## CHAPTER 3

## IMPORTS \& DOMESTIC PRODUCTION TRENDS IN THE MANUFACTURING SECTOR

The fact that India was able to achieve a diversified base due to its adoption of ISI has already been established in detail earlier. Domestic industry was to provide most of the country's capital goods requirements. However, the situation has reversed to an extent with the adoption of liberalization. In this section, the trends in imports, domestic production, import availability ratios and the likely policy effects on the manufacturing sector are examined.

### 3.1 Data Coverage and Adjustments

In order to a nalyse at constant prices, the value of output data for the manufacturing sector and the corresponding import data obtained at current prices need to be converted to constant prices. The price deflators used are the wholesale price index numbers compiled by the Ministry of Industry for the years 1974-75, 1979-80 and 1984-85, and the wholesale price index numbers compiled by Chandhok for the year 1969-70. ${ }^{1}$ For the group consisting of manufacture of rubber, petroleum and coal products, the weights shown in Table 3.1 have been used to arrive at a composite index.

Table 3.1

## Weights: Rubber, Petroleum and Coal Products

| S.No | Sector | Weights |
| :--- | :--- | :--- |
| 1. | Rubber and rubber products | 1.207 |
| 2. | Petroleum crude and natural gas | 0.602 |
| 3. | Coal mining | 1.147 |

[^0]Table 3.2
Weights for the Various Items in the Group - Basic Metal and Alloy Industries

| SI. Industry | 1969-70 | 1973-74 | 1974-75 | 1975-76 | 1976-77 | 1977-78 | 1978-79 | 1979-80 | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Iron \& Steel | 52.9 | 64.59 | 70.8 | 77.04 | 59.28 | 58.81 | 66.39 | 72.3 | 64.96 | 75.77 | 77.87 | 73.51 | 70.2 |
| 2. Copper | 30.7 | 18.76 | 12.4 | 5.46 | 12.45 | 11.49 | 14.68 | 7.5 | 9.78 | 9.31 | 8.28 | 12.70 | 9.0 |
| 3. Nickel | 1.8 | 2.29 | 2.3 | 4.03 | 7.47 | 5.02 | 4.03 | 2.5 | 2.05 | 3.58 | 3.00 | 2.88 | 4.2 |
| 4. Aluminium | 0.9 | 0.74 | 0.5 | 2.38 | 0.62 | 2.54 | 4.53 | 8.6 | 15.54 | 3.83 | 1.70 | 2.96 | 7.6 |
| 5. Lead | 4.2 | 2.90 | 3.2 | 2.27 | 5.04 | 6.33 | 2.18 | 3.4 | 1.92 | 1.19 | 2.34 | 1.39 | 1.5 |
| 6. Tin | 5.4 | 3.34 | 9.4 | 3.52 | 5.52 | 6.41 | 3.51 | 3.9 | 2.36 | 2.42 | 1.27 | 1.70 | 5.4 |
| 7. Zinc | 4.1 | 7.38 | 1.5 | 5.24 | 9.60 | 9.39 | 4.68 | 1.8 | 3.39 | 3.90 | 5.56 | 4.81 | 2.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Monthly Statistics of Foreign Trade of India: March issues 1975, 1977, 1979, 1981, 1983 \& 1985.

The unit value indices of imports have been used as price deflators for imports. The unit value indices of imports have been compiled from various issues of Indian Trade Journal (ITJ). Since the base year for the years 1969-70, 1974-75 and 1979-80 is 1968-69 and for 1984-85 it is 1978-79, the series has been spliced and brought to a common base i.e. $1970-71=100$. Exact correspondence between the unit value index and the value of imports is possible for 9 out of 15 commodity groups in the manufacturing sector. For (i) leather and leather products, (ii) wood and wood products, (iii) nonmetallic mineral products, (iv) rubber, petroleum and coal, the unit value import index has been worked out using the Paasche's formula. For textiles, the unit value import index of textile yarn and fabrics has been used as this item accounts for nearly 60 per cent of the textile imports. For food manufacture, the unit value index of food and food articles, which includes unprocessed cereals, fish and meat, has been used.

The unit value index of basic metal and alloy industries has been compiled by computing the weighted average of unit value indices of imports for iron and steel and non-ferrous metals; the weights being the proportion of imports of each item to total imports in that particular category (Table 3.2). As the unit value of import index for non-electrical machinery group has not been given in ITJ for 1984-85, it has been computed by taking the weighted average of individual indices belonging to the group. The weights assigned to the items in this group are shown in the following table:

Table 3.3
Weights: Non-electrical machinery

| S.No. | Item | Weights |
| :--- | :--- | :---: |
| 1. | Power generating machinery equipment | 17.49 |
| 2. | Machinery specialized for particular industries | 8.94 |
| 3. | Metal working machinery | 14.62 |
| 4. | General industrial machinery and equipment | 53.86 |
| 5. | Office machines and automatic data processing | 5.09 |
|  | equipment | Total |

The unit value index for paper and paper products has been compiled by taking weighted average of the unit value price indices of pulp and waste paper, and paper, paperboard and articles. The weights for the reference years are shown in table 3.4.

Table 3.4
Weights: Paper and Paper Products

| S.No. | Sector | $1969-70$ | $1974-75$ | $1979-80$ | $1984-85$ |
| :--- | :--- | ---: | ---: | ---: | ---: |
| 1. | Pulp\&Wastepaper | 34.63 | 14.40 | 16.81 | 47.82 |
| 2. | Paper,paperboard | 65.37 | 85.60 | 83.19 | 52.18 |
| and articles |  |  |  |  |  |
|  | Total | 100.00 | 100.00 | 100.00 | 100.00 |

The wholesale price indices for the period 1973-74 to 1984-85, for petroleum crude, chemical and chemical products, fertilizer, basic metal alloys, manufactures of metals, non-electrical machinery and electrical machinery have been compiled from the revised numbers of wholesale price indices (WPI). The unit value indices for these commodities for the similar period have been obtained from the various issues of Currency and Finance, Volume-II. These indices have been spliced and brought to a common base, i.e. $1970-71=100$. The weights for ferrous \& non-ferrous manufactures for the period 1973-74 to 1984-85 are presented in Table 3.2.

To estimate direct and indirect imports for the years 1973-74 and 1979-80, the $66 \times 66$ input-output matrix of the Fifth Plan and $89 \times 89$ inputoutput matrix of the Sixth Plan have been used. A correspondence has been made between sectors of the Fifth and Sixth Plan in accordance with ASI classification (refer Table 3.5). Imports and production data of 1973-74, given in the technical document of the Fifth Plan, are at 71-72 prices, and data regarding imports and production in 1979-80, given in the technical document of the Sixth Plan, are at 1979-80 prices. In order to express imports and production of 1979-80, at 71-72 prices, we have deflated imports and production of the various sectors by the appropriate unit value indices of imports and the wholesale prices respectively.

To arrive at the constant prices of imports with 1971-72 as the base year, 1979-80 with base 1970-71, has been changed to 1971-72. Similarly, for the wholesale price indices, the base has been changed to 1971-72 $=100$ from base 1970-71. The general index has been used to deflate agro-based and service sector. For the food products group, manufactures of beverages, tobacco and tobacco products group, which includes, manufactures of food and manufactures of beverages, tobacco and tobacco products, a weighted average has been used.
NV7d hlxis anv nvid hlild ghl do syologs thl nagmlag gonadinodsayyoo

| Sl. <br> No. | ASI Code | Industry Group | Sectors Fifth <br> Plan (66 x 66) | Sectors Sixth Plan (89 x 89) |
| :---: | :---: | :---: | :---: | :---: |
| 1. | - | Agro-based and service sector | 1-10, 62-66 | 1-19, 79-89 |
| 2. | 20-21-22 | Manufacture of food products | 11-14 | 20-27 |
| 3. | 23-26 | Manufacture of Textiles | 15-18, 28 | 28-35 |
| 4. | 27 | Manufacture of wood and wood products, furniture \& fixtures | 19 | 36 |
| 5. | 28 | Manufacture of paper \& paper products, printing, publishing and allied industries | 20,61 | 37,38 |
| 6. | 29 | Manufacture of Leather and leather fur products | 21 | 39, 40 |
| 7. | 30 | Manufacture of Rubber, Petroleum and coal | 22, 26, 30 | 41-44 |
| 8. | 31 | Manufacture of chemical \& chemical products (except products of petroleum and coal) | 23-25, 27, 29 | 45-53 |

Table 3.5 (Contd.)

