

CHAPTER : VI
STRUCTURE OF INDIAN EXPORTS - II

6.1. Introduction :

The preceding chapter being confined to an analysis of structure of India's exports at macro (i.e. aggregated) and micro (i.e. disaggregated) levels in terms of current prices as well as constant prices over a period of 1965-66 to 1981-82 and also with some well-established hypotheses examined therein, did not cover an analysis of trends and structure of India's foreign trade in general and India's export trade in particular at current prices with reference to the following :

[a] India's foreign trade over a period of 1966-67 to 1988-89

[b] India's export trade with special reference to India's principal exports by various commodity groups over a period of 1970-71 to 1986-87

[c] An analysis of structural behaviour of India's export trade in terms of the following aspects over a period of 1965-66 to 1981-82 :

- (i) Traditional and non-traditional exports
- (ii) Primary exports and manufactured exports

- (iii) Commodity composition of Indian exports according to market environment and SITC Commodity groups.
- (iv) Direction of India's exports in terms of regional destination.

The Present Chapter :

In order to systematize the study of Indian exports with reference to above, the present chapter is designed to examine and analyse the structural behaviour of India's exports over a period of time specified respectively with reference to the issues as detailed below:

As far as the foreign trade of India is concerned the following issues deserve to be examined.

- (i) What has been the average percentage rates of growth per annum of exports and imports?
- (ii) What has been the percentage share of Indian exports in world exports?
- (iii) What has been the behaviour of percentage share of exports, imports and trade deficit in Gross National Product?

As regards, India's export trade with special reference to India's principal exports by various commodity groups (i.e. Agricultural and Allied products, Ores and Minerals, manufactured

goods, Mineral fuels and Lubricants and others) over a period of 1970-71 to 1986-87, we intend to examine what has happened to the percentage shares of each commodity group in total exports?

Further, with reference to the structural behaviour of Indian exports over a period of 1965-66 to 1981-82, the following aspects are intended to be examined:

- (i) What has happened to the percentage shares of various categories of commodity exports in total exports over time?
- (ii) What has been the average percentage rates of growth per annum of various categories of commodity exports?
- (iii) Has there been a diversification or concentration of Indian exports?
- (iv) What has happened to the stability of various categories of commodity exports?
- (v) Whether there is or not a relation between various categories of commodity exports with economic development?

6.2 Trends in India's Foreign Trade : [1966-67 to 1988-89]

The trends in India's foreign trade can be discerned from Table 6.1. A glance at the table reveals the fact that as far as India's foreign trade is concerned, the year 1973-74 is the remarkable turning point as during period thereafter, the

Table : 6.1
Imports, Exports and Trade Balance : 1966-67 to 1988-89

Years	(Rs. Crores)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
		Imports		Exports		Trade Balance	Exports as % of	As % of		
		Amount	% Increase	Amount	% Increase	Balance	World Exports	Imports	Exports	Trade Deficit
1966-67	2078	---	---	1157	---	-921	0.95	7.1	3.9	3.1
1967-68	2008	-3.4		1199		-809	0.74	5.8	3.5	2.3
1968-69	1909	-4.9		1358	13.3	-551	0.73	5.2	3.7	1.5
1969-70	1582	-17.1		1413	4.1	-169	0.67	3.9	3.5	0.4
1970-71	1634	3.3		1535	8.6	-99	0.63	3.8	3.6	0.2
1971-72	1825	11.7		1608	4.8	-217	0.58	4.0	3.5	0.5
1972-73	1867	2.3		1971	22.5	-104	0.58	3.7	3.9	+0.2
1973-74	2955	58.3		2533	28.1	-432	0.50	4.8	4.1	0.7
1974-75	4519	52.9		3329	31.9	-1190	0.46	6.2	4.6	1.6
1975-76	5265	16.5		4042	21.4	-1223	0.49	6.7	5.1	1.6
1976-77	5074	-3.6		5142	27.2	+68	0.55	6.0	6.1	+0.1
1977-78	6020	18.8		5408	5.2	-612	0.56	6.3	5.6	0.6
1978-79	6811	13.1		5726	5.9	-1059	0.51	6.5	5.5	1.0
1979-80	9143	34.2		6418	12.1	-2725	0.47	8.0	5.6	2.4
1980-81	12549	37.3		6711	4.6	-5838	0.43	9.2	4.9	4.3
1981-82	13608	8.4		7806	16.3	-5802	0.42	8.5	4.9	3.6
1982-83	14293	5.0		8803	12.3	-5490	0.50	8.1	5.0	3.1
1983-84	15831	10.8		9771	11.0	-6060	0.50	7.7	4.7	2.9
1984-85	17134	8.2		11744	20.2	-5390	0.52	7.5	5.1	2.4
1985-86	19658	14.7		10895	-7.2	-8763	0.47	7.5	4.2	3.4
1986-87	20201	2.8		12452	14.3	-7749	0.44	6.9	4.3	2.7
1987-88	22399	10.9		15741	26.4	-6658	0.45	6.8	4.8	2.0
1988-89	27693	23.6		20281	28.8	-7412	0.45	7.2	5.2	1.9

* Provisional

Source : Basic Statistics Relating to the Indian Economy, Vol.I,
All India (August, 1989) Centre For Monitoring Indian Economy,
Bombay.

value figures of exports and imports seem to have magnified as compared to the earlier period. This state of affairs can be attributed to the oil price hike in the middle of the year 1973 which led to an increase in the value figure of imports by 58.3% in the year 1973-74 as compared to 2.3% increase in the year 1972-73 and an increase in the value figures of exports by 22.5% in the year 1972-73 as compared to 4.8% increase in the year 1971-72.

Further, India being a developing country needs increasing imports which gets reflected in to increase in negative trade balance from Rs.921 crores in 1966-67 to Rs.7412 crores (i.e. 30.64% an average per annum) in 1988-89. This increase in negative trade balance is also due to a world wide phenomenon of inflation consequent upon increase in oil prices.

As far as the average annual rates of growth is concerned, Indian imports registered a growth rate of 13.81% during 1966-67 to 1988-89, 17.33% during 1970-71 to 1988-89 and 19.49% during 1973-74 to 1988-89. However, Indian exports registered a growth rate of 14.36% during 1966-67 to 1988-89, 15.52% during 1970-71 to 1988-89 and 16.19% during 1973-74 to 1988-89. We can see that after 1970-71 the growth rates of exports remained less than that of imports and after 1973-74 the growth rates of imports and exports remained higher due to the reasons cited earlier.

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As far as Indian exports in relation to world exports are concerned, we perceive that the share of Indian exports in world exports in terms of percentage not only remained less than one percent during the period under consideration but it shows a declining trend of 0.95% in the year 1966-67 to 0.45% in the year 1988-89. This state of affairs is quite obvious, as India is one among many exporting countries of the world. However, it indicates that the Indian economy has many miles to go about to enhance the competitive strength of Indian exports in the world market.

As regards, the share of Indian imports in India's Gross national product, it is noticeable that it does not exhibit any systematic trend behaviour. This can be seen from the fact that the percentage share of Indian imports in GNP declined from 7.1% in the year 1966-67 to 6.5% in the year 1978-79 and thereafter it increased to 9.2% in the year 1980-81. However, it declined from 8.5% in the year 1987-88. The fluctuations in the share of Indian imports in GNP can be attributed to the effects of the interplay of macro-economic policy variables and fluctuations in the world business activity.

Further, as far as the share of Indian exports in the GNP is concerned, it shows a systematic increasing trend of 3.9%

in the year 1966-67 to 5.2% in the year 1988-89. This reasonably good performance of Indian exports can be attributed to the export-oriented trade policy adopted by the Government of India. Further, there has been a fall in percentage share of trade deficit in GNP from 3.1% in the year 1966-67 to 1.9% in the year 1988-89.

6.3 India's Export Trade By Commodity Groups 1970-71 to 1986-87 :

As an analysis of India's foreign trade at global level does not focus on the structural behaviour of India's principal exports by various commodity groups (i.e Agricultural and Allied Products, Ores and Mineral fuels and Lubricants and others) over time, we present an analysis of structural behaviour of commodity exports by groups.

In order to undertake an analysis of India's exports by various commodity groups, we have selected the period of 1970-71 to 1986-87 with an exclusion of the period of 1966-67 to 1969-70. However, the justification for the exclusion of the period lies in the fact that the period is too remote in the past from the point of view of relative economic significance of certain commodity group of exports viz. manufactured goods. It is only

after the year 1970-71 that the increasing relative significance of certain commodity groups of exports is felt in relation to total exports and also in relation to other commodity groups of exports.

As far as the classification of India's principal exports in to various commodity groups referred above is concerned, India's commodity exports for the period 1970-71 to 1981-82 have been regrouped as per the classification for the period 1982-83 to 1986-87.¹

The structural behaviour of India's principal exports by various commodity groups in terms of their percentage shares in total exports over the period under consideration it can be visualized from Table 6.2 which reveals a very systematic trend behaviour of exports of Agricultural and Allied products, Ores and Minerals (excluding coal) and Manufactured Goods.

