	0.808	4.952	0.969	0.966	0.87

For definitions of the symbols used in the ratios in this table see Bacha's "terms of reference" for the country studies in this issue.

On the whole, economic policy after the second oil shock was consciously designed to achieve the objective of medium-term structural adjustment. This meant a continuation of the relatively liberalized import regime of 1978-79 in the interest of industrial productivity and ambitious targets for public investment aimed at expanding capacity in critical areas. It was recognized that this strategy implied a high requirement for imports of capital goods as well as intermediate inputs, and even after allowing for import savings from higher oil production, it would imply a current account deficit of substantial size for some years. It was to finance this deficit that India negotiated the extended arrangement with the IMF as a source of temporary financing.

The adjustment strategy also envisaged an acceleration in export growth which is necessary to finance higher levels of imports directly, and also indirectly by permitting higher levels of borrowing consistent with debt service norms. The Sixth Five- Year Plan had set a target of 9% volume growth of exports, but actual performance was much lower because of the sharp deceleration in world trade. Continued slow growth of world trade combined with the present prospects for long-term concessional flows will put severe constraints on the economy in the rest of this decade. The nature of these constraints is examined in detail in Section 4 on the basis of a simple projection model.

3. DECOMPOSITION OF CURRENT ACCOUNT CHANGES

In this section we present a quantitative analysis of the relative importance of different elements which affected the current account during each of the two oil shocks. The technique used is a modification of the decomposition scheme outlined in Bacha's terms of reference-paper in this issue.

A detailed statement of the decomposition scheme is given in the Appendix. In essence the change in the deficit expressed as a percent of GDP, over any given period, is decomposed into the following components plus second-order terms which constitute an unexplained residual, (i) A set of *terms-of-trade effects* which measure the impact of changes in the price indices of exports and various categories of imports, relative to the index of the GDP deflator⁷ (ii) The contribution of *export volume growth* to the change in deficit as a percent of GDP. This consists of two terms, one reflecting the domestic export effort, which raises export share in world trade, and another reflecting the growth of world demand relative to the growth of real GDP. (iii) *Import saving* which measures the effect of changes in the propensity to import as measured by changes in various import coefficients relating the volume of imports to various real variables in the economy, (iv) The effect of *remittances* which have been an extremely important source of foreign exchange over this period, (v) The impact of *interest payments* which consists of the effect of changes in the average interest rate, and the effect of the accumulation of debt on which interest payments have to be made, (vi) The effect of *domestic demand policies* which is measured essentially by the ratio of investment to GDP.⁸ Needless to say, the decomposition scheme is essentially an accounting framework based upon identities rather than causal relationships, and interpretation in terms of causal relationships has to be attempted with caution. The results presented in this section must be viewed primarily as illustrating the qualitative account of developments in Section 2.

(a) The first oil shock

The experience of the first oil shock may be analyzed in terms of three sub-periods: 1972-73 to 1974-75 when the current account deteriorated sharply, 1974-75 to 1976-77 when there was a rapid turnaround bringing the current account as a percentage of GDP to a peak surplus position of 1.3%, and 1976-77 to 1978-79 when the current account adjusted towards a more normal level, with the surplus declining as a percent of GDP. Table 14 shows the change in the current account in each period decomposed into the contribution of individual elements.

Table 13. Petroleum production and demand balances (million ton)

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
I Crude														
1. Domestic production	6.82	7.30	7.32	7.19	7.68	8.45	8.90	10.76	11.63	11.77	10.15	16.19	21.06	26.02
2. Export	—	—	—	—	—	—	—	—	—	—	—	0.84	4.35	4.99
3. Net import	11.68	12.95	12.08	13.87	14.02	13.62	14.05	14.51	14.66	16.12	16.25	14.46	12.60	10.98
4 Refinery through put*	18.38	20.04	19.33	20.96	21.09	22.28	23.00	24.90	25.97	27.47	25.84	30.15	33.16	35.26
II. Products														
5 Domestic production (from refining of 4 above)	17.11	18.64	17.83	19.50	19.60	20.83	21.43	23.22	24.19	25.79	24.12	28.18	31.07	32.89
6. Imports	1.08	2.15	3.53	3.55	2.65	2.22	2.62	2.88	3.88	4.72	7.29	4.88	5.03	4.05
7. Export	0.32	0.14	0.13	0.16	0.18	0.17	0.07	0.05	0.04	0.09	0.04	0.06	0.80	1.33
8 Net imports	0.76	2.01	3.40	3.39	2.47	2.05	2.55	2.83	3.84	4.63	7.25	4.88	4.22	2.72
9. Total availability	17.87	20.65	21.23	22.89	22.07	22.88	23.98	26.05	28.03	30.42	31.37	32.94	35.29	35.52
III														
10. Total consumption†	17.91	20.07	21.72	22.35	22.11	22.45	24.10	25.54	28.24	29.88	30.90	32.52	34.66	35.60
11. Domestic crude petroleum production as % of domestic consumption in crude equivalent	35.45	33.83	31.09	29.93	32.28	35.19	34.41	39.29	38.36	36.98	31.75	46.53	56.93	68.18

* Adjust for inventory and loss.