| Sl. <br> No. | ASI Code | Industry Group | Sectors Fifth <br> Plan $(66 \times 66)$ | Sectors Sixth <br> Plan $(89 \times 89)$ |
| :--- | :--- | :--- | :--- | :--- |
| 9. | 32 | Manufacture of non-metallic mineral products | $31-33$ | $54-56$ |
| 10. | 33 | Basic metal and alloy industries | $34-35$ | $57-60$ |
| 11. | 34 | Manufacture of metal products and parts <br> except machinery | $36-39$ | 61 |
| 12. | 35 | Manufacture of machinery, machine tools and <br> parts except electrical machinery | $40,42,43$ | $62-65$ |
| 13. | 36 | Manufacture of electrical machinery, apparatus, <br> appliances and supplies and parts <br> Manufacture of transport equipment and parts | $52-57$ | $66-71$ |
| 14. | 37 | 38 | Miscellaneous manufacturing industries | $58-60$ |

[^1]Table 3.6

Weights: Food Products

| S.No. | Sector | Weights |
| :--- | :---: | :---: |
| 1. | Food products | 87.7 |
| 2. | Beverages | 12.3 |

The indices that have been used as deflators are shown in Table 3.7

### 3.2 Structural Changes

In this section the structural changes between two points of time have been analysed by considering the changes in imports, production structure and import availability ratios. Whether there is any positive association between domestic industrial production and imports needs to be examined.

For this purpose, industries are classified as leading, lagging or constant, depending on whether imports/production shares are increasing, decreasing or remaining constant with reference to two points of time i.e. 1969-70 and 1984-85. The year 1969-90 has been chosen as during that period the manufacturing sector was experiencing import substitution and contrasted with 1984-85 when major changes in policy have taken place resulting in altered industrial structure. An attempt has been made to capture the impact of policy effects on the industrial structure and imports. The classification mentioned above is adopted at both current and constant prices. This is done since the classification differs significantly when adopting current and constant prices (refer Tables $3.8 \& 3.9$ ). The difference highlights the fact that growth in volume and growth in value have not moved in tandem.

Tables 3.8 and 3.9 reveal that basic structural changes relating to industrialisation took place. Consumer goods and intermediate manufactures which formed a smaller share in the import structure in 1969-70, formed a dominant share in 1984-85. In the production structure too, there was a shift from the dominant share of consumer goods in 1969-70, to the dominant share being occupied by basic and capital goods manufacture in 1984-85. A detailed analysis of structural shifts is examined below.
Table 3.7
INDEX NUMBERS OF WHOLESALE PRICES \& IMPORTS FOR 1979-80

| SI. <br> No. | ASI Code | Industry Group | Wholesale <br> price index | Unit-value <br> index of imports |
| :---: | :--- | :--- | :---: | :---: |
| 1. | $1-19$ | Agriculture and service | 206.1 | 387.1 |
|  | $79-89$ |  |  |  |
| 2. | $20-27$ | Food products | 180.6 | 392.8 |
| 3. | $28-35$ | Textiles | 185.4 | 187.9 |
| 4. | 36 | Wood and wood products | 211.9 | 88.0 |
| 5. | 37,38 | Paper and paper products | 215.0 | 238.1 |
| 6. | 39,40 | Leather and fur products | 298.2 | 258.0 |
| 7. | $41-44$ | Rubber, plastic, petroleum and coal | 447.4 | 1433.0 |
| 8. | $45-53$ | Chemical \& chemical products | 195.8 | 257.5 |
| 9. | $54-56$ | Non-metallic mineral products | 228.3 | 595.0 |
| 10. | $57-60$ | Basic metal and alloy lnd. | 246.4 | 264.8 |
| 11. | 61 | Metal products and parts except m/c. | 220.7 | 357.2 |
| 12. | $62-65$ | Machinery, machine tools and parts | 208.0 | 444.6 |
| 13. | $66-71$ | Electrical machinery | 193.2 | 233.7 |
| 14. | $72-76$ | Transport equipment | 213.9 | 296.1 |
| 15. | 77,78 | Miscellaneous industries | 202.3 | 437.9 |

Table 3.8
Leading, Lagging Industries - on the Basis of two Point Comparisons of the Percentage
Distribution of Industrial Imports in the Indian Manufacturing Sector
(Percentage shares in total industrial imports)

Leading industrial imports at constant prices and lagging at current prices:
1.52
15.49
7.16

24.17
5.15
0.05
3.98
22.36

3.95
35.49
Lagging industrial imports at constant prices and leading at current prices:
13.25

| 1.33 | 1.92 |
| ---: | ---: |
| 10.34 | 18.22 |
| 4.69 | 8.26 |
|  |  |
| 16.36 | 28.40 |


3.47
24.66
1.54
14.43
98 S
21.83
Lagging industrial imports at current and constant prices:
5.43
0.05
3.79
25.69
4.58
39.54
13.03

(C)
$20-21$
22
28
35
37
Sub-total
Machinery, machine tools \&
parts except electrical machinery
Transport equipment and parts
Food products
Beverages

| $\underset{\sim}{E}$ |
| :--- | :--- | :--- |
| $\underset{\sim}{n}$ |

2.57
21.87
Table 3.9

## Leading, I agging Industries - on the Basis of Two-Point Comparisons of the Percentage <br> Distribution of Industrial Production in the Indian Manufacturing Sector

(Percentage shares in total industrial production)

| Sl . | ASI | Cinde | Name of the Industry Group | Share in | 1969-70 | Share in | 19:4-85 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. |  |  |  |  | at |  | at |
|  |  |  |  | current | constant | current | constant |
|  |  |  |  | prices | prices | prices | prices |
|  |  |  |  |  | $1970-71=100$ |  | 1970-71 $=100$ |

[^2]Leading industrial production at constant prices and lagging at current prices:
$\widehat{\bigotimes}$
(C) Lagging industrial production at current and constant prices:

| 14.29 | 14.88 |
| ---: | ---: |
| 2.08 | 2.80 |
| 10.83 | 13.25 |
| 0.66 | 0.62 |
| 3.21 | 3.03 |
| 2.01 | 2.11 |
| 0.79 | 1.13 |
| 33.94 | 37.82 |


$\stackrel{O}{O} \underset{\sim}{\square} \underset{\sim}{\sim} \underset{\sim}{\sim}$
Source: ASI, (handhok,

### 3.2.1 Structural shifts in industrial imports

Seven leading industrial imports, which accounted for 39 per cent of imports at current prices, increased their share to 62 per cent, whereas, at constant prices, there are nine leading industrial import groups whose share increased from 1969-70 ( 51 per cent) to 1984-85 ( 71 per cent). Rubber, petroleum and coal and chemicals group together account for 49.4 per cent of total imports at current prices in 1984-85. Chemicals account for 30 per cent of total imports at constant prices, in 1984-85. Rubber, petroleum and coal products, which belong to the leading group at current prices, lag behind at constant prices.

### 3.2.2 Structural shifts in industrial production

From Table 3.9, we notice that there are eight leading industries at current prices and their share in total production increased from 46 per cent in 1969-70 to 66 per cent, whereas at constant prices, there are only five industries showing increased share in total production. Their share is 48 per cent in 1984-85. Chemicals share in total production is highest at both current and constant prices. A major decline in the share of textiles to total value of production is noticed at current prices.

### 3.2.3 Interaction and inter-dependence between industrial imports and production

Table 3.10 shows the industries, where there is an increase in imports well as production in 1984-85 as compared to 1969-70. Most of these are intermediate goods and despite marked increases in production the demand is so high that imports of these goods are resorted to.

Table 3.11 shows the industries, where there is a decline in imports and production in 1984-85 as compared to 1969-70. The industries that fall in this group are mostly consumer goods. The nagnitude of these industries show that they exert a weak pull on imports, but despite the decline in production, their contribution to the total share is quite substantial.

