Working Paper No. 247

REGIONAL TERMS OF TRADE FOR THE STATE OF KERALA

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Thiruvananthapuram
March 1992

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The movement of terms of trade would determine the real gains from trade given a historically chosen path of regional specialisation. Kerala economy specialises in a variety of export oriented commercial crops and processing industries. It exports more than half the gross output of its primary and secondary sectors to other states or abroad. The proportion of the consumption expenditure in the state met through imports would work out to be of a higher ratio. Therefore, the movement of commodity terms of trade would be an important determinant of the real income growth of the regional economy. Despite the crucial role that terms of trade play in the regional development, the present exercise is the first of its kind to be undertaken for the post independence period.

The simplest and the most direct measure of terms of trade is the ratio between the price index of exports to the price index of imports commonly known as net barter terms of trade [N] or simply as commodity terms of trade. $N = \frac{Px}{pm}$ where Px and Pm are price indices of exports and imports respectively. A rise in commodity terms of trade implies an increase in the purchasing power of the exports of the region. Thus the real income would rise faster than output with the improvement in the commodity terms of trade. On the other hand, the increase in real income with output growth would be lower if the terms of trade deteriorate. At the two extremes are the case of increase in real income with an unchanged output due to improvement in terms of trade and the more well known case of immeserising growth where the real income is lower than before the output

growth due to adverse movement of the terms of trade.

Our discussion is centered around the net barter terms of trade, and hereafter, it is this concept that we refer to when the phrase 'terms of trade' is used. Still, it may be useful to recall the other related concepts of terms of trade which could profitably be kept in mind as a corrective to the conclusions drawn from the trends in net barter terms of trade. [Meier G. 1968]

Thus for example, to analyse the impact of the terms of trade on the 'capacity to import' it would be necessary to consider the changes in the quantity of exports. [Qx.] If in response to a decline in the export prices the exports rise more than proportionately, the 'capacity to import' (based on exports) for would be unimpaired. Thus the proper index of export based capacity to import would be income terms of trade. [I] Symbolically, I = N.Qx. However in the case of Kerala, with very substantial remittance inflows from outside, the export earnings would be a poor indicator of the total capacity to import goods from outside.

Similarly, we should be cautious in drawing welfare implications of any adverse movement of terms of trade if it has been a consequence of productivity changes in the export sector. The single-factoral terms of trade [S] is employed to correct the commodity terms of trade for such changes in productivity. S = N.Zx where Zx is the export productivity index. S is likely to improve even when N is deteriorating as it is more likely that

productivity would tend to rise with development. But it may be noted that a significant share of the productivity increase is passed on to the consumers abroad through lower export prices. It has been the contention of Prebisch that opposite is the case with producers of manufactures in the developed countries. Because of the strength of the trade unions to raise the wages and of the monopolies to hold the prices, very little of the fruits of productivity increase are passed on to the importers. This assymetry has been a cornerstone of his forcible arguments in support of secular tendency of terms of trade to move against the underdeveloped countries. [Prebisch, 1950]. Therefore it is important to take into consideration the trends in the productivity of the importables also. This is measured by the double-factoral terms of trade [D]. $D = N. \frac{Zx}{Zm}$ where Zm is the index of productivity of imports. The double-factoral terms of trade would be an important determinant of the increasing inequality between countries and regions. However, it may be noted that as regards direct welfare implications for a country what is more important is the relative purchasing power of its exports and the factor-inputs that have gone into them rather than the changes in the productivity of the trading partner.

In section I we shall present our estimates of terms of trade for the state of Kerala. We have constructed two series of estimates of the terms of trade. The first series, for the period 1974-75 to 1984-85, is a more comprehensive one taking into account almost the entire commodity basket of Kerala's imports and exports. The second series, for a longer time period from 1962-63 to 1987-88, is based on only selected major

commodities imported and exported. An attempt is made to explain the behaviour of the terms of trade by examining the underlying factors that influence the prices of commodities that are exported and imported. (Section II) In the background of this discussion certain tentative conclusions are drawn regarding the prospects of regional terms of trade in the near future. (Section III).

Section I

Estimates of Terms of Trade

Methodology

The weighted average of price indices of the export and import commodity baskets were constructed according to the following formulae. If P_{it} represents the price index of the ith import commodity in year t and w_i the weight of the ith import commodity in the total value of imports then $\sum_{i=1}^{n} W_i P_{it}$ gives the price index number of imports for the year t. Similarly if q_{jt} represents the price index of the jth export commodity in year t and Wj the weight of the jth export commodity value of exports, then $\sum_{i=1}^{n} W_j q_{jt}$ will give the price index number of exports in year t.

There are two sets of issues which should be discussed. The first set of issues are related to the relevant price indices to be employed. The second set of issues concern the commodity composition of the export and import baskets and the reference year to be considered in calculating the terms of trade.

We have relied on indices of prices of commodities furnished in the 'Index Numbers of Wholesale Prices in India' with the base year 1970-71 for the construction of price indices of imports and exports of Kerala. Three caveats may be mentioned. Firstly the wholesale prices at all India level may not fully reflect trends in the unit value of exports from Kerala due to significant differences in the quality of commodities traded or in the composition of commodity groups. However, there is no escape from this limitation as it is not possible to derive

any time series data of the unit value of exports/imports of Kerala. Secondly, transport cost may be a significant element in the prices of imports into Kerala and hence the unit values may be higher than the all-India wholesale prices. It need not present a serious problem as long as we are concerned with the trend in prices rather than the absolute level of prices. Still if the rate of increase of transport costs has been faster than the rate of increase of wholesale prices then it would mean that the price index of imports will be more and more underestimated over time. Thirdly, prices of foreign exports may significantly vary from internal wholesale prices. The ideal procedure might be to compute a weighted average of the price indices of intranational and international trade. This procedure is also fraught with difficulties as it would involve choice of appropriate weights for intranational and international trade and assessment of cross traffic over time. A close examination of the data indicates that there is strong correlation between the international prices as reflected in the unit values of major export commodities and the respective wholesale price indices. Coffee is an exception where wholesale prices seem to have been largely insulated from the rapid rise in international prices. The prices of petroleum products that are administratively controlled also tend to diverge from the international prices.

Terms of Trade 1974-75/1984-85

The choice of commodities and weights to be assigned to them in the calculation of the price indices of exports and imports can be equally problematic. In our comprehensive

estimates for the 1974-75 to 1984-85 period we have considered 217 commodity groups accounting for more than 96.3 per cent of the value of trade in 1975-76.[1]

Two sets of terms of trade have been constructed using the weights in 1975-76 and 1980-81, the two years for which complete trade data are available. The terms of trade have been calculated for the overall trade of Kerala (interstate and international) as well as for interstate trade separately. The relevant information is presented in Tables 1 and 2.

The behaviour of the overall terms of trade between 1974-75 and 1984-85 are similar in both the cases. The terms of trade improve between 1974-75 and 1978-79. They sharply decline between 1978-79 and 1980-81. This is followed by a phase of equally sharp improvement.

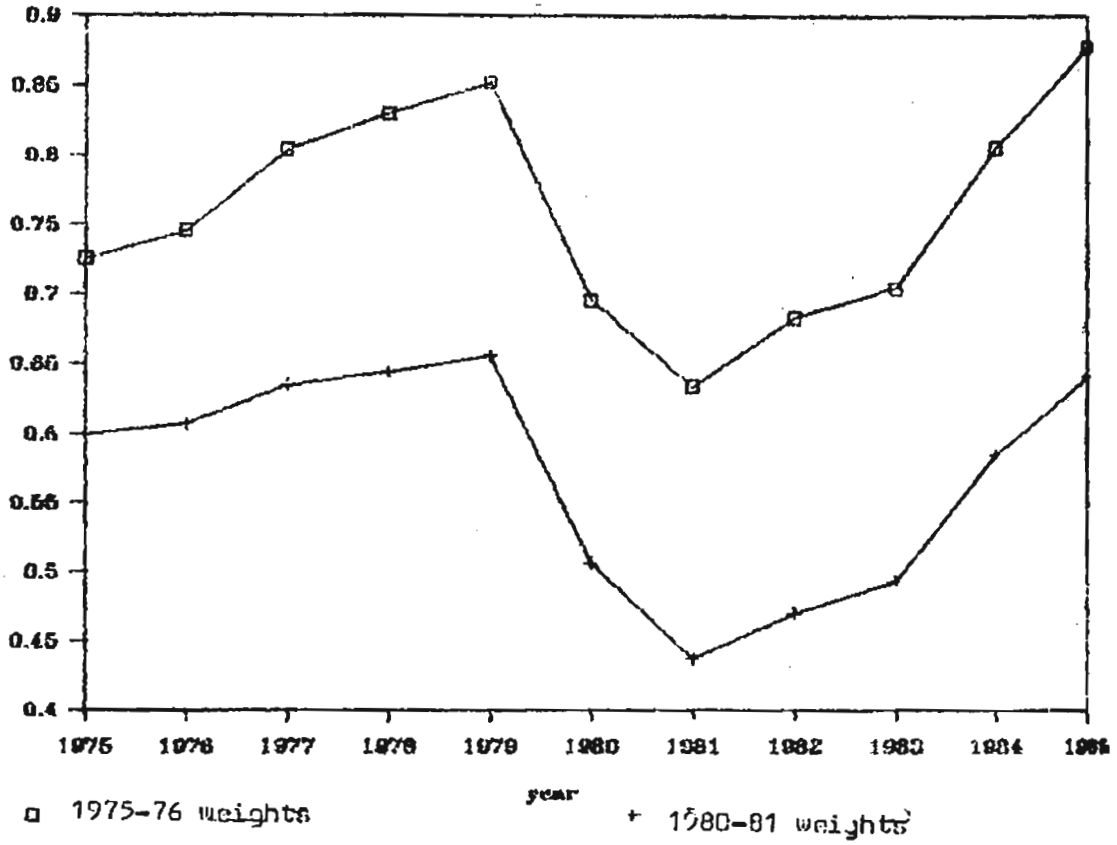
Table 1

Over All Terms of Trade (Base = 1970/71 = 100)

Year	1975-76 Commodity Weights			1980-81 Commodity Weights		
	Px	Pm	Terms of Trade	Px	Pm	Terms of Trade
1	2	3	4	5	6	7
1974-75	224.52	162.86	0.73	148.28	247.16	0.60
1975-76	227.19	169.37	0.75	152.84	251.86	0.61
1976-77	232.09	166.17	0.80	165.50	260.63	0.64
1977-78	248.14	205.85	0.83	177.65	275.48	0.64
1978-79	246.83	209.32	0.85	182.23	277.96	0.66
1979-80	334.67	232.98	0.70	284.64	403.76	0.51
1980-81	441.18	279.86	0.63	239.48	547.71	0.44
1981-82	474.58	324.53	0.68	273.82	582.89	0.47
1982-83	462.32	325.88	0.70	277.91	563.41	0.49
1983-84	454.92	366.35	0.81	315.58	539.13	0.59
1984-85	472.88	414.15	0.88	355.81	554.38	0.64

Graph 1

Overall Terms and Trade (all commodi ies)



Graph 2

Interstate Terms of Trade (all commodities)

