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**IMPORT-INTENSITY IN THE REGISTERED  
MANUFACTURING SECTOR OF  
INDIA**

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*Abstract*

Attempts are made to estimate import-intensity of the registered manufacturing sector and also for different industries over the period from 1978-79 to 1997-98. In 1978-79 the import-intensity of the registered manufacturing sector was 7.22 percent. The import content of the output is the highest in chemical and chemical products. In 1983-84 the import-intensity shows rise which is mainly because of import liberalization to promote export production. But for the years 1989-90, 1993-94 and 1994-95 it shows reduction for the manufacturing sector as a whole, but some industries recorded rise in the import-intensity. The different groups of industries such as capital goods and consumer durables experienced rise in the import-intensity during the period. The agro-based, chemical and non-metallic mineral-based industries recorded a fall in the import-intensity. Only metal-based industries recorded a rise in the import intensity during this period. Liberal import of raw materials in the country used by large corporations to satisfy the pent up demand for better quality consumer goods rather than export to the highly competitive international market is responsible for the increase in import-intensity. It has been revealed from the sample data from CMIE that net foreign exchange inflow rate is negative for the manufacturing sector for the period 1991-92 to 1997-98. Only a small number of industries recorded a rise in the net foreign exchange inflow rate during this period. However, the policy of promoting export did not show sufficient success in increasing export-intensity; in fact import-intensity went on increasing during this period.

**Key Words:** Manufacturing, Import-intensity, Export-intensity, Registered, Industry,

**JEL Code(s):** F14, L60

# **IMPORT-INTENSITY IN THE REGISTERED MANUFACTURING SECTORS OF INDIA**

L. G. Burange<sup>1</sup>

## **1. INTRODUCTION:**

This paper attempts to estimate import intensity of manufacturing sector and the different industries over the period of 1978-79 to 1997-98. Attempt is also made to identify the industries, which have high import intensity, export intensity and their contribution to the foreign exchange earnings. This study has been organized into six sections. The survey of literature has been presented in Section two; Section three discusses the data and its coverage. The analysis of import intensity on the basis of ASI data has been made in Section four. Section five discusses the analysis based on sample data and the last Section presents conclusions.

## **2. A BRIEF SURVEY OF LITERATURE:**

On this subject there are a number of empirical studies with reference to India. Bhattacharaya (1989) constructed an index within Input-Output framework to estimate import-intensity of export for 1973-74 and 1979-80. The study showed that the policy of export linked import liberalization followed in India, increasing the import content in a large number of sectors has enabled the export sector to increase its capacity to pay for its imports. In general this study showed a rise in direct plus indirect import content per unit of output (i.e. import intensity) in almost all the sectors, except a few.

Sarma (1990) estimated import intensity within Input-Output frame for the years 1979-80 and 1984-85 for Indian industries. This study found that during the

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period by and large the import intensity (direct plus indirect) has declined over the period of five years with a few exceptions. This has been extended for the period 1984-85 to 1987-88. In this extension, there is an in-built under estimation phenomena (Argade, 1991). The study also examined the relationship between export growth and import-intensity during 1983-87 and found that the correlation between sectoral export growth and respective import intensity is very high at 0.94.

Pitre (1992) using Input-Output frame has shown that import intensity has increased from 0.027 in 1968-69 to 0.052 in 1983-84 but then decreased to 0.047 in 1987-88. In a study by Dholakia *et al.* (1992) defining the import intensity as ratio of imported inputs to total inputs expressed as percentage, has shown that import intensity of export oriented sector is higher than the import intensity of rest of the economy during 1983-84. In this study two alternative measures of import intensity have been developed viz.; (a) imported inputs in relation to total inputs used to tradables, and (b) proportion of imported inputs to the value of exports. The weighted average of this ratio for the 10 export - oriented sectors has been found to be 7.96 percent as against the national average of 4.99 percent. Using second measure the weighted average for 10 export-oriented sectors is 3.84 percent as against the national average of 2.79 percent.

Another study by Pitre (1989) on the basis of company finance data had shown an increasing net outgo of the foreign exchange during 1978-79 to 1987-88 in contrast to the net inflows of foreign exchange during 1974-75 to 1977-78. The study attributes number of factors to this phenomenon such as demand recession in the Indian economy, oil price hike, delinking of the Indian rupee from pound sterling and pegging it to a basket of currencies, and increase in remittances.

Siddharthan (1989) has fitted a regression equation to estimate the causality between export performance and imported raw materials used in production. Large public limited companies have been considered using the Reserve Bank of India data for two period viz., 1982-83 to 1984-85 (i.e. pre-liberalization) and 1985-86 to 1987-88 (i.e. post-liberalization). He finds out a sharp up-trend in import-intensity immediately after liberalization and decrease in the export intensity of many industries following the intensification of liberalization process since 1985.