Table 3.10

Percentage share of leading industries and leading industrial imports in the Indian Manufacturing Sector


## Table 3.11

## Percentage share of lagging industries and industrial imports in the Indian Manufacturing Sector

| S.No. | ASI <br> Code | Industry Group | Share in 1969-70 |  | Share in 1984-85 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Import | Produc. tion | Impor | Production |
|  |  |  | (At current prices) |  |  |  |
| 1. | 20-21 | Food products | 5.43 | 21.64 | 3.20 | 14.29 |
| 2. | 22 | Beverages, tobacco and tobacco products | 0.05 | 3.56 | 0.01 | 2.08 |
| 3. | 23-26 | Textiles | 1.54 | 19.63 | 1.33 | 10.83 |
| 4. | 28 | Paper and paper products | 3.79 | 3.39 | 2.87 | 3.21 |
|  |  | Total | 10.81 | 48.22 | 7.41 | 30.41 |
|  |  |  | (At constant prices) |  |  |  |
| 1. | 20-21 | Food products | 5.15 | 21.37 | 3.80 | 14.88 |
| 2. | 22 | Beverages, tobacco \& tobacco products | 0.05 | 3.54 | 0.01 | 2.80 |
| 3. | 28 | Paper and paper products | 3.98 | 3.21 | 3.37 | 3.03 |
|  |  | Total | 9.10 | 28.12 | 7.18 | 20.71 |

## Table 3.12

## Percentage Share of Leading Industries and Lagging Imports



Table 3.12 shows increase in production and a decline in imports of petroleum, non-electrical machinery and transport equipment. This would imply that import substitution took place in this group of industries.

## Table 3.13

## Percentage Share of Lagging Industries and Leading Imports

| S.No. | ASI <br> Code | Industry Group | Share in 1969-70 Share in 1984-85 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Imports Produc- Imports Production tion |  |  |  |
|  |  |  | (At current prices) |  |  |  |
| 1. | 27 | Wood and wood products | 0.02 | 0.89 | 0.05 | 0.66 |
| 2. | 34 | Metal products | 0.80 | 2.94 | 1.32 | 2.08 |
| 3. | 38 | Other manufacturing industries | 4.39 | 1.82 | 10.34 | 0.79 |
|  |  | Total | 5.21 | 5.65 | 11.71 | 3.53 |
|  |  |  | (At constant prices) |  |  |  |
| 1. | 23-26 | Textiles | 1.52 | 20.22 | 1.92 | 13.25 |
| 2. | 27 | Wood and wood products | 0.02 | 0.88 | 0.15 | 0.62 |
| 3. | 29 | Leather \& fur products | 0.01 | 0.75 | 0.19 | 0.74 |
| 4. | 32 | Non-metallic mineral products | 0.38 | 3.27 | 1.03 | 3.21 |
| 5. | 33 | Basic metal and alloys | 15.49 | 10.54 | 18.22 | 10.38 |
| 6. | 34 | Metal products | 0.79 | 3.14 | 2.08 | 2.11 |
| 7. | 38 | Other manufacturing industries | 6.15 | 1.71 | 8.68 | 1.13 |
| Total |  |  | 24.36 | 40.51 | 32.27 | 31.44 |

Table 3.13 shows industries in which there is more import dependence in 1984-85 as compared to 1969-70. In this category are consumer goods, basic metal alloy and miscellaneous manufacturing industries.

The above a nalysis is based on the two digit level of aggregation. Industries are categorised into a broader group namely use-based and input based classification. The shares in production and imports at four points of time are now analysed.

Table 3.14 shows changes in the shares of imports and production according to use-based classification, at current prices. In interpreting these figures, the point to be borne is that figures are at current prices and hence the price effect is included in the value of imports and production. The share of capital goods in imports is the highest in 1969-70 (34 per cent), considerable decline is visible in this category upto 1984-85 (19 per cent) whereas their share in production remained around 15 per cent. The share of intermediate goods is high in 1974-75 ( 37 per cent). The reason why intermediate goods grew more rapidly is because of increase in the oil price in 1973. There is a slight increase in the suare of intermediate goods in 1979-80 to 1984-85 (from 19 per cent to 21 per cent). Drastic decline in imports is noticeable during the same period (from 45 per cent to 32 per cent). This could imply import substitution. The steady decline in consumer non-durable imports accompanied by a steady increase in production may imply that India is moving towards self- sufficiency.

From Table 3.15, we notice that there is a considerable decline in the production of agro-based goods. These are processed commodities of agricultural origin and a decline in their share at constant prices could imply a decline in agricultural production or under utilization of capacity. But since our input-based data are at current prices, it may not be possible to make the above statement. There is also a decline in imports of agro-based commodities upto 1979-80 after which there is an increase.

Table 3.14

## Change in the Shares by Major Industry Groups <br> Imports/Production: Use-Based Classification (1969-70 to 1984-85)

|  |  | (Per cent) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1969-70 | 1974-75 | 1979-80 | 1984-85 |
| A. | IMPORTS |  |  |  |  |
| 1 | Basic goods | 31.93 | 36.98 | 30.04 | 32.12 |
| 2. | Intermediate goods | 19.46 | 37.12 | ! 45.11 | 32.21 |
| 3 | Capital goods | 34.18 | 17.65 | 14.05 | 18.93 |
| 4. | Consumer goods: |  |  |  |  |
|  | (a) Durables | 6.35 | 3.99 | 7.68 | 11.89 |
|  | (b) Non-durables | 8.08 | 4.26 | 3.12 | 4.86 |
| 'B. | PRODUCTION |  |  |  |  |
| 1. | Basic goods | 22.84 | 23.37 | 26.10 | 29.61 |
| 2. | Intermediate goods | 27.77 | 19.05 | 20.72 | 21.25 |
| 3. | Capital goods | 15.10 | 14.42 | 15.07 | 14.81 |
| 4. | Consumer goods: |  |  |  |  |
|  | (a) Durables | 2.45 | 3.2 | 3.36 | 3.51 |
|  | (b) Non-durables | 31.84 | 39.95 | 34.74 | 30.82 |

Source: MSFTI, ASI.

Table 3.15

## Changes in the Shares of Major Industry Groups in Industrial Imports/Production: Input Based Classification (1969-70 to 1984-85)

|  |  | (Per cent) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1969-70 | 1974-75 | 1979-80 | 1984-85 |
| A. | IMPORTS |  |  |  |  |
| 1. | Agro-based | 10.84 | 5.74 | 5.10 | 7.53 |
| 2. | Chemical based | 33.06 | 54.57 | 56.33 | 49.41 |
| 3. | Metal based | 55.75 | 39.43 | 37.26 | 42.48 |
| B. | PRODUCTION |  |  |  |  |
| 1. | Agro-based | 49.92 | 42.34 | 36.59 | 31.97 |
| 2. | Chemical based | 15.95 | 23.43 | 26.71 | 29.61 |
| 3. | Metal based | 30.83 | 31.36 | 33.76 | 34.38 |
| Note: | The input-based classification is not exhaustive. |  | Sourc | : MSFTI, | ASI. |

The salient features of structural changes in imports and production could be briefly summarised as follows. A marked increase in import of intermediate goods is noticeable upto 1979-80 after which there is a decline. There is an initial decline in production (1974-75) but later there is a steady rise. There is an increase in the share of imports and production of consumer durables.

While the share of consumer non-durables in imports declined, its share in production increased. The underlying factors resulting in structural changes could have been induced by various policy measures. The first round oil price increase expanded domestic production of petroleum. The strategy of import substitution which is evident in this industry resulted in a smooth adjustment process in production, when the second oil price hike took place in 1979. The liberalization process involving broad banding, delicencing of industries resulted in an increase of imports in intermediate and capital goods. The impact of such changes on industry are also examined in a later section.

### 3.3 Growth Pattern in Manufacturing and Industrial Imports

The a nalysis of growth rates of imports and production would give us a glimpse of whether there is import substitution or import dependence. Compound growth rates of imports and production in the manufacturing sector are presented in Tables ( 3.16 and 3.17 ) both at constant and current prices. The period examined is from 1969-70 to 1984-85, along with subperiods 1969-70 to 1974-75, 1974-75 to 1979-80 and 1979-80 to 1984-85. These periods and sub-periods as mentioned earlier are selected with the specific purpose of ascertaining the impact of policy changes on the manufacturing sector and imports.

The manufacturing sector as a whole recorded a moderate rate of growth in the value of output at 6 per cent per annum during 1969-70 to 198485. The relatively fast growing industries are rubber, plastic, petroleum and coal products, chemicals, non-electrical machinery, electrical machinery and transport equipment. The consumer oriented industries namely food products and textiles, are among the slow growing industries.

The manufacturing sector recorded 7.5 per cent growth rate in imports during 1969-70 to 1984-85. A significant decline in imports of rubber, plastic, petroleum and coal products is noticeable. Apparently, in this industry import substitution has taken place in a big way. High growth rates in wood and wood products and leather and fur products are observed. As their contribution to total imports is insignificant (i.e. their share is less than 5 per cent of total imports) they have not had a significant impact on the overall growth rate of imports. Metal products and non-metallic mineral products, experienced high growth rate of imports at 15 per cent per annum. The growth rates of various sub-periods are presented in Tables $3.16 \& 3.17$. The major findings are highlighted below.