† Exclude consumption of refinery fuel.

(i) 1972-73 to 1974-75

The deterioration of 1.4 percentage points in the current deficit in this period was the result of a number of factors, some of which moved in an offsetting manner. The items identified in the decomposition in Table 14 account for 140% of the actual change.⁹ The largest single element contributing to the deterioration was clearly the rise in oil prices which had an adverse impact of 1.9 percentage points. Oil prices were not, however, the only import prices which increased. Prices of non-oil imports, especially in the non-capital goods category, also rose sharply and although the extent of this increase was much less than for oil imports (Table 12) it had a relatively large adverse impact of about 1.6 percentage points of GDP because the price increase affected a larger volume. The rise in non-oil import prices was itself a reflection of boom conditions in the international economy which had offsetting advantages in terms of higher export prices and expanding export volumes. These factors offset the adverse effect of higher import prices to some extent. The net effect of the changes in non-oil import prices, export prices and export volumes was an adverse impact of about 0.8 percentage points. This was much less than the adverse impact of the oil price increase.

Table 14. Decomposition of current account change: The first shock (percentages of GDP)

	1972-73 to 1974-75	1974-75 to 1976-77	1976-77 to 1978-79	1974-75 to 1978-79
1. Total terms-of-trade effect	3.20	-0.10	-0.97	-1.00
1.1 Oil price change	1.88	-0.04	-0.23	-0.26
1.2 Price of capital goods imports	0.08	0.42	0.10	0.54
1.3 Price of other imports	1.64	0.12	-0.42	-0.35
1.4 Export price effect	-0.40	-0.60	-0.42	-0.93
2. Export volume	-0.48	-1.49	0.79	-0.88
2.1 Export effort	0.29	-1.79	0.38	-1.45
2.2 World demand	-0.77	0.30	0.41	0.57
3. Import intensity	-0.34	-0.40	1.37	0.95
3.1 Import propensity (oil)	-0.12	0.14	0.25	0.38
3.2 Import propensity (capital goods)	-0.11	-0.18	-0.06	-0.22
3.3 Import propensity (other imports)	-0.11	-0.36	1.18	0.79
4. Remittance effect	-0.07	-0.53	-0.14	-0.67
5. Interest payments on debt	-0.22	-0.14	-0.15	-0.31
5.1 Interest rate effect	-0.04	-0.12	-0.07	-0.18
5.2 Acc. debt effect	-0.18	-0.02	-0.08	-0.13
6. Domestic demand	-0.07	0.13	-0.07	0.07
A Total explained change (1+2 + 3+4 + 5+6)	2.02	-2.53	0.83	-1.84
B Actual change (percentage explained)	1.44 (140)	-2.67 (95)	0.70 (119)	-1.97 (93)

Parallel with these developments there were other important factors operating to improve the current deficit. There were import savings resulting from a reduction in import propensities which had a combined favorable impact of 0.3 percentage points. There was also a reduction in the relative burden of interest payments which grew much less than GDP.

(ii) 1974-75 to 1976-77

In this two-year period the current account a deficit of 1.4% of GDP to a surplus of 1.3%- a massive improvement of 2.7 percentage points. The decomposition accounts the actual change.

Terms-of-trade effects were more or less neutral in this period as improvements in export price were largely offset by increases in non-oil import with a marginal net favorable impact. However, there were other significant developments. The most important factor was the dynamic export performance which contributed an improvement of about 1.5 percentage points. This was the result of a very strong export effort, contributing an improvement of 1.8 percentage points, which was partially offset by a deterioration of 0.3 percentage points because world trade slowed down. Apart from export expansion, the trade account also benefited from a slow-down in import volumes arising from reductions in the import propensities for capital goods and other non-oil imports. As pointed out in Section 2, the reduced propensity to import capital goods probably reflected the reduction in public investment as a proportion of total investment. Total investment as a percentage of GDP actually increased in these years. The reduced propensity to import other goods reflects import savings in the case of fertilizers and iron and steel, where there were large increases in domestic production.

The combined effect of terms-of-trade changes, export volume changes and import propensity changes was a favorable impact of 2 percentage points. To this was added an improvement of 0.5 percentage points from the growth of private transfers.

(iii) 1976-77to1978-79

The current account in this period deteriorated by 0.7 percentage points, a move in the right direction from the excessively large surplus of 1.3% of GDP in 1976-77, though it left the current account still in a surplus of 0.6% in 1978-79. The decomposition explains 119% of the observed change.