Mani (1991) has attempted to assess the import dependence of the Indian economy on the basis of various indicators such as the Net Foreign Exchange Inflow Rate (NFIR), the Import Intensity rate (IIR) and the Direct Cost of Technology Import Rate (DCTR). These indicators are based on the RBI data for large public limited companies and data for the public sector from the Public Enterprises Survey. The application of these measures suggests that the import dependence has increased substantially between pre-liberalization (1982-83 to 1984-85) and post-liberalization period (1986-87 to 1988-89).

Singh (1994) with the help of Regression Analysis attempted to find out the impact of import liberalization on exports on the basis of data on large public limited companies for the period 1975-76 to 1989-90. This analysis suggests that import liberalization has had a positive impact on export of chemical and chemical products, cotton textiles and engineering industries. In the case of import intensity the definition used in this study is the ratio of imported raw materials to total raw materials expressed as percentage. The study shows the perceptible rise in import intensity of chemical industry, engineering industry, cotton textiles, and paper and paper products over the period of 1975-76 to 1989-90.

Sathe (1997) provides fresh evidence on the import intensity of India's exports on the basis of sample data of Infotech Computer Package with sample of 1521 manufacturing companies for the period of 1989-90 to 1992-93. In this study import intensity has been defined as the imported raw materials to sales ratio expressed as percentage and export intensity as exports to sales ratio expressed as percentage. The study finds a decrease in import intensity of sample industries from 11.45 per cent in 1989-90 to 10 per cent in 1992-93. The export intensity of the sample industries on the other hand has increased from 4.3 per cent to 6.2 per cent. The study also finds the decrease in import intensity of export over the period. The net foreign exchange inflow ratio has increased for the sample industries from 89 percent in 1989-90 to 91 percent in 1992-93. The direct cost of technology imports rate (DCTR) has increased from 1.15 in 1989-90 to 1.65 in 1992-93.

### 3. DATA:

In this study we have data of two types. One is from ASI, Factory Sector for the years 1978-79, 1983-84, 1989-90, 1993-94 and 1994-95 at four-digit level of industrial classification. This data have been used for estimating import intensity for above mentioned years for the two-digit industries. The import intensity has been estimated for different types of industries on the basis of use-based and input-based classification. The adjustment in data from 1989-90 onwards for the interchange of industrial classification 30 and 31 on account of adoption of NIC-87 is appropriately made to have new NIC groups. Second since ASI does not have continuous series of data the other source of data has been used from CMIE. CMIE has derived this data from a database on the Indian Corporate Sector from the audited unabridged annual accounts of companies. These CMIE selected companies account for over 65 per cent of gross value-added in the industrial sector of the economy. The gross value-added of CMIE selected manufacturing companies accounted for 74 per cent of the gross value-added given for manufacturing companies in ASI for 1994-95. The number of companies in the manufacturing sector covered by CMIE for the period from 1991-92 to 1997-98 is as follow.

**Table 1: The Number of Companies covered by CMIE in Manufacturing Sector.**

Year	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
No. of Companies	2188	2502	3045	3817	4417	4411	3988

Source: CMIE(1999), Corporate Sector, May, p.30.

The data from CMIE have been used to estimate import intensity, export intensity, net foreign exchange inflow rate and the import dependence of manufacturing activity in India for the period from 1991-92 to 1997-98. However the data from CMIE are based on accounts of the individual companies may not reflect the small-scale sector of the Indian manufacturing sector. Considering the importance of small scale sector in the Indian manufacturing sector this data may give results biased towards large scale industries which will be different from the results based on ASI data. We call CMIE data as a Sample Data in the analysis.

The intensities are defined in financial terms. It is of course relevant, as it is the financial magnitude that matters for the Importer or Exporter. Intensity in physical

terms is also useful. With changes in exchange rates and tariff duties trends in physical intensities may differ from financial intensities.

#### **4. ANALYSIS BASED ON ASI DATA:**

In this section we analyze import intensity and import dependence of industries on the basis of ASI data.

##### **4.1 Import-Intensity:**

We define import intensity as the ratio of imported raw material used to value of output of the industry, expressed as percentage. That is,  $[(TIMC/VO)*100]$  where, TIMC is the imported raw material used by industry and VO is the value of output of the industry. In 1978-79, the import intensity of the manufacturing sector was 7.22 per cent (Table 2). The import content of output is the highest in chemical and chemical products (31).