For the period 1969-70 to 1974-75, imports increased at 5 per cent per annum while production increased at 3 per cent per annum. Imports of food products, textiles, paper and paper products and machinery and machine tools industries, registered negative growth rates. In contrast, except food products, production of all other industries, recorded positive growth rates. The above pattern could be due to import substitution.

For the period 1974-75 to 1979-80, the aggregate growth rate for both imports and production is 8 per cent per annum. As compared to the earlier period, there is a significant increase in both imports and production. There are 4 industries whose imports declined but their production expanded. These industries include food products, beverages, tobacco and tobacco products, leather and fur products and non-electrical machinery. Moreover,
Table 3.16 (Per cent)
Compound Growth Rates of Imports (Based on 70-71 Prices)

| Sl. <br> No. | ASI Code <br> No. | Industry group | $\begin{aligned} & 1969-70 \\ & \text { to } \\ & 1974-75 \end{aligned}$ | $\begin{aligned} & 1974-75 \\ & \text { to } \\ & 1979-80 \end{aligned}$ | $\begin{aligned} & 1979-80 \\ & \text { to } \\ & 1984-85 \end{aligned}$ | $\begin{aligned} & 1974-75 \\ & \text { to } \\ & 1984-85 \end{aligned}$ | $\begin{array}{r} 1969-70 \\ \text { to } \\ 1984-85 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 20-21 | Food products | -5.65 | -1.83 | 26.32 | 11.36 | 5.38 |
| 2. | 22 | Beverages, tobacco and tobacco products | -4.3 | -15.33 | 16.09 | -0.85 | -2.01 |
| 3. | 23-26 | Textiles | -4.93 | 22.17 | 12.17 | 17.06 | 9.22 |
| 4. | 27 | Wood and wood products, furniture and fixtures | 27.16 | 42.55 | 4.62 | 22.12 | 23.78 |
| 5. | 28 | Paper and paper products, publishing and allied industries | -5.36 | 18.81 | 6.95 | 12.72 | 6.34 |
| 6. | 29 | Leather and leather products | 10.79 | -16.42 | 173.52 | 51.20 | 36.31 |
| 7. | 30 | Rubber, plastic, petroleum and coal products | 6.04 | 0.32 | -3.94 | -5.29 | -1.6 |
| 8. | 31 | Chemical and chemical products | 6.57 | 15.36 | 10.19 | 12.74 | 10.65 |
| 9. | 32 | Non-metallic mineral products | 9.88 | 17.98 | 17.06 | 17.52 | 14.92 |
| 10. | 33 | Basic metal and alloy industries | 13.76 | 9.72 | 2.90 | 6.26 | 8.70 |
| 11. | 34 | Metal products and parts except machinery | 15.32 | 12.83 | 15.97 | 14.39 | 14.70 |
| 12. | 35 | Machinery, machine tools and parts except electrical machinery | -2.71 | -5.92 | 26.15 | 8.94 | 4.91 |

Table 3.16 (Contd.)

| Sl. <br> No. | ASI Code <br> No. | Industry group | $\begin{aligned} & 1969-70 \\ & \text { to } \\ & 1974-75 \end{aligned}$ | $\begin{aligned} & 1974-75 \\ & \text { to } \\ & 1979-80 \end{aligned}$ |  | $\begin{aligned} & 1974-75 \\ & 10 \\ & 198.4-85 \end{aligned}$ | 1969-70 <br> 10 <br> 198.4-85 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 13. | 36 | Electrical machinery | 6.19 | 0.09 | 20.36 | 9.76 | 8.56 |
| 14. | 37 | Transport equipment | 10.07 | 12.75 | -4.95 | 3.52 | 5.66 |
| 15. | 38 | Miscellaneous industries | -3.69 | 17.42 | 17.79 | 17.60 | 10.02 |
|  |  | Manufacturing sector | 4.64 | 8.21 | 9.80 | 9.00 | 7.5 |

Table 3.17
Compound Growth Rates of Production (Based on 70-71 Prices)

|  |  |  |  |  |  | (Per cent) |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ASI Code | Industry group | 1969-70 | 1974-75 | 1979-80 | 1974-75 |  |
|  | No. |  | to | to | to | to | to |
|  |  |  | 1974-75 | 1979-80 | 1984-85 | 1984-85 | 1984-85 |
| 1. | 20-21 | Food products | -2.1 | 8.08 | 3.90 | 5.97 | 3.20 |
| 2. | 22 | Beverages, tobacco and tobacco products | -0.27 | 5.52 | 7.15 | 6.33 | 4.08 |
| 3. | 23-26 | Textiles | 0.80 | 5.47 | 2.14 | 3.79 | 2.79 |
| 4. | 27 | Wood and wood products, furniture and fixtures | 6.80 | 4.54 | - | 2.22 | 3.28 |
| 5. | 28 | Paper and paper products, publishing and allied industries | 3.69 | 5.37 | 6.85 | 6.11 | 5.30 |
| 6. | 29 | Leather and leather products | 3.55 | 10.63 | 2.87 | 6.68 | 5.63 |
| 7. | 30 | Rubber, plastic, petroleum and coal products | 3.07 | 5.98 | 9.86 | 7.90 | 6.23 |
| 8. | 31 | Chemical and chemical products | 12.68 | 12.52 | 7.25 | 9.85 | 10.79 |
| 9. | 32 | Non-metallic mineral products | 1.62 | 5.76 | 9.60 | 7.66 | 5.61 |
| 10. | 33 | Basic metal and alloy industries | 3.47 | 8.60 | 4.83 | 6.70 | 5.61 |
| 11. | 34 | Metal products and parts except machinery | -0.59 | 6.94 | 2.64 | 4.77 | 2.95 |
| 12. | 35 | Machinery, machine tools and parts except | 7.63 | 7.21 | 6.19 | 6.70 | 7.01 |
|  |  | electrical machinery |  |  |  |  |  |

Table 3.17 (Contd.)

Source: ASI, (handhok, WPI.
imports of rubber, plastic, petroleum and coal products and electrical machinery registered low growth rates of 0.3 and 0.1 per cent per annum. In contrast growth rates in production were 6 per cent in rubber, plastic, petroleum and coal products and 11 per cent in electrical machinery.

During 1979-80 and 1984-85, the growth rate of imports accelerated ( 10 per cent per annum), whereas the growth rate of production declerated ( 6 per cent per annum). Imports of food products and non-electrical machinery increased at a rate greater than 25 per cent and of electrical machinery at 20 per cent. Only imports of rubber, plastic, petroleum and coal products and transport equipment showed negative growth rates. The major findings of the sub-period analysis are highlighted below.

The growth pattern across industries shows that the industry groups that recorded low growth in imports in the sub-period 1974-75 to 1979-80 showed high growth in production. In this category are rubber, plastic, petroleum and coal products. A reversal of the pattern set in the sub-periods before 1979-80 is noticeable for sub-period 1979-80 to 1984-85, in the case of electrical, non-electrical machinery and transport equipment. During 1979-80 to 1984-85, major changes in trade policy took place. 'Automatic licencing' was introduced, moreover, facilities for export linked licences were enhanced by 10 per cent for engineering, chemicals and allied products, leather and leather goods and cotton textiles. The favourable turn in trade balances during this period, due to increase in non-resident remittances have set the pace for progressive liberalization. The increase in imports of capital goods and intermediate goods could thus be attributed to the liberalization policies.

## Growth pattern: Use-based and Input-based groups 1969-70 to 1984-85

The analysis at this intermediate level enables examination of the growth rates of imports and production across certain economically meaningful groups of industries. Since appropriate price deflators were not available, the a nalysis of the use-based classification is based on current prices (Table 3.18). Input- based classification is presented at both current and constant prices (Tables 3.19 and 3.20). Groups 20-29 of the ASI are classified as agrobased, groups 30-31 as chemical based and groups 33-38 as metal-based.

Table 3.18 shows the differential nature of growth across industries. This is due to the inbuilt biases of the industrial strategy. The pattern of differential growth is also observed in the case of imports. In the case of basic goods there is a decline in the growth rate of imports. In the case of intermediate goods, high growth rate of imports is witnessed in 1969-70 to 1974-75.