The major factors underlying the deterioration were a slow-down in export performance relative to GDP growth and, even more important, higher import propensities. The slow-down in exports was the result of a weakening in the export effort and a slowing down of world trade, which together had an adverse impact of 0.8 percentage points, even more important was the large increase in the propensity to import non-oil non-capital goods after 1976--77, reflecting the import liberalization measures introduced in the period. This contributed an adverse impact on the current account of about 1.2 percentage points. There was some increase in the propensity to import oil, whereas the propensity to import capital goods declined slightly. Taken together, these changes in import propensities contributed a deterioration of about 1.4 percentage points. Thus the slow-down in export volumes relative to GDP growth and the greater propensity to import jointly contributed to a deterioration of almost 2.2 percentage points.

There was an offsetting improvement of about 1 percentage point arising from favorable terms-of-trade effects as export prices rose faster than the GDP deflator while prices of oil and other non-oil imports rose more slowly. Other favorable developments were a continuing growth of remittances, some improvement in debt servicing, and a reduction in the investment ratio.

(iv) 1974-75 to 1978-79

Taking the adjustment phase after 1974-75 as a single four-year period we find that the current account improved by about 2 percentage points, moving from a deficit of 1.4%, in 1974-75 to a surplus of 0.6% in 1978-79. The decomposition in col. 4 of Table 14 explains about 93% of this improvement. The following elements are important: (i) Improvements in export performance, arising mainly from an improved export effort, contributed 0.9 percentage points. Export prices

contributed a further improvement of 0.9 percentage points while import price movements largely offset each other. Thus export volumes and prices together contributed an improvement of 1.8 percentage points, (ii) This was offset to the extent of almost 1 percentage point by an increase in overall import propensity reflecting a higher import propensity for “other imports” and also for oil. Thus the developments related to the trade account contributed to a net improvement in the current deficit of 0.8 percentage points. (iii) Rapid growth in remittances reinforced the trade account improvement and contributed a further improvement of 0.6 percentage points. The sense in which the growth of remittances was not essential to the adjustment in this period is evident from the fact that had remittances grown at only the same rate as GDP in nominal terms, the contribution of this item would have been zero, and the current account, instead of being in surplus, would have been exactly balanced in 1978-79.

(b) *The second oil shock*

The experience of the second oil shock can be analyzed in terms of the deterioration phase from 1978-79 to 1980-81 and the subsequent adjustment phase 1980-81 to 1983-84. The decomposition of the change in the current account in each of these periods is shown in Table 15.

(i) *1978-79 to 1980-81*

The current account in this period deteriorated by 2.2 percentage points compared with only 1.4 percentage points between 1972-73 and 1974-75. The decomposition explains 100% of the actual change.

The direct impact of the oil price increase is a deterioration of 1.5 percentage points, which is somewhat less than the size of the impact of the first oil shock. Nevertheless, it accounts for about 70% of the observed deterioration in the current account. However, there were other changes taking place in various elements affecting the current account, some of which were offsetting.

As far as price movements are concerned, non-oil import prices grew much more slowly than the GDP deflator, with a favorable impact on the current deficit as a percentage of GDP. However, this was almost entirely offset by the fact that export prices also grew more slowly. The net terms-of-trade effects were, therefore, dominated by the adverse impact of the oil price increase.

There was a substantial favorable impact on the current deficit from three factors: rapid export growth, rising remittances and a turnaround in net factor payments from an outflow to a net inflow because of earnings from rising foreign reserves. These had a combined favorable impact of about 2.5 percentage points. However, this was more than offset by an adverse impact of 3.1 percentage points arising from larger import volumes reflecting the effect of import liberalization. The net effect of all these developments was an adverse movement of 0.6 percentage points.

This suggests that there would have been a deterioration in the current deficit even if oil prices had not increased in 1979. However, as there was considerable cushion in the current account position in 1978-79, this deterioration would not have presented a problem. For example, taking the deterioration in the current account because of the oil price increase at 1.5 percentage points, it could be argued that if oil prices had increased only at the same rate as the GDP deflator, then other things being the same the current account would have deteriorated from a surplus of 0.6% to a deficit of only about 0.1% in 1980-81. This would still have been comfortable and would have left room for further expansionary policies given the availability of long-term flows.

This illustration is undoubtedly simplistic since it implies that individual items in the decomposition can be treated as separable elements. In fact, the oil price increase had other effects on the world economy, which are reflected in the observed movements in export volumes, export prices, remittances etc., and the counterfactual situation without an oil price rise can be properly quantified only when all these effects are taken into account. Such an analysis is beyond the scope of the paper, but the decomposition certainly suggests that while the net effect of other factors affecting the current account would have led to a deterioration in the current deficit, this could have been accommodated since the current account was in deficit beyond the level consistent with availability of long term flows, which would have been around 0.5% of GDP.