During 1983-84 there is a rise in Import intensity of manufacturing sector to 7.61 per cent. This is mainly because of the policy of import liberalization to export promotion. The linkage of import liberalization to export promotion can be explained by the rising number in import licenses issued to the Registered Exporters increased during 1980s. The share of licenses issued to the Registered Exporters in total import licenses issued increased from 26.6 per cent in 1980-81 to 32.6 per cent in 1983-84, (Singh, 1994). The wool, silk and synthetic fibre textiles (24), paper and paper products (28), basic metal and alloys industries (33), metal products and parts except machinery (34) and other manufacturing industries (38) have increased their import intensity considerably.

On the basis of the recommendations made by the Abid Hussain Committee (Government of India, 1984) India announced a trade policy covering three-year period between 1985 and 1988. This policy tried to give large flexibility to exporters. The emphasis was on reduction of administrative delays and the multiplicity of schemes. There has been considerable reduction in the number of canalized imports and procedures related to canalized imports were also amended. This policy abolished

automatic license and also moved most of the goods under these schemes to OGL list. This policy introduced Imports-Exports-Pass Book scheme to manufacturer exporters who can have easy access to duty free inputs for export production. This is the first phase of liberalization. This liberalization was mainly to achieve the import-led-export growth. This has resulted in rising import intensities immediately after 1985 and stayed at that high level (Siddarthan, 1989). However later on impact of this policy weakened and in 1989-90 the import intensity of the manufacturing sector declined. Since the import liberalization was tied with export promotion and with the fall in export in 1989-90 over 1988-99 it adversely affected production of exportables.

**Table 2: Import Intensity of the Indian Manufacturing Sector during 1978-79 to 1994-95.**

(Per cent)

Industry	1978-79	1983-84	1989-90	1993-94	1994-95
20	0.19	0.21	0.03	0.05	0.09
21	6.63	5.74	1.16	0.77	0.79
22	0.12	0.20	0.09	0.48	0.50
23	4.39	1.86	0.19	0.30	1.36
24	5.93	8.13	4.37	2.33	3.38
25	0.04	0.04	0.04	0.34	1.10
26	1.39	2.70	2.11	1.94	1.53
27	0.36	0.50	2.28	2.40	2.73
28	4.08	5.03	5.01	4.41	4.73
29	1.56	1.97	2.10	3.88	4.25
30	33.32	31.02	11.08	8.80	10.73
31	9.17	8.05	16.34	19.96	20.65
32	4.15	2.32	2.46	2.66	2.29
33	2.85	4.40	6.90	4.73	5.72
34	6.57	8.24	3.03	3.93	4.97
35	6.28	4.68	1.68	2.46	3.07
36	6.90	7.47	5.56	6.04	6.13
37	3.43	3.45	2.71	4.71	4.00
38	8.02	9.14	12.73	18.38	18.58
<b>Mfg.2-3</b>	<b>7.22</b>	<b>7.61</b>	<b>5.80</b>	<b>5.71</b>	<b>6.26</b>

This resulted in a decrease in import intensity in 1989-90, however, export intensive industries such as leather and leather products (29), and basic metal and alloys (33) showed a rise in import intensity over the year 1983-84. The biggest rise is in rubber, plastic, petroleum and coal products (31) and also wood and wood products (27).

During the year 1993-94 there is further decline in import intensity of Indian manufacturing sector. This may be due to the import compression measures and effect of the devaluation of rupee in 1991. However export intensive industries such as leather and leather product (29) and other manufacturing industries (38) showed a substantial rise in import intensity. The industries such as manufacture of transport



equipment and automobile industry (37) in which fresh direct investment came in with new technology, also shows rise in-import intensity. However during 1994-95 there is marked rise in the import intensity of the Indian manufacturing sector. During 1994-95 the manufacturing sector recorded highest growth rate after 1976-77 and also the export growth was much higher, this led to the rise in import intensity. Moreover in this year import growth rate was higher than the export growth rate. The appreciation of rupee also made imported raw material relatively cheaper. All these factors have resulted in rising import intensity of the Indian manufacturing sector. In the case of use-based classification basic goods industries show rising trend in import intensity for these years with marked rise in the year 1989-90 (Table 3). The capital goods industries recorded first declining and then rising trend in import intensity. The intermediate goods industries showed the mixed trend in import intensity. The consumer goods industries recorded the lowest and declining import intensity. However, consumer durables recorded marked rise in import intensity with rising trend while consumer non-durables showed exactly opposite picture. On the basis of input-based classification of industries, the agro-based industries recorded the lowest and declining import intensity. The chemical-based industries showed highest but falling import intensities. Only metal-based industries recorded rising import intensity for these years (Table 4).