During the period 1979-80 to 1984-85, there is sharp decline in the growth rate of imports. In the case of capital and consumer durables, a steady increase in imports is noticeable. Since these growth rates are based on current prices, the price effect is included. In the case of production, a drastic change is visible in intermediate goods.

Table 3.19 and 3.20 present growth rates of imports and production on the basis of input-based classification at both current and constant prices. The chemical based industries show high growth rates of imports and production for the entire period 1969-70 to 1984-85 and also during the subperiod 1974-75 to 1979-80, i.e. the period of the first and second oil hikes. High growth rates of imports as compared to production are witnessed in agro-based industries.

So far, the analysis was based on variations between two periods of time. Since inter-period variations are also to be taken into account, the analysis is extended to a few commodities covering sub-periods between 1973-74 to 1979-80 and 1979-80 to 1984-85. (Table 3.21)

For the period 1973-74 to 1979-80, trend growth rate of production in crude petroleum and chemicals is high. Growth is highest in the fertilizer industry ( 18 per cent per annum). In the case of machinery and machine tools, import substitution in the form of negative growth in imports is visible. When we examine the period 1979-80 to 1984-85, we notice a reversal in the trend growth rates. Industries which are relatively fast growing in earlier period, experienced significant slow down in growth as regards production, accompanied by an increase in imports. For instance, the growth rate of nonelectrical machinery declined to 6 per cent per annum during 1979-80 to 1984-85 and in contrast the growth rate of imports increased to 32 per cent per annum. But, in the case of electrical machinery, the growth rate of production remained at 8 per cent per annum but the growth rate of imports rose to 23 per cent. The industrial sector shows greater impact of structural changes during $1979-80$ to 1984-85. The set of industrial policies followed since 1978-79, seems to have altered the existing structure.

### 3.4 Import-availability Ratios

Import co-efficients computed from the technical documents of the Fifth and Sixth Plan for two years i.e. 1973-74 and 1979-80, are shown in table 3.22. The table reveals that for seven industries import co-efficients are higher in 1979-80. These include, food and beverages, textiles, wood and wood products, basic metal and alloy industries, electrical machinery, transport equipment and miscellaneous industries. However, the increase in

## Table 3.18

## Compound Growth Rates of Imports/Production Use-Based Classification (1969-70 to 1984-85)

| (Per cent) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1974-75 over 1969-70 |  | 1984-85 over 1979-80 |  |  |  |
|  | IMPORTS |  |  |  |  |  |  |
| 1. | Basic goods | 30.25 | 14.36 | 12.65 | 22.04 | 13.50 | 18.82 |
| 2. | Intermediate goods | 43.92 | 23.95 | 3.90 | 33.57 | 13.49 | 22.84 |
| $\begin{aligned} & 3 . \\ & 4 . \end{aligned}$ | Capital goods | 10.82 | 13.90 | 17.97 | 12.35 | 15.91 | 14.19 |
|  | Consumer goods <br> (a)Durables | 15.24 | 35.92 | 21.30 | 25.16 | 28.40 | 23.86 |
|  | (b)Non-durables | 11.30 | 11.95 | 21.47 | 11.62 | 16.61 | 14.81 |
|  | Total | 26.48 | 19.21 | 11.15 | 22.79 | 15.51 | 18.78 |
|  | PRODUCTION |  |  |  |  |  |  |
| 1. | Basic goods | 17.10 | 17.10 | 17.6 | 17.1 | 17.4 | 17.3 |
| 2. | Intermediate goods | 8.1 | 16.5 | 15.3 | 12.2 | 15.9 | 13.3 |
| 3. | Capital goods | 15.5 | 15.6 | 14.3 | 15.5 | 14.9 | 15.1 |
| 4 | Consumer goods | 23.1 | 15.6 | 15.7 | 193 | 15.6 | 18.1 |
|  | (b)Non-durables | 22.2 | 11.4 | 12.0 | 16.58 | 11.7 | 15.0 |

Source: MSFTI, ASI.

Table 3.19

## Compound Growth Rates of Imports/Production Input-Based Classification

|  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $1974-75$ <br> over <br> $1969-70$ | $1979-80$ <br> over <br> $1974-75$ | $1984-85$ <br> over <br> $1979-80$ | $1979-80$ <br> over <br> $1969-70$ | $1984-85$ <br> over <br> $1974-75$ | $1984-85$ <br> over <br> $1969-70$ |
| IMPORTS |  |  |  |  |  |  |
| 1. Agro-based | 11.37 | 16.43 | 20.16 | 13.88 | 18.28 | 15.93 |
| 2. Chemical-based | 39.82 | 20.06 | 8.10 | 29.56 | 13.97 | 22.01 |
| 3. Metal based | 18.01 | 17.87 | 14.10 | 17.94 | 15.97 | 16.65 |
|  |  |  |  |  |  |  |
| PRODUCTION |  |  |  |  |  |  |
| 1. Agro-based | 12.83 | 11.25 | 11.46 | 12.03 | 11.46 | 11.91 |
| 2. Chemical-based | 25.93 | 17.58 | 17.35 | 21.68 | 17.35 | 20.14 |
| 3. Metal based | 17.00 | 16.25 | 15.70 | 16.62 | 15.70 | 16.13 |

Source: MSFTI, ASI.
Table 3.20

## Compound Growth Rates of Imports \& Production Input-Based Classification

| (Per cent) |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: |
|  | $1974-75$ <br> over <br> $1969-70$ | $1979-80$ <br> over <br> $1974-75$ | $1984-85$ <br> over <br> $1979-80$ | $1979-80$ <br> over <br> 1969-70 | $1984-85$ <br> over <br> $1974-75$ | $1984-85$ <br> over <br> $1969-70$ |
| IMPORTS |  |  |  |  |  |  |
| 1. Agro-based | -5.3 | 11.81 | 14.49 | 2.90 | 13.14 | 6.62 |
| 2. Chemical-based | 6.36 | 10.35 | 6.43 | 8.34 | 8.37 | 7.70 |
| 3. Metal based | 5.12 | 6.20 | 11.29 | 5.66 | 8.72 | 7.51 |
| PRODUCTION |  |  |  |  |  |  |
| 1. Agro-based | -0.14 | 6.58 | 3.57 | 3.17 | 5.07 | 3.30 |
| 2. Chemical-based | 10.12 | 11.22 | 7.71 | 10.67 | 9.45 | 9.68 |
| 3. Metal based | 4.38 | 8.53 | 6.43 | 6.43 | 7.47 | 6.43 |

Source: Based on Table A.

Table 3.21

## Annual Average Growth Rate of Imports, Production and Supply of Selected Industries

|  | Imports |  | Production |  | Supply |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{\|c} 1973-74 \\ \text { to } \\ 1979-80 \end{array}$ | $\begin{aligned} & 1979-80 \\ & \text { to } \\ & 1984-85 \end{aligned}$ | $\begin{array}{\|c} 1973-74 \\ \text { to } \\ 1979-81 \end{array}$ |  | $\begin{array}{\|c} 1973-74 \\ \text { to } \\ 1979-80 \end{array}$ | $\left\lvert\, \begin{aligned} & 1979-80 \\ & \text { to } \\ & 1984-85\end{aligned}\right.$ |
| 1. Crude petroleum | 4.7 | 8.1 | 11.8 | 16.7 | 7.2 | 6.2 |
| 2. Chemical and chemical products | 24.4 | 12.5 | 10.5 | 7.8 | 10.7 | 7.8 |
| 3. Fertilizers | 8.8 | 44.1 | 18.3 | 8.1 | 16.0 | 8.4 |
| 4. Basic alloy metals | 13.8 | 3.9 | 8.4 | 4.6 | 8.6 | 4.4 |
| 5. Manufacturers of metal products | 9.2 | 20.9 | 3.9 | 2.9 | 4.0 | 4.0 |
| 6. Machinery except electrical | 8.3 | 31.8 | 9.0 | 6.4 | 5.2 | 9.2 |
| 7. Electrical machinery | 4.7 | 23.1 | 8.1 | 8.6 | 6.9 | 9.6 |

import co-efficient is marginal for textiles and substantial for others. Broadly the results conform with the pattern of import- availability ratios, that has been computed for the four year period, the exception being in the case of food and beverages and electrical machinery, where one notices a decline from 1969-70 to 1979-80.

Tables 3.23 and 3.24 depict the import-availability ratios for four points of time at current and constant prices. On the basis of the movements of the import-a vailability ratios, we classify industry groups into five categories. The observed changes in the ratio provide a broad measure of import substitution.

