CHAPTER - III

INDIA'S FOREIGN TRADE: COMPOSITION & DIRECTION
1980-2012
3.1 INTRODUCTION:

Prior to independence, India's foreign trade was typical of a colonial and agricultural economy. Trade relations were mainly confined to Britain and other Common Wealth countries. Exports mainly consisted of raw materials and plantation crops, while imports were composed of light consumer goods and other manufacture goods. The structure of India's foreign trade reflected the systematic exploitation of the country by the foreign rulers. The raw materials were exported from India and finished products imported from the U.K. The production of final products was discouraged. For example, cotton textiles which at one time constituted bulk of India's exports, accounted for the largest share of her imports during the British rule. This resulted in the decline and decay of Indian industries.

Over the last sixty years, India's foreign trade has undergone a complete transformation in terms of growth, composition and direction. The exports cover a wide range of traditional and non-traditional items, while imports mainly consist of capital goods, petroleum products, raw materials and chemicals to meet the ever-increasing need of a developing and diversifying economy.

For about forty years (1950-90), foreign trade of India suffered from strict bureaucratic and discretionary controls. Foreign exchange transactions were tightly controlled by the Reserve Bank of India (RBI) on behalf of the Government of India. During the period, India with some exceptions always faced deficit in its trade balance. This was a typical characteristic of a developing country struggling for reconstruction and modernization of its economy. Exports remained relatively sluggish owing to lack of exportable surplus, competition in the international market, inflation at home and increasingly protectionist policies of the developing countries. Imports
increased mainly due to increasing requirements of capital goods, defense equipment, petroleum products and raw materials.

Beginning mid-1991, the Government of India introduced a series of reforms to liberalize and globalize the Indian economy. Reforms in the external sector of India were intended to integrate the Indian economy with rest of the world. In this context, the Ninth five year plan (1997-2002) observed, “The process of globalization is a reality which cannot be denied and also should not be avoided. However, it needs to be managed so that we can derive the maximum advantage from the world markets”. Reforms of trade and exchange rate policy were a critical element in the process of structural reforms. Since the initiation of economic reforms, India’s outward orientation has increased considerably.

The major trade policy changes in the post 1991 period included simplification of procedures, removal of quantitative restrictions and substantial reduction in tariff rates. A significant development in the current account of balance of payments in the 1990s was the remarkable growth in the exports of invisibles to the rest of world. This was made possible by unfrequented growth in information and communication related services like computer software, hardware, internet, e-commerce and telecommunication sector. The economic reforms process introduced since 1991 with focus on liberalization, openness, transparency, and globalization has enabled increased integration of the Indian economy with the rest of world. The growth rate of India’s trade is increasingly dependent on exogenous factors such as world trade growth (especially those of the trading partners), international price changes and development in the competitor countries. Cross currency exchange rates as well as dollar rupee exchange rate movements also get reflected in the performance of India’s trade.

3.2 TRENDS IN INDIA’S EXPORTS:

The progress of Indian economy in terms of exporting goods has been remarkable since the mid 1990s, especially compared with India’s position in the early 1990s, with the outbreak of hostilities in the Persian Gulf in
1990 and the consequent spiraling of oil prices, there was tremendous pressure on India’s foreign exchange reserves, aggravating on already weak balance of payments situation. Following this, the country plunged into deep economic crisis. The rate of inflation rose to a level much higher than what India had witnessed six months earlier. Foreign exchange reserves declined to a level covering only three weeks of imports. To compensate for this decline, India entered into a stand-by arrangement, together with a supplementary loan with International Monetary Fund (IMF). Following the IMF conditionality’s, various reform measures were undertaken to raise the growth rate in a sustained way.

Reforms in domestic economy have been able to reduce excessive Government control of decision making. In the manufacturing sector, most of the reforms were incorporated into the industrial licensing policy of 1991, implemented subsequently through a series of Government notifications. It was only from 1991 that exports were being seen as an integral part of industrial and development policy. The policy, thereafter emphasized technological up-gradation, increase in size of plants, freer imports and domestic and international competition for the entire industrial sector as prerequisite for export promotion. All these steps have helped the business environment immensely and propelled growth in India’s exports. In this section, we have computed the growth rate of India’s exports in terms of value, volume and unit value indices pre and post economic reforms period by using the following regression equation:

\[ \ln X = b_0 + b_1 D + b_2 t + b_3 (D \cdot t) + U \]