#### 4.2 Import Dependence:

The import dependence of an industry has been defined as the ratio of imported raw materials to total raw materials. Import dependence of the Indian

**Table 3: Import Intensity of Use based goods Industries during 1978-79 to 1994-95.**

Industry Group	(Per cent)				
	1978-79	1983-84	1989-90	1993-94	1994-95
1) Basic Goods Industries	4.63	4.86	8.83	6.04	7.54
2) Capital Goods Industries	5.18	4.58	2.42	4.17	4.07
3) Intermediate Goods Industries	12.27	13.86	9.47	11.15	12.12
4) Consumer Goods Industries	4.19	4.48	3.05	2.90	3.09
4.1) Consumer Non-durable	4.08	4.18	2.75	2.45	2.57
4.2) Consumer Durable	5.28	7.13	5.99	7.10	7.98
<b>Mfg.(2-3)</b>	<b>7.22</b>	<b>7.61</b>	<b>5.80</b>	<b>5.71</b>	<b>6.26</b>

**Table 4: Import Intensity of Input-based good Industries during 1978-79 to 1994-95.**

	(Per cent)				
<b>Industry Group</b>	<b>1978-79</b>	<b>1983-84</b>	<b>1989-90</b>	<b>1993-94</b>	<b>1994-95</b>
1) Agro-Based industries	3.35	3.03	1.79	1.47	1.81
2) Metal-based industries	4.54	5.17	5.00	5.04	5.65
3) Chemical-based industries	19.29	19.15	13.73	13.45	14.97
4) Non-met. Min. based Ind.	4.15	2.32	2.46	2.66	2.29
<b>Mfg.(2-3)</b>	<b>7.22</b>	<b>7.61</b>	<b>5.80</b>	<b>5.71</b>	<b>6.26</b>

manufacturing sector is around 10 per cent with minor deviation for all these years (Table 5). Among the two-digit industries chemical and chemical products (30) shows the highest dependence on imported material, nevertheless, it is declining over the period. The rubber plastic, petroleum and coal products (31) also show a substantial dependence on imported raw materials with rising trend. The import dependence of other manufacturing industries (38) is rising at a faster rate over the years. This is mainly because of the electronics industry, which is the major industry in other manufacturing industries (38). The electronics industry is highly import intensive especially computer industry and this is why in overall this industry shows rising dependence on imported raw materials. The measure of import dependence explains how efficiently raw materials are used and this is why import dependence can show different trend from import intensity. For example, in 1978-79 and 1983-84 for the manufacturing of transport equipment, import intensity recorded a rise while import dependence declined. Similarly for manufacturing sector as a whole in 1989-90 and 1993-94 import intensity recorded a fall from 5.80 to 5.70 percent while import dependence showed rise from 9.96 to 10.15 per cent. On the basis of use-based classification intermediate goods industry is relatively more dependent on imported raw materials. The import dependence of capital goods industry recorded a decreasing trend while consumer showed a substantial rise in dependence on imported raw materials (Table 6). According to input-based classification of industries; the agro-based industries are least dependent on imported raw materials while chemical industries are most dependent. But both show downward trend in import dependence over the period (Table 7). Only metal-based industries show upward trend in dependence on imported raw materials over the period of 1978-79 to 1994-95.

**Table 5: Import dependence of Indian Manufacturing Sector during 1978-79 to 1994-95.**

(Per cent)

Industry	1978-79	1983-84	1989-90	1993-94	1994-95
20	0.25	0.30	0.05	0.08	0.12
21	8.64	7.62	1.23	1.10	1.07
22	0.23	0.35	0.22	0.89	0.92
23	7.33	3.20	0.40	0.54	2.09
24	10.74	14.74	7.85	3.89	5.76
25	0.06	0.08	0.08	0.71	1.98
26	2.50	4.94	4.00	3.70	2.92
27	0.62	0.86	4.88	4.07	4.43
28	8.22	9.60	13.39	8.63	9.26
29	2.10	2.92	3.13	6.04	6.12
30	42.11	36.44	24.72	17.80	19.60
31	16.70	14.80	21.47	28.51	28.13
32	9.91	5.77	6.53	7.50	6.52
33	5.40	8.23	12.68	8.93	10.79
34	11.29	14.56	5.22	6.83	9.05
35	11.83	8.72	3.03	4.39	5.50
36	11.73	13.48	9.95	10.50	10.61
37	6.41	6.03	3.96	8.00	6.20
38	15.40	17.48	23.74	31.94	30.89
<b>Mfg.(2-3)</b>	<b>11.90</b>	<b>12.53</b>	<b>9.96</b>	<b>10.15</b>	<b>10.40</b>