## Import Co-efficients for 1973-74 and 1979-80

|  | ASI <br> Code | Industry group | 1973-74 at 71-72 prices | 1970-80 at 71-72 prices | 1979-80 <br> at current prices |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1. |  | Agriculture \& service sector | 0.0197 | 0.0134 | 0.0252 |
| 2. | $20-$ | Food products | 0.0150 | 0.0259 | 0.0563 |
|  | 21. | Beverages |  |  |  |
|  | 22 | Tobacco \& tobacco products |  |  |  |
| 3. | 23. | Textiles | 0.0034 | 0.0035 | 0.0036 |
|  | 26 |  |  |  |  |
| 4. | 27 | Wood \& wood products, furniture \& fixtures | 0.0003 | 0.0021 | 0.0009 |
| 5. | 28 | Paper \& paper products, printing, publishing and allied industries | 0.2455 | 0.1323 | 0.1466 |
| 6. | 29 | Leather, leather \& fur products | 0.0002 | 0.0002 | 0.0002 |
| 7. | 30 | Rubber, petroleum \& coal products | 0.2116 | 0.0841 | 0.2694 |
| 8. | 31 | Chemical \& chemical products | 0.2685 | 0.1389 | 0.1820 |
| 9. | 32 | Non-metallic mineral products | 0.0426 | 0.0122 | 0.0317 |
| 10. | 33 | Basic metal \& alloy industries | 0.2003 | 0.2723 | 0.2927 |
| 11. | 34 | Metal products \& parts except machinery | 0.0109 | 0.0106 | 0.0172 |
| 12. | 35 | Machinery, machine tools \& parts except electrical machinery | 2.5603 | 0.1064 | 0.2274 |
| 13. | 36 | Electrical machinery, apparatus, appliances \& supplies \& parts | 0.0482 | 0.1013 | 0.1226 |
| 14. | 37 | Transport equipment \& parts | 0.0238 | 0.050 | 0.0703 |
| 15. | 38 | Miscellaneous industries | 0.0155 | 0.0320 | 0.0692 |

Notes: 1. Import co-efficient obtained from mi Mi -- where mi -$1-\mathrm{mi} \quad \mathrm{Zi}$
where $\mathrm{Z}=\mathrm{X}+\mathrm{M}, \mathrm{Z}=$ supply,
$\mathrm{X}=$ Production \& $\mathrm{M}=$ imports.
2. Value of Production at current prices were deflated using wholesale prices with base deflated using wholesale prices with base
$71=72$, and import prices were deflated by using unit value of import indices (refer table 3.7)

Source: Derived from the technical note of the Fifth \& Sixth Plan documents.
Table 3.23

| Import - Availability Ratios |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | (At current prices) |  |
| S.NO. | ASI <br> code | Industry group | 1969-70 | 1974-75 | 1979-80 | 1984-85 |
| 1. | 20-21 | Food products | 0.0235 | 0.0223 | 0.0202 | 0.0325 |
| 2. | 22 | Beverages, tobacco \& tobacco produ | 0.0013 | 0.0013 | 0.0004 | 0.0008 |
| 3. | 23-26 | Textiles | 0.0075 | 0.0057 | 0.0100 | 0.0181 |
| 4. | 27 | Wood \& wood products, furniture and fixtures | 0.0022 | 0.0069 | 0.0139 | 0.0114 |
| 5. | 28 | Paper \& paper products, printing, publishing \& allied industries | 0.0970 | 0.0817 | 0.1246 | 0.1182 |
| 6. | 29 | Leather, leather \& fur products | 0.0007 | 0.0008 | 0.0003 | 0.0116 |
| 7. | 30 | Rubber, plastic, petroleum \& coal products | 0.2011 | 0.4090 | 0.4338 | 0.2532 |

Table 3.23 (Contd.)

| SNO. | ASI <br> code | Indusiry group | 1969-70 | 1974-75 | 1979-80 | 1984-85 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 8. | 31 | Chemicals \& chemical products (exe products of petroleun \& coal) | 0.1487 | 0.1572 | 0.1490 | 0.1657 |
| 9. | 32 | Non-metallic mineral products | 0.0100 | 0.0129 | 0.0624 | 0.0208 |
| 10. | 33 | Basic metal \& alloy industries | 0.1179 | 0.1848 | 0.1693 | 0.1036 |
| 11. | 34 | Metal products \& parts except mach. | 0.0255 | 0.0436 | 0.0803 | 0.0871 |
| 12. | 35 | Machinery, machine tools \& parts et electrical machinery | 0.3194 | 0.2108 | 0.1858 | 0.2422 |
| 13. | 36 | Electrical machinery, apparatus, appliances \& supplies \& parts | 0.1089 | 0.0978 | 0.0775 | 0.1080 |
| 14. | 37 | Transport equipment \& parts | 0.0694 | 0.0828 | 0.1080 | 0.0595 |
| 15. | 38 | Other manufacturing industries | 0.1878 | 0.3445 | 0.5810 | 0.6633 |
|  |  | Total | 0.0875 | 0.1258 | 0.1495 | 0.1304 |

Source: Derived from Tables A 3.1 \& A.3.2.
Table 3.24

|  |  |  | (At constant prices 1970-71 $=100$ ) |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S.NO. | ASI <br> code | Industry group | 1969-70 | 1974-75 | 1979-80 | 1984-85 |
| 1. | 20-21 | Food products | 0.0218 | 0.0182 | 0.0114 | 0.0296 |
| 2. | 22 | Beverages, tobacco \& tobacco produ | 0.0013 | 0.0011 | 0.0004 | 0.0005 |
| 3. | 23-26 | Textiles | 0.0069 | 0.0052 | 0.0107 | 0.0170 |
| 4. | 27 | Wood \& wood products, furniture and fixtures | 0.0020 | 0.0050 | 0.0230 | 0.0288 |
| 5. | 28 | Paper \& paper products, printing, publishing \& allied industries | 0.1030 | 0.0678 | 0.1171 | 0.1175 |
| 6. | 29 | Leather, leather \& fur products | 0.0007 | 0.0009 | 0.0002 | 0.0292 |


|  |  |  |  |  <br>  | $\begin{aligned} & (\mathrm{y}) \\ & (\mathrm{b}) \end{aligned}$ | ： S310 $^{\text {N }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
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[^3]
## Category-1

This category consists of those industry groups whose importa vailability ratio was low to start with and remained so for most of the period. In this case the scope of import substitution is rather low. They are beverages, tobacco and tobacco products, leather and fur products.

## Category-2

This category consists of those industry groups whose importavailability ratio has fallen appreciably. In this category would fall industries where import substitution is strong. They are rubber, petroleum and coal products and transport equipment.

## Category-3

This category consists of those industry groups, whose import availability has fallen appreciably till 1979-80, and has then dramatically risen. Non-electrical machinery and electrical machinery, fall under this category. These industries have taken advantage of the liberalization process.

## Category-4

This category consists of those industry groups whose import availability ratio increased and remained so, throughout the period. In this case, the scope for import substitution is limited. The industries falling in this category are other manufacturing industries, metal products and parts, textiles, non-metallic mineral products.

## Category-5

In this category are those industries, which experience wide fluctuations in the import-availability ratios. They are chemicals, paper and paper products, wood and wood products and metal products. The variations could be attributed to frequent changes in policy.