The empirical results showing the growth rate of India’s exports in terms of value, volume and unit value indices in pre and post economic reforms period have been presented in the following table 3.1, 3.2 and 3.3:-
### TABLE 3.1
GROWTH RATE OF INDIA'S EXPORTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>S.E.</th>
<th>t-statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>8.824</td>
<td>0.094</td>
<td>94.072*</td>
<td>0.000</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.934</td>
<td>0.161</td>
<td>-5.806*</td>
<td>0.000</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.069</td>
<td>0.013</td>
<td>5.413*</td>
<td>0.000</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.070</td>
<td>0.014</td>
<td>5.019*</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
8.824 + 0.069 t
I.G.R. = 6.9%
C.G.R. = 7.1%

Regression Equation for Post-Reform Period (1992 to 2012)
7.890 + 0.139 t
I.G.R. = 13.9%
C.G.R. = 14.91%

* & F* Statistically Significant at 5% level of Significance.

### TABLE 3.2
GROWTH RATE OF INDIA'S UNIT VALUE INDICES OF EXPORTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients</th>
<th>S.E.</th>
<th>t-statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>4.184</td>
<td>0.091</td>
<td>45.760*</td>
<td>0.000</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.396</td>
<td>0.157</td>
<td>-2.526*</td>
<td>0.017</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.028</td>
<td>0.012</td>
<td>2.271*</td>
<td>0.031</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.006</td>
<td>0.014</td>
<td>0.459</td>
<td>0.650</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
4.184 + 0.028 t
I.G.R = 2.8%
C.G.R = 2.81%

Regression Equation for Post-Reform Period (1992 to 2012)
3.788 + 0.034 t
I.G.R = 3.4%
C.G.R = 3.45%

* & F* Statistically Significant at 5% level of Significance.
### TABLE 3.3
GROWTH RATE OF INDIA’S VOLUME INDICES OF EXPORTS IN PRE AND POST ECONOMIC REFORMS PERIOD

| Coefficients-Intercept / Slope | S.E  | t-statistics | p-value | R²  | Adjusted R² | Standard Error of the Estimate | F-value | F* Statistically Significant at 5% level of Significance |
|-------------------------------|------|--------------|---------|-----|------------|--------------------------------|---------|******************************** |
| Constant Term                 | 2.344| 0.051        | 46.302* | 0.000|            |                                 |         |                                            |
| Dummy Variable (D)            | -0.550| 0.087       | -6.340* | 0.000|            |                                 |         |                                            |
| Time (t)                      | 0.046| 0.007        | 6.674*  | 0.000|            |                                 |         |                                            |
| Interaction of Dummy & Time (D.t) | 0.060| 0.007       | 7.970*  | 0.000|            |                                 |         |                                            |
| Regression Equation for Pre-Reform Period (1980 to 1991) | 2.344 +0.046 t | I.G.R | 4.6% |
| Regression Equation for Post-Reform Period (1992 to 2012) | 1.794 0.106 t | I.G.R | 10.6% |

**INTERPRETATION OF REGRESSION RESULTS:**

**3.2.1) INDIA’S EXPORTS:**

The table 3.1 shows that the differential intercept and differential slope coefficients are statistically significant (because the p-values are very low). This implies that there is a structural change in the post-reform period. From the regression equations for pre-reform period and post-reform period we find that the intercept term is significantly positive for both the periods but it is slightly greater for the pre-reform period as compared to the post-reform period. On the other hand, the slope-coefficient is also found to be positive for both the periods but it is found to be much greater for post-reform period as compared to pre-reform period.

The table further reveals that compound growth rate of India’s total
exports is found to be 7.1 percent during the pre-reform period but it is found to be almost double (14.91 percent) during the post-reform period. This implies that India’s exports exhibited a sharp turnaround during the post-reform period. Buoyancy in world demand, revival of world trade reflecting East Asian recovery, bottoming out of some global commodity prices, coupled with trade policy initiatives taken by the Government, inter alia, contributed to this export increase. A stable domestic macroeconomic environment including low inflation and a relatively stable exchange rate in real effective terms, may have also contributed to this turnaround in exports.

The entrenchment in the growth momentum in the 1990s, opening up of the economy, and corporate restructuring has enhanced the competitiveness of Indian industry. There is a far greater export orientation of domestic manufactures; they are pursuing new strategies in response to economic reforms. Trade policy reforms in the recent past with their focus on liberalization, openness, transparency and globalization; have provided an export friendly environment with simplified procedures for trade facilitation. Such continued trade promotion and trade facilitation efforts of the Government have also aided the current strengthening of export growth during post-reform period.