**Table 6: Import dependence of Use-based Industries during 1978-79 to 1994-95.**

(Per cent)

Industry Group	1978-79	1983-84	1989-90	1993-94	1994-95
1) Basic Goods Industries	9.48	10.12	20.07	13.19	16.03
2) Capital Goods Industries	9.90	8.62	4.12	7.45	6.97
3) Intermediate Goods Industries	18.98	20.20	14.14	17.52	17.79
4) Consumer Goods Ind.	6.38	7.05	5.14	5.13	4.92
4.1) Consumer Non-durable	6.16	6.52	4.67	4.39	4.09
4.2) Consumer Durable	8.59	12.00	9.37	11.56	12.93
<b>Mfg.(2-3)</b>	<b>11.90</b>	<b>12.53</b>	<b>9.96</b>	<b>10.15</b>	<b>10.40</b>

**Table 7: Import dependence of Input-based Industries during 1978-79 to 1994-95.**

(Per cent)

Industry Group	1978-79	1983-84	1989-90	1993-94	1994-95
1) Agro-Based industries	5.14	4.74	2.86	2.54	2.80
2) Metal-based industries	8.37	9.46	8.71	9.02	9.80
3) Chemical-based industries	30.21	28.53	24.64	23.54	14.10
4) Non-met. Min. based Ind.	9.91	5.77	6.53	7.50	6.52
<b>Mfg.(2-3)</b>	<b>11.90</b>	<b>12.53</b>	<b>9.96</b>	<b>10.15</b>	<b>10.40</b>

## 5. ANALYSIS BASED ON SAMPLE DATA:

This data represents about two thirds of the organized manufacturing sector, but it has a bias towards large-scale industry. Therefore the results are bound to differ

from the results based on ASI data. However advantage of this data is that it gives a continuous picture of post-liberalization situation of the manufacturing sector, it also gives information on exports of the industries for the period from 1991-92 to 1997-98. All the companies are grouped into 15 major industry groups. These industry groups are not necessarily on the lines of ASI two-digit industry groups.

### 5.1 Import Intensity:

The manufacturing sector recorded continuous rise in import intensity with minor fluctuations. It shows a marginal fall in 1993-94, which is quite consistent with earlier results and a steep rise in 1996-97 (Table 8). From 1991 onwards with an outward orientation the country embarked on a truly liberalized trade regime with a short negative list of imports, the removal of quantitative restrictions for all goods except consumer goods, a phased reduction in customs duties. Also an adjustment in the exchange rate through devaluation of the rupee in 1991 and the movement to a market determined exchange rate. The foreign investment policy underwent a complete change with reduction of barriers, alignment of taxes with international levels and transparency with full repatriation benefits and investor protection (Kapur, 1997). The 1991 policy measures were aimed at integrating industrial, trade and

**Table 8: Import-Intensity of the Indian Manufacturing Industries during 1991-92 to 1997-98.**

(Per cent)

Industry	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1. Food products	0.52	0.70	0.91	1.97	3.52	4.04	4.25
2. Beverage	1.18	1.56	2.16	2.80	4.45	4.40	3.10
3. Textile	2.64	4.85	3.77	6.82	7.65	6.54	6.04
4. Chemicals	17.03	19.51	17.33	15.51	16.28	18.90	17.19
5. Non-metallic Min. products	4.26	5.61	7.03	9.65	8.61	9.18	8.31
6. Ferrous metals	8.44	9.23	9.29	10.30	11.65	10.83	10.54
7. Non-ferrous metal	6.47	8.87	10.49	12.24	14.86	15.59	9.09
8. Machinery	5.99	7.70	7.36	8.73	9.80	10.06	8.78
9. Electronics	9.06	10.51	11.11	13.49	13.54	14.58	12.85
10. Automobiles	5.89	8.06	7.71	9.98	10.05	7.16	4.68
11. Automobile Ancillaries	4.54	5.71	6.29	7.50	8.90	7.49	7.32
12. Paper and paper products	4.98	6.01	7.05	6.33	7.70	6.29	7.19
13. Leather and leather product	2.82	4.71	3.98	6.68	5.42	10.08	9.12
14. Miscellaneous Products	6.48	8.38	9.56	10.63	10.08	12.44	12.35
15. Diversified	2.57	2.94	5.55	7.28	7.79	8.34	9.53
<b>Manufacturing Sector</b>	<b>9.27</b>	<b>11.07</b>	<b>10.22</b>	<b>10.65</b>	<b>11.54</b>	<b>12.27</b>	<b>11.28</b>

exchange rate policies to enhance efficiency in the economy in general and manufacturing sector in particular. This policy stance reflected in the rising import intensities in the manufacturing sector. In 1991-92 import intensity is low because of import compression measures originated from foreign exchange constraint and also poor growth performance of manufacturing sector. But in later years improved foreign exchange reserve position and price competitiveness of Indian exports and rising foreign direct investment resulted into increase in the import intensity.