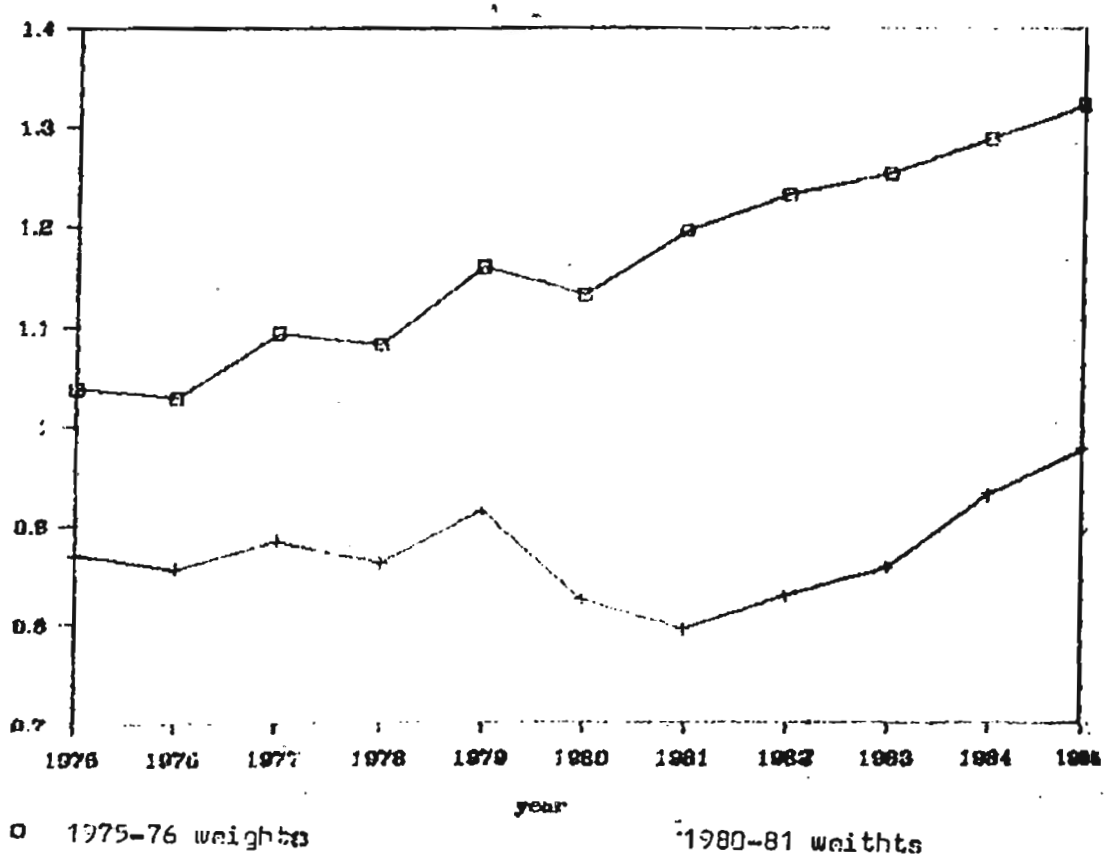


Table 2

Interstate Terms of Trade (Base: 1970/71 = 1.00)

Year	1975-76 Commodity Weights			1980-81 Commodity Weights		
	Px	Pm	Terms of Trade	Px	Pm	Terms of Trade
1	2	3	4	5	6	7
1974-75	167.43	161.29	1.04	149.39	171.66	0.87
1975-76	169.18	164.44	1.03	149.90	175.66	0.86
1976-77	180.71	165.21	1.09	157.54	176.11	0.89
1977-78	186.44	174.86	1.08	161.25	187.88	0.86
1978-79	199.39	171.65	1.16	171.48	187.78	0.91
1979-80	223.84	197.73	1.13	194.41	235.65	0.83
1980-81	275.26	238.22	1.16	238.48	269.66	0.88
1981-82	314.21	255.16	1.23	268.83	315.91	0.85
1982-83	327.41	261.48	1.25	272.54	317.95	0.86
1983-84	378.12	287.51	1.29	309.87	332.56	0.93
1984-85	406.75	307.95	1.32	341.37	350.54	0.97

Throughout, the terms of trade remain below the 1970-71 (=100) level. The deterioration is sharper when we use 1980-81 weights. (See Graph 1).

The behaviour of the interstate terms of trade is rather puzzling. The use of 1975-76 commodity weights results in a rather steady improvement of the terms of trade from 1.04 to 1.32 between 1974-75 and 1984-85. On the other hand when the 1980-81 commodity weights are used, the movement of the interstate terms of trade is similar to the trend in overall trade. It also remains below the 1970-71 level throughout the period of analysis. (see Graph 2)

The divergence between the above two estimates of inter state terms of trade underlines the sensitiveness of the terms of trade to the commodity weights employed in estimation. Until,

1975-76 the entire crude petroleum was being imported from foreign countries. By 1980-81, a part of the crude oil requirenment was being met by imports from Bombay High Oil fields. Crude oil imports constituted 4.08 per cent of the total inter state import bill in 1980-81. (Thomas Isaac T.M. et.al, 1992) This change in the composition of inter state import basket is apparently the reason for the divergent trends.

Table 3

Interstate Terms of Trade (Excluding Petroleum Trade)
(Base : 1970/71 = 100)

Year	1975-76 Commodity Weights			1980-81 Commodity Weights		
	Px	Pm	Terms of Trade	Px	Pm	Terms of Trade
1	2	3	4	5	6	7
1974-75	167.54	168.68	0.99	170.46	167.21	1.01
1975-76	162.83	171.69	0.95	166.25	170.45	0.98
1976-77	172.38	172.46	1.00	173.93	172.04	1.01
1977-78	182.34	181.68	1.00	178.35	180.35	0.99
1978-79	195.21	179.47	1.09	191.65	180.29	1.06
1979-80	215.18	206.31	1.04	213.31	208.49	1.03
1980-81	248.64	238.96	1.04	247.29	240.17	1.03
1981-82	270.25	264.01	1.02	269.96	263.71	1.02
1982-83	292.64	278.45	1.05	284.29	275.37	1.03
1983-84	331.96	297.93	1.11	332.00	304.31	1.09
1984-85	378.06	319.65	1.18	377.15	325.26	1.16

Table 4

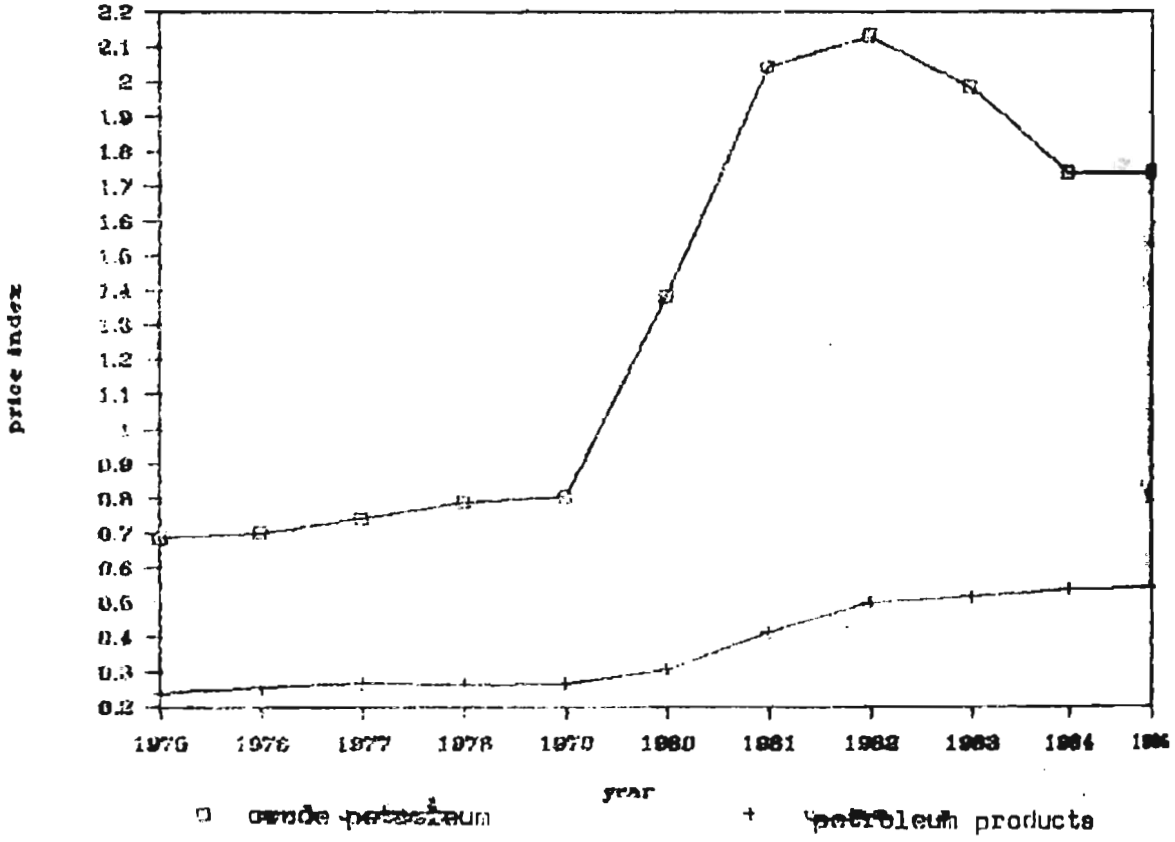
Overall Terms of Trade (Excluding Petroleum Crude and Products)
(Base : 1970/71 = 100)

Year	1975-76 Commodity Weights			1980-81 Commodity Weights		
	Px	Pm	Terms of Trade	Px	Pm	Terms of Trade
1	2	3	4	5	6	7
1974-75	156.45	165.83	8.95	149.24	149.42	1.00
1975-76	159.42	164.77	8.97	151.42	151.96	1.00
1976-77	175.72	164.57	1.07	163.83	153.66	1.07
1977-78	197.97	174.94	1.12	178.36	161.41	1.10
1978-79	201.42	172.44	1.17	183.81	162.84	1.14
1979-80	228.93	195.98	1.13	223.85	185.26	1.10
1980-81	253.39	228.81	1.11	232.56	214.13	1.09
1981-82	296.16	254.28	1.13	268.82	235.85	1.11
1982-83	294.61	259.32	1.10	263.43	245.58	1.07
1983-84	327.72	283.41	1.16	385.81	278.74	1.13
1984-85	382.23	303.12	1.26	352.16	285.76	1.23

The treatment of petroleum products is a major problem. Kerala imports crude oil. There is also cross traffic of refined mineral oil. Imports of crude oil, in value terms, constituted 11.64 per cent and 18.23 per cent of overall imports value in 1975-76 and 1980-81 respectively. The share of refined mineral oils was only 1.19 per cent in 1975-76 and 1.38 per cent in 1980-81. At the same time there is also a significant export of refined oil from Kerala. The share of mineral oil in the overall exports rose from 13.27 per cent in 1975-76 to 16.23 per cent in 1980-81. The problem arises mostly due to the differential price movements of crude oil and refined mineral oils (see Graph 3.) The crude oil prices have been highly volatile moving in sympathy with the international prices while the prices of the refined mineral oils that are administratively fixed have been more stable. Crude petroleum prices have experienced the sharpest