Table 15 Decomposition of current account changes. The second shock
(percentages of GDP)

	1978-79 to 1980-81	1980-81 to 1983-84
1. <i>Total terms-of-trade effect</i>	1.31	-0.28
1.1 Oil price change	1.49	-0.51
1.2 Price of capital goods imports	-0.47	-0.29
1.3 Price of other imports	-0.84	0.02
1.4 Export price effect	1.13	0.50
2. <i>Export volume</i>	-1.05	0.77
2.1 Export effort	-0.38	-0.34
2.2 World demand	-0.67	1.11
3. <i>Import intensity</i>	3.07	-1.84
3,1 Import propensity (oil)	0.49	-2.18
3.2 Import propensity (capital goods)	0.93	0.31
3.3 Import propensity (other imports)	1.65	0.03
4. <i>Remittance effect</i>	0.70	0.22
5. <i>Interest payments on debt</i>	-0.52	0.39
5.1 Interest rate effect	-0.48	0.39
5.2 Acc. debt effect	-0.04	—
6. <i>Domestic demand</i>	0.05	0.03
A. <i>Total explained change</i>		
(1+2+3+4+5+6)	2.16	-0.71
B. <i>Actual change</i>		
Percentage explained	2.17	-0.54
(A as % of B)	(100)	(131)

(ii) 1980-81 to 1983-84

There was a modest improvement in the current account deficit amounting to about 0.54 percentage points over this period. The decomposition explains 131% of the actual change and there are striking differences in the individual components accounting for the improvement compared with those that operated after the first oil shock.

Two factors which had operated strongly in support of adjustment after the first oil shock operated in reverse in this period. Export performance, which was highly favorable in 1974-75 to 1976-77, was much poorer on the second occasion, mainly because of the very considerable slow-down in world trade after 1981-82. The export effort succeeded in increasing India's share in world trade in this period, but world demand actually declined, which contributed an adverse impact of 1.1 percentage points on the current deficit. Remittances, which had grown rapidly earlier, grew more slowly after the second oil shock; this deceleration contributed to a widening of the current deficit. In addition, factor income payments (mainly interest payments on foreign debt), which had declined even in absolute terms through the 1970s when reserves were building up, and net foreign debt was therefore declining, began to increase after 1980-81 as interest payments on IMF borrowing built up.

The most important favorable influence on the current account after 1980-81 was the massive saving on petroleum imports resulting from the large increase in domestic crude production (Table 13), an increase which contributed a favorable impact of as much as 2.2 percentage points of GDP. This was partially offset by rising import intensity of investment, which in turn was concentrated in sectors such as energy, petroleum exploration and development and fertilizers, all of which are heavily import-intensive. However, even after allowing for the rising import intensity of investment there was a net favorable impact of about 1.8 percentage points. Terms-of-trade changes were also marginally favorable in this period. Prices for imports of petroleum and capital goods rose less rapidly than the GDP deflator and this had a favorable-impact. Most of this was offset by the fact that export prices also grew more slowly, but the net effect was a favorable impact of about 0.3 percentage points.

4 PROSPECTS AND CONSTRAINTS UP TO 1990-91

In this section we examine the nature of the external constraints affecting India's performance in the rest of the decade. As shown in Section 2, although India was able to adjust to the second oil shock somewhat more easily than most other countries, this adjustment is not yet complete and India is likely to face a difficult situation in the rest of the decade. Export prospects are to some extent limited by the expected slow growth of world trade and, at the same time, the amount of external finance on concessional terms is unlikely to increase rapidly in future. India can resort to commercial borrowings to finance the current account deficit, but the extent of such recourse must be kept within limits imposed by prudent debt management.

Thus the total amount of foreign exchange available to the economy in the years ahead will be limited. Yet the overall import propensity of the economy has been increasing under the influence of import liberalization. Inadequate access to external financing in the years ahead could impose severe constraints either on the utilization of existing production capacity by denial of maintenance inputs, or on the levels of investment because of the inability to import capital goods. These constraints are explored through a simple projection model of the type outlined in Bacha's terms of reference paper in this issue.

(a) *The structure of the model*

The model is designed primarily to quantify the reaction of the economy to scarcity of foreign exchange. Its basic features may be summarized as follows.¹⁰ The level of export demand and the size of the current deficit are specified exogenously, reflecting the nature of the external environment facing the economy. This determines the level of foreign exchange available to the economy. The model then chooses an allocation of this foreign exchange between "maintenance imports," which are needed to produce GDP, and capital goods imports needed for investment. The allocation ensures that the level of GDP is consistent with the level of investment in terms of the requirement that savings plus the current deficit must equal investment. In effect, this means that the level of GDP is determined by the level of demand (i.e. the multiplier relationship) allowing for import leakages and exports. This demand-determined income level is subject to capacity constraints determined by the level of past investment. If in any year the level of demand is such that demand-determined GDP hits the "full capacity" constraint, then the excess demand "spills over" into a reduction in exports which reduces foreign exchange availability and forces a contraction. If the level of GDP is significantly below full capacity this implies a foreign exchange constraint, since higher levels of GDP could be produced by raising the level of demand through higher investment levels but for the inability to finance imports.