The chemicals, non-ferrous metals-, electronics and miscellaneous products are the industries, which have relatively high import intensity during the period. There is a substantial rise in the import intensity in the leather and leather products, electronics and diversified industries over the period of 1991-92 to 1997-98.

## 5.2 Import Dependence:

The dependence of the industry on imported raw materials is increasing throughout the period of 1991-92 to 1997-98. The industries such as chemicals non-metallic mineral products, non-ferrous metals, electronics and miscellaneous products are dependent on imported raw materials by more than 20% in 1997-98 (Table 9).

**Table 9: Import Dependence of the Indian Manufacturing Industries during 1991-92 to 1997-98.**

(Per cent)

Industry	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1. Food products	0.80	1.06	1.39	2.75	4.89	5.65	6.10
2. Beverage	1.94	2.61	3.54	4.37	7.27	7.40	5.57
3. Textile	4.51	8.17	6.34	11.01	11.52	10.15	9.72
4. Chemicals	25.40	29.54	27.28	23.09	23.99	27.81	26.53
5. Non-metallic Min. products	13.42	16.49	20.21	26.12	26.93	25.13	24.07
6. Ferrous metals	15.39	16.20	16.46	18.15	20.61	18.11	18.27
7. Non-ferrous metal	17.34	22.70	24.19	28.73	32.86	31.65	20.56
8. Machinery	9.87	12.74	12.40	14.16	15.56	16.30	14.84
9. Electronics	14.48	16.88	18.12	20.86	20.49	23.00	21.59
10. Automobiles	8.87	11.90	11.73	14.88	14.66	10.45	7.16
11. Automobile Ancillaries	7.91	9.97	10.95	13.04	15.47	12.94	13.19
12. Paper and paper products	11.13	12.58	15.07	13.63	16.86	13.09	14.20
13. Leather and leather product	4.82	7.62	6.39	10.16	7.75	14.79	13.86
14. Miscellaneous Products	12.11	16.96	19.28	21.23	19.22	14.79	23.44
15. Diversified	4.52	5.28	10.08	13.13	14.03	14.77	16.65
<b>Manufacturing Sector</b>	<b>15.37</b>	<b>18.27</b>	<b>17.22</b>	<b>17.21</b>	<b>18.35</b>	<b>19.45</b>	<b>18.59</b>

### 5.3 Export-Intensity:

The number of committees appointed by the Government of India during eighties recommended to improve upon the export performance of the Indian manufacturing sector. The Tandon Committee (Government of India, 1980.) explicitly stressed on the efficiency aspects of export growth of the Indian economy that would result from the pursuit of dynamic comparative advantage. The Abid Hussain Committee (Government of India, 1984) recommended harmonization of foreign trade policies with other economic policies and argued for growth-led exports and a phased reduction of effective protection. The committee expressed strong need for the institution of a stable medium-term trade policy.

Analytically, import liberalization policy would help the export sector by improving the availability of imported critical raw materials. The industrial policy (1991) was to promote export by making Indian goods highly metals competitive by exposing Indian industries to the outside competition through liberalized trade, fiscal and foreign investment policies. Similarly the import licensing mechanism has been changed to increase availability of raw materials to exporters.

**Table 10: Export-Intensity of the Indian Manufacturing Industries during 1991-92 to 1997-98.**

(Per cent)

Industry	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1. Food products	7.88	10.85	13.25	12.98	12.98	13.20	14.21
2. Beverage	14.88	15.42	16.66	13.24	10.33	10.65	11.53
3. Textile	9.00	10.45	12.99	16.03	18.82	22.70	22.71
4. Chemicals	4.87	5.67	6.00	5.67	6.24	6.03	5.92
5. Non-metallic Min. products	6.52	9.34	13.09	16.37	16.30	14.43	14.21
6. Ferrous metals	4.27	6.51	9.98	8.29	9.89	10.44	10.08
7. Non-ferrous metal	9.26	11.99	11.34	10.30	10.33	15.95	16.57
8. Machinery	5.79	5.73	7.38	7.33	6.82	8.75	10.22
9. Electronics	5.74	5.25	7.83	8.53	8.30	11.66	13.92
10. Automobiles	6.34	6.81	7.59	7.63	6.91	6.21	6.10
11. Automobile Ancillaries	6.05	7.69	7.78	7.79	7.03	7.83	8.58
12. Paper and paper products	1.77	2.90	3.08	4.17	4.85	4.60	3.79
13. Leather and leather product	14.19	24.00	28.75	40.30	36.99	41.97	35.13
14. Miscellaneous Products	1.59	2.32	5.13	6.29	6.30	7.66	7.83
15. Diversified	5.68	6.25	6.23	7.23	7.77	8.38	8.33
<b>Manufacturing sector</b>	<b>5.92</b>	<b>7.09</b>	<b>8.41</b>	<b>8.57</b>	<b>9.05</b>	<b>9.50</b>	<b>9.69</b>