**FIG 3.1 INDIA’S EXPORTS (1980-2012)**
3.2.2) INDIA'S UNIT VALUE INDICES OF EXPORTS:

The table 3.2 shows that the differential intercepts and differential slope coefficients are statistically significant (because the p-values are very low). This implies that there is a structural change in the post-reform period. From the regression equations for pre-reform period and post-reform period we find that the intercept term is significantly positive for both the periods but it is slightly greater for the pre-reform period as compared to the post-reform period. On the other hand, the slope-coefficient is also found to be
positive for both the periods but it is found to be much greater for post-reform period as compared to pre-reform period.

The table further reveals that compound growth rate of India’s unit value indices of exports is found to be 2.81 percent during the pre-reform period but it is found to be slightly greater i.e. 3.45 percent in post-reform period which implies that unit value indices of India’s exports registered a slight upward trend during post-reform period. This implies that competitiveness of Indian industry has decreased in post-reform period.

3.2.3) INDIA’S VOLUME INDICES OF EXPORTS:

The table 3.3 shows that the differential intercept and differential slope coefficients are statistically significant (because the p-values are very low). This implies that there is a structural change in the post-reform period. From the regression equations for pre-reform period and post-reform period we find that the intercept term is significantly positive for both the periods but it is greater for the pre-reform period as compared to the post-reform period. On the other hand, the slope-coefficient is also found to be positive for both the periods but it is found to be much greater for post-reform period as compared to pre-reform period.

The table 3.3 further reveals that compound growth rate of volume indices of India’s exports is found to be 4.7 percent during the pre-reform period but it is found to be almost double 11.11 percent during the post-reform period. It implies that the volume indices of exports have registered an upward trend during the post-reform period mainly because of the following facts:

Recovery in international commodity prices, movements in cross currency exchange rates, a faster repatriation of exports proceeds, various policy initiatives for export promotion and market diversification contributed to upsurge in export volume in post reform period. Furthermore, improved global growth, recovery in world trade, firming up of the domestic economic activity, especially in the manufacturing sector, also provided a supporting base for sector-specific exports. Lastly, the opening up of the
economy and corporate restructuring have enhanced the competitiveness of Indian industry in the post-reform period. Further, the acceleration in volume indices of exports reflected buoyant global demand coupled with improvements in world commodity prices in 2000 and revival of world trade following the Asian crisis. Besides various export facilitation measures announced by the Government, significant gains in selected sectors like, textiles, engineering goods, chemicals, ores & minerals and petroleum products also contributed to the strengthening of exports.

FIG 3.4 INDIA’S UNIT VALUE INDICES AND QUANTUM INDICES OF EXPORTS (1980-2012)

FIG 3.5 INDIA’S UNIT VALUE INDICES AND QUANTUM INDICES OF EXPORTS, PRE-REFORM PERIOD (1980-1991)
3.3 COMPOSITION OF INDIA’S EXPORTS

The changing structure of India’s exports throws some interesting light on both the demand pattern and supply factors that are increasingly influencing India’s exports and the manner in which its production structures, institutions, and policies are responding to it. Regarding changes in the composition of exports since 1980s, it may be observed that the share of agriculture and allied products has been declining while that of ores and minerals has remained more or less steady. Share of manufactured goods has increased generally. Although the opening up of the Indian economy since the early 1990s provided impetus for higher growth for most of the commodities, some products gained more than the others. India’s merchandise exports are predominated by the manufacturing sector which accounted for more than three-fourth of its total exports during post-reform period. The detailed analysis of composition pattern of India’s exports is as follows:

3.3.1) AGRICULTURE AND ALLIED PRODUCTS:

Agricultural products like tea, coffee, rice, tobacco and spices are important items of India’s exports and hence foreign exchange earnings.
Agriculture is also the source of raw material for agro-based industries including textiles, jute, sugar, paper and processed foodstuffs. Moreover, agricultural sector provides market for capital goods inputs and light consumer goods. The growth rate of India’s exports of agriculture and allied products in pre and post economic reforms period has been presented in the following table (3.4):

**TABLE 3.4**

GROWTH RATE OF INDIA’S EXPORTS OF AGRICULTURE AND ALLIED PRODUCTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>7.756</td>
<td>0.132</td>
<td>58.936*</td>
<td>0.000</td>
<td>0.94</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.114</td>
<td>0.226</td>
<td>-4.939*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.019</td>
<td>0.018</td>
<td>1.083</td>
<td>0.288</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.089</td>
<td>0.019</td>
<td>4.572*</td>
<td>0.000</td>
<td></td>
<td></td>
<td>153.71*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

7.756 +0.019 t

I.G.R 1.9%

C.G.R 1.91%

Regression Equation for Post-Reform Period (1992 to 2012)