In case of agricultural and allied products exports, its percentage share in total exports systematically shows a decline from 39.22% in the year 1970-71 to 27.48% in the year 1986-87. Similarly, it is also visible that the percentage share of ores and minerals displays a decline from 9.57% in the year 1970-71 to 5.76% in the year 1986-87. The declining share of these two commodity groups of exports in total exports can be attributed to the fact that India being fundamentally an agricul-

1. For Classification see, Appendix Table - VI.1.

Table : 6.2

INDIA'S PRINCIPAL EXPORTS BY COMMODITY GROUPS:

(1970-71 TO 1986-87)

(Rs. in Crores)

Year	I Agricultural and Allied products		II Ores and Minerals (excl. Coal)		III Manufactured Goods		IV Mineral fuels & Lubricants (incl. Coal)		V Others		Total Exports
	Value Rs. Crores	% Share in Total	Value Rs. Crores	% Share in Total	Value Rs. Crores	% Share in Total	Value Rs. Crores	% Share in Total	Value Rs. Crores	% Share in Total	Value Rs. Crores
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1970-71	602.1	39.22	146.9	9.57	482.7	31.44	12.6	0.82	290.9	18.95	1535.2
1971-72	705.8	43.89	130.7	8.31	473.8	29.46	11.6	0.72	286.3	17.80	1608.2
1972-73	771.9	39.17	135.1	6.86	660.9	33.55	32.0	1.62	370.9	18.82	1970.8
1973-74	957.7	38.67	155.3	6.15	943.9	37.41	15.3	0.61	433.2	17.16	2523.4
1974-75	1371.0	41.18	196.2	5.89	1114.7	33.49	20.4	0.62	626.6	18.82	3328.9
1975-76	1541.4	39.10	245.9	6.24	1345.7	34.14	35.6	0.90	773.2	19.02	3941.8
1976-77	1485.9	28.89	275.0	5.35	2205.1	42.87	32.7	0.64	1144.5	22.25	5143.2
1977-78	1677.8	31.02	269.0	4.97	2453.9	45.39	27.8	0.51	979.4	18.11	5407.9
1978-79	1497.9	26.16	267.2	4.67	3016.5	52.68	19.8	0.34	924.9	16.15	5726.3
1979-80	1882.6	29.33	319.0	4.97	3021.7	47.08	21.2	0.33	1173.9	18.29	6418.4
1980-81	1927.4	28.72	333.7	4.97	2995.7	44.64	27.9	0.42	1426.0	21.25	6710.7
1981-82	1777.4	22.80	380.3	4.88	3555.7	45.61	24.3	0.31	2058.5	26.40	7796.2
1982-83	2451.0	27.84	490.8	5.57	4551.1	51.70	1240.4	14.09	70.2	0.80	8803.5
1983-84	2621.7	26.83	506.2	5.18	4964.4	50.87	1590.0	16.27	83.4	0.85	9770.7
1984-85	2996.5	25.52	637.6	5.43	6210.1	52.88	1822.9	15.52	76.6	0.65	11743.7
1985-86	3018.3	27.70	784.7	7.20	6374.2	58.51	654.9	6.02	62.5	0.57	10894.6
1986-87	3422.0	27.48	717.2	5.76	7808.4	62.71	417.6	3.35	87.2	0.70	12452.4

Note : (i) The classification of India's principal exports in to various commodity groups has been adopted as per the classification given in Economic Survey Government of India, New Delhi, 1988-89, pp. S-74-75.

(ii) The Value figures of exports of Commodity group IV : Mineral fuels and lubricants are exclusive of coal for the years 1970-71 to 1981-82, whereas for subsequent period the value figures are inclusive of coal.

Source : Estimated on the basis of information given in Appendix Table : VI-2 and VI-3 for the years 1970-71 to 1981-82 and 1982-83 to 1986-87 respectively.

tural country (i.e. primary producing country), its exports are bound to be pre-dominated by primary products for which world demand elasticities and domestic production elasticities are very low. And hence indicates greater degree of diversification of India's exports over time.

Further, it is pertinently important to note that the percentage share of exports of agricultural and allied products in total exports exceeded the percentage share of exports of manufactured goods in total exports during the years 1970-71 to 1975-76. However, the year 1976-77 marks a turning point as regards the relative position of both these groups of exports, as the percentage share of exports of manufactured goods in total exports exceeded the share of exports of agricultural and allied products in total exports during 1976-77 to 1986-87, thus reflected a trend reversal in terms of percentage shares. In spite of this phenomenon of trend reversal of these two commodity groups of exports, we can see that the percentage share of exports of manufactured goods in total exports shows a systematic increasing trend of 31.44% in the year 1970-71 to 62.71% in the year 1986-87. This state of affairs can be attributed to an increasing tendency towards diversification of India's exports over time because of progressive character of the Indian economy.

Moreover, the percentage share of exports of mineral fuels and lubricants (excluding coal) in total exports remained less than one percent during 1970-71 to 1981-82 shows a systematic declining trend. However during 1982-83 to 1986-87, the percentage share of this commodity group (including coal) in total exports though declining remained greater than one percent.

In case of other exports (inclusive of coal) during 1970-71 to 1981-82 shows a declining trend in terms of its percentage share in total exports. However during 1982-83 to 1986-87 this commodity group (excluding of coal) shows that its percentage share in total exports remained less than one percent.

6.4 Indian Exports During 1965-66 to 1981-82 :

In order to undertake an analysis of structural behaviour of Indian exports, we have excluded the period of 1982-83 to 1987-88 on account of non-availability of commoditywise data on indian exports. However, it is intended here to examine the structural behaviour of Indian exports with reference to the following:

- (i) Traditional and non-traditional exports.
- (ii) Primary exports and manufactured exports.

(iii) Commodity composition of Indian exports according to market environment and SITC commodity groups.

(iv) Direction of India's export trade in terms of regional destination.

With reference to above, the following aspects of exports are intended to be examined.

[a] Percentage shares of various commodity groups in total exports.

[b] Rates of growth of exports by commodity groups.

[c] Degree of diversification or concentration of exports.

[d] Stabitlity of Indian exports by commodity groups.

[e] Relation between commodity exports and economic development.

Percentage share of various commodity groups of exports in total exports :

An analysis of structural behaviour of exports in terms of change in the percentage shares of various commodity groups of exports in total exports is indicative of change in relative significcance of various commodity groups of exports over time. Therefore, we, present below an analysis of traditional and non-traditional exports of India.

6.4.1 Traditional and Non-Traditional Exports :

The structural behaviour of traditional and non-traditional exports of India can be seen from Table 6.3, wherein traditional exports are defined as an aggregation of the exports of Tea, Cotton textiles, Jute textiles, Mica, Cashew Kernel, Metalliferrous ores, Spices, Tobacco and Leather products and non-traditional exports are defined as total exports less traditional exports. A glance at the table reveals the fact that the percentage share of traditional exports in total exports shows a systematic declining trend of 64.70% in the year 1965-66 to 28.62% in the year 1981-82, whereas the percentage share of non-traditional exports displays a systematic increasing trend of 35.30% in the year 1965-66 to 71.38% in the year 1981-82. However, it is important to note that the year 1973-74 marks a turning point in regard to the relative importance of traditional and non-traditional exports in relation to total exports as there has been trend reversal in terms of relative share in total exports which can be seen from the fact that the percentage share of traditional exports exceeded the percentage share of non-traditional exports during 1965-66 to 1972-73 and during 1973-74 to 1981-82, the percentage share of non-traditional exports exceeded the share of traditional exports. The declining share of traditional exports and increasing share of non-traditional exports over time positively confirms to the well established

Table : 6.3

Traditional and Non-Traditional Exports of India

Year	** Traditional Exports		Non-Traditional Exports		Total Exports
	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees
	(1)	(2)	(3)	(4)	(5)
1965-66*	825.0	64.70	450.1	35.30	1275.1
1966-67*	752.2	65.04	404.4	34.96	1156.6
1967-68	760.0	63.40	438.7	36.60	1198.7
1968-69	777.1	57.19	581.7	42.81	1358.8
1969-70	774.7	54.82	638.5	45.18	1413.2
1970-71	790.1	51.46	745.1	48.54	1535.2
1971-72	876.5	54.50	731.7	45.50	1608.2
1972-73	1001.5	51.07	959.4	48.93	1960.9
1973-74	1121.6	44.45	1401.8	55.55	2523.4
1974-75	1324.3	39.78	2004.5	60.22	3328.8
1975-76	1396.6	35.43	2545.0	64.57	3941.6
1976-77	1650.7	32.10	3491.6	67.90	5142.3
1977-78	2015.4	37.27	3392.5	62.73	5407.9
1978-79	1731.6	30.24	3994.5	69.76	5726.1
1979-80	2275.5	33.37	4542.8	66.63	6818.3
1980-81	2172.7	32.38	4538.0	67.62	6710.7
1981-82	2234.0	28.62	5571.9	71.38	7805.9

* The value figures are adjusted at post-devaluation rate by multiplying the figures with 1.575, the increased value of pre-devaluation Rupee.

** Traditional Exports include Tea, Cotton Textiles, Jute Textiles, Mica, Cashew Kernel, Metalliferrous Ores, Spices, Tobacco and Leather products.