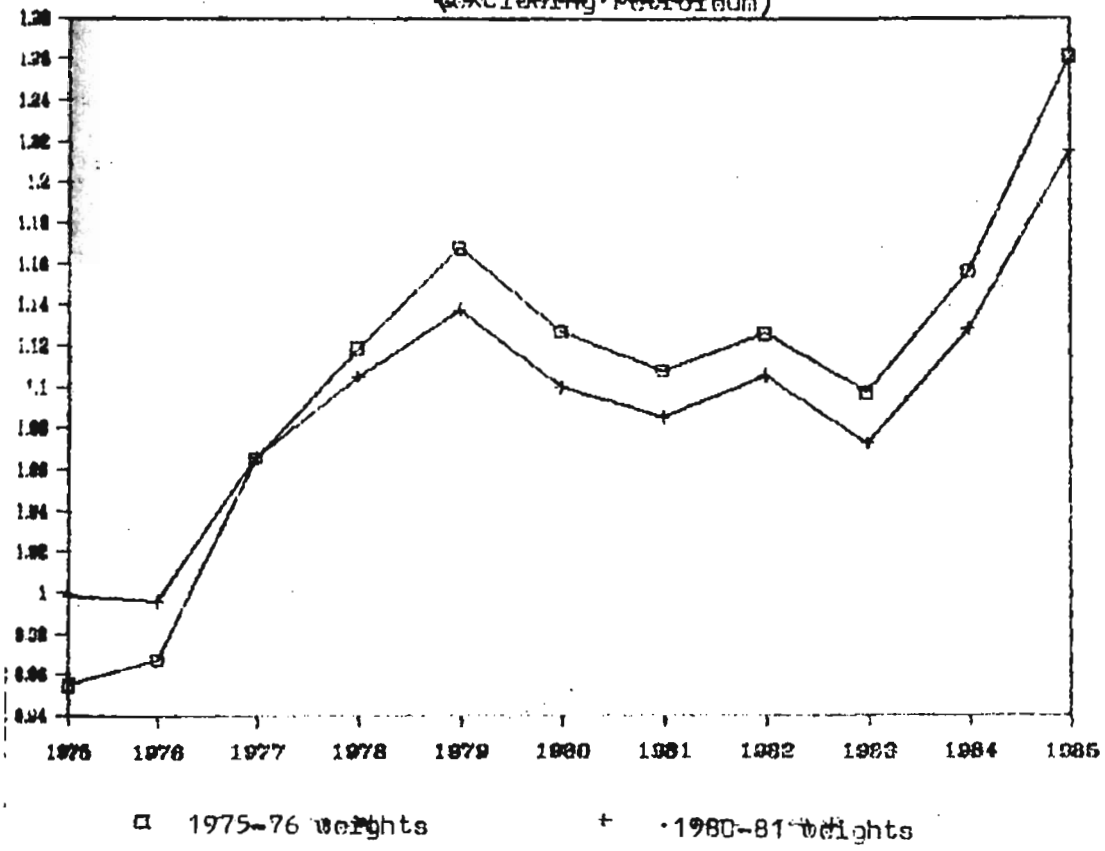
Graph 3

Wholesale Price Indices of Crude Petroleum and Petroleum Products



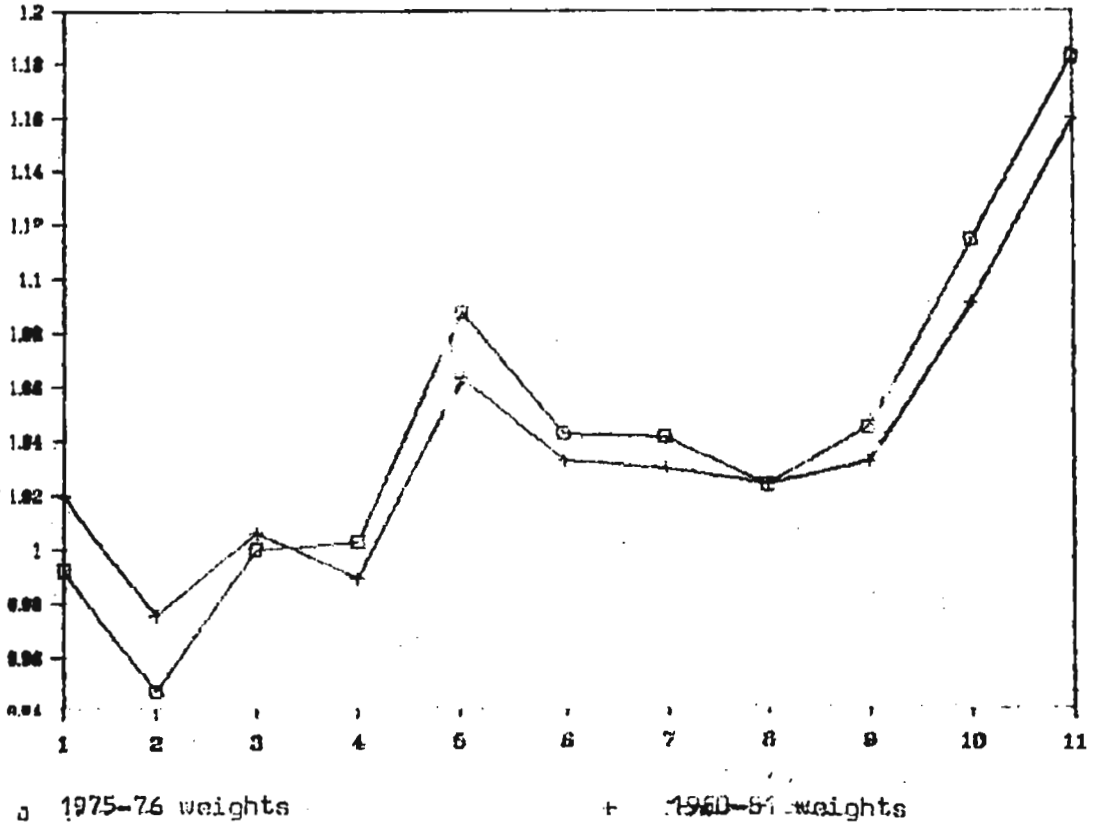
Graph 4

Overall Terms of Trade
(excluding Petroleum)



Graph 5

Interstate Terms of Trade (excluding Petroleum)



increase in prices since the mid-'seventies. Therefore its inclusion in the import basket of Kerala would tend to depress the terms of trade. It is debatable whether the trends in the prices of crude petroleum imported into Kerala to meet the demand of the oil refinery at Cochin would have any direct relevance for the regional economy. It is the trends in the prices of refined mineral oils meant for consumption within Kerala that would be of significance to regional development. To focus attention on this issue we constructed terms of trade for Kerala excluding the trade in petroleum and petroleum products. As can be seen from Graph 4, once the petroleum exports and imports are ignored in the calculation of interstate terms of trade both the estimates acquire remarkable similarity. There is also significant upward trend in both the cases. Graph 5 gives the overall terms of trade excluding the trade in petroleum. A remarkable improvement of terms of trade is discernible.

However, it would be unrealistic to ignore the consumption of petroleum products within Kerala in the calculations. The solution we have chosen is to consider Cochin Refineries, a central government undertaking, as an enclave unit and assume the actual consumption of petroleum products into Kerala as net import into the state from outside. Exports of refined mineral oil are also consequently excluded from the export basket. The consumption of petroleum products in Kerala has been estimated to be Rs. 165 crores in 1975-76 and Rs.298 crores in 1980-81 [Thomas Isaac et.al. 1992] The revised set of calculations of indices of export and import prices and overall terms of trade of Kerala using the adjusted commodity weights for 1975-76 and 1980-

81 are presented in Tables 5 and 6.

Table 5

Inter-state Terms of Trade with Actual Consumption of Petroleum

Year	1975-76 Commodity Weights : Px	Pa	Terms of Trade	1980-81 Commodity Weights Px	Pa	Terms of trade
1	2	3	4	5	6	7
1974-75	159.16	171.91	0.93	149.97	159.25	0.94
1975-76	154.68	176.67	0.88	146.26	163.61	0.89
1976-77	163.75	178.58	0.92	152.22	166.02	0.92
1977-78	173.21	186.33	0.93	156.69	172.65	0.91
1978-79	185.44	184.64	1.00	166.61	172.84	0.96
1979-80	204.40	212.06	0.96	189.43	199.53	0.95
1980-81	236.38	253.06	0.93	217.56	235.86	0.92
1981-82	256.72	285.39	0.90	237.51	263.78	0.90
1982-83	266.49	293.02	0.92	250.11	274.96	0.91
1983-84	315.34	318.50	0.99	292.09	300.27	0.97
1984-85	359.13	337.07	1.07	331.81	317.57	1.04

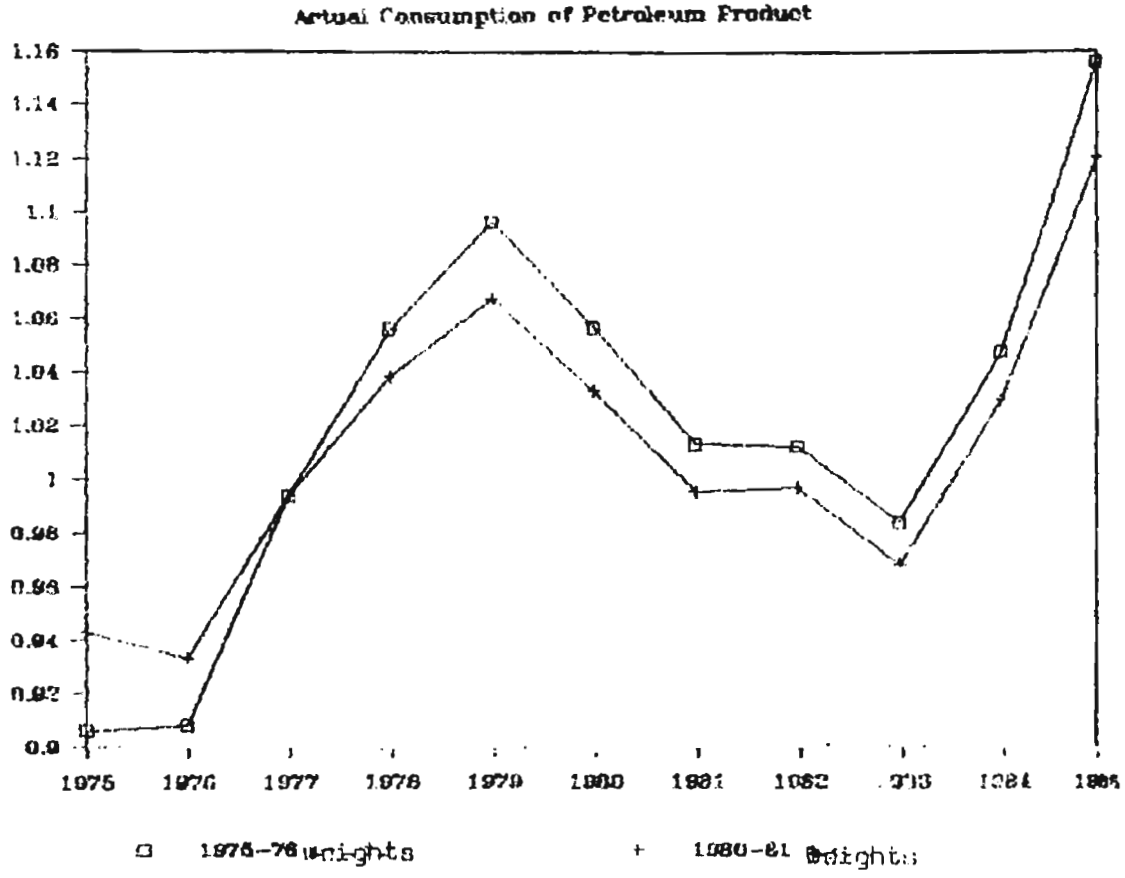
Table 6

Overal all Terms of Trade of Kerala with Actual consuption of Petroleum Products(1970-71 = 100)

Year	1975-76 Commodity Weights Px	Pa	Terms of Trade	1980-81 Commodity Weights Pa	Pa	Terms of Trade
1	2	3	4	5	6	7
1974-75	156.45	172.65	0.91	149.24	158.25	0.94
1975-76	159.42	175.45	0.91	151.42	162.26	0.93
1976-77	175.72	176.76	0.99	166.53	164.76	0.99
1977-78	197.97	187.42	1.06	178.36	171.84	1.04
1978-79	201.42	183.78	1.10	183.81	171.45	1.07
1979-80	220.93	209.82	1.06	203.85	197.28	1.03
1980-81	253.39	250.16	1.01	232.56	233.56	1.00
1981-82	286.16	282.55	0.01	264.82	261.58	1.00
1982-83	284.61	289.20	0.98	263.43	272.88	0.97
1983-84	327.72	312.81	1.05	308.51	276.73	1.03
1984-85	382.23	338.75	1.16	352.16	314.34	1.12