The model quantifies some of the choices involved in the face of a foreign exchange constraint. Starting from an equilibrium position, a reduction in foreign exchange availability reduces import capacity and forces the following changes. There will be reduction in the level of investment which will directly reduce the requirement of capital goods. It will also reduce GDI' via the multiplier, thus indirectly reducing maintenance imports. A reduction in foreign exchange availability therefore reduces investment and lowers utilization of productive capacity. The reduction in GDP via the multiplier can be avoided by measures to reduce the rate of saving (stimulate domestic

consumption), but this will only force the burden of reducing imports on reduction in investment levels, which will be larger than otherwise. There is therefore a trade-off between maintaining the level of investment in the interest of future growth on the one hand, and maintaining current GDP levels on the other.

With the size of the current account deficit specified exogenously the model also generates a financing pattern on the capital account, with a build-up of external debt and a debt service profile. The availability of concessional flows is exogenously specified in terms of (i) disbursements from past commitments and (ii) disbursements from new commitments. Amortization due on these flows is computed year by year. This determines the net availability of concessional assistance. The difference between net concessional flows and the exogenously specified current deficit has to be filled by net commercial borrowing. Amortization on past commercial borrowing being known, gross commercial borrowing is determined year by year to ensure financing of the exogenously specified current deficit. Thus the stock of concessional and non-concessional debt in the simulation period is built up separately, and interest payments on these debts are determined on the basis of average interest rates. These interest payments figure in the current account and affect the import capacity of the economy given the exogenously specified level of exports and remittances. The interest and amortization streams together determine the debt service profile.

(b) Model simulations up to 1990-91

The nature of the external constraints upon India's performance can be explored in terms of a base solution of the Model and some alternative simulations making different assumptions about the availability of external financing and also the growth of exports. The base solution as defined here is purely a reference solution and not a normative projection in any sense.

(i) The base solution

The base solution makes the following critical assumptions about the external environment: (i) demand for India's exports is projected to grow at about 5% per year in real terms, which is broadly consistent with relatively optimistic scenarios of world trade expansion over the period, given the prospects of a trend growth in the OECD countries of only about 3.5% per year (ii) the current deficit is allowed to expand at about 10% per year in nominal terms over the rest of the decade; (iii) new commitments of concessional assistance and long-term multilateral flows have been projected as follows: IDA commitments are assumed to stabilize at about \$700 million per year. IBRD commitments are projected to rise at about 8% per year in nominal terms from a level of \$1,100 million in 1983-84 and bilateral assistance is assumed to rise at 5% per year in nominal terms.

The main results of the base solution in terms of rates of growth of GDP, the degree of capacity utilization and movements in the debt service ratio are summarized in Table 16. The following features are worth noting.

(1) It is clear that with exports constrained to 5% real growth and the current deficit expanding by 10% in nominal terms, the economy will experience a severe foreign exchange constraint. This is reflected in the fact that the degree of capacity utilization, which is the ratio of GDP to potential GDP as determined by the capacity created by past investments, declines from almost 100% in the base year to about 92% by 1990-91. A larger availability of foreign exchange would have permitted higher levels of output and also higher volumes of investment. Thus while the level of investment in the base solution generates a growth of 4.4% in potential output (i.e., full capacity GDP) over the period 1983-84 to 1990-91, actual GDP growth over this period is only 3.2% per year reflecting the effect of the foreign exchange constraint. This is considerably lower than the average growth rate of 4.3% achieved over the 10-year period 1973-74 to 1983-84.

(2) There is a marked deterioration in the debt service ratio from 13% of exports in 1983-84 to 30% in 1990-91. This reflects the fact that with repayments falling due on the medium-term financing undertaken after 1980-81, and the continuing unfavorable prospects for concessional flows, the projected current account deficit can only be financed through increasing resort to commercial borrowing. This produces a major change in the structure of debt over the period. The outstanding

debt in the base solution rises only modestly from Rs.20,000 crores in 1983-84 or 10.6% of GDP to Rs.43, 149 mires in 1990-91 or 13.1% of GDP, hut the proportion of commercial debt in the total increases dramatically from less than 10% in 1983-84 to over 30% by 1990-91. This is in addition to the considerable hardening of average terms on long-term multilateral flows resulting from the expected switch from borrowings from IDA to borrowings from IBRD.

Table 16 The base solution
(Export demand growing at 5% in real terms)
(Current deficit growing at 10% in nominal terms)

Year	GDP		Capacity utilization (%)	Current deficit as % of GDP	Debt service as % of exports of goods and services
	Rs. crores in 1983-84 prices	Growth rate (%)			
1983-84	187,646	--	99.6	1.2	13
1984-85	191,887	2.3	97.3	1.2	16
1985-86	197,837	3.1	95.9	1.2	19
1986-87	204,601	3.4	95.0	1.2	24
1987-88	211,572	3.4	94.1	1.3	27
1988-89	218,868	3.4	93.3	1.3	29
1989-90	226,661	3.6	92.7	1.3	29
1990-91	234,445	3.4	91.9	1.3	30

Average Annual Growth : 1983-84 to 1990-91

Actual GDP	3.2%
Potential GDP	4.4%
Imports	5.0%

In short the base solution implies a deceleration in GDP growth and a steady worsening in the debt service ratio if exports grow no faster than world trade and external financing remains constrained.