Source : Estimated on the basis of information available in the various issues of Basic Statistics Relating to the Indian Economy, published by Central Statistical Organisation, Department of Statistics, Ministry of Planning, Government of India, New Delhi.

hypothesis as regards developing country India under consideration. India, being basically a primary producing and developing country, the share of non-traditional exports is bound to rise and that of traditional exports to decline on account of diversification of exports over time.

However, a pertinent question arises as to what has been the nature of trend behaviour in terms of variation in percentage share of primary and manufactured goods exports over time? Therefore, we present below an analysis of primary and manufactured goods exports with reference to above, table 6.4 reflects the structural behaviour of Indian exports consisting of primary and manufactured goods exports.

6.4.2 Primary and Manufactured Goods Exports :

Primary Exports : The primary exports are defined as an aggregation of commodity exports under sections 0 to 4 of Standard International Trade classification commodity groups.

Manufactured Goods Exports : The manufactured goods exports are defined as an aggregation of exports under sections 5 to 8 of SITC commodity groups.

Further, it is important to note that the manufactured goods exports consists of traditional manufactured goods exports and non-traditional manufactured goods exports.

Traditional Manufactured Goods Exports : This groups consists of exports of cotton textiles, Jute textiles, Leather manufactured products and manufactured Tobacco.

Non-Traditional Manufactured Goods : This group of exports consists of manufactured goods less traditional manufactured goods.

Having presented a conceptual and definitional explanation of commodity groups of exports, a quantitative analysis as evident from Table 6.4 follows hereafter.

It is evident from Table 6.4 that the percentage share of primary exports in total exports shows a systematically declining trend of 51.35% in 1965-66 to 40.72% in the year 1981-82, whereas the percentage share of exports of manufactured goods in total exports reveals a systematically rising trend of 48.19% in the year 1965-66 to 59.12% in the year 1981-82. However, it is important to note that during 1968-69 to 1981-82, the percentage share of exports of manufactured goods in total exports exceeded the percentage share of primary exports which confirms to the commonly held belief that this would be the state of affairs with reference to a developing country like India under consideration. Further, it becomes clear that in value terms the exports of primary goods increased from Rs.648.7 crores in 1965-

Table : 6.4
Primary, Traditional and Non-Traditional Manufactured Exports of India

Year	Primary Export		Manufactured Exports				Non-Traditional				Total Exports	
	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees	Percentage of Total Exports	Value in Crores of Rupees	Percentage of Total Exports
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1965-66	648.7	51.35	608.8	48.19	432.4	71.02	34.23	176.4	28.97	13.96	1263.3	13.96
1966-67	599.9	52.03	548.4	47.57	386.8	70.53	33.51	161.6	29.47	14.02	1152.9	14.02
1967-68	605.5	50.76	581.4	48.74	360.5	62	30.22	220.9	38	18.52	1192.8	18.52
1968-69	634	46.74	716.8	52.83	374.6	52.26	27.62	342.2	47.74	25.23	1356.3	25.23
1969-70	625	44.37	778.7	55.28	387.4	49.75	27.5	391.3	50.25	27.78	1408.7	27.78
1970-71	716.7	47.02	803.2	52.69	361.8	45.04	23.73	441.4	54.96	28.95	1524.4	28.95
1971-72	740.5	46.19	857.3	53.47	444.1	51.8	27.7	413.2	48.2	25.77	1603.2	25.77
1972-73	897.4	45.91	1051.7	53.81	550	52.3	28.14	501.7	47.7	25.67	1954.5	25.67
1973-74	1159.5	46.04	1352	53.69	605.8	44.81	24.05	746.2	55.19	29.63	2518.3	29.63
1974-75	1588.6	47.08	1728	52	613.6	35.51	18.46	1114.4	64.49	33.52	3323.3	33.52
1975-76	1935.4	49.23	1988.6	50.58	612.8	30.82	15.59	1357.8	69.18	35	3931.3	35
1976-77	2091.2	40.77	3029	59.05	761.2	25.13	14.84	2267.8	74.87	44.21	5129.1	44.21
1977-78	2186.8	40.77	3164.1	59	760.7	24.04	14.18	2403.4	75.96	44.81	5363.2	44.81
1978-79	2123.6	37.21	3570	62.56	757.7	21.22	13.27	2812.3	78.78	49.28	5706.6	49.28
1979-80	2559.2	39.97	3827	59.77	1134.6	29.65	17.72	2692.4	70.35	42.05	6402.4	42.05
1980-81	2707.1	40.61	3942.9	59.15	983.6	24.95	14.75	2959.3	75.05	44.39	6665.8	44.39
1981-82	3175.4	40.72	4610.2	59.12	969.4	21.03	12.43	3640.8	78.97	46.69	7798.3	46.69

Note : (i) Primary Exports : Exports under section 0 to 4
(ii) Manufactured exports : Exports under section 5 to 8
(iii) Traditional Manufactured exports : These include Cotton and Jute Textiles, Leather Manufactured Products and Manufactured Tobacco
(iv) Non-Traditional Manufactured Exports : These are (ii) minus (iii)
Source : Appendix Table : VI-4

66 to Rs.3175.4 crores in 1981-82, whereas the exports of manufactured goods increased from Rs.608.8 crores in 1965-66 to Rs.4610.2 crores in 1981-82.

Thus, we can see that though in value terms, both these commodity groups of exports seem to be rising, but in relative terms, they clearly indicate a reverse trend behaviour over time.

Moreover, it is intelligible from the table that the traditional manufactured and non-traditional manufactured groups of exports though seem to be rising in value terms, indicate reverse trend behaviour in relative terms. This can be seen from the fact that in value terms, the exports of traditional manufactured goods increased from Rs.432.4 crores in 1965-66 to Rs.969.4 crores in 1981-82 and the exports of non-traditional manufactured goods increased from Rs.176.4 crores in 1965-66 to Rs.3640.8 crores in 1981-82. However, in relative terms, both these commodity groups of exports indicate a reverse trend behaviour not only in relation to the exports of total manufactured goods, but also in relation to total exports.

The percentage of traditional manufactured goods exports in total manufactured goods exports declined from 71.02% in the year 1965-66 to 21.03% in the year 1981-82. Similarly, its share in the total exports also declined from 34.23% in the year 1965-66 to 12.3% in the year 1981-82. However, the percentage

share of non-traditional manufactured goods exports in total manufactured goods exports increased from 28.97% in the year 1965-66 to 78.97% in the year 1981-82 and similarly, its percentage share in total exports also increased from 13.96% in the year 1965-66 to 46.69% in the year 1981-82.

Thus, we can see that though the percentage share of total manufactured goods exports in total exports increased over a period of time indicate however a reverse trend behaviour in terms of percentage share, if the total manufactured goods exports are segregated in two subgroups as mentioned earlier.

Since the structural behaviour of exports can also be viewed from the change in the commodity composition of exports, we present below an analysis of commodity composition of Indian exports according to market environment and SITC (Standard International Trade Classification) commodity groups.

6.4.3 Commodity Composition of Indian

Exports According to Market Environment: As far as Indian exports are concerned, the commodity exports can be classified in to the monopolistic, oligopolistic, competitive and other exports. The classification is based on the nature of competition faced by commodity exports in the world market with reference to the same, we present below the details of classification.

Monopolistic Exports : Exports under this category include, Jute textiles, Mica, cashew Kernel and Lac.

Oligopolistic Exports : Exports under this category include Tea, Cotton textiles, Tobacco, Managanese ores, Black Pepper and Castor oil.

Competitive Exports : Exports under this category include Coffee, Raw Cotton, Raw Wool, Hides and Skins, Groundnut oil, Linseed oil, Coal and Coke and Iron ore.

Other Exports : These exports are equal to total exports less an aggregation of rest of the exports under monopolistic, oligopolistic and competitive environment.

It becomes clear from Table 6.5 that all the commodity groups of exports according to market environment reflect an increase in value terms over a period under consideration. However, the percentage share of monopolistic exports in total exports shows a systematically declining trend of 27.04% in the year 1965-66 to 6.24% in the year 1981-82 and the oligopolistic exports also shows a declining trend of 27.46% in the year 1965-66 to 12.28% in the year 1981-82. The declining share of monopolistic and oligopolistic exports in total exports indicates that monopolistic and oligopolistic strength of Indian exports has declined over a period of time under consideration. This can be attributed to an entry of new exporters in the world

Table : 6.5
Commodity Composition of Indian Exports According to Market Environment

Year	Monopolistic Environment	Oligopolistic Environment	Competitive Environment	Other Exports	Total Exports				
	Rupees	Rupees	Rupees	Rupees	Rupees				
	Value in Percentage of Total Crores of Rupees	Value in Percentage of Total Crores of Rupees	Value in Percentage of Total Crores of Rupees	Value in Percentage of Total Crores of Rupees	Value in Percentage of Total Crores of Rupees				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1965-66*	344.8	27.04	350.1	27.46	176.2	13.82	404	31.68	1275.1
1966-67	315.5	27.28	281.4	24.33	185.2	16.01	374.9	32.38	1156.6
1967-68	297.3	24.8	314.5	26.24	176	14.68	410.9	34.28	1198.7
1968-69	297.4	21.89	306.7	22.57	202.1	14.87	552.6	40.67	1358.8
1969-70	284.1	20.1	287.4	20.34	220	15.57	621.7	43.99	1413.2
1970-71	263.1	17.14	314	20.45	239.9	15.63	718.2	46.78	1535.2
1971-72	339.6	21.12	327.3	20.35	238.4	14.82	702.9	43.71	1608.2
1972-73	341.6	17.42	382.3	19.5	344.8	17.58	892.2	45.5	1960.9
1973-74	329.3	13.05	493.1	19.54	389.6	15.44	1311.4	51.97	2523.4
1974-75	457.5	13.74	553.4	16.62	391.4	11.76	1926.5	57.88	3328.8
1975-76	371.8	9.43	561.6	14.25	550.5	13.97	2457.7	62.35	3941.6
1976-77	334.3	6.5	769.8	14.97	679.8	13.22	3358.4	65.31	5142.3
1977-78	418.1	7.73	1024	18.93	697.5	12.9	3268.3	60.44	5407.9
1978-79	275.1	4.8	758.7	13.25	725.8	12.68	3966.5	69.27	5726.1
1979-80	486.2	7.13	827.1	12.13	968.8	14.21	4536.2	66.53	6818.3
1980-81	501.3	7.47	903.1	13.46	963.8	14.36	4342.5	64.71	6710.7
1981-82	486.8	6.24	958.3	12.28	819.3	10.49	5541.5	70.99	7805.9

* The Value figures are adjusted at post-devaluation rate by multiplying the figures with 1.575, the increased value of pre-devaluation rupee.