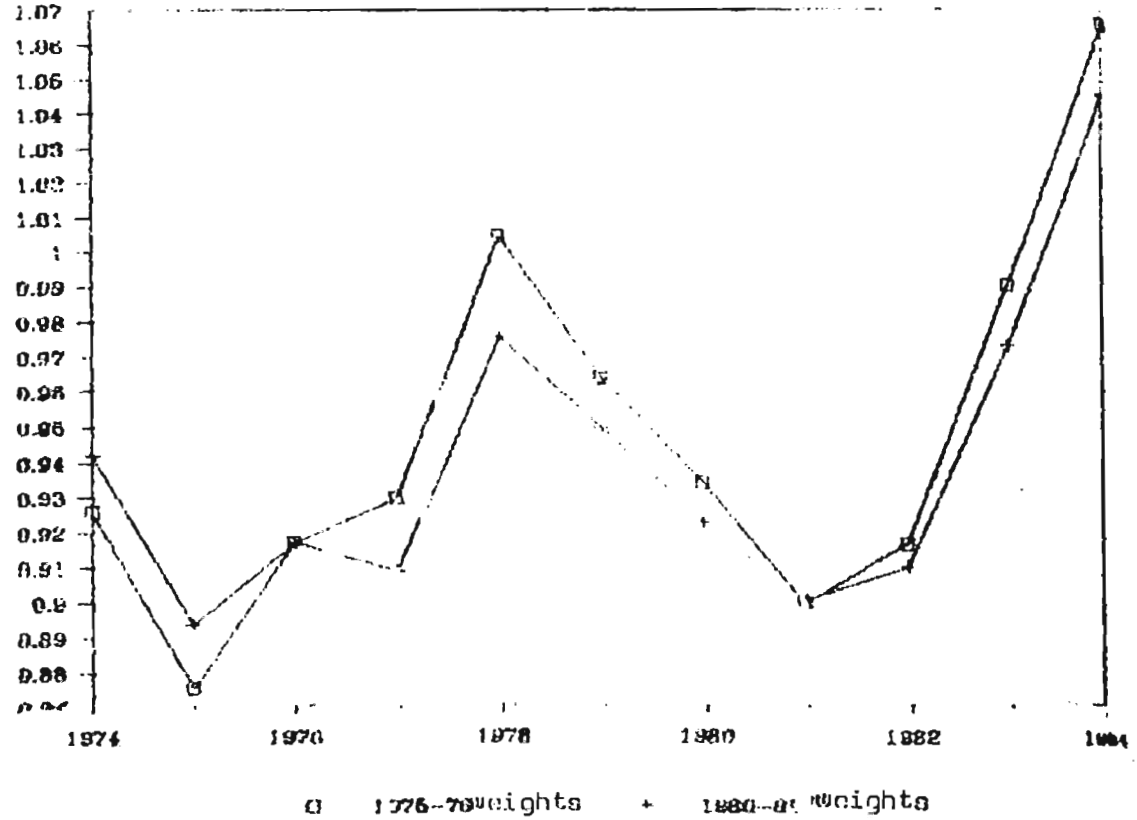
Graph 6

Overall Terms of Trade (Actual Consumption of Petroleum Products)



Graph 7

Interstate Terms of Trade (Actual Consumption of Petroleum Products)



The terms of trade with the actual consumption of petroleum products considered as net imports into Kerala is taken as the most appropriate set of calculations and the basis of future discussions. Both the estimates reveal similar trends. In 1974-75 the ratio is below the 1970-71 (=100) level but rapidly improve upto 1978-79. It declines during the next two years. From 1983 there is once again a strong resurgence. On the whole, the terms of trade improve by around 18-25 percentage points between 1974-75 and 1984-85. [See Graphs 6 and 7]

Long Run Terms of Trade 1962-63 to 1986-87

The improvement in the terms of trade from the mid-seventies is brought into sharper focus when we consider the long run terms of trade for Kerala. There are serious problems in the construction of such a series. We shall only briefly indicate the methodology employed. We selected 10 major import commodities and 18 major interstate export commodities on the basis of 1975-76 trade data. Weights were calculated on the basis of value of each of these commodities in the total value of the market of these 18 import/export commodities in 1975-76.[2] Foreign exports were considered separately and the weights were based on year wise actuals.[3] While the wholesale prices were used for the calculation of the interstate price indices, the unit value of exports were used in the calculation of foreign export price index. The weighted average of interstate export price index and the foreign export price index was taken as the overall export price index. We also tested the sensitivity of the terms of trade to the weights allotted to the foreign and interstate exports in the construction of the export price index. Estimates

were made by varying the weights of foreign to inter regional exports within range of 30:70 to 70:30.[4] All the series move in tandem, with the difference that higher the weightage given to foreign exports better the improvement in the terms of trade from mid- seventies. We have selected the ratio of 30:70 as the more appropriate one given the fact that in 1975-76 the actual ratio of foreign exports to inter-state exports was 28:72. The long run terms of trade based on this ratio is given in Graph 8. The relevant data of indices of export and import prices are presented in Table 7.

Table 7
Long run Terms of Trade 1962-63 to 1986-87
(Base = 1970/71 = 100)

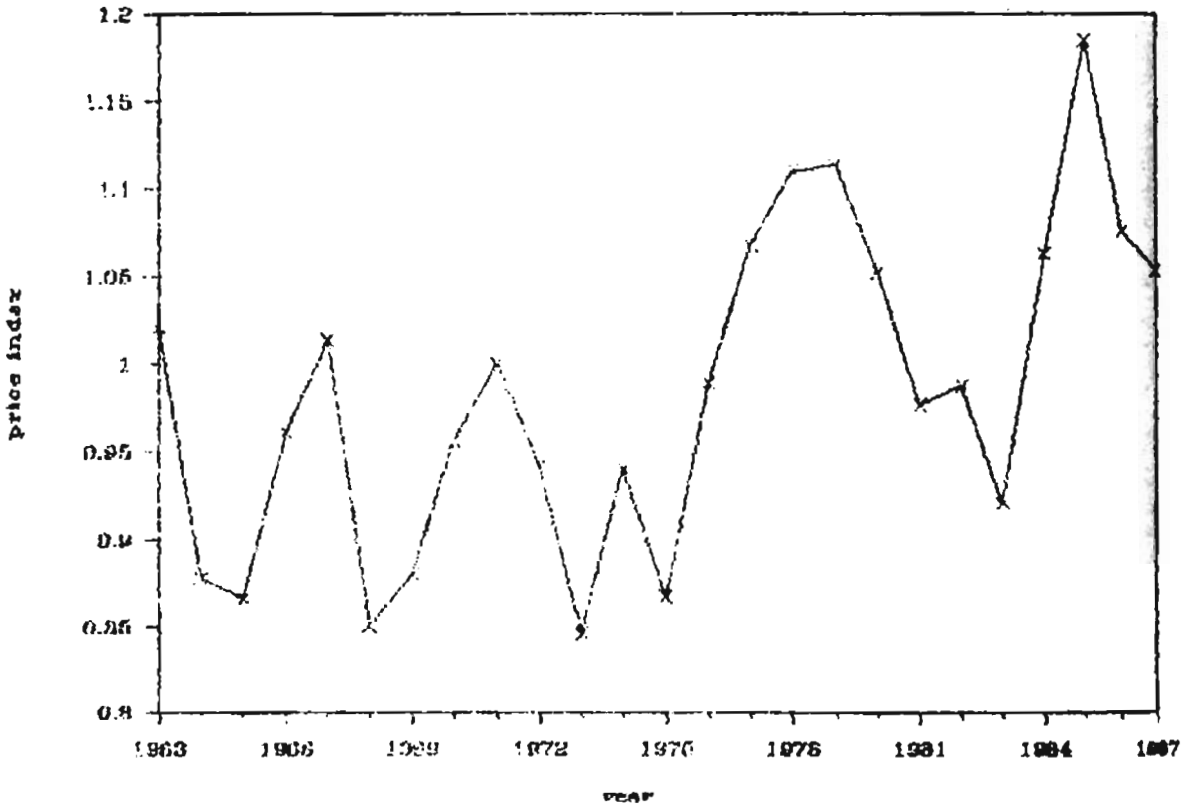
Year	Inter-state export price index	Foreign export price index	Import price index	Overall export price index	Terms of trade
1	2	3	5	5	6
1962-63	61.40	85.39	88.41	87.6	1.020304
1963-64	58.35	55.53	65.56	57.3	0.8679
1964-65	60.67	58.29	69.16	59.9	0.876021
1965-66	73.10	60.29	72.81	69.26	0.961737
1966-67	81.80	91.38	93.54	84.66	1.013568
1967-68	78.70	68.37	96.09	81.74	0.850646
1968-69	80.96	91.08	95.46	84	0.879757
1969-70	89.90	96.67	96.15	91.90	0.966162
1970-71	100	100	100	100	1
1971-72	95.28	106.63	104.78	98.68	0.941768
1972-73	93.30	108.26	115.78	97.93	0.855786
1973-74	123.79	142.6	151.66	129.43	0.94021
1974-75	150.64	157.82	184.26	159.79	0.877143
1975-76	150.45	270.22	188.44	186.36	0.999879
1976-77	166.33	270.13	184.06	197.4	1.077848
1977-78	174.29	294.02	169.33	210.2	1.110264
1978-79	198.25	253.96	193.33	219.56	1.113731
1979-80	217.75	264.98	220.45	231.94	1.052287
1980-81	247.96	312.92	273.76	267.41	0.986709
1981-82	264.09	429.42	317.62	315.69	0.997628
1982-83	276.83	336.23	320.14	294.63	0.92037
1983-84	346.67	397.91	348.53	362.84	1.063177
1984-85	410.33	480.09	351.22	416.19	1.184978
1985-86	359.96	532.17	379.98	406.82	1.086138
1986-87	391.21	514.93	486.57	428.21	1.053216

Despite the differences in the methodology the long run terms of trade series exhibit remarkable similarity to the trends we discussed earlier for the decade 1974-75 to 1984-85 on the basis of a more comprehensive exercise. Between 1974-75 and 1978-79 the terms of trade sharply improve by around 25 percentage points. The next four years upto 1982-83 are of relative deterioration. But the index rises once again in the subsequent years. The overall trend is upwards. The correspondence of the broad conclusions for the 1974-75 to 1984-85 period arrived by the two sets of data demonstrates us of the validity of the long run trends in the terms of trade revealed in Graph 6 and Table 7.

The behaviour of the terms of trade exhibits considerable cyclical fluctuations. These fluctuations mask a mild deterioration in the terms of trade between 1962-63 and 1974-75. It is seen that on an average the export price index rose by only 6.3 percentage points per annum while the import price index rose by 10.4 percentage points per annum during this period. But this deterioration was more than made up in the subsequent phase starting from 1974-75. Between 1974-75 and 1986-87 the export price index increased at an average annual rate of 27.9 percentage points while the import price index increased only by 18.5 percentage points per annum. When the entire period from 1962-63 to 1986-87 is taken into consideration it is seen that export price index has tended to rise faster than the import price index indicating a favourable long run improvement in the terms of trade. Between 1962-63 and 1986-87 the interstate export price under rose at 9.3 per cent and the foreign export

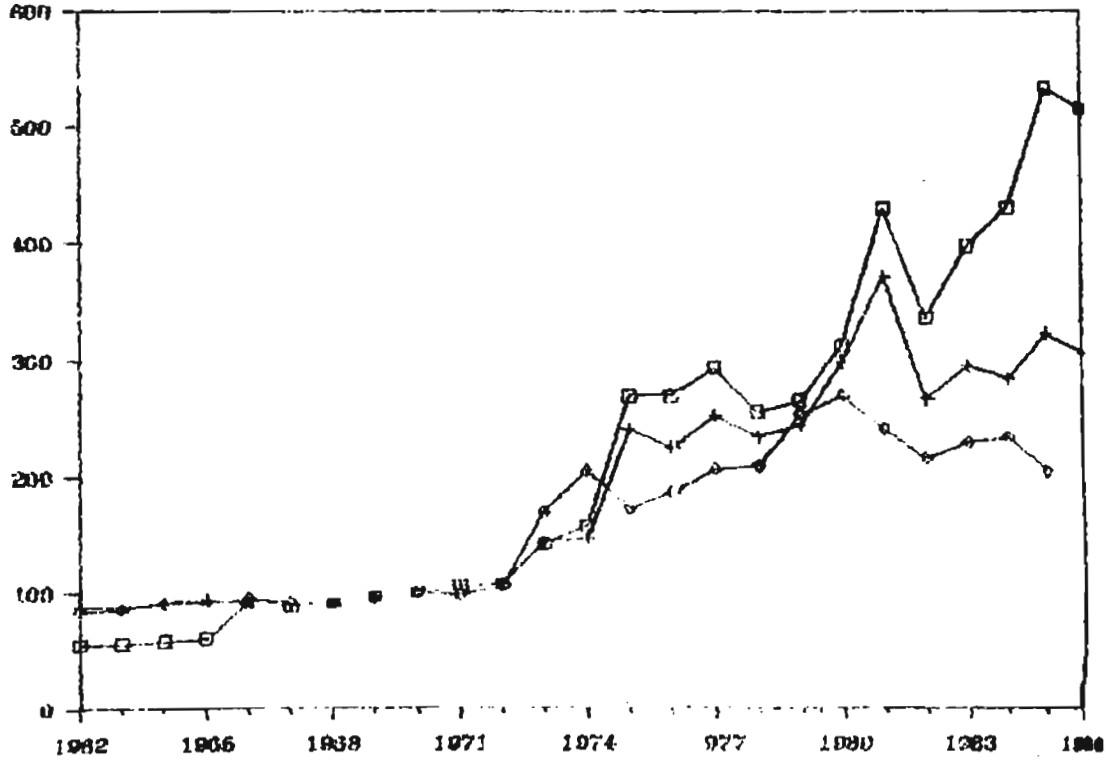
Graph 8

Longrun terms of Trade (1962-63 to 1986-87)



Graph 9

Trends in Commodity Prices (International Trade)



Index of Kerala's Export prices (in rupee terms)

Index of Kerala's Exports (in dollar terms)

IMF Commodity Price Index

price index at 10.14 per cent per annum. The overall export price index rose at 9.04 per cent per annum. The increase in import price index was only 0.66 percent per annum. Consequently the terms of trade has improved at 6.73 percent per annum during 24 year period since 1962-63.