The main focus of the EXIM Policy 1992-97 was on gradual removal of quantitative restriction on foreign trade, reduction in the peak rate of tariff, removal of anti-export bias for agricultural as well as manufactured products, provision of incentives for improving efficiency and up-gradation of technological and quality standards of domestic products. A liberalized Exchange Rate Management System (LERMS) was also introduced in 1992 to determine the exchange rate by the market forces (Hajra and Senate, 1997). In the recent EXIM Policy 1997-2002, the restricted list of imports has been further pruned measures have been taken to reduce procedural delays and provision of specific Incentives to boost agricultural and technology intensive exports. On the lines of these policy measures let us see the export performance of the Indian industry. This has been analyzed with the help of export intensity. We define export intensity of an industry as the ratio of total exports to total output of the industry, expressed as percentage. Export intensity of manufacturing sector recorded a continuous rise during the period 1991-92 to 1997-98. The industries such as leather and leather products, textiles, non-ferrous metals, non-metallic mineral products recorded high and rising export intensity (Table 10). However, beverages and, tobacco, automobiles showed decrease in export intensity during the period. On the basis of the comparison of export intensity with import intensity of the manufacturing sector, the export performance of the manufacturing sector is very disappointing.

#### **5.4 Net Foreign Exchange Inflow Rate (NFIR):**

The main objective of export promotion in developing country like India is to earn foreign exchange. India's trade policy always emphasized this aspect of the foreign trade. Therefore for the policy implications one must know the incoming and outgoing flow of foreign exchange of a particular industry. To identify the direct contribution of industry to foreign exchange earnings net inflow rate (NFIR) is useful.

Net foreign exchange inflow rate is defined as the ratio of net exports to total exports of specific industry i.e.  $NFIR = \{[(\text{Export} - \text{Import of raw materials}) / \text{Export}] \times 100\}$  or in terms of export and import intensities is as follow  $\{[(\text{Export intensity} - \text{Import intensity}) / \text{Export intensity}] \times 100\}$ .

From NFIR it is clear that the net contribution of manufacturing sector to foreign exchange is negative (Table 11). The manufacturing sector as a whole does not add into the foreign exchange reserve, in fact it is source of drain on foreign exchange. Only encouraging fact is that the difference between outgoing and incoming foreign exchange on account of manufacturing sector is decreasing over the period and may turn around in future with the help of strategic trade policies. Nevertheless this does not mean that all the industries in the manufacturing sector do not contribute to foreign exchange earnings. There are some industries, which show positive and high NFIR during the period of 1991-92 to 1997-98, such as beverages and tobacco, textiles, leather and leather products and non-metallic mineral products. However, these industries belong to the group of traditional export industries. Even with some exceptions the NFIR of this industries shows the downward trend which implies the exports are not increasing compared to imports of raw materials. This is mainly because of decreasing price competitiveness in international markets over the period. This becomes clear when you compare the market share of India and China in the World Export for some commodities. Table 12 shows that there is a fall in the share for many commodities where China has experienced none for the same period. The industries such as chemicals, paper and paper products, miscellaneous products are net users of imported raw materials. That is, they are not net foreign exchange earners but only users.

**Table 11: Net Foreign Exchange Inflow of the Indian Manufacturing Industries during 1991-92 to 1997-98.**

(Per cent)