Note : (i) Monopolistic exports : These are Jute testiles, Mica, Cashew Kernel and Lac

(ii) These are Tea, Cotton Textile, Tobacco, Mangnese Ores, Black Pepper & Castor Oil.

(iii) Competitive exports : These include Coeffee, Raw Cotton, Raw Wool, Hides and Skins, Groundnut Oil, Linseed Oil, Coal and Cocke and Iron Ore.

(iv) Other exports are total exports minus total of (i), (ii) and (iii).

Source : Estimated on the basis of information available in the various issues of Basic Statistics Relating to Indian Economy, Published by Central Statistical Organisation, Department of Statistics, Ministry of Planning, Government of India, New Delhi.

market for exports and diversification of exports. However, the percentage share of competitive exports does not indicate a systematic trend behaviour which can be seen from the fact that the share of competitive exports increased from 13.82% in the year 1965-66 to 17.58% in the year 1972-73 and thereafter, in the year 1973-74 it declined to 15.44%. It is also visible that during 1973-74 to 1981-82, the percentage share of competitive exports show a systematically declining trend of 15.44% in the year 1973-74 to 10.49% in the year 1981-82. This declining trend after 1973-74 weakened the competitive strength of Indian exports in general and competitive exports in particular. Whereas, we find that other exports show a systematically increasing trend in percentage share in total exports from 31.68% in the year 1965-66 to 70.99% in the year 1981-82.

Thus we can perceive that over a period of time the competitive strength of Indian exports in general declined.

6.4.4 The Commodity Composition of Indian Exports According

to SITC Commodity Sections : As far as the commodity composition of Indian exports according to SITC commodity groups is concerned, Table 6.6 reveals important changes in the relative position of SITC commodity groups by sections.

TABLE - 6.6
Commodity Composition of India Exports According
to Standard International Trade Classification :
(Percentage Distribution)

[illegible]

Source : Calculated from Appendix Table : VI-4

With reference to above, it can be seen that the percentage share of Section-0, Food and Live Animals in total exports declined from 30.10% in the year 1965-66 to 24.61% in the 1981-82. Similarly, the percentage share of Section-2, crude Materials inedible except Fuel show a decline from 16.82% in the year 1965-66 to 9.94% in the year 1981-82 and the share of Section-6, Manufactured Goods classified chiefly by materials in total exports declined from 42.76% in the year 1965-66 to 33.07% in the year 1981-82, whereas the share of commodity Section-9, Commodities and Transactions not classified according to kind in total exports also shows a decline from 0.46% in the year 1965-66 to 0.16% in the year 1981-82 and its share however, remained less than one percent through out the period under consideration.

However, reverse trend behaviour in terms of percentage share can be discerned with regard to the commodity Section - 5, 7 and 8 of SITC commodity groups. The share of chemicals increased from 1.43% in the year 1965-66 to 4.81% in the year 1981-82 and that of Machinery and Transport Equipment systematically increased from 1.31% in the year 1965-66 to 13.32% in the year 1981-82.

Moreover, the commodity Section-1, 3 and 4 do not show any systematic trend behaviour of their percentage shares in the total exports.

Thus, we can see that the commodity composition of Indian exports in terms of percentage share in total exports increased for commodity Sections-5, 7 and 8, whereas it declined for the commodity Section-0, 2, 6 and 9.

6.4.5 Commodity Concentration Index of Indian Exports
According to Market Environment and SITC
Commodity sections :

In order to ascertain, whether there has been a diversification or concentration of Indian exports over time, we have estimated the commodity concentration index² for Indian exports according to market environment and commodity sections of SITC commodity groups for the period of 1965-66 to 1981-82, using the formula given below :

$$\text{Commodity concentration Index, } C = \sqrt{\sum (X_i/X)^2} \cdot 100$$

Where X_i refers to exports of i th item and X refers to the total exports from India.

2. Michaely Michael, Op.cit., pp.722-736.

As far as the interpretation of commodity concentration index is concerned, lower the value of the index more evenly are the exports distributed and vice-versa and declining trend of index indicates greater diversification of exports and vice-versa. However, it is pertinent to note that the value of the index depends on the type of classification adopted.

Table 6.7 indicates the estimated values of commodity concentration index of Indian exports over time. Accordingly, we can see that the commodity concentration index shows a declining trend for both the SITC commodity sections and exports according to market environment. As far as the SITC commodity sections are concerned, the concentration index declined from 55.14 in 1965-66 to 45.59 (i.e a decline by 9.43%) in the year 1981-82, and for Indian exports according to market environment the index declined from 49.94 in the year 1965-66 to 17.13 (i.e a decline by 65.34%) in the year 1981-82 reflecting greater degree of diversification of Indian exports according to market environment as compared to Indian exports according to SITC commodity sections. This implies that greater the degree of aggregation involved in classification of Indian exports greater will be the decline in the index and greater will be the diversification of Indian exports. However, it is important to note that since, the concentration index has declined for both the commodity groups of

TABLE 6.7
Commodity Concentration Index of Indian Exports
1965-66 to 1981-82

Year	Commodity Concentration Index of Indian Exports According to	
	1	2
	SITC Commodity Sections	Market Environment
(1)	(2)	(3)
1965-66	55.14	49.94
1966-67	55.59	39.91
1967-68	55.18	38.97
1968-69	54.54	34.78
1969-70	54.02	32.56
1970-71	51.93	30.92
1971-72	52.32	32.86
1972-73	51.84	31.51
1973-74	50.93	28.12
1974-75	49.55	24.56
1975-76	49.42	22.07
1976-77	51.21	21.00
1977-78	52.04	24.18
1978-79	51.02	18.96
1979-80	49.27	20.00
1980-81	47.52	21.05
1981-82	45.59	17.31

Source : 1. Calculated from Appendix Table : VI-4.
 2. Calculated from Table : 6.5.

exports. This also implies that the economic fortunes of India has not been dependent on a few commodities exports, but on a wide range of commodities.

6.4.6 Direction of Indian Exports According to Regional Destination :

Since change in the direction of Indian exports according to regional destination is also an indicator of structural change, we present below an analysis of structural change in Indian exports as per regional destination.

India is having trade relations with many regions of the world in which all countries of the world are classified in to Regions 0 to 9. As far as regional classification is concerned, we have adopted the regional classification of April 1966. Since the period under consideration is 1965-66 to 1981-82 and the new regional classification of April 1977 was made applicable thereafter, we have reclassified the regions after April 1977 according to the regional classification of April 1966³ in order to ensure comparability over time.

It can be seen from Table 6.8 on Direction of India's exports, that the percentage share of exports in total exports in terms of regional destination of Region 1 North American countries, Region-2 Latin American Countries, Region-3, other Ameri-

3. See, for correspondence between the two classifications, Appendix-Table : VI-5

TABLE - 6.8
Direction of Indian Exports : (Percentage Distribution)