The long run trend in the terms of trade for Kerala significantly diverges from the experience of most of the primary non-fuel exporting developing regions in he world. The primary commodity exporters have on the whole suffered secular decline in their terms of trade but for the brief period of 1972 to 1974. In the 'sixties ths decline was only moderate as in the case of Kerala. But from tne mid-seventies the decline in the terms of trade have been steep. The real commodity prices (i.e. commodity prices deflated by unit value of manufactures) have mid-'eighties fallen to the level of inter-war years.(P. Sarkar, 1986) What are the underlying factors responsible for the differential experience of Kerala? It is to this question we shall turn in the next section.

Section 2

Factors Underlying the Commodity Price Movements

The terms of trade reflect merely the relative movement o export and import prices. We have noted already that the expor prices on the whole have tended to rise faster than import price in the case of Kerala. However, the import price index exhibit a more steady increase over time when compared to the export price index. Only in two years, 1960-61 and 1976-77 does th import price index decline. On the other hand, the export pric index has tended to be more volatile. In five years it decline absolutely. These years also proved to be the years of relatively more severe deterioration of the terms of trade. Therefore there is need for closer examination of the movement o export prices. In such an examination it is also important to distinguish between interstate export prices and foreign expor prices.

The Foreign Export Commodity Prices

The price index of foreign exports has been relatively more buoyant than the interstate export price index. In the 1980s former averaged 402 (1970/71 = 100) while latter averaged only 313. As the rise in foreign export price accelerated over time the price fluctuations have also escalated. In the 1960s and up to the beginning of 1970s the foreign export prices were relatively more stable. The 50 per cent increase in the foreign export price index of Kerala 1966-67 is due to the devaluation o the Indian rupee in that year. The index of foreign expor prices of Kerala rose only at 2.09 per cent per annum betwee

1962-63 and 1972-73 when deflated by the index of the rupee-dollar exchange ratio. The relative stability of the foreign expert prices of Kerala during this phase is fully line with the experience of international price movement of primary commodities. As can be seen in Graph 9 the IMF price index of the major 39 nonfuel primary commodities does not exhibit any sharp upward trend during this period.

The situation dramatically changes from 1973-74 onwards when the international commodity prices leap upwards by around 60 per cent. 1973-74 was an year of relatively high economic activity and inflation in the advanced countries but of poor agricultural performance in the developing countries. Commodity prices continued to move upwards in an irregular fashion up to 1980. The upward movement of Kerala export prices was less dramatic initially but accelerated thereafter.

The major divergence of the trends in international commodity price index and Kerala's foreign export price index took place in the 'eighties. The IMF index of dollar prices of commodities, after reaching an all time peak in the year 1980-81, began to sharply slide down with the recession of early 'eighties. The price index decline by 25 per cent between 1980 and 1985.[International Monetary Fund, 1986] The export price of commodities from Kerala, on the other hand, after taking a nose dive in 1978-79 began to climb up once again peaking in 1985-86 when it stood at more than 250 per cent higher than the international commodity price index.

A part of the above dramatic divergence is explained by the changes in the foreign exchange rates. Helped by the high interest rates dollar appreciated vis-a-vis other currencies. On the other hand the Indian rupee has continuously depreciated during the 'eighties. The international commodity prices when measured in SDRs do not show the sharp decline as in dollar price index. It is also evident from Graph 9 where we have also plotted the index of foreign export price of Kerala deflated by the rupee - dollar exchange ratio. The export price index when adjusted for the depreciation of the Indian rupee, broadly tends to follow international commodity price movement. But even the adjusted export price index has tended to rise faster than the average of international commodity prices. This is primarily due to the difference in the commodity composition of the export basket of Kerala and that in world trade. Thus, for example, the metals and minerals, sugar and cocoa that have been most affected by the contemporary depression in commodity prices are insignificant or absent in Kerala's exports. This points to the importance of examining the specific features of Kerala's export commodities and their performance.

Cashew, marine products, pepper, cardamom, coffee, tea and coir products constitute the major components of the foreign export basket. All these commodities share many a common characteristic which to a large extent would go to explain the divergent commodity price experience of Kerala in the international market. Coir is the only exception. Coir is an inferior commodity whose international demand has been declining from the 'sixties due to changes in consumer tastes consequent to

a rise in their incomes and competition from synthetic substitutes. Its substitution by other products was an effect of rising incomes, technological changes in hop cultivation and carpet weaving in Europe and the failure to maintain the quality. But even in the case of coir, the unit value of exports have kept pace with general trend of upward movement of commodity prices despite rapid shrinkage of quantity exported. [Thomas Isaac, et.al. 1992a]

Table 9

Indices of Unit Value of Foreign Exports (1970-71=100)

	Cardamom	Cashew	Coffee	Coir Yarn	Coir Mats	Marine Products	Pepper	Tea
	1	2	3	4	5	6	7	8
1951-52	42.85	41.96	89.35	55.31	64.31	22.17	171.87	67.84
1952-53	26.16	43.81	83.11	56.84	53.82	16.61	154.82	65.95
1953-54	29.67	32.64	87.18	56.75	49.89	14.37	93.38	75.44
1954-55	33.11	31.84	88.86	59.89	49.57	13.92	52.46	97.80
1955-56	35.61	43.77	94.64	43.32	53.84	13.85	40.17	84.12
1956-57	36.49	43.58	78.64	43.68	49.78	23.76	27.78	67.33
1957-58	36.76	36.43	68.77	48.83	47.71	22.16	24.63	79.26
1958-59	38.15	36.94	61.85	39.81	47.76	58.48	25.88	81.25
1959-60	37.86	41.78	55.95	42.75	45.86	29.95	51.38	89.64
1960-61	32.46	45.85	45.10	46.98	53.37	33.52	54.53	81.29
1961-62	25.59	39.24	33.47	57.66	60.58	58.44	43.99	79.15
1962-63	22.18	38.52	48.26	59.15	68.43	44.41	36.63	76.86
1963-64	26.18	41.31	48.12	57.41	62.66	42.38	38.18	78.56
1964-65	22.31	53.43	56.59	58.88	65.23	46.04	47.85	82.11
1965-66	49.52	51.76	59.91	61.55	66.81	63.17	58.31	78.81
1966-67	79.37	65.11	77.03	89.26	100.62	100.86	67.56	107.28
1967-68	75.81	67.62	75.42	61.61	93.84	97.39	62.85	101.46
1968-69	89.26	78.98	78.94	92.12	95.35	101.75	62.88	95.87
1969-70	133.38	93.92	76.87	93.44	105.76	107.92	96.54	66.11
1970-71	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1971-72	54.85	99.15	76.64	114.97	116.63	143.97	88.79	97.42
1972-73	84.62	102.39	92.57	110.10	129.68	144.81	87.92	95.58
1973-74	104.48	157.49	126.85	122.53	149.82	170.63	123.48	101.92
1974-75	137.57	100.19	120.49	102.26	179.38	140.66	100.52	141.11
1975-76	151.42	146.31	115.16	201.78	196.95	221.62	566.27	164.43
1976-77	299.66	238.71	471.85	177.37	206.92	217.05	242.13	237.51
1977-78	217.95	345.01	419.83	176.49	235.56	214.85	241.87	314.58
1978-79	228.82	302.85	263.71	224.46	239.81	284.97	112.70	215.33
1979-80	187.56	290.97	301.63	348.75	331.45	151.21	184.86	279.64
1980-81	102.23	451.37	262.10	310.43	206.76	208.26	164.44	236.60
1981-82	170.28	664.38	245.56	315.94	389.13	410.38	244.63	219.87
1982-83	229.45	400.23	306.06	293.76	400.75	392.97	179.31	265.41
1983-84	426.36	448.52	371.89	338.81	367.10	392.87	248.42	439.97
1984-85	321.35	500.53	438.50	402.86	436.22	429.26	381.27	356.26
1985-86	250.93	684.83	443.22	522.58	487.68	431.33	575.87	341.81
1986-87	211.85	666.22	429.24	443.40	539.91	414.37	468.67	375.55

Source: Bureau of Economics and Statistics, Kerala (1972)
Directorate of Economics and Statistics, Kerala (1977), (1988)
Department of Economics and Statistics, Kerala (1958)

The commodities other than coir in the export basket of Kerala, on the whole, have been enjoying relatively bouyant demand conditions ever since independence. The demand for these commodities is not a derived demand but for final consumption and is, therefore, more stable. It is largely governed by taste and tradition. For example, it is seen that due to the relative stability of food preferences the substitution of cashewnuts by other nuts like almonds has been very limited despite the farmer's relatively rapid price rise. [Kannan K.P., 1983] It is reported that there is little substitution even between beverage commodities like coffee and tea except in instances of a very large scale change in relative prices. The demand adjustments to changes in relative prices take place only in the long run in the case of these commodities. Further, they are also not threatened by the synthetic substitutes as in the case of hard fibres or sugar. As a consequence the demand for the export commodities of Kerala have steadily increased and the price behaviour has largely been determined by fluctuations in supply. Even relatively small shortfalls in supply results in major upswings in price particularly if the stocks are low. Stock holdings of these commodities are also relatively low as the quality of the products would deteriorate in storage.

The periodic sharp increases in prices, as a result of shortfalls in production in any of the major producing countries, would initiate a bunch of additional investment to create additional supply capacity. It may be remembered that but for marine products all the major export commodities of Kerala are products of tree and other perennial crops. The supply response

of these perennial crops has long gestation lags resulting in cyclical pattern in production and prices. Thus, for example, the upward movement of cardamom prices at around 10 per cent per annum during the post independence period is seen to be interrupted with periodic phases of decline and stagnation of prices. The cyclical period has been estimated to be around 11 years. [Nair K.N. et.al. 1989] 1982-83 proved to be a peak year of a cardamom cycle. The prices continued to be bouyant in the succeeding two years also.

In the case of coffee, as can be seen from Table 9, the 1950s and 1970s were periods of relatively high prices while the 1960s and early 1980s were of low prices. The Brazilian frost of 1975 was responsible for one of the sharpest escalation of coffee prices in history. In 1975-76 the unit value of exports increased by around 300 per cent. The slide down that began the very next year was to a large extent controlled by the International Coffee Agreement and a relatively poor crop in Brazil in 1983-84 due to heavy rainfall. It was followed by a prolonged drought in 1985. As a result the decade since mid-1970s was a period of relatively bouyant coffee prices. [World Bank 1989].