(ii) Enlarged financing

Although the economy suffers from a foreign exchange constraint it is not possible to finance-larger imports by running larger deficits because any increase in the size of the current deficit would have highly adverse consequences for the debt service ratio. The simulation in Table 17 shows the implications of allowing the current deficit to expand by 15% in nominal terms. This increases the import capacity of the economy which allows further utilization of capacity by expanding investment and raising GDP. The average growth rate over the period 1983-84 to 1990-91 rises from 3.2% in the base solution to 3.7% and the growth of potential output also increases from 4.4% to 4.6%. However, the debt service ratio reaches 36% in 1990-91 compared with 30% in the base solution. Since even 30% is excessive, it is clear that enlarged financing through additional commercial borrowing is not a sound proposition.

(iii) Forced contraction

The implications of living within a reasonable level of the debt service ratio are explored in the simulation reported in Table 18 in which the current account deficit is allowed to expand by only 5% per year in nominal terms. Since the rate of export growth remains at 5% in real terms, the-enforced reduction in the current deficit reduces the foreign exchange available to the economy during the simulation period. Investment levels are reduced and the degree of underutilization of

capacity also increases. GDP growth in this simulation is reduced to 2.9 per year compared with 3.2% in the base solution. The debt service ratio in the terminal year declined to 26% compared with 30% in the base solution but the improvement is achieved at the expense of a considerable reduction in the rate of growth.

Table 17. Enlarged financing
(Export demand growing at 5% in real terms)
(Current deficit growing at 5% in nominal terms)

Year	Rs. crores in 1983-84 prices	Growth rate (%)	Capacity utilization (%)	Current deficit as % of GDP	Debt service as % of exports of goods and services
1983-84	187,646	—	99.6	1.2	13
1984-85	192,868	2.8	97.8	1.3	16
1985-86	199,813	3.6	96.8	1.3	20
1986-87	207,588	3.9	96.2	1.4	25
1987-88	215,592	3.9	95.6	1.5	29
1988-89	223,946	3.9	95.0	1.6	31
1989-90	232,826	4.0	94.5	1.6	33
1990-91	241,731	3.8	93.8	1.7	36

Average Annual Growth: **1983-84 to 1990-91**
Actual GDP 3.7%
Potential GDP 4.6%
Imports 5.0%

Table 18. Forced adjustment of current deficit
(Export demand growing a 5% in real terms)
(Current deficit growing at 5% in nominal terms)

Year	GDP		Capacity utilization (%)	Current deficit as % of GDP	Debt service as % of exports of goods and services
	Rs. crores in 1983-84 prices	Growth rate (%)			
1983-84	187,646	—	99.6	1.2	13
1984-85	190,906	1.7	96.8	1.2	16
1985-86	195,955	2.6	95.1	1.1	19
1986-87	201,895	3.0	93.9	1.1	23
1987-88	208,118	3.1	92.9	1.1	26
1988-89	214,738	3.2	92.0	1.0	26
1989-90	221,928	3.3	91.3	1.0	26
1990-91	229,178	3.3	90.7	1.0	26

Average Annual Growth: **1983-84 to 1990-91**

Actual GDP	2.9%
Potential GDP	4.3%
Imports	4.9%

(iv) Faster export growth

More rapid export growth has a highly beneficial effect upon the economy as is shown by the simulation in Table 19, in which the demand for India's exports is projected to grow by 7% per year in real terms instead of 5% in the base solution. This leads to a substantial increase in import capacity which allows higher levels of investment and GDP, with near 100% utilization of capacity. The growth of GDP over the period 1983-84 to 1990-91 increases from 3.2% in the base solution to 4.8%. It is important to emphasize that this acceleration is not due to the direct stimulus of exports to production, but to the fact that the additional foreign exchange earnings permit greater access to imports, which in turn permits higher levels of investment and GDP. In this simulation the level of capacity utilization is near 100% over the whole period.

Faster export growth also helps to improve the debt service profile consistent with the exogenously specified levels of the current account deficit. The debt service ratio in this simulation reaches a maximum of 27% in 1990-91 compared with 30% in the base solution. However, even at this level, the debt service ratio is far too high.