6.642+0.108 t

I.G.R 10.8%

C.G.R 11.40%

t * & F*Statistically Significant at 5% level of Significance

The above table (3.4) shows that differential intercept and differential slope coefficients are statistically significant which implies that there is a structural change in the post-reform period. The value of R² and adjusted R² is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The compound growth rate of India’s exports of agriculture and allied products is found to be only 1.91 percent
during the pre-reform period but it is found to be higher i.e. 11.40 percent during the post-reform period. It implies that the exports of agriculture and allied products has been rising during post reform period due to the factors such as: Adoption of a National Agricultural policy (NAP) by the Government of India, Establishment of Agriculture Export Zones (AEZs), Vishesh Krishi and Gram Udyog Yojna (VKGUY) and Opening of Agriculture under W.T.O. The EXIM policy of 2002-07 gives a major thrust to agricultural exports by removing export restrictions on designated items. The efforts to promote exports of agro and agro based products in the floriculture and horticulture sector have been sustained in the notification of 32 Agro-Exporting Zones across the country. Non- actionable subsidies such as transport subsidy have been provided for the exports of fruits, vegetables, poultry and dairy products.

3.3.2) ORES AND MINERALS:

The main items of exports in this category are iron ore, mica, manganese ore, chrome ore, coal etc. The growth rate of India’s exports of ores and minerals in pre and post economic reforms period has been presented in the below table (3.5) which shows that differential intercept and differential slope coefficients are statistically significant. The value of $R^2$ and adjusted $R^2$ is found to be high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of exports of ores and minerals is found to be only 2.22 percent during pre-reform period due to the cyclone in Andhra Pradesh. But during the post-reform period C.G.R is found to be very high i.e. 15.48 percent. It indicates impressive performance of exports of Ores and minerals during post-reform period. The surge in exports of ores and minerals is contributed mainly by expansion in exports of iron ore (which more than doubled) during post-reform period.
### TABLE 3.5
GROWTH RATE OF INDIA'S EXPORTS OF ORES AND MINERALS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>$\text{R}^2$</th>
<th>Adjusted $\text{R}^2$</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.511</td>
<td>0.202</td>
<td>32.274*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-2.002</td>
<td>0.346</td>
<td>-5.787*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.022</td>
<td>0.027</td>
<td>0.813</td>
<td>0.423</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.122</td>
<td>0.030</td>
<td>4.099*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Regression Equation for Pre-Reform Period (1980 to 1991)**

$$6.511 + 0.022 t$$

**I.G.R** 2.2%  
**C.G.R** 2.22%

**Regression Equation for Post-Reform Period (1992 to 2012)**

$$6.511 + 0.022 t$$

**I.G.R** 14.4%  
**C.G.R** 15.48%

* Statistically Significant at 5% level of Significance  
F * Statistically Significant at 5% level of Significance

### 3.3.3) LEATHER AND MANUFACTURES:

The Leather industry occupies a very vital place in Indian economy by virtue of its wide spread, sizeable employment and exports potential. Leather is an export worthy product and unlike gems and jewellery, it has very little import content. The growth rate of exports of leather and manufactures in pre and post economic reforms period has been presented in the following table (3.6) which shows that differential intercept and differential slope coefficients are statistically significant. The value of $\text{R}^2$ and adjusted $\text{R}^2$ is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports of leather and manufactures is found to be 14.33 percent during pre-reform period.
TABLE 3.6
GROWTH RATE OF INDIA'S EXPORTS OF LEATHER AND MANUFACTURES IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept /Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>5.680</td>
<td>0.076</td>
<td>74.354*</td>
<td>0.000</td>
<td>0.97</td>
<td>0.97</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>0.581</td>
<td>0.131</td>
<td>4.434*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.134</td>
<td>0.010</td>
<td>12.888*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>-0.070</td>
<td>0.011</td>
<td>-6.168*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>5.680 + 0.134 t</td>
<td>I.G.R 13.4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>6.261 + 0.064 t</td>
<td>I.G.R 6.4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.1241</td>
<td>355.61*</td>
</tr>
</tbody>
</table>

*Statistically Significant at 5% level of Significance

This implies that exports of leather and manufactures have shown an impressive performance during pre-reform period due to the following reasons:

(a.) Increased productivity of leather industry in developed countries (due to consideration of high cost and environment consciousness).

(b.) Indian Government policy to increase high value added items by adopting liberal import policy.

(c.) Improved access to imported inputs such as raw skin and hides, machinery, metallic and non-metallic embellishments through enlargement of OGL.

(d.) Procurement under the Advance Licensing scheme.

But the exports of leather and manufactures declined sharply during post-reform period as C.G.R is found to be only 6.60 percent due to the factors such as: Demand contraction in developed countries resulting from global recession, Sharp drop in exports of finished