Year	Region-0	Region-1	Region-2	Region-3	Region-4	Region-5	Region-6	Region-7	Region-8	Region-9	Total Export = Total of all regions
	African Countries	North American Countries	Latin American Countries	Other American Countries	Economic & Social Commission for Asia & the Pacific Countries	Other Asian & Oceanian Countries	East European Countries	European Common Market Countries	European Free Trade Area Countries	Other European Countries	
1965-66	7.59	20.86	1.3	0.2	19.73	3.58	19.5	6.83	19.38	1.03	100.00
1966-67	6.19	21.68	0.86	0.2	20.95	3.36	19.58	7.69	18.65	0.84	100.00
1967-68	5.87	19.79	0.45	0.16	22.64	3.67	18.83	7.41	20.32	0.86	100.00
1968-69	5.36	19.4	0.27	0.15	25.33	4.94	19.63	8.17	15.95	0.8	100.00
1969-70	6.25	18.73	0.33	0.15	26.67	5.15	21.83	7.12	12.96	0.81	100.00
1970-71	9.07	15.4	0.54	0.13	26.8	4.71	23.72	6.44	12.38	0.81	100.00
1971-72	8.23	18.85	0.79	0.17	26.37	3.9	21.43	7.72	11.72	0.82	100.00
1972-73	5.18	15.53	0.21	0.11	28.42	3.71	24.02	11.34	10.51	0.97	100.00
1973-74	4.03	14.94	0.48	0.1	29.27	5.61	19.35	12.79	12.27	1.16	100.00
1974-75	7.15	12.59	0.6	0.11	27.38	8.73	20.58	11.08	10.82	0.98	100.00
1975-76	6.87	13.93	0.33	0.16	29.93	8.28	17.17	10	12.5	0.83	100.00
1976-77	6.07	12.01	0.29	0.15	24.76	11.06	15.41	16.29	12.96	1	100.00
1977-78	6.44	13.36	0.21	0.11	23.73	10.63	17.34	15.47	11.86	0.85	100.00
1978-79	5.92	14.35	0.24	0.12	26.97	10.6	11.53	17.4	11.96	0.91	100.00
1979-80	5.18	13.56	0.28	0.09	27.08	9.64	13.92	18.24	10.86	1.15	100.00
1980-81	6.49	12.03	0.48	0.06	24.9	9.11	22.79	14.65	8.78	0.71	100.00
1981-82	5.81	12.98	0.24	0.05	22.75	10.58	26.34	12.27	8.16	0.82	100.00

Source : Calculated from Appendix Table VI-6.

can countries and Region-8 European Free Trade Area countries shows a systematically declining in trend of 20.86% to 12.98%, 1.30% to 0.24%, 0.20% to 0.05% and 19.38% to 8.16% respectively in the year 1965-66 and 1981-82.

However, it is noticeable that the percentage share of exports in total exports in terms of regional destination of Region-5 other Asian and Oceanian countries, Region-6 East European countries and Region-7 European Common Market Countries indicates a rising trend of 3.58% to 10.58%, 19.50% to 26.34% and 6.83% to 12.27% respectively in the year 1965-66 and 1981-82. As far as Region-0 African Countries and Region-9 other European Countries are concerned, the percentage share in total exports does not show any clear cut trend that can be concluded.

Thus we can see that the Regions-5, 6 and 7 are gaining increasing relative importance, whereas Regions-1, 2, 3 and 8 are losing relative importance in India's export trade over the period under consideration.

Moreover, the percentage share of exports in total exports accounted for by Region-4, Economic and Social Commission For Asia and the Pacific Countries increased from 19.73% in the year 1965-66 to 29.93% in the year 1975-76, however, thereafter it declined to 22.75% in the year 1981-82.

6.4.7 Growth Rates of Indian Exports during 1965-66 to 1981-82 :

Since, the structural behaviour of Indian exports can as well be assessed in terms of rates of growth of exports over time, we have estimated, the average percentage rates of growth of exports per annum at current prices of various commodity groups of exports viz. Traditional and Non-Traditional, Primary and Manufactured Goods comprising, Traditional Manufactured Goods and Non-Traditional Manufactured Goods, and Exports according to Market Environment comprising, Monopolistic, Oligopolistic, Competitive and other by using the formula given below:

$$\text{Average Percentage Rate of Growth of Export Per Annum} = \frac{\sum \frac{Y_t - Y_{t-1}}{Y_{t-1}}}{n-1} \cdot 100$$

Where Y_t , refers to the value of exports in year 't'

Y_{t-1} refers to the value of exports in year t-1

n refers to the total number of observations.

In order to undertake an analysis of growth rates of exports, we have estimated the rates of growth of exports of various commodity groups over a period of 1965-66 to 1981-82 and 1972-73 to 1981-82 as the later period experienced a transmission of world wide phenomenon of inflationary price rise consequent

upon a sudden oil price hike in the middle of 1973 which affected the value of exports.

Growth Rates of Exports for Various Commodity Groups :

It becomes evident from Table 6.9 that during 1965-66 to 1981-82, the total exports registered a growth rate of 12.58% per annum on an average. However, it should be noted that the non-traditional exports increased at the rate of 18.20% per annum greater than that of 7.05% per annum of traditional exports. Similarly, the exports of non-traditional goods increased at the rate of 22.49% per annum greater than that of exports of traditional manufactured goods of 6.25% per annum and the total manufactured exports increased at a rate of 14.23% per annum greater than that of primary exports of 11.14% per annum. Further, within the group of exports, according to market environment the other exports increased at a rate greater than that of monopolistic, Oligopolistic and competitive exports of 4.87%, 7.80% and 11.19% per annum respectively. A similar picture emerges as regards, the inter-commodity comparison of growth rates of various commodity groups of exports during sub-periods 1965-66 to 1972-73 and 1972-73 to 1981-82.

However, an altogether a different picture as regards, the growth rates of exports of various commodity groups is perceived, if the pattern of growth rates is compared by sub-periods

TABLE 6.9

Rates of Growth of Indian Exports by Various Commodity Groups

Name of the Various Commodity Groups of Indian Exports	Average Percentage Rates of Growth of Exports per annum at Current Prices		
	Period 1965-66 to 1981-82	Period 1965-66 to 1972-73	Period 1972-73 to 1981-82
	(2)	(3)	(4)
[A] <u>Traditional &</u> 1 <u>Non-Traditional</u>			
(i) Traditional	7.50	3.05	10.16
(ii) Non-Traditional	18.20	12.39	22.73
[B] <u>Primary &</u> 2 <u>Manufactured</u>			
(i) Primary	11.14	5.27	15.71
(ii) <u>Total Manufactured</u>	14.23	8.50	18.69
(a) Traditional	6.25	4.28	7.78
(b) Non-Traditional	22.49	17.40	26.45
[C] <u>According to Market</u> 3 <u>Conditions</u>			
(i) Monopolistic	4.87	0.51	8.26
(ii) Oligopolistic	7.80	1.95	12.35
(iii) Competitive	11.01	10.98	11.36
(iv) Others	19.01	12.82	23.83
[D] <u>Total Exports</u> 4	12.58	6.72	17.15

Source : 1. Calculated from Table : 6.32. Calculated from Table : 6.43 & 4. Calculated from Table : 6.5

1965-66 to 1972-73 and 1972-73 to 1981-82. As far as the latter period is concerned, the total exports increased at a rate of 17.15% per annum, greater than that of 6.72% per annum during the former period.

Further, the similar picture emerges as regards, the growth rates of exports of various commodity groups in the sense that the growth rates of various commodity groups of exports are higher during 1972-73 to 1981-82 as compared to that of during 1965-66 to 1981-82.

Thus, we can see that the average percentage rates of growth of exports of various commodity groups are higher during 1972-73 to 1981-82 as compared to that of during 1965-66 to 1972-73. These higher growth rates of exports after 1972-73 can be attributed to the resultant effects of world wide phenomenon of inflationary price rise consequent upon oil price hike in the middle of the year 1973.

6.4.8 Instability Index of Indian exports

By Various Commodity Groups :

As far as the structural behaviour of Indian exports is concerned, it can be assessed in terms of instability index indicating, year-to-year percentage variation adjusted for trend.

Therefore, in order to assess the relative instability of various commodity groups of exports at current prices the instability index of exports has been estimated by using the formula given by J.D. Coppock.⁴ Accordingly, the instability index equals the anti-log of the square root of the logarithmic variance of series is given by

$$\sqrt{\log} = \frac{1}{N-1} \cdot \sum \left[\log X_{t-1} - \log X_t - \frac{1}{N-1} \cdot \sum (\log X_{t+1} - \log X_t) \right]^2$$

Where, N and X refer to number of years and value of exports respectively and subscripts indicate the date.

Thus, the resulting instability index is a closer approximation to the year-to-year percentage variation adjusted for trend.

It becomes evident from Table 6.10 that during the period of 1965-66 to 1981-82, the traditional exports are more stable with an instability index of 11.83 than that of non-traditional exports with an index of 15.81. Whereas within the group of primary and manufactured exports, the primary exports

4. Coppock J.D., op.cit. p.24

TABLE 6.10

Instability Index of Indian Exports
By Various Commodity Groups

Name of the Various Commodity Groups of Indian Exports	Instability Index of Indian Exports at Current Prices
	Period : 1965-66 to 1981-82
(1)	(2)

[A] <u>Traditional &</u>	
1	
<u>Non-Traditional</u>	
(i) Traditional	11.83
(ii) Non-Traditional	15.81
[B] <u>Primary &</u>	
2	
<u>Manufactured</u>	
(i) Primary	11.57
(ii) <u>Total Manufactured</u>	13.12
(a) Traditional	15.51
(b) Non-Traditional	20.38
[C] <u>According to Market</u>	
3	
<u>Conditions</u>	
(i) Monopolistic	25.84
(ii) Oligopolistic	17.81
(iii) Competitive	15.60
(iv) Others	16.15
4	
[D] <u>Total Exports</u>	11.24

Source : 1. Calculated from Table : 6.3
 2. Calculated from Table : 6.4
 3 & 4. Calculated from Table : 6.5

are more stable with an index of 11.57 than that of manufactured exports with an index 13.12. However, within the manufactured exports group, the traditional manufactured exports are more stable with an index of 20.38. Moreover, within the group of exports according to market conditions, the competitive exports are more stable with an index of 15.60 than those of monopolistic, oligopolistic and others with index values, 25.84, 17.81 and 16.15 respectively.