Table 19. Faster export growth
(Export demand growing at 7% in real terms)
(Current deficit growing at 10% in nominal terms)

	GDP				
Year	Rs. crores in 1983-84 prices	Growth rate (%)	Capacity utilization(%)	Current deficit as % of GDP	Debt service as % of exports of goods and services
1983-84	187,646	-	99.6	1.2	13
1984-85	194,483	3.6	98.6	1.2	16
1985-86	203,341	4.6	98.5	1.2	19
1986-87	213,352	4.9	98.8	1.2	23
1987-88	223,941	5.0	99.0	1.2	25
1988-89	235,258	5.1	99.3	1.2	26
1989-90	247,511	5.2	99.7	1.2	26
1990-91	260,234	5.1	100.0	1.2	27

Average Annual Growth:1983-84 to 1990-91

Actual GDP	4.8%
Potential GDP	4.8%
Imports	7.0%

The debt service profile can be improved by restraining the growth in the current deficit. In Table 18, reducing the growth in the current deficit to 5% per year in nominal terms compared with 10% in the base solution lowers the debt service ratio in the terminal year by about 4 percentage points and lowers the growth rate by about 0.3 percentage points. This suggests that with 7% export growth, it would be necessary to keep the current deficit more or less constant in nominal terms (instead of growing at 10% as in Table 19), to lower the debt service ratio by 8 percentage points

so as to bring it within the 20% limit. This contractionary adjustment would also involve a reduction in GDP growth by about 0.6 percentage points per year.

Thus even with 7% real growth in exports, which is considerably faster than the likely growth in world trade, India is likely to experience a foreign exchange constraint in the rest of the decade because it will have to keep the current deficit more or less constant in nominal terms if the debt service ratio is to be kept within the limit of 20% of exports of goods and services. The overall rate of growth of the economy in these circumstances is unlikely to exceed 4.2% per year which is lower than the growth rate achieved in recent years and is also below the economy's potential.

The broad conclusions to be drawn from the simulations discussed above are that India's growth performance is likely to be severely constrained by the external environment. Improved export performance should be a major objective of policy but it will be difficult to achieve sufficiently high rates of export growth in an environment of relatively slow growth in world trade and rising protectionism in the developed countries. India will also suffer from the effects of the deterioration in the terms of external financing that began after 1980-81, and is likely to continue, which will make it difficult for India to finance a large enough current deficit. India is not at present burdened with excessive debt service obligations, but as repayments of recent medium-term borrowings fall due in the rest of the decade, there is only limited room for undertaking additional commercial borrowings within the usual constraints regarding debt service ratios.

Precise numerical results are naturally sensitive to the particular structure and calibration of the model from which they are generated and the model used in this paper is not rich enough to explore a wide range of policy alternatives which need to be examined in practice. Subject to this qualification, however, it appears that even if India is able to expand exports at a rate of about 7% in volume terms (and what is more, to do so without any deterioration in the terms of trade), GDP growth may still be constrained to a little over 4%, if the debt service ratio is not to exceed 20%. India would have to finance an expansion in the current deficit of about 10% per year in nominal terms to provide the degree of access to imports needed to achieve about 5% GDP growth. However, with the existing limitations on concessional flows, and the hardening of terms on multilateral flows, this would require an excessive amount of commercial borrowing, which raises the debt service ratio beyond permissible limits. This would not have been the case had there been an adequate expansion of long-term concessional flows.

The potential undoubtedly exists for GDP growth of around 5%. The actual growth rate achieved in the Fifth Plan period 1974-75 to 1978-79 was around 5.1%. The growth rate in the Sixth Plan period 1980-81 to 1984-85 is expected to be around 5%. These two Plan periods exclude 1979-80 which was an exceptionally bad year, but even so the average growth rate over the period 1974-75 to 1984-85 is likely to be around 4.5%. This represents an acceleration over the earlier trend rate of about 3.5% and further acceleration to 5% can surely be achieved if the external environment does not force a contraction.

Notes

1. This is not strictly correct as unit value increases are not the same as price increases. Unit values may increase because of quality upgrading which is a reflection of export effort.
2. Private investment in the national accounts includes investment in housing, the unorganized sector and all farm investment, all of which have a very small direct import content.
3. The change in Government in 1977 after the general election in that year probably had some effect on the pace of investment activity in the public sector. The Fifth Five-Year Plan, which was scheduled to end in 1978-79, was terminated prematurely and work began on a new Five-Year Plan reflecting the new Government's priorities. However, the plan was never formally adopted.
4. A further drawing of SDR 200 million was made under this arrangement in May 1984, taking the total amount drawn to SDR 3.9 billion before India terminated the arrangement.