The fluctuation in tea prices, the other major beverage commodity, has been relatively more muted due to the operation of stock holdings and the possibility of limited increase in short run supply through 'coarse plucking' of the leaves in times of scarcity. Tea prices rose sharply in the early 1950s. After a period of relatively stable prices, it rose in sympathy with

offee price in late 1970s. It continued to move upwards in esponse to the 1983 drought in South Asia and the Government of India's attempts to restrict exports in order to protect the omestic consumers from the rise in international prices. [World ank 1989]

Cashew kernels and marine products are the two major food ommodities exported from Kerala. The relatively stable demand or cashew has already been referred to. Cashew prices began to harply move upwards from 1972-73 when the unit value of exports ose by more than 50 per cent. By 1976-77 prices had risen by nother 100 per cent. The reduction in raw nut availability due o pest damage and unsettled social conditions in East Africa was he major supply constraint. East African supply picked up only lowly and the supply has not been sufficient to meet the demand. onsequently the prices continued to move upwards in irregular ashion. [K.P. Kannan, 1983] By 1984-85 the cashew prices had isen to nearly 7 times the level of 1970-71. [See Table 9].

Due to changes brought about in the food habits during the orld war II the demand for sea food has remained bouyant in the ost war period. Particularly, the demand for crustaceans in USA nd Japan has been steadily expanding. But supply has been estricted by natural conditions of marine regeneration. The upply from artificial culturing of crusteceans has become ignificant only in recent years. [Shajahan K.M. 1987]

Pepper the major spice crop has had the most volatile rice behaviour. It is estimated the world demand for pepper has

been increasing at around 2 per cent per annum. [George P.S. et.al. 1989] Since stockholding of pepper has been relatively low till the entry of Japanese multinationals into Brazilian pepper production recently, prices have fluctuated according t changes in production. After a precipitous decline of prices in the early 1980s when the unit value of exports declined to nearly one fifth over five years, prices had been slowly inching upwards with cyclical fluctuations. The prices rose sharply in 1974-7 and moved upwards till 1979-80. Another sharp upward surge occurred in mid-1980s. (see Table 9)

The price instability of Kerala's export commodities has not had so debilitating an impact as in the case of many of the monocroo primary commodity exporters because of the diversified export basket. Demand for the products of the region has generally been so far buoyant and, further, due to a number of fortitous circumstances causing supply constraints in the producing countries the surge of commodity prices in the mid 1970s has continued into the 1980s. The relatively long recovery of the world economy from the early 1980s depression also contributed to the buoyant demand particularly of cashew and marine products.

Interstate Export Commodity Prices

We shall now consider the trends in the prices of interstate export commodities that account for nearly 70 per cent of the total exports of the region. The interstate exports are much more diversified than the foreign exports. It is neither possible nor is it necessary to analyse the price trends of all

the commodities that are exported to the rest of India. We shall take up for detailed examination only two commodity groups, coconut products and rubber, which constitute 55 per cent of the total value of 18 major commodities that have been considered for the construction of the long term interstate export price index. The price of spices that constitute another 10 per cent of the export index basket closely follow the international price trends that we have already discussed. Most of the other major interstate export commodities, with the exception of a few like rayon and ginger, have enjoyed relatively buoyant price conditions with the prices rising faster than the average wholesale price index.[9]

Prices of rubber and coconut oil have been rising faster than other agricultural commodities produced in Kerala. The relative tilt of prices in favour of coconut is discernible from the late 1960s and that of rubber from the mid-1970s. The price relative of other edible oils to coconut oil has also substantially moved in favour of coconut oil. Interestingly, it has been shown that availability of other edible oils have little impact on the price movements of coconut oil. (D. Narayana et.al. 1988) The relative stability of demand for coconut oil is attributed to its special qualities which makes it a preferred product for many uses such as toiletry and custom and taste defined demand as cooking medium among Malayali population. As regards rubber there is no competing substitute to its main end uses. The use of synthetic rubber in India is very limited- less than 20 per cent of total consumption while it is around 70 per cent internationally.

Further, the domestic production of coconuts and rubber is heavily protected by import restrictions and thus insulated from the trends in the international markets. Till the late 1950s, in the case of coconut, and till around the mid-1960s, in the case of rubber, imports were an important component of the internal consumption of these products in India. The imports of copra and coconut oil exceeded 100,000 tonnes per annum in the immediate pre World War II years. During the first half of the 1960s as much as around 40 per cent of the consumption of rubber was being imported. Protection from international competition was extended to these products as an incentive for the expansion of domestic capacity. The domestic production of both coconut and rubber have rapidly expanded but still supply has lagged behind the demand. In years of a serious mismatch between demand and supply, caused mostly by fluctuations in supply conditions, the commodity prices have surged upwards. In such situations imports continue to be employed to keep prices in check. Thus foreign imports are an important determinant of the domestic prices of coconut oil and rubber.

The coconut prices in the 1950s had remained depressed due to the unrestricted imports of copra from the then Sree Lanka. Prices began to move upwards with the decline imports in the late 1950s. But the rapid escalation of coconut prices began only from the late 1960s when the imports were virtually eliminated. A study of coconut oil prices has shown that the imports were the single most important variable underlying the price changes (with explanatory power for 77 per cent of the changes) [Jacob Mathew 1978]. The downswings in coconut oil prices in 1971-72,

1975-76 and 1985-86 were associated with imports which were made as a deliberate policy to contain the increase in domestic prices. Such moves have been deeply resented by the coconut growers in Kerala and they have so far been successful in preventing any long run scheme for large imports. In the absence of imports, the severe drought conditions in Kerala during 1982-83 and consequent poor crop output raised the coconut prices to peak levels in 1984-85. Thus during the 1980s the coconut oil prices which till then had been generally lagging behind the general index of whole sale prices surged ahead.

Price of rubber had been controlled as part of comprehensive regulatory scheme of production, consumption, import/exports and price of natural rubber introduced with the establishment of the International Rubber Regulation Agreement in 1934. The ceiling on maximum price was removed in 1969. The prices sharply rose during 1974, a process which was further hastened by the state subsidised exports of rubber between 1973-74 to 1977-78. The continuation of exports helped to prevent complete erosion of the above increase in the subsequent years. The prices once again sharply increased in 1978-79. Subsequently exports were stopped and limited imports once again permitted.[Sunil Mani, 1984] But as in the case of coconut due to pressure from growers it has not been possible to undertake imports of a sufficient scale as to halt the acceleration the price of domestic rubber. The imports of rubber have been cannalised through STC the release prices so regulated as not to unduly depress the domestic prices. During the first half of 1980s there was significant increase in the rubber prices [See Table 10]

Table 18

Trends in the National and International Prices of Coconut oil and Rubber

(Rs. per quintal)

Year	Rubber Price			Coconut Oil Price		
	Indian	World	Ratio of Indian price to World price	Indian	World	Ratio of Indian Price to World Price
1	2	3	4	5	6	7
1960	343	371	0.92	240	149.30	1.61
1961	330	287	1.15	236	121.00	1.95
1962	325	268	1.21	264	121.00	2.20
1963	323	248	1.31	284	136.00	2.08
1964	325	234	1.39	277	141.00	1.96
1965	360	240	1.50	422	166.00	2.54
1966	591	353	1.67	436	206.00	2.21
1967	418	292	1.43	458	245.00	2.02
1968	436	287	1.52	497	299.00	1.66
1969	545	377	1.45	497	271.00	1.84
1970	489	305	1.60	702	298.00	2.35
1971	444	258	1.72	561	278.00	2.00
1972	460	261	1.76	521	178.00	2.93
1973	498	551	0.90	864	381.00	2.26
1974	798	597	1.34	1153	808.00	1.42
1975	827	472	1.75	843	338.00	2.49
1976	653	787	0.92	931	375.00	2.48
1977	638	692	0.91	1072	505.00	2.12
1978	885	789	1.12	1173	560.00	2.09
1979	1824	1811	1.41	1146	800.00	1.43
1980	1154	1083	1.07	1583	530.00	2.64
1981	1423	872	1.63	1401	494.00	2.83
1982	1473	739	1.99	1450	439.00	3.30
1983	1672	1042	1.60	2000	737.00	2.71
1984	1689	1042	1.62	3600	1372.00	2.62
1985	1694	1040	1.90	1750	750.00	2.33
1986	1670	846	1.69	1892	375.00	5.04
1987	1766	988	1.45	3165	575.00	5.50
1988	1611	1215	1.13	3139	791.00	3.96

Source: World Bank (1986), Narayana D. et.al. (1991), Sunil Mani (1991)

The import restrictions have resulted in the separation of the Indian domestic and international prices of coconuts and rubber. This is evident from the data presented in Table 18 where wholesale prices of coconut oil and rubber at Calicut and Kottayam markets are compared to the international prices of

these commodities. The market quotations of rubber at Kuala Lumpur and coconut oil at Rotterdam in dollar prices have been converted into rupee values by using relevant foreign exchange rates. The results are rather startling. Domestic coconut oil prices have always been higher than international prices but what is important to note is that the differences have tended to widen over time. The ratio of the former to the latter which averaged 1.2 in the 1960s, increased to 2.2 in the 1970s and during the 1980s to a startingly high average ratio of 3.5. In the case of rubber the two prices that have tended to move largely close together have diverged from the late 1970s. During the 1980s the domestic rubber prices were on an average 1.4 times higher than the international prices.

Import Commodity Prices

The price index of import commodities of Kerala has been rising only at around the same rate as the general level of prices in the country. While the wholesale prices in India grew at 9.3 per cent per annum between 1970-71 and 1985-86 the import commodities price index grew at the marginally lower rate of 8.6 per cent per annum during the same period. This is a rather surprising discovery because of the dominance of manufactured final products and administratively price controlled commodities in Kerala's import basket. Manufactured consumables account for 21 per cent and administered price commodities, namely, petroleum products, grains, sugar, cement and iron and steel 71 per cent of the weights of our import commodity price index. The weight of petroleum products alone comes to 28 per cent.