Trends in import availability ratios for some of the major industries for the period 1973-74 to 1984-85 are presented in Table 3.25. They are presented at both current and constant prices. After the first oil price hike, upto 1978-79, there is a steady decline in the import-availability ratio. After the second oil hike in 1979, there is an increase in this ratio, but later there is a decline. This evidence is noticeable at both current and constant prices. In
Table 3.25
Trends in Import Availability Ratios Since 1973-74 Using Current \& Constant Prices

| Years/Industry group | Petroleum crude |  | Chemicals chemical products |  | Fertilizer |  | Basic metal alloy industries |  | Metal products |  | Non-electrical macbinery |  | Filectrical machinery |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Current | Constant | Current | Constant | Current | Constant | Current | Constant | Current | Constant | Current | Constant | Current | Constant |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) | (14) | (15) |
| 1973-74 | 0.5913 | 0.5809 | 0.1289 | 0.1211 | ---- | --- | 0.1592 | 0.1787 | 0.0425 | 0.0551 | 0.2860 | 0.2703 | 0.1002 | 0.1312 |
| 1974-75 | 0.5152 | 0.5002 | 0.1572 | 0.1130 | 0.3592 | 0.2790 | 0.1848 | 0.1787 | 0.0436 | 0.0468 | 0.2108 | 0.1863 | 0.0978 | 0.1105 |
| 1975-76 | 0.4754 | 0.4360 | 0.1391 | 0.0829 | 0.3271 | 0.2049 | 0.1183 | 0.1056 | 0.0449 | 0.0496 | 0.2503 | 0.1867 | 0.1008 | 0.0969 |
| 1976-77 | 0.4578 | 0.4056 | 0.0987 | 0.0839 | 0.1678 | 0.1563 | 0.0964 | 0.0965 | 0.0421 | 0.0403 | 0.2786 | 0.1954 | 0.0827 | 0.0737 |
| 1977.78 | 0.4270 | 0.3829 | 0.2018 | 0.1793 | -- | - | 0.1092 | 0.1091 | 0.0808 | 0.0631 | 0.2253 | 0.1348 | 0.0722 | 0.1381 |
| 1978-79 | 0.4224 | 0.3885 | 0.2070 | 0.1812 | 0.2136 | 0.1877 | 0.1377 | 0.1424 | 0.1049 | 0.0580 | 0.2213 | 0.1416 | 0.0837 | 0.0820 |
| 1979.80 | 0.5171 | 0.4970 | 0.1490 | 0.1262 | 0.1791 | 0.1339 | 0.1693 | 0.1831 | 0.0803 | 0.0603 | 0.1906 | 0.1095 | 0.0837 | 0.0820 |
| 1980.81 | 0.5728 : | 0.5471 | 0.1739 | 0.1435 | 0.2455 | 0.1984 | 0.1597 | 0.1918 | 0.0966 | 0.0734 | 0.2136 | 0.1978 | 0.0837 | 0.0683 |
| 1981-82 | 0.4914 | 0.4326 | 0.1516 | 0.1330 | 0.1536 | 0.1236 | 0.1561 | 0.2113 | 0.0978 | 0.0762 | 0.2240 | - | 0.0750 | --.. |
| 1982-83 | 0.4366 | 0.3727 | 0.1034 | --- | 0.0595 | 0.0558 | 0.1316 | 0.1948 | 0.0756 | 0.0515 | 0.2277 | 0.2419 | 0.0921 | 0.1196 |
| 1983.84 | 0.4183 | 0.3410 | 0.1289 | 0.1303 | - | - | 0.1312 | 0.1999 | 0.0811 | 0.0818 | 0.2904 | 0.2869 | 0.0883 | 0.1317 |
| 1484.85 | 0.3128 | 0.2280 | 0.1657 | 0.1418 | 0.2115 | 0.1600 | 0.1036 | 0.1735 | 0.0871 | 0.1058 | 0.2423 | 0.2199 | 0.1218 | 0.1238 |

the case of chemicals there are wide fluctuations. Fertilizer, which is an important industry in the chemicals group, showed the highest importavailability ratio in 1980-81, declined till 1983-84, a nd a gain rose in 1984-85. An increasing import-availability ratio is evident in non-electrical machinery from 1980-81. In the case of metal products and electrical machinery, we notice divergent trends in current and constant prices.

From the a nalysis of the import-availability ratios, it is observed that because import-substitution strategy of industrialisation was being followed, the response to the oil price increases was smooth. Since the liberalization policies began in 1980, we observe an increase in import availability ratio in the case of non-electrical machinery. Whereas in the case of chemicals and fertilizers there were frequent changes in policy, this being evident from the movements in import-availability ratios depicted in Chart 3.1. That recent liberalization policies have increased importation, resulting in the widening of the balance of trade deficit whereas the adoption of IS strategy of industrialisation had insulated the economy from high rate of inflation that was experienced abroad, cannot be denied. In the following section, trends in import prices and domestic prices in some selected commodities are examined so as to gauge the movement of price increase.

### 3.5 Divergent Trends: Wholesale Price Index Vs Unit Value Import Index

In the analysis of data on production, imports and availability, focus of attention has been on constant prices, the reason for this is that notices divergences between the two series based on current and constant prices. This demonstrates the fact that there are divergences in the domestic output prices and import prices.

Bokil et al (1981) in their a nalysis of import substitution, based it on current prices, on the premise that use of ratios in computations reduce the price effect, whereas Sastry (1988) has clearly pointed out that there are price changes and this affects the import availability ratios. In his study on the capital and intermediate goods industries for the period 1960-80, with various sub-periods, he notices divergences in domestic output prices and import prices. In the current study too this feature is visible. A close examination of the four-point-series and trends in the wholesale price index and the unit value of import index are shown in Tables 3.26 and 3.27. One notices that there are substantial changes between the two. So, the price changes have to be taken into consideration while analysing import-availability ratios.

The trends in the unit value of imports and wholesale price indices show in Chart 3.2 that in the case of petroleum crude, there is an upward turn

## CHART 3.1

Trends in Import-availability ratios


## CHART 3.2


from 1973-74 to 1974-75 and in 1979-80 to 1981-82 when there was an oil price hike. Later, there was a decline. The level of the wholesale price index of petroleum crude is lower than that of the unit value import index. After the second oil-price hike in 1979-80, the unit price of import rose faster than

Table 3.26
Trends in the Unit Value Index of Imports

| Years | Petroleum <br> crude |  <br> chemical <br> products | Ferti- <br> lizer | Basic <br> alloy <br> metals | Manufac- <br> ture of <br> metal | Machinery <br> except <br> electrical | Electrical <br> machi- <br> nery |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ | $(7)$ | $(8)$ |
| $1973-74$ | 331 | 125 | 144 | 121 | 97 | 136 | 86 |
| $1974-75$ | 729 | 247 | 294 | 180 | 157 | 181 | 138 |
| $1975-76$ | 821 | 314 | 405 | 210 | 158 | 255 | 177 |
| $1976-77$ | 916 | 205 | 203 | 190 | 190 | 280 | 184 |
| $1977-78$ | 946 | 200 | 204 | 194 | 252 | 332 | 80 |
| $1978-79$ | 944 | 209 | 206 | 193 | 383 | 326 | 177 |
| $1979-80$ | 1500 | 241 | 236 | 229 | 319 | 419 | 229 |
| $1980-81$ | 2266 | 303 | 319 | 218 | 352 | 271 | - |
| $1981-82$ | 2700 | 303 | 352 | 219 | 375 | - | 165 |
| $1982-83$ | 2587 | 284 | 297 | 222 | 460 | 269 | 147 |
| $1983-84$ | 2417 | 278 | 272 | 232 | 322 | 317 | 235 |
| $1984-85$ | 2681 | 351 | 369 | 244 | 273 | 368 | 244 |

Source: ITJ, SA.

Table 3.27
Trends in the Wholesale Price Index

| (Base 1970-71) $=100$ |  |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Years | Petroleum <br> crude |  <br> chemical <br> products | Ferti- <br> lizer | Basic <br> alloy <br> metals | Manufac- <br> ture of <br> metal | Machinery <br> except <br> electrical | Electrical <br> machi- <br> nery |  |
| $(1)$ | $(2)$ | $(3)$ | $(4)$ | $(5)$ | $(6)$ | $(7)$ | $(8)$ |  |
| $1973-74$ | 317.1 | 116.4 | 113.9 | 139.0 | 127.2 | 125.8 | 116.7 |  |
| $1974-75$ | 686.5 | 168.8 | 203.0 | 172.6 | 169.2 | 155.2 | 158.1 |  |
| $1975-76$ | 700.3 | 175.6 | 214.7 | 184.8 | 175.8 | 175.4 | 169.5 |  |
| $1976-77$ | 740.3 | 171.4 | 186.5 | 190.1 | 181.6 | 176.0 | 162.4 |  |
| $1977-78$ | 787.6 | 172.8 | 177.4 | 193.8 | 193.0 | 177.9 | 164.8 |  |
| $1978-79$ | 802.9 | 177.2 | 175.2 | 211.2 | 201.4 | 189.2 | 172.9 |  |
| $1979-80$ | 1384.0 | 198.7 | 167.2 | 251.9 | 234.8 | 218.8 | 199.8 |  |
| $1980-81$ | 2041.8 | 241.3 | 242.7 | 272.1 | 260.6 | 246.0 | 208.8 |  |
| $1981-82$ | 2130.7 | 260.2 | 273.6 | 317.1 | 285.6 | 275.0 | 221.1 |  |
| $1982-83$ | 1984.8 | 269.2 | 277.7 | 354.6 | 305.5 | 291.2 | 230.3 |  |
| $1983-84$ | 1739.5 | 281.6 | 267.5 | 381.0 | 324.7 | 311.6 | 239.6 |  |
| $1984-85$ | 1739.2 | 292.1 | 262.5 | 443.0 | 338.5 | 324.5 | 253.2 |  |

Source: WPI.
that of the wholesale price index. In the case of chemical and chemical products, of which fertilizer is an important item, it is noticed that there are wide spread fluctuations in the unit value import index, but on the contrary, the rise in the wholesale price has increased steadily. In the case of wholesale price index of fertilizer, there has been a decline since 1983-84.