5. The comparative terms of IDA and IBRD flows are as follows: IDA loans are for 50 years with a 10-year grace period with an interest charge of ¼%. IBRD flows for India are for 25 years' maturity, with a five-year grace period and a market-related interest rate.
6. Disbursements from these borrowings are not separately reported in Table 1 as they were quite modest up to 1982-83.
7. The use of the GDP deflator as a reference price follows from the fact that the decomposition relates to the change in the current deficit as a percentage of GDP
8. The decomposition in the "terms of reference" was "potential GDP" rather than actual GDP where "potential GDP" is defined as that level of GDP which could have been sustained had the economy not been "foreign exchange constrained". As pointed out in the Appendix it is difficult to measure this concept and in any case, as mentioned in Section 2 of this paper, the Indian economy was probably not constrained by foreign exchange availability in the 1970s in the sense of the terms of reference.
9. The sum of the individual items can be greater than or less than 100% of the actual change in the deficit because the decomposition is based on the difference equation obtained from an expanded equation for the current deficit which ignores second- and third-order terms
10. The equations of the model are not reported here as they are common to the other countries studies and are set out in the terms of reference. The equations have not been estimated formally through econometric techniques. Instead we have calibrated the model by choosing key parameters which appear consistent with recent observed behavior and which, together with the constant terms chosen, replicate the base year 1983-84 when the model is solved for exogenous variables corresponding to the base year. The incremental output-capital ratio (taking incremental capital stock after allowing for depreciation at 3.33%, per year) is 0.38. The marginal rate of savings out of disposable income (GDP minus factor payments plus remittances) is 22%.

APPENDIX: DECOMPOSITION OF CURRENT DEFICIT

The decomposition of the current account deficit used in this paper differs slightly from the version presented in Bacha (1983) The deficit D may be written as follows: where the successive terms in square brackets are obviously equal to the value of imports, exports, net factor payments and remittances, respectively.

$$D = [M_o^* \cdot P_{jo} + M_k^* + M_{jno} \cdot P_{jno}] - [X^* \cdot P_x] + [r \cdot NF] - [R]$$

where M_o^* = oil imports in constant prices, M_k = capital goods imports in constant prices, M_{jno} = all other imports in constant prices. P_{jo} , P_k , P_{jno} are the corresponding prices, X^* — exports in constant prices. P_x = export prices, r = the rate of return on net foreign debt, NF is the stock of foreign assets. R is the value of remittance inflows.

The above equation can be further expanded as follows:

$$D = [J_{yo} \cdot Z^* \cdot P_{jo} + J_{yk} \cdot I^* \cdot P_k + J_{yno} \cdot Z^* \cdot P_{jno}] - [(X^* / W^*) \cdot P_x \cdot W^*] - [R] + [r \cdot NF]$$

where $J_{yo} = [M_o^* / Z^* \cdot J_{yk} = M_k^* / I^*]$, $J_{yno} = M_{jno}^* / Z^* \cdot Z^*$ is GDP at constant prices.

Dividing both sides by $Z = Z^* \cdot P_y$, where Z is GDP in current prices and P_y , is the GDP deflator, and then differentiating, the change in the current deficit can be written as the sum of the following terms:

$$\Delta D = \left[J_{yk} \cdot \frac{I^*}{Z^*} \right] \cdot \Delta \left[\frac{P_k}{P_y} \right]$$

$$+ J_{yk} \cdot \Delta \left[\frac{P_{jo}}{P_y} \right]$$

$$+ J_{yno} \cdot \Delta \left[\frac{P_{jno}}{P_y} \right]$$

$$- \frac{X^*}{Z^*} \Delta \left[\frac{P_x}{P_y} \right]$$

$$- \left[\frac{P_x \cdot W^*}{P_y \cdot Z^*} \right] \Delta \left[\frac{X^*}{W^*} \right]$$

Export effect

$$- \left[\frac{P_x \cdot W^*}{P_y \cdot Z^*} \right] \Delta \left[\frac{X^*}{W^*} \right]$$

World demand

$$+ \left[\frac{P_{jo}}{P_y} \right] \cdot \Delta J_{yo}$$

Import propensity (oil)

$$+ \left[\frac{I^*}{Z} \cdot \frac{P_{jk}}{P_y} \right] \cdot \Delta J_{yk}$$

Import propensity (capital goods)

$$+ \left[\frac{P_{jno}}{P_y} \right] \cdot \Delta J_{yno}$$

Import propensity (other imports)

$$+ \Delta \left[\frac{P}{Z^* \cdot P_y} \right]$$

Remittance effect

$$+ \left[\frac{NF}{Z^* \cdot P_y} \right] \Delta r$$

Interest rate effect

$$+ \Delta r \left[\frac{NF}{Z^* \cdot P_y} \right]$$

Debt accumulation effect

$$+ \left[J_{yk} \cdot \frac{P_{jk}}{P_y} \right] \Delta \left[\frac{I^*}{Z^*} \right]$$

Domestic demand effect

An important difference between this decomposition and that used by Bacha is that no distinction is made between actual domestic GDP and potential domestic GDP. It is extremely difficult to measure potential domestic GDP especially in a situation where losses of GDP due to adverse weather conditions or supply bottlenecks in critical infrastructure sectors such as power have to be distinguished from losses of GDP due to the effect of the foreign exchange constraint. Bacha's distinction between actual and potential GDP relates entirely to the underutilization of potential due to the foreign exchange constraint and K is not easy to isolate this element.