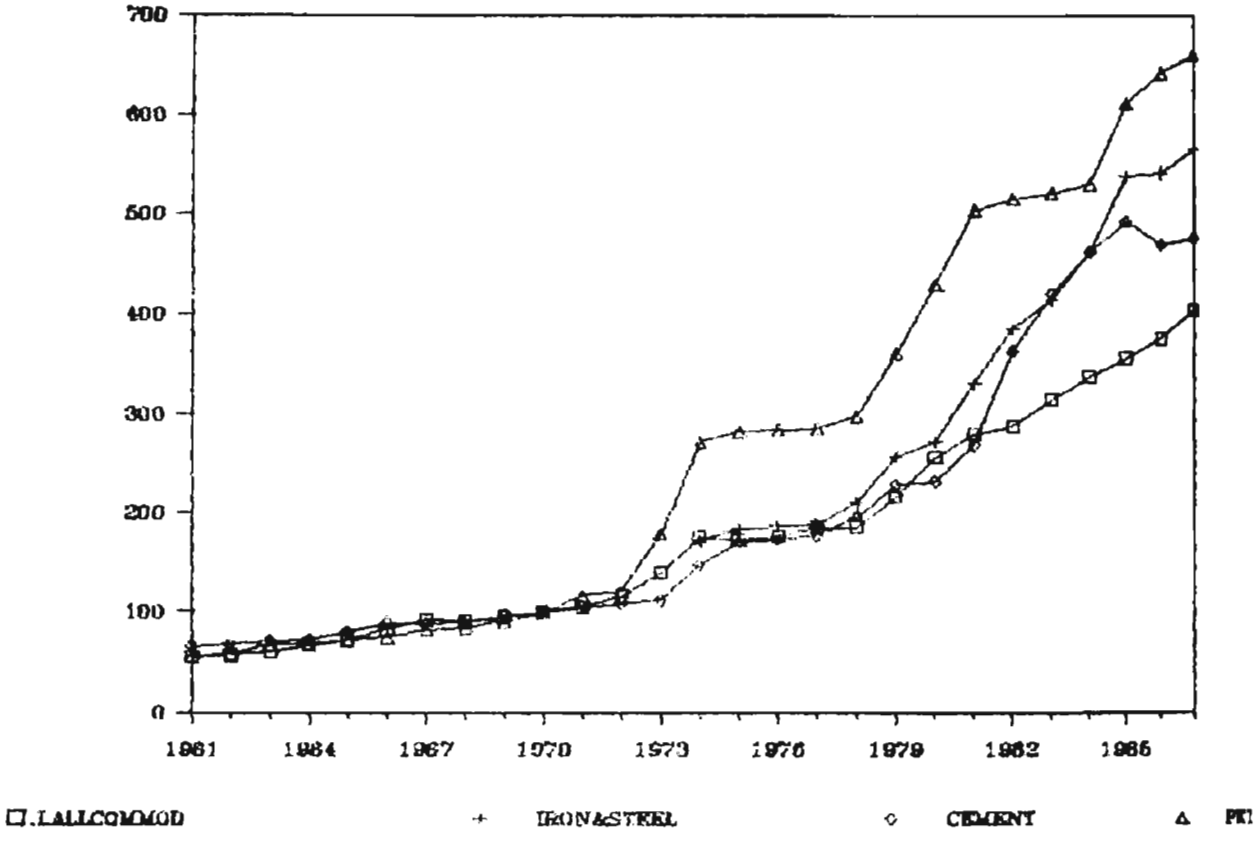
The administrative controls of the government on the latter group of commodities extend not only to price structure but also modalities of distribution. The policy objectives vary with commodity: inter-state price equalisation or fair price to consumers or minimum price to farmers. The degree of control has also varied between commodities and also over time from full control to partial control to decontrol. It is not our intention to document the chequered history of administrtive prices in India. But the follwing broad trends may be noted: Firstly, the main trend in the recent years have been towards decontrol. Secondly, the resource mobilisation possibilities from regulation has been receiving greater attention of the authorities. With accentuation of the fiscal crisis of the government and failure to raise the efficiency of public sector units, frequent administrative price hikes have proved to be too tempting. Thus administrative control of these essential and basic goods have ceased to be a check on prices. There is a growing body of evidence that the inflation from the 'seventies is to a great extent administered prices led. [Shikha Jha and Sudipto Mundle 1987] Between 1970-71 and 1985-86 while the non administered prices grew at 8.6 per cent per annum the administered prices grew at 10.3 per cent per annum. Petroleum products was the lead performer with a 48 per cent increase between 1973-74 and a 1974-75 and 27 per cent per annum price rise between 1980-81 and 1982-83. Between 1970-71 and 1985-86 petroleum product prices grew at 14 per cent per annum. Iron and steel is another commodity group whose prices have tended to rise at a faster rate than the general price level. Steel prices are set by the Joint Plant Committees and the general inefficiency of steel production has

increasingly been passed on to consumers in the form of higher prices. The rate of increase of prices has been higher in the case of goods that are not directly demanded by the government. Cement is a commodity which is largely produced in the private sector but whose prices were government controlled until the early 1980s. Since deregulation the cement prices that generally moved closely with the overall whole sale price index has tended to sharply move upwards during the 1980s. (See Graph 10)

But sharp escalation of the above administered prices have been to a great extent neutralised by the price behaviour of foodgrains and sugar that are under partial control of the administration. The movement of grain prices is of particular importance, claiming as it does 26 per cent of the weight of the import price index. As can be seen from Graph 11, the price of rice has been closely following the wholesale price index until around the mid 1970s. Since then it has tended to rise at a relatively slower rate than the wholesale price index. Between 1970-71 and 1985-86 while the wholesale price index rose at 9.3 per cent per annum while the wholesale price of rice increased only at 6.70 per cent per annum. The real increase in the price of rice imports into Kerala must have been lower because bulk of the imports are on government account for distribution through ration shops. The issue price of rice for rationing has been rising at a significantly lower rate than wholesale prices. Between 1970-71 and 1985-86 it is seen that prices tended grow only at 5.36 per cent per annum. The ration prices are also insulated from market fluctuations of grain prices. The same arguments would also apply to the imports of sugar. In fact, the

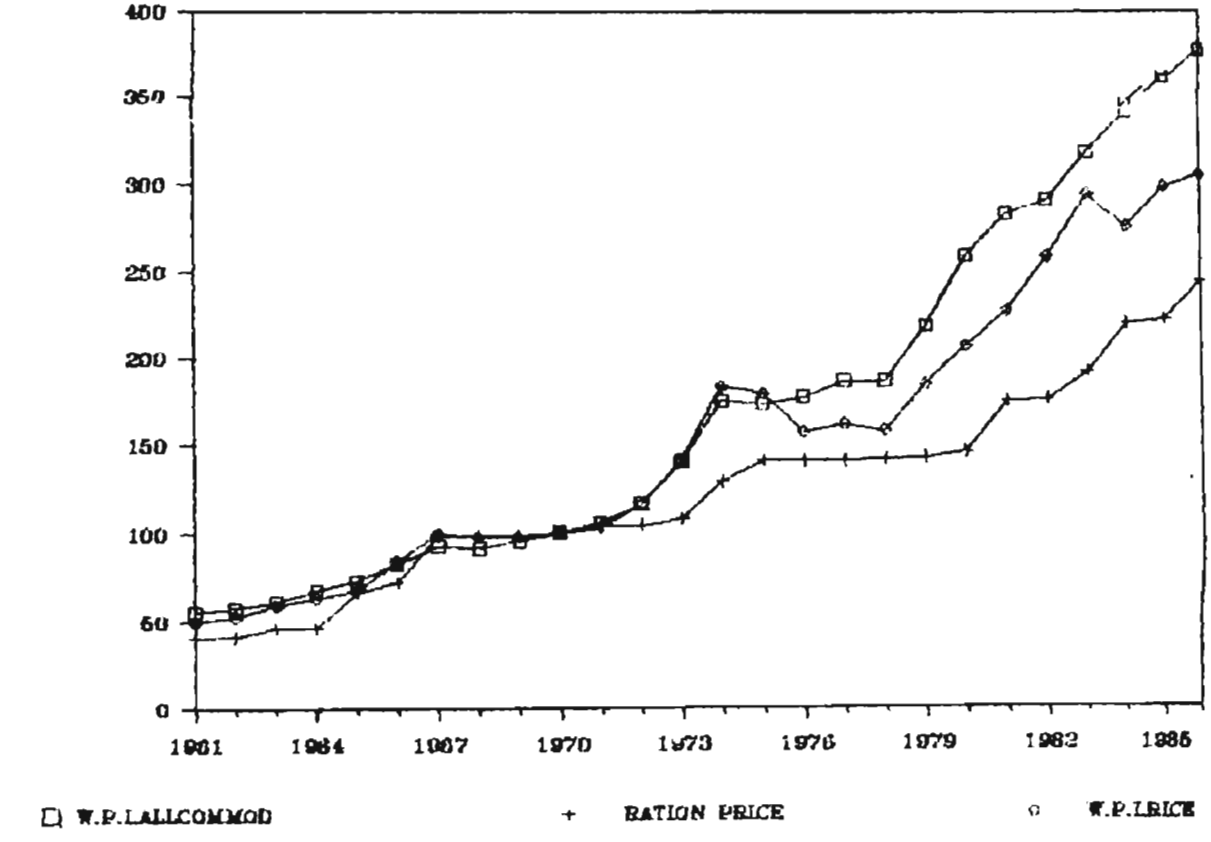
Graph 10

Wholesale Price Indices of Petroleum, Iron & Steel and Cement



Graph 11

Trends in the Price of Rice (Ration and Open Market)



sugar price increases have been much more muted in the 1980s.

There is another aspect of the imports of grains and sugar that ought to be mentioned. Not only have the ration prices been rising at a slower rate than the open market prices but also the former have always been 35 to 40 per cent lower than the latter. In other words there is a significant element of subsidy involved in the major proportion of the foodgrain and sugar imports into Kerala. The terms of trade do not reflect this gain of interregional trade as in its construction only trends and not the absolute levels that are relevent.

Section 3

Future Prospects

Having surveyed the factors underlying the trends in the commodity prices we shall try to draw broad inferences on the likely tendencies in future. Such an exercise assumes importance in the context of the contemporary trade and price reforms being implemented in the country. We shall confine our comments to the possible impact of these reforms on the regional terms of trade alone.

There is a near consensus on the inflationary potential of the reform package. There has been an acceleration in the inflation which is likely to persist. Since almost the entire regional import requirement is met from other Indian states a rapid escalation of the import price indices is a near certain. It is all the more so given the fact that the regional import basket is weighted with commodities whose prices are likely to grow faster than the general rate of inflation.

It is clear that administrative price hikes would continue to be an important source of resource mobilisation in the future also. India's vulnerability to international crude prices is likely to increase. As the Bombay High Oil production has peaked and there has not been any other similar large discovery oil deposit yet. Petroleum product prices are likely to continue to rise as in the past not only in response to international price movements but also as an easy means of resource mobilisation under the guise of conservation. The prospects of any

nificant step up of efficiency of steel production and nsequent dampening of steel prices are also bleak.

The prices of grain, the major import into Kerala is nlikely to persist in its present course of a relatively slower rise than the average of wholesale prices. Further, the ffective price of Kerala imports will tend to rise faster as its pendency on open market purchases increases. In the new policy nvironment the pressure on the government of India to cut down bsidies - with food subsidies being one of the prime targets- ill be increasing. Already Kerala's dependence on open market rchases has been increasing as the allocations have often been, rticularly in the latter half of eighties, drastically reduced dly to be partially restored under popular pressure. The open rket prices, as we have noted, are significantly higher than ration prices and an increase of the former's weight in Kerala's grain imports will accelerate the rise in effective grain price en if wholesale prices of grain continue to remain relatively subdued. The same would hold true for the future trends in suger rices also.

On the side of exports, it is unlikely that the present uyancy of prices would persist into the future. There is ikely to be a down turn in prices in the coming years given the cyclical behaviour of prices of many of the products. The fortunate set of circumstances which facilitated high prices for the foreign export commodities since the mid 1970s is unlikely to endure indefinitely. High prices should have attracted considereble investment into additional capacity, creation of

which will come into fruition in the coming years. The competition to traditional foreign exports from Kerala by other developing countries who are relatively new entrants has been increasing. Brazil and East African countries in the cashew market, Taiwanese and Indonesians in the prawn market, Gautemala in the Cardamom market, Brazil and Indonesia in the pepper market and Sri Lanka in coir are vivid examples. In terms of quality and cost Kerala's products are often outcompeted. With a growing debt burden on many of these countries, compulsions to export will increase. Consequently competition in the international market is also likely to increase pegging down prices. Unlike the experience in the mid 1960s there would not be any proportionate increase in the unit value of regional exports consequent upon devaluation of the Indian rupee. The value of exports from principal foreign export commodities for which data is available shows either stagnation or decline during the most recent years from 1985-86 to 1988-89. [State Planning Board 1990]

The prospects for interstate export commodity prices also appear to be bleak, particularly, for the two principal crops- rubber and coconuts. In the new policy regime of import liberalisation, it is unlikely that the present level of protection that coconut and rubber enjoy from international competition can continue indefinitely. The imports of these two commodities have become a serious issue of socio-political contention. Rubber imports have been effectively used to keep the rubber prices on a leash in the recent years. Rubber prices after climbing the peak in 1983-84 slowed down and on an average has increased only by around 1 per cent per annum. Similarly the

wholesale price index of coconut oil after peaking in 1984 crashed the following year. But coconut oil prices have remained relatively bouyant so far. Apart from the threat of imports, the coconut economy is going to face another major grave problem which is little realised today. The stable demand conditions for coconut oil have been slowly being eroded due to its prolonged relatively high price. Within Kerala itself coconut oil is being increasingly substituted by cheaper oils for cooking and toiletry purposes. The use of coconut oil in soap manufacturing has also been significantly curtailed in recent years. Further, coconut production in other states has been rapidly expanding undermining Kerala's dominant position. The significantly higher productivity of these new coconut growers will also be a serious challenge to the cost effectiveness of Kerala's production.

Many other interstate export commodities like betelnut and coir, have been facing stagnation in prices in recent years. Kerala's white fibre production and its products, particularly yarn, would find it difficult to compete with the cheaper yarn and rope made from fibre mechanically extracted from dry or green husks in Tamil Nadu.

The picture that is emerging from the above discussion is fairly evident. The prices of import commodities would maintain current rate of increase, or even accelerate. But a deceleration of the rise in prices of the foreign and inter-state export commodities appears inevitable. Consequently in the medium term the terms of trade of Kerala are likely to move in an adverse direction. The data in Table 7 shows, in fact, that the terms of

trade declined from 1.18 in 1984-85 to 1.08 in 1985-86 and further in 1.05 in 1986-87. We did a quick estimate of the ratio for 1987-88 and 1988-89. For the 1987-88 the ratio improves to 1.07 but declines to 0.99 in 1988-89.

Kerala seems to have entered a phase of deterioration in the terms of trade which is likely to be more severe than that of the 1960s. It may also be remembered in this context that the real income effect of the deterioration in barter terms of trade was to a great extent mitigated by the rapid expansion of the regional exports that took place during the earlier phase. But, as we have pointed out elsewhere the regional exports, during the recent years, have been characterised by severe supply constraints arising from various factors such as resource depletion as in the case of forest or marine products or ecological degradation and low productivity as in the case of agricultural products. [Thomas Isaac et.al., 1992] It is difficult to ease these constraints in the short run. Therefore it would appear that unlike in the 1960s Kerala is going to face also a deterioration in its income terms of trade in the new phase. It is indeed a disquieting prospects for the region for the near future.

[The present working paper forms a part of a larger study on trade and the development experience of Kerala. The authors wish to thank D. Narayana and K.N. Harilal on a earlier version of the paper, J. Sreekumar for computational assistance and D. Girija for typing service]

Notes

1. For a statement of the commodity composition of Kerala's external trade classified in 262 commodity groups see Thomas Isaac et.al. (1992). Basically, we have used the share of each commodity in the total value of exports and imports as the weights for the calculation of the price indices. Those interested in the details of the weights alloted to the commodities in the different calculations may directly contact the authors.

2. Weights alloted to the Commodities in the Calculation of Interstate Longrun Import and Export Price Indices

Export Basket		Import Basket	
Copra	0.16	Rice	0.31
Coir	0.05	Wheat	0.05
Coconut oil	0.10	Pulses	0.05
Coconuts	0.02	Sugar	0.10
Pepper	0.05	Edible oil	0.01
Cardamom	0.04	Chillies	0.03
Ginger	0.01	Raw cotton	0.03
Rayon	0.02	Raw tobacco	0.01
Pulp	0.03	Raw cashew	0.04
Plywood	0.05	Petroleum	0.20
Wood	0.04	Cement	0.03
Rubber	0.22	Sulphur	0.01
Betelnut	0.07	Iron & steel	0.04
Aluminium	0.05	Tobacco products	0.03
Zinc	0.03	Drugs	0.01
Hides & Skins	0.02	Electrical goods	0.01
Tiles	0.02	Vehicles	0.01
Titaniumdioxide	0.02	Misc. Manufacatures	0.01

The above 18 export and import commodities accounted for around 40 and 60 per cent of the total value of interstate exports and imports in 1975-76 respectively. [Thomas Isaac et.al. 1992]

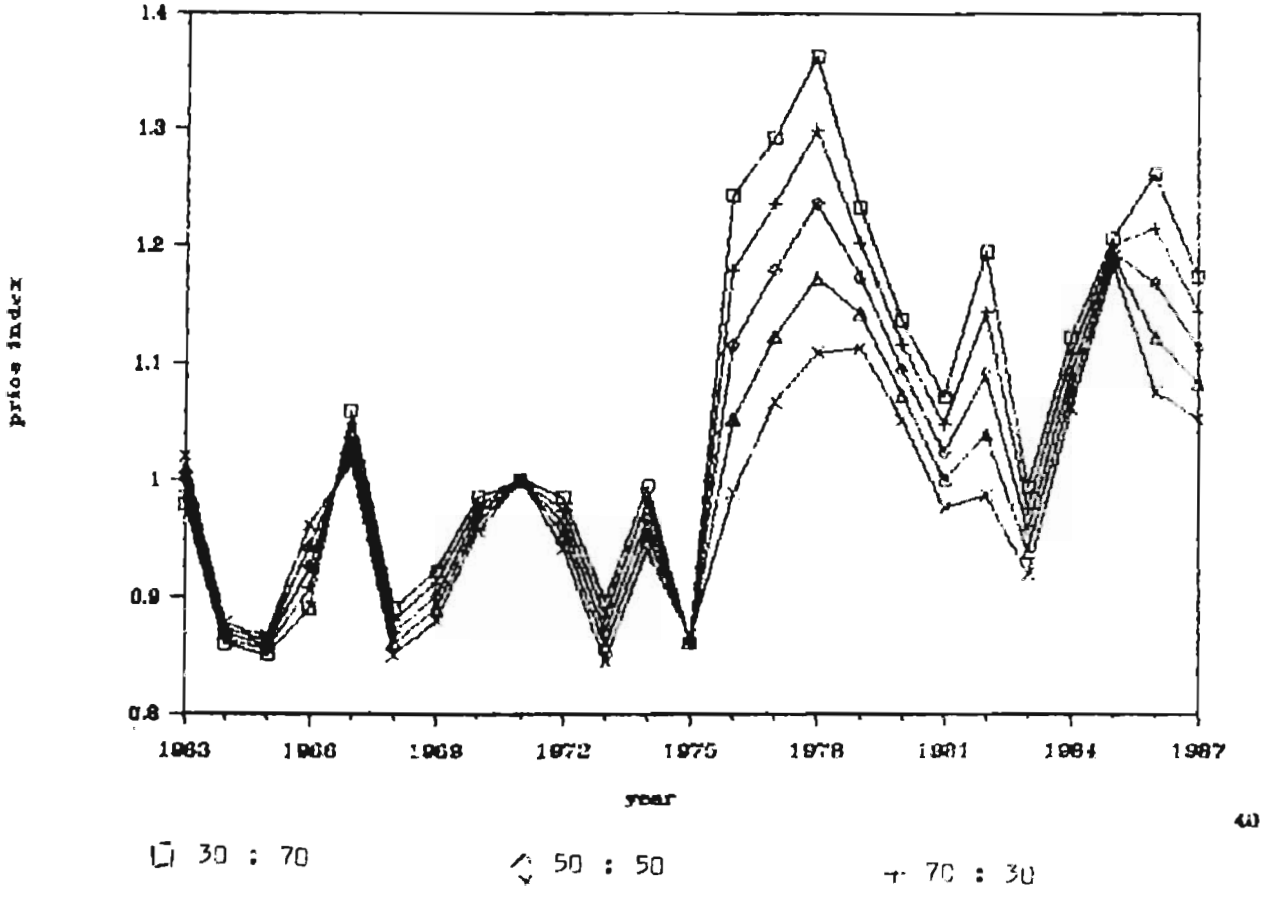
3. For a detailed statement of the pattern and trends in foreign exports from Kerala during the post-independence period see Thomas Isaac et.al. (1992b). All the major 14 commodities listed in the above paper, with the exception of timber, have been considered for the calculations. Those interested in the details may contact the authors.

5. Whole Sale Price Indices of Major Interstate Export Commodities: 1962/63 to 1987/88

Year	WPI	Coir	Coco Oil	Pepper	Cardamom	Ginger	Rayon	Pulp	wood	rubber	betal nut	Alumin-ium	Zinc	Hides Skins	Tiles	Titanium Di-oxide
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1962-63	57.3	75.9	38.8	43.4	16.8	38.1	98.1	72.6	72.6	64.8	77.2	77.8	53.3	73.6	63.2	69.8
1963-64	60.9	75.1	40.2	43.5	16.8	42.8	91.3	74.4	74.4	63.8	75.8	75.1	64.3	76.8	63.8	67.1
1964-65	67.5	73.2	41.5	51.5	17.8	48.6	87.3	77.7	77.7	64.1	81.2	76.5	77.5	71.4	84.8	67.8
1965-66	72.7	69.9	66.8	56.7	23.6	45.8	88.5	79.5	79.5	82.7	79.1	87.7	98.5	75.6	87.1	66.9
1966-67	82.8	76.8	62.5	57.3	44.4	48.6	96.3	84.2	84.2	112.3	79.3	91.8	95.1	102.8	84.8	77.7
1967-68	92.6	89.3	73.3	53.9	65.2	47.8	95.9	91.8	91.8	88.1	75.5	92.0	74.6	95.8	85.6	82.9
1968-69	91.0	94.3	66.7	53.3	57.9	77.6	95.9	94.7	94.9	94.1	82.6	87.6	65.8	95.8	89.8	82.8
1969-70	94.0	98.3	77.3	81.3	61.7	147.5	96.7	94.6	94.6	103.7	92.6	94.9	81.5	102.7	92.7	87.2
1970-71	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1971-72	105.6	104.0	88.6	112.6	89.7	51.0	106.0	107.3	107.3	104.7	96.2	97.6	108.1	104.1	105.1	100.6
1972-73	116.2	108.4	81.1	82.4	49.2	52.5	108.8	111.3	111.3	104.7	87.1	101.6	121.5	103.7	120.4	116.2
1973-74	139.7	114.1	145.6	186.4	51.6	81.8	122.7	117.1	117.1	104.7	69.2	101.8	264.1	260.5	171.6	168.8
1974-75	174.5	175.6	162.4	164.6	109.9	107.9	154.6	152.3	152.3	166.3	99.9	131.1	313.1	273.5	179.2	302.4
1975-76	173.8	177.5	121.1	177.3	117.3	136.9	172.9	159.1	159.1	153.2	87.8	213.6	271.3	286.8	199.4	212.6
1976-77	170.6	162.9	153.6	235.8	223.4	211.2	178.4	154.9	154.9	125.2	95.9	228.3	286.1	432.2	216.8	228.8
1977-78	183.6	198.3	157.8	257.2	282.2	284.9	175.2	175.4	175.4	135.3	107.2	29.88	232.6	454.9	286.1	248.4
1978-79	189.9	201.8	173.8	252.3	222.6	138.9	186.3	189.5	189.5	199.4	123.1	242.6	218.4	477.4	311.1	252.8
1979-80	217.8	297.4	188.8	229.8	214.4	81.8	214.2	218.4	218.4	214.8	168.4	259.9	248.2	731.4	259.8	269.6
1980-81	297.3	313.2	226.4	262.7	168.7	96.2	239.8	269.7	268.7	255.8	191.1	262.6	257.9	667.8	342.1	276.7
1981-82	281.3	215.5	281.6	289.3	178.4	142.8	261.3	296.2	296.2	301.2	217.8	362.6	317.2	575.4	372.8	273.2
1982-83	260.7	316.8	276.3	193.1	243.1	246.9	268.5	368.7	368.7	296.6	287.8	362.8	337.3	600.8	392.2	281.9
1983-84	316.8	332.1	346.1	241.4	468.5	485.5	294.8	343.5	343.5	359.4	242.8	366.6	397.9	538.3	422.6	283.3
1984-85	338.4	428.8	493.3	542.1	598.9	323.6	184.6	482.5	369.3	333.6	348.6	498.4	518.8	397.5	373.3	412.6
1985-86	357.8	494.9	271.4	625.7	211.8	197.9	184.8	451.2	384.1	349.2	361.4	437.5	587.8	518.7	428.6	479.9
1986-87	376.8	541.5	353.4	883.9	218.2	143.3	164.8	418.6	385.4	336.5	358.3	448.5	541.6	529.4	326.6	625.8
1987-88	405.4	524.7	462.6	853.5	231.6	208.7	164.9	417.4	397.3	358.8	263.8	537.6	681.6	555.9	575.5	716.9
1988-89	415.3	521.7	461.9	223.2	283.6	194.8	461.3	421.6	379.9	363.8	687.6	836.5	595.8	591.8	849.5	

5.

Longrun Terms of Trade
with varying weights for Interstate and International Trade



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□ 30 : 70 ◇ 50 : 50 + 70 : 30

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