In the case of basic metal alloys, one notices a sharp increase in wholesale price index from 1977-78, whereas the rise in unit value of import index is not pronounced.

In metal manufactures, there are widespread fluctuations in unit value of import index and from 1976-77 to 1983-84, it is higher than that of the wholesale price index, after which there is a sharp decline.

In the case of non-electrical machinery, the wholesale price index is below that of unit value import index except for the years 1981-82 to 198384. There has been a steady increase in the case of wholesale price indices
whereas there are widespread fluctuations in the case of unit value import index.

In the case of electrical machinery too, there are widespread fluctuations and from 1980-81 to 1984-85 the unit value import index is below that of wholesale price index.

From the analysis of the domestic prices and import prices, it is noticed that there are substantial differences. It is evident that unit value of imports rose faster than the domestic wholesale prices. This could be attributed to the differential rates of inflation. In 1974, the world economy experienced high rates of inflation, whereas domestic prices in India experienced little increase. This was due to the result of good harvests and an improved performance in the agricultural sector. Moreover, the fear of inflation and balance of payments deficit too, led to a macro-economic squeeze since 1974. So the adoption of ISI at that time, as mentioned earlier, insulated the Indian economy from external shocks. The impact of opening up the economy and its effect on the manufacturing sector with reference to capacity utilisation forms a necessary sequel to our analysis.

### 3.6 Trends in Capacity Utilisation

In this section, the impact of the policy effects on capacity utilisation in domestic industries are hoped to be examined. Table 3.28 and 3.29 show capacity utilisation rates for the manufacturing sector, compiled from the data provided by the Centre for Monitoring the Indian Economy. The data are based on 630 industries upto 1980 and on 600 industries for 1985.

The purpose of the import substitution/liberalization policy was to bring about a structural adjustment process and whether this came about, would be examined with reference to capacity utilisation.

There are many factors that affect capacity utilisation, there could be both supply and demand constraints leading to under-utilisation of capacity. Depending on the extent of capacity utilisation and import availability ratio, industries are categorised in the following manner.

## Category-1

In this category are industries in which there is a decline in import availability ratio resulting in an increase in capacity utilisation. Petroleum refinery and non-electrical machinery products come under this category; these industries were subject to intensive import substitution and their
capacity utilisation was high. There was a slight decline in capacity utilisation of petroleum refinery products in 1976 and 1980 which could be attributed to the effects of oil price increase. In the case of non-electrical machinery, there is a steady increase in capacity utilisation from 1976 till 1980. It was the highest in 1984 ( 87 per cent), when modifications to the existing liberalisation policies came into being.

Table 3.28

## Trends in the Rate of Capacity Utilisation for Selected Industries from 1970-85

| S.No.Industry <br> group | 1970 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. Petroleum refinery <br> product | 93 | 83 | 77 | 82 | 86 | 83 | 72 | 87 | 82 | 85 | 87 | 84 |
|  <br> chemical produ. | 84 | 76 | 82 | 81 | 85 | 84 | 74 | 75 | 76 | 76 | 78 | 77 |
| 3. Ferrous metals | 59 | 56 | 62 | 61 | 62 | 56 | 52 | 63 | 63 | 60 | 61 | 61 |
| 4. Metal products | 82 | 59 | 58 | 58 | 66 | 75 | 74 | 72 | 74 | 68 | 72 | 90 |
| 5. Non-electrical |  |  |  |  |  |  |  |  |  |  |  |  |
| machinery |  |  |  |  |  |  |  |  |  |  |  |  |$\quad 76$

Source: CMIE, Oct. 1986, For 1985 Capacity utilisation figures from October, 1986 issue.
(i) Production and capacity utilisation in 630 industries October, 1985.
(ii) Production and capacity utilisation in 600 industries October, 1986.

## Category-2

In this category are industries, where there is an increase in import availability ratio accompanied by a decline in the rate of capacity utilisation; this could imply deficiency in demand. This is because the imported commodities which are close substitutes of domestically produced commodities capture the market, resulting in under-utilisation of the existing capacity. This could result in unemployment and ultimately to a deficiency in demand. This could have occurred in the non-electrical machinery for the years 19791980, and in electrical machinery for 1981 and 1982 as there is a slight decline in capacity utilisation. This finding is in conformity with studies on capital goods sector.

Table 3.29

## Rate of Capacity Utilisation

| $\begin{aligned} & \text { S. } \\ & \text { No } \end{aligned}$ | ASI <br> code | Industry group | Weights | 1970 | 1975 | 1980 | 1985 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1. | 20-21 | Food products | 7.74 | 97 | 82 | 81 | 90 |
| 2. | 22 | Beverages, tobacco and Tobacco products | 2.90 | 105 | 78 | 100 | 99 |
| 3. | 23-26 | Textiles | 4.96 | 75 | 77 | 78 | 66 |
| 4. | 27 | Wood \& wood products |  |  |  |  |  |
| 5. | 28 | Paper \& paper products | 2.04 | 98 | 64 | 35 | 49 |
| 6. | 29 | Leather \& leather products |  |  |  |  |  |
| 7. | 30 | (i) Rubber | 2.09 | 95 | 74 | 80 | 73 |
|  |  | (ii) Petroleum | 1.62 | 93 | 83 | 72 | 84 |
| 8. | 31 | Chemicals | 10.26 | 84 | 76 | 74 | 77 |
| 9. | 32 | Non-metallic minerals | 3.30 | 84 | 72 | 79 | 77 |
| 10. | 33 | Ferrous metal | 5.36 | 59 | 54 | 52 | 61 |
| 11. | 34 | Metal products | 2.74 | 82 | 59 | 74 | 90 |
| 12. | 35 | Non-electrical machinery | 4.59 | 76 | 77 | 86 | 83 |
| 13. | 36 | Electrical machinery | 5.23 | 110 | 56 | 66 | 68 |
| 14. | 37 | Transport | 5.24 | 82 | 95 | 58 | 77 |
| 15. | 38 | Miscellaneous | 1.70 | 109 | 65 | 95 | 66 |
|  |  | Manufacturing sector | 72.01 | 85 | 73 | 73 | 77 |

## Category-3

In this category are industries whose import availability ratio is positively associated with capacity utilisation rate. Chemical and metal products fall in this category. It could imply that domestic capacity was not sufficient to meet the increase in demand requirements, despite increase in capacity utilisation and so imports had to be resorted to.

An increase in import availability ratio a ad capacity utilisation rates could also imply that the supply side constraints in the form of raw material shortages or other critical inputs have 'jeen removed, resulting in improved
capacity utilisation. Industries in this group experience favourable effect due to liberalization policies.

## Category-4

This category consists of industries whose import availability ratio and capacity utilisation rate have both declined. This implies that there are other factors affecting the industry and thus they are neutral to liberalisation policies. For the year 1981-82, metal and alloy industries experienced such a situation.

In the analysis of import availability ratio and capacity utilisation rate, it is noticed that there are positive as well as negative factors in the liberalization strategy. In industries where there are shortages or supply side constraints, liberalization has helped in overcoming these constraints by liberal imports. But in some industries liberalisation measures have led to undue competition resulting in under-utilisation of capacity.


[^0]:    1. Refer Appendix-III Table A.3.3. and A.3.4
[^1]:    Source: (i) A Technical note of the Fifth Plan 1974-79.
    (ii) A Technical note on the Sixth Plan 1980-85

[^2]:    eading industrial production both at current and constant prices in 1984-85 as compared to 1969-70 at constant prices:
    
    
    $\stackrel{c}{c}$

    Rubber, plastic, petroleum and coal products
    Chemical and chemical products
    Machinery. machine tools and parts except elec. machinery
    Flectrical machinery, apparatus, appliances \&
    supplies \& parts
    Transport equipment and parts
    Sub-total

    ङ $\quad=\mathrm{m} \times \mathrm{m}$
    n
    -
    5.

[^3]:    