Thus, it becomes clear from the analysis given above, that the primary exports, traditional exports, traditional manufactured exports and competitive exports are more stable as compared to exports of manufactured goods, non-traditional exports, non-traditional manufactured exports and monopolistic and oligopolistic exports respectively during the period of 1965-66 to 1981-82.

6.4.9 Relation between Indian Exports and Economic Development :

In order to ascertain as to which commodity groups of Indian exports are relatively of a greater significance in relation to economic development of India over a period of 1965-66 to 1981-82, we have run a simple linear regression of the proportion of a given commodity group of exports in total exports (Y) on per

capita income (X) at current prices, as per capita income being an indicator of economic development. The regression model that is estimated is given below:

$$Y_t = a + bX_t$$

Where, Y_t refer to the proportion of a given commodity group of exports in total exports

X_t refers to the per capita income at current prices

Subscript, t refers to time.

It becomes clear from table 6.11 that out of ten regression equations estimated for ten commodity groups of exports, four of them viz. non-traditional exports, total manufactured exports, non-traditional manufactured exports and others exports are of relatively greater significance in relation to economic development of India as their proportion in total exports vary directly with per capita income over a period of 1965-66 to 1981-82 which can be inferred from the fact that their slope coefficients have not only positive sign but their t values are statistically significant at 1 per cent level of confidence and their R^2 values are reasonably high implying that greater proportion of variation in the dependent variable (Y) can be explained by independent variable (X).

TABLE 6.11
Relation Between Proportion of Each Commodity Group
of Exports in total Indian Exports (Y) and Per Capita
Income (X) at Current Prices : 1965-66 to 1981-82

Sr. No.	Name of the Category of Commodity Exports of India	Estimated Regression Equation		R ²
		(1)	(2)	
1.	Traditional	Y = 0.7334147 - 0.0003003X ** (22.727)	** (9.299)	0.8524
2.	Non-Traditional	Y = 0.2665852 + 0.0003003X ** (8.197)	** (9.228)	0.8504
3.	Primary	Y = 0.5308617 - 0.0000869X ** (29.945)	** (4.898)	0.6158
4.	Total Manufactured	Y = 0.4640778 + 0.0000887X ** (25.554)	** (4.881)	0.6142
5.	Traditional Manufactured	Y = 0.3793949 - 0.0001703X ** (18.153)	** (8.143)	0.8156
6.	Non-Traditional Manufactured	Y = 0.0844906 + 0.0002591X * (2.676)	** (8.202)	0.8176
7.	Monopolistic	Y = 0.3117909 - 0.0001768X ** (13.923)	** (7.890)	0.8062
8.	Oligopolistic	Y = 0.2855567 - 0.0001076X ** (19.919)	** (7.500)	0.7897
9.	Competitive	Y = 0.1680366 - 0.0000279X ** (19.635)	** (3.258)	0.4147
10.	Others	Y = 0.2344235 + 0.0003124X ** (7.088)	** (9.440)	0.8559

Note : * Significant at 5 percent level

** Significant at 1 percent level

Source (i) For items with Sr.No.1 and 2 estimated from Table: 6.3

(ii) For items with Sr.No. 3, 4, 5 and 6 estimated from
Table : 6.4.

(iii) For items with Sr. No.7, 8, 9 and 10 estimated from
Table : 6.5 and for all items, Appendix Table V-7.

However, it can be seen that the other six commodity groups of exports viz. traditional exports, primary exports, traditional manufactured exports, monopolistic exports, Oligopolistic exports and competitive exports are of relatively lesser significance in relation to economic development of India as their proportions in total exports vary inversely with per capita income over period under consideration which can be inferred from the fact that their slope co-efficients have not only negative sign but their t-values are significant at 1 per cent level of confidence and their values of R^2 (except in case of competitive exports) are reasonably high indicating that greater proportion of variation in the dependent variable (Y) can be explained by independent Variable (X).

Further, in order to examine, the relation between SITC Sections of Commodity exports of Indian and economic development, we estimated in a similar way as above, the regression of the proportion of each SITC section of commodity exports of India in total exports (Y) and per capita income (X) at current prices over a period of 1965-66 to 1981-82.

As far as SITC Sections- 0, 1, 3 and 4 of commodity exports of India are concerned, their estimated regression equations being statistically insignificant are not presented here and therefore are excluded from the perview of the present study.

It becomes evident from Table 6.12 that out of six regression equations estimated for six SITC Sections of commodity exports of India, three of them, viz. Section-5 Chemicals, Section-7 Machinery and Transport Equipment and Section-8 Miscellaneous Manufactured Articles are of a relatively greater importance in relation to economic development of India as their proportion in total exports vary directly with per capita income over time which can be inferred from the fact that their slope coefficients have not only positive signs but their t-values are statistically significant at 1 per cent level of confidence and their values of R^2 are reasonably high indicating that greater proportion of variation in the dependent variable (Y) is explained by independent variable (X).

However, it can be seen that the other three SITC Sections of commodity exports, viz., Section-2, Crude Materials inedible except Fuels, Section-6 Manufactured Goods classified chiefly by materials and Section-9 Commodities and Transactions not classified, according to kind are of a lesser importance in relation to economic development of India as their proportion in total exports vary inversely with per capita income over time which can be inferred from the fact that their slope coefficients have not only negative signs but their 't'-values are statistically significant at 1 per cent level of confidence and their

TABLE 6.12
Relation Between Proportion of Exports of SITC
Commodity Groups in Total Indian Exports (Y) and
Per Capita Income (X) At Current Prices:
1965-66 to 1981-82

Section No.	Name of the SITC Section of Commodity Exports of India	Estimated Regression Equation	² R
(1)	(2)	(3)	(4)
2.	Crude Materials inedible except Fuel	$Y = 0.1934537 - 0.0000625X$ ** (20.253) (6.539)	0.7413
5.	Chemical	$Y = 0.0060353 + 0.0000198X$ * ** (2.265) (7.426)	0.7879
6.	Manufactured Goods Classified Chiefly by materials	$Y = 0.4651093 - 0.0000721X$ ** ** (31.066) (4.812)	0.6064
7.	Machinery & Trans- port Equipment	$Y = 0.0039459 + 0.0000496X$ ** (0.670) (8.417)	0.8254
8.	Miscellaneous Manufactured Articles	$Y = -0.0121430 + 0.0000923X$ * ** (2.206) (16.762)	0.9496
9.	Commodities and Transactions not classified According to Kind	$Y = 0.0047684 - 0.0000020X$ ** ** (11.561) (4.846)	0.6308

Note : * Significant at 5 per cent level

** Significant at 1 per cent level

Source : Estimated from Appendix Table VI-4 and
Appendix Table V-7.

values of R^2 are reasonably high indicating that greater proportion of variation in the dependent variable (Y) is explained by independent variable (X).

Hence, we can conclude that the commodity exports of Chemicals, Machinery and Transport Equipment and Miscellaneous Manufactured Articles are of a greater importance to the economic development of India over time as compared to the commodity exports of Crude materials inedible except Fuels, Manufactured Goods classified chiefly by materials and Commodities and Transactions not classified according to kind.

Appendix Table : VI-1

Classification Table of Indian Exports in to Various
Groups :1970-71 to 1981-82

Sr.No.	Name of Commodity Group	Name of the commodity
(1)	(2)	(3)
I.	Agricultural and Allied Products	Jute Manufactures, Tea, Oil cakes, Tobacco, Cashew Kernel, Coeffee, Sugar, Pepper, Raw Cotton, Fish and Fish preparations, Vegetable Oils (essential & non-essential) Hides & Skins & furskins.
II.	Ores and Minerals (excluding Coal)	Iron Ore, Mica, and Manganese Ore
III.	Manufactured goods	Cotton fabrics, coir yarn and manufac- tures, Leather and Leather products (Excluding footwear), Engineering goods, Iron & Steel (excluding ferro-managanese Ores and ferro alloys), Chemicals and Chemical products, Art silk fabrics, Footwear, Cotton apparel, Handicrafts.
IV.	Mineral Fuels & Lubricants (including Coal)	Mineral fuels & Lubricants
V.	Others	Other exports including silver.