Industry	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
1. Food products	93.42	93.56	93.13	84.80	72.91	60.40	70.13
2. Beverage	92.08	89.91	87.06	78.87	56.67	58.67	73.15
3. Textile	70.69	53.62	70.97	57.47	59.37	71.17	73.38
4. Chemicals	-249.74	-244.14	-188.69	-173.60	-160.77	-213.36	-190.54
5. Non-metallic Min. products	34.59	39.92	46.32	41.07	41.04	36.42	41.54
6. Ferrous metals	-97.76	-41.81	6.92	-24.23	-19.83	-3.74	2.43
7. Non-ferrous metal	30.15	26.06	7.52	-18.91	-43.81	2.20	45.11
8. Machinery	-57.80	-100.37	-41.91	-58.23	-63.01	-25.08	7.67
9. Electronics	-3.41	-34.47	0.15	-19.02	-43.62	-14.92	14.13
10. Automobiles	7.14	-18.37	-1.55	-30.83	-45.37	-15.26	23.39
11. Automobile Ancillaries	25.01	25.77	19.16	3.66	-26.64	4.34	14.59
12. Paper and paper products	-181.08	-107.49	-128.73	-51.86	-58.81	-36.65	-89.94
13. Leather and leather product	80.14	80.37	86.15	83.42	85.34	75.98	74.05
14. Miscellaneous Products	-308.45	-261.76	-86.42	-68.92	-59.89	-62.40	-57.64
15. Diversified	54.81	52.96	11.00	-0.66	-0.20	0.50	-1442
<b>Manufacturing sector</b>	<b>-56.59</b>	<b>-56.02</b>	<b>-21.59</b>	<b>-24.27</b>	<b>-27.58</b>	<b>-29.20</b>	<b>-16.45</b>

Note: NFIR =  $\{[(\text{Export intensity} - \text{Import intensity}) / \text{Export intensity}] \times 100\}$



**Table 12: Market shares of India and China in the World  
Exports for Some Commodities.**

(Per cent)

Commodity	India		China	
	1979-81	1992-94	1979-81	1992-94
1. Women's outwear non-knit	5.7	4.5	3.3	23.5
2. Under garments non-knit	3.9	4.8	7.7	23.9
3. Cotton fabrics woven	3.1	3.6	10.7	15.9
4. Other woven textile fabrics	6.9	2.5	7.3	15.7
5. Textile article n.e.s.	4.3	4.9	15.1	24.5
6. Leather	10.0	3.3	NA	NA
7. Leather manufactures	10.0	3.3	0.3	11.4
8. Headgear, Non-textile clothing	0.7	5.0	5.4	25.7
9. Pearls, precious & semi-precious	4.2	10.4	NA	NA
10. Gold, silverware jewelry	0.6	3.2	1.2	4.6

*Source:* Adapted from T. N. Srinivasan (1998), pp.218-220

## 6. Conclusions:

In this paper we have examined import-intensity of the manufacturing sector at two-digit level of industrial classification. There is a rise in import intensity in 1983-84. This rise was contributed mainly by other manufacturing industries (38), silk and synthetic fibre textiles (24), basic metal and alloys industries (33), metal products and parts (34), and non-electrical machinery (36) industries. The policy of import liberalization to promote exports is responsible for the rise in import-intensity. But in 1989-90 there is a substantial decrease in import-intensity. Then in 1994-95 it again went up. The capital goods industries and consumer durables experienced a rise in import—intensity during the period of 1978-79 to 1994-95. The agro-based, chemical-based and non-metallic mineral-based industries experienced a fall in the import-intensity. Only metal-based industries recorded a rise in import intensity during this period. The liberal import of raw materials in India used by large corporations to satisfy the pent up demand for better quality consumer goods rather than exporting to the highly competitive international market is responsible for the rise in import-intensity. Moreover in India the small firms are more export-intensive than the large firms are. Our sample data do not cover the small firms. Therefore, the export performances of manufacturing sector based on the sample data do not show any optimistic improvement after liberalization. It is found from the sample data that the net foreign exchange inflow rate (NFIR) is negative for the manufacturing sector for the period 1991-92 to 1997-98. A small number of industries recorded a rise in a

NFIR during this period. The policy of promoting exports did not show sufficient success in increasing export intensity; in fact the import intensity went on rising during the period.

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## Appendix 1

**Table A1: Two-digit Industrial Classification**

<b>Industry Code</b>	<b>Description of Industry</b>
20	Mfg. of food and food products I
21	Mfg. of food and food products II
22	Mfg. of beverages, tobacco and tobacco products
23	Mfg. of cotton textiles
24	Mfg. of wool, silk and synthetic fibre textiles
25	Mfg. of jute, hemo and mesta textiles
26	Mfg. of textile products
27	Mfg. of wood and wood products, furniture and fixtures
28	Mfg. of paper and paper products
29	Mfg. of leather and leather products
30	Mfg. of chemical and chemical products
31	Mfg. of rubber, plastic, petroleum and coal products
32	Mfg. of non-metallic mineral products
33	Basic metal and alloys industries
34	Mfg. of metal products and parts except machinery
35	Mfg. of machinery, machine tools and parts
36	Mfg. of electrical machinery, apparatus appliances, etc.
37	Mfg. of transport equipments and parts
38	Other manufacturing industries
<b>2-3</b>	<b>Manufacturing</b>