Note : Prepared on the basis of classification given in
Appendix Table VI.3

Appendix Table VI-2

INDIA'S PRINCIPAL EXPORTS (1970-71 to 1981-82)
(Rs. Crores)

Sr.No.	Commodity	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
1.	Jute Manufactures	190.4	265.3	250	227.5	296.8	248.3
2.	Tea	148.3	156.3	147.3	146	228.1	236.8
3.	Cotton Fabrics :	75.3	76.6	100.9	195.1	158.9	158.7
	[a] Mill made	67.5	66.6	84.4	162.7	129.7	119.4
	[b] Handloom	7.8	10	16.5	32.4	29.2	39.3
4.	Coir Yarn and Manufactures	13	13.4	14.3	15.3	17.9	19
5.	Iron Ore	117.3	104.7	109.8	132.9	160.4	213.8
6.	Oil Cakes	55.4	40.2	74.8	178.2	96	86.1
7.	Leather & Leather Mfgs. (Exclg. footwear)	72.2	90.8	174.5	172.2	145	201.3
8.	Cashew Kernel	52.1	61.3	68.8	74.4	118.2	96.1
9.	Tobacco	32.6	45.1	63.9	70.9	82.2	98.4
10.	Engineering Goods	130.4	122.3	141	201.7	356.7	408.7
11.	Coffee	25.1	22.1	32.9	46	51.4	66.7
12.	Mica	15.6	15.4	16.6	13	18.2	14.6
13.	Sugar	27.6	30.2	13.3	42.2	339	472.3
14.	Peepar	15.3	14.8	14.3	29.5	34.5	33.9
15.	Manganese Ore	14	10.6	8.7	9.4	17.6	17.5
16.	Raw Cotton	14	16.3	21.6	32.4	15.2	38.8
17.	Mineral Fuel & Lubricants	12.6	11.6	32	15.3	20.4	35.6
18.	Iron & Steel (Exclg. ferro - manganese and ferro-alloys)	67.2	25.5	23.1	26.2	21.1	68.2
19.	Chemicals & Allied Products	29.4	30.4	35.3	50.3	92.9	84.5
20.	Fish & Fish Preparations	30.5	42	54.5	89.2	66.2	126.6
21.	Art Silk Fabrics	5.3	7.5	9.6	28.3	18.4	15.1
22.	Footwear	11.4	11.6	12.6	13.8	20.3	21.2
23.	Vegetable Oils (essential and non-essential)	10.8	11.5	29.6	37.9	43	37.2
24.	Cotton Apparel	8.6	14	29.9	67.4	96.9	144.9
25.	Handicrafts	69.9	81.7	119.7	173.6	186.6	224.1
26.	Hides & Skins & Furskins	0	0.7	0.9	1.5	0.4	0.2
27.	Silver	0	0	0	0	0	0
28.	Others	290.9	286.3	370.9	433.2	626.6	773.2
29.	Total Exports	1535.2	1608.2	1970.8	2523.4	328.9	3941.8

Appendix Table VI-2 Contd.

(Rs. Crores)

Sr.No.	Commodity	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82*
1.	Jute Manufactures	200.8	244	166.9	336.1	330	250.1
2.	Tea	292.9	569.7	340.5	367.8	425.5	373.3
3.	Cotton Fabrics :	254	224.8	224.3	287.4	276.5	272.5
	[a] Mill made	200.8	143.4	163.2	216.3	188.4	0
	[b] Handloom	53.2	81.4	61.1	71.1	88.1	0
4.	Coir Yarn and Manufactures	24	23.9	26.4	36.6	26.2	25.8
5.	Iron Ore	238.5	240.8	232.9	285.2	303.3	343.4
6.	Oil Cakes	223.8	133.3	109.9	127.5	125.1	139.4
7.	Leather & Leather Mfgs. (Exlg. footwear)	263.5	248	327.7	485.6	337.1	374.1
8.	Cashew Kernel	106	149.5	80.2	118.1	140.1	168.8
9.	Tobacco	102.1	117.2	116.3	113.5	140.7	227.8
10.	Engineering Goods	554.4	617.4	700.7	739.1	727	817.3
11.	Coffee	114.1	194.4	144	163.3	214.2	132.5
12.	Mica	17.4	17.3	18.9	20.6	17.7	27.9
13.	Sugar	148.1	19.5	131	128.9	40.6	40.3
14.	Peepar	38.2	49.1	147.9	149.4 +	111.4 +	112.5 +
15.	Manganese Ore	19.1	10.9	15.4	13.2	12.7	9
16.	Raw Cotton	27	0.7	16	75.1	164.9	35
17.	Mineral Fuel & Lubricants	32.7	27.8	19.8	21.2	24.9	24.3
18.	Iron & Steel (Exclg. ferro - manganese and ferro-alloys)	283	185.4	221.9	32.78	69.7	70.1
19.	Chemicals & Allied Products	109.1	116.7	148.1	197.8	225.6	347.3
20.	Fish & Fish Poreparations	180.3	174.3	226.3	253.4	212.9	274.4
21.	Art Silk Fabrics	28.9	26.8	38.9	32.4	21.5	26.5
22.	Footwear	28.8	24	26.3	33.9	40.1	40.4
23.	Vegetable Oils (essential and non-essential)	52.6	26.1	18.9	49.5	22	23.3
24.	Cotton Apanel	257	235.1	345.5	343.7	378.2	547.9@
25.	Handicrafts	402.4	751.8	956.7	832.5	893.8	1033.8
26.	Hides & Skins & Furskins	0	0	0	0	0	0
27.	Silver	0	78.6	103.5	2.2	0	0
28.	Others	1144.5	900.8	821.4	1171.7	1426	2058.5
29.	Total	5143.2	5407.9	5726.3	6418.4	6710.7	7796.2

Notes : + Spices
 @ inclusives readymade Garments
 * Provisional

Source : Economic Survey, Government of India,
 New, Delhi, Various Issues

Appendix Table VI-3
INDIA'S PRINCIPAL EXPORTS : (1982-83 TO 1987-88)
(Rs. in Crores)

Sr.No.	Commodity	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
I.	Agricultural & Allied Products :	2451.0	2621.7	2996.5	3018.3	3422.0	N.A.
	of which						
1.	Coffee	187.1	181.7	210.2	264.9	296.7	263.2
2.	Tea & Mate	369.8	515.2	766.6	626.3	576.8	592.4
3.	Oil cakes	148.6	151.6	136.9	134.0	189.8	173.3
4.	Tobacco	247.4	178.1	178.3	169.6	185.3	134.6
5.	Cashew Kernels	135.4	150.8	179.7	225.1	327.6	306.7
6.	Spices	94.6	116.7	206.7	277.8	279.0	309.3
7.	Sugar & Molasses	66.9	174.3	35.2	15.8	1.4	0.8
8.	Raw Cotton	107.8	157.0	59.7	68.2	204.7	95.5
9.	Rice	217.9	113.6	169.2	196.3	197.3	324.6
10.	Fish & Fish Preparations	364.2	364.0	381.4	409.0	539.0	525.1
11.	Meat & Meat Preparations	80.5	71.7	82.5	73.8	75.5	85.5
12.	Fruits, Vegetables & Pulses (Excl. Cashew Kernel & Processed fruits & Juices)	153.8	104.6	136.6	124.0	155.8	150.8
13.	Miscellaneous processed foods (incl. processed fruits & Juices)	80.2	63.2	76.8	82.4	75.5	65.9
II.	Ores & Mineral (Excl. Coal) :	490.8	506.2	637.6	784.7	717.2	703.3
	of which						
14.	Mica	20.1	17.9	19.6	20.9	19.6	23.2
15.	Iron Ore	380.5	401.6	459.4	578.8	546.6	542.8

Appendix Table VI.3 (Contd)

Sr.No.	Commodity	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
III.	Manufactured Goods :	4551.1	4969.4	6210.1	6374.2	7808.4	N.A.
	of which						
16.	Textile fabric & Manufactures (excl. Carpet hand made) of which	1556.1	1481.3	1717.5	1795.1	2178.8	3088.8
(i)	Cotton Yarn, Fabrics made ups etc	419.6	428.8	620.4	573.7	637.2	1063.8
(ii)	Readymade garments of all textile Materials	590.8	725.6	935.3	1067.0	1330.5	1792.1
17.	Coir Yarn & Manufactures	26.3	24.9	27.9	33.7	33.5	29.4
18.	Jute Manufactures (incl. twist & yarn)	206.3	170.9	341.3	261.8	244.0	242.8
19.	Leather & Leather Manufactured (incl. leather footwear, leather - travel goods & Leather garments)	414.6	492.5	724.1	769.9	922.4	1148.5
20.	Handicrafts (incl. Carpet hand-made) of which Gems and Jewellery	1440.4	1599.3	1750.8	1881.4	2547.6	3253.3
21.	Chemical and allied products	1014.8	1294.1	1237.1	1502.7	2074.3	2613.5
22.	Machinery, Transport equipment & Metal Manufactures (incl. Iron & Steel)	348.3	327.6	482.9	497.5	583.2	823.4
		867.7	807.2	956.1	954.1	1132.7	1433.0
IV.	Mineral fuels & Lubricants (incl. coal)	1240.4	1590.0	1822.9	654.9	417.6	656.5
V.	Others :	70.2	83.4	76.6	62.5	87.2	N.A.
VI.	Total :	8803.5	9770.7	11743.7	10894.6	12452.4	15741.2

Source : Economic Survey, Government of India, New Delhi, 1988-89, S.74, 75.

Appendix Table VI-4
Commodity Composition of India Exports According
to Standard International Trade Classification
(Rs. Crores)

Year	Ø	1	2	3	4	5	6	7	8	9	Total
											Export*
	Food and Beverages Live Animals	Crude Oil except Fuels	Mineral Fuels & Lubricants	Animal & Vegetable Oils & Fats	Chemicals	Manufactured Goods Chiefly by Materials	Machinery and Transport Equipment	Miscellaneous Manufactured Articles	Commodities and Transactions of not classified according to kind	Total	Export*
1965-66**	380.2	34.2	212.5	14.7	7.1	18.1	541.2	16.5	34	5.8	1263.3
1966-67**	352.9	22.6	208.7	12.6	3.1	14.9	490.6	15.4	27.5	4.6	1152.9
1967-68	362.2	35.6	194.3	9.2	4.2	15.7	510.7	19.1	35.9	5.9	1192.8
1968-69	364.1	33.8	212	12.1	12	23.7	603	43.6	46.5	5.5	1356.3
1969-70	345.6	33.4	231.4	9.5	5.1	30.3	630	55.4	63	5	1408.7
1970-71	412.7	32.6	251.7	12.6	7.1	36.4	615.7	75.1	76	4.5	1524.4
1971-72	435.3	45.1	240.6	11.6	7.9	35.4	663.3	73.8	84.8	5.4	1603.2
1972-73	521.6	64.1	254.3	31.9	25.5	40.4	814.1	84.3	112.9	5.4	1954.5
1973-74	678.8	71	362.3	15.3	32.1	58.2	999	116	178.8	6.8	2518.3
1974-75	1016.2	82.3	432.3	20.4	34.4	104.1	1166.9	213.5	243.5	6.7	3323.3
1975-76	1239.4	98.5	527.1	35.6	34.8	89.5	1333.4	255.2	310.5	7.3	3931.3
1976-77	1300.5	103	602.2	33	52.5	119.1	2117.5	297.8	494.6	8.9	5129.1
1977-78	1533.8	117.7	482.6	27.8	24.9	125	2190.3	335.3	513.5	12.3	5363.2
1978-79	1456.9	117	512.4	19.4	17.9	153.8	2327.5	395.1	693.6	13	5706.6
1979-80	1703.3	115.4	666.6	21.2	52.4	208.4	2397.6	447.3	773.7	16.2	6402.4
1980-81	1705.1	141.3	813.6	27.8	19.3	234.6	2314.3	525.5	868.5	15.8	6665.8
1981-82	1919.2	236.4	775	224.9	19.9	375.4	2578.9	617.4	1038.5	12.7	7798.3

* Total exports are exclusive of re-exports

*** The value figures are adjusted at post-devaluation rate by multiplying the figures with 1.575, the increased value of pre-devaluation rupee.

Source : Monthly Statistics of the Foreign Trade of India, vol.I, Exports and Re-Exports, Published by Directorate General of Commercial Intelligence and Statistics, Government of India, for the Years 1965-66 to 1981-82

Appendix Table : VI - 5

Correspondence Table of Regional Classification

Regional Classification of countries, of April 1966		Corresponding Regions and Countries of Regional Classification of April 1977
Region No.	Name of the Region	
(1)	(2)	(3)
Ø	Africa	Region Nos. 1, 2, 3 and 4
1	North America	Canada and U.S.A.
2	Latin America	Region No.6 and <u>Countries</u> : Costa Rica, Cuba, Dominican Republic, El Salvador, Gutemala, Haiti, Hondruas British, Nicaragua, Panama Canal Zone and Panama Republic.
3	Other American Countries	<u>Countries</u> : American Samoa, Antigua, Bahamass, Barbados, Bermuda, British Virgin Islands, Dominica, Fulkland - Islands, French Guiana, French West Indies Gayman Islands, Grenada, Guyana, Hondruas (not British), Jamaica, Martinique, Monteserrat, Netherland Autillies, Pureto Rico, st. Pierre Miquelon, St. Lucia, St. Ritts-Nevis-Anguilla, St. Vinicent, Surinam, Trinidad and Tobago, Turks and Caicos Islands and Virgin Islands of U.S.
4	Economic and Social Commission for Asia and the Pacific	<u>Countries</u> Afghanistan, Australia, Bangladesh, Burma, china People's Republic of China Republic (formerly Formasa), Hong Kong, Indonesia, Iran, Japan, Kampuchia Democratic Republic.
	ESCAP Countries	Korea Republic, Korea Democratic Republic, Laos, Malaysia, Nepal, New Zeland, Pakistan, Philippines, Singapore, Srilanka, Thailand, Vietnam Republic of Vietnam Democratic Republic.

Appendix Table VI-5 Contd.

Regional Classification of countries, of April 1966		Corresponding Regions and Countries of Regional Classification of April 1977
Region No.	Name of the Region	
(1)	(2)	(3)
5.	Other Asian and Oceanian Countries	<u>Countries :</u> Bahrein Island, Brunei, Chistmas Islands Cocos Islands, Cook Island, Cyprus, Fiji Island, Frehch Polynesia, Gilbert and Ellice Islands, Gaum, Irago, Israel, Jordon, Kuwait, Lebanon, Macao, Maldivo Islands, Mongolia, Nauru Republic of Neutral Zone, New Caledonia, New Herbrides, Nice Islands, Norfolk Islands, Oman, Pacific Island, Papu and New Guin, Pictarin Islands, Portugese Timor, Qutar, Sabah, Sarwak, Saudi Arbia, Soloman Islands, Soloman Islands, Syrian Arab Republic, Tonga, Tuvalu, Tuvalu, Tokelan Islands, United Arab Emirates, Wallis and Futuna Islands, Western Samoa, Yemen People's Democratic Republic, Yemen Arab Republic.
6	East European Countries	Region No.15 and Yugoslavia
7	European Common Market Countries	<u>Countries :</u> Belgium, France, Federal Republic of Germany, Italy, Luxmberg and Netherlands
8	European Free Trade Area Countries	<u>Countries :</u> Austria, Denmark, Norway, Portugal, Sweden, Switzerland and United Kingdom.
9	Other European Countries	<u>Countries :</u> Albania, Andorra, channel Islands, Gibraltar, Greece, Liechtenstein, Malta, Spain, Turkey, Ferore Islands, Finland, Greenland, Iceland and Ireland.

Note : Prepared on the basis of Regional Classification of April 1966 and April 1977 Given in 'Monthly Statistics of the Foreign Trade of India. Vol.I. Exports & Re-Exports' Published by Directorate General of Commercial Intelligence and Statistics, Government of India, March 1967 and March 1978.

Appendix Table VI-6
Direction of Indian Exports

(Rupees in crores)

Year	Region-0	Region-1	Region-2	Region-3	Region-4	Region-5	Region-6	Region-7	Region-8	Region-9	Total*
	African Countries	North American Countries	Latin American Countries	Other American Countries	Economic & Social Commission for Asia & the Pacific Countries	Other Asian & Oceanian Countries	East European Countries	European Common Market Countries	European Free Trade Area Countries	Other European Countries	Total Export = Total of all regions
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1965-66**	95.9	263.5	16.4	2.5	249.3	45.2	246.3	86.3	244.8	13.1	1263.3
1966-67**	71.4	250	9.9	2.3	241.5	38.7	225.7	88.7	215	9.7	1152.9
1967-68	70	236	5.4	1.9	270.1	43.8	224.6	88.4	242.4	10.2	1192.8
1968-69	42.7	263.1	3.7	2	343.6	67	266.2	110.8	216.3	10.9	1356.3
1969-70	88.1	263.9	4.6	2.1	375.7	72.6	307.5	100.3	182.5	11.4	1408.7
1970-71	138.2	234.7	8.3	2	408.6	71.8	361.6	98.2	188.7	12.3	1524.4
1971-72	131.9	302.2	12.6	2.8	422.8	62.6	343.6	123.8	188	13.2	1603.5
1972-73@	101	303.5	4.2	2.2	555.4	72.6	469.5	221.7	205.3	19	1654.4
1973-74@	101.6	376.3	12.1	2.6	737.1	141.3	487.4	321.9	308.7	29.3	2518.3
1974-75@	237.5	418.3	19.9	3.6	909.9	290.1	684	368.1	359.3	32.6	3323.3
1975-76	270	547.8	13	6.4	1176.5	325.4	674.9	393.5	491.5	32.3	3931.3
1976-77	311.4	616.1	15	7.9	1269.8	567.5	790.2	835.5	664.8	50.9	5129.1
1977-78	345.2	716.5	11	6.1	1272.8	569.9	929.9	829.8	636.3	45.6	5363.1
1978-79	337.9	819.3	13.8	7.1	1539.7	604.7	657.9	993	682.4	52.2	5708
1979-80	331.7	868.2	17.8	6	1733.6	617.2	891.3	1167.6	695.5	73.5	6402.4
1980-81	432.3	801.6	32.2	4.2	1659.7	607.2	1519.3	976.5	585.5	47.3	6665.8
1981-82+	441.9	987	18	4	1729.2	804	2002.4	932.5	620.4	62.7	7602.1

* Total value figures of total exports are exclusive of re-export

** The value figures are adjusted at post-devaluation rate by multiplying the figures with 1.575, the increased value of pre-devaluation rupee.

@ Region No.7 excludes Denmark, Ireland and U.K. and Region No.9 includes Ireland.

+ The value figures of total exports are exclusive of the exports of crude oil of Rs.196.2 crores as country details do not include.

Note : On account of change in regional classification of the various countries of the world in April 1977, the correspondence between the Regional Classification of April 1966 and of April 1977 has been made according to the Regional Classification of April 1966. (For Correspondence between the two, see Appendix Table VI-5).

Source : Monthly Statistics of the Foreign Trade of India, Vol.I, Exports and Re-Exports, Published by Directorate General of Commercial Intelligence and Statistics, Government of India, for the Years 1965-66 to 1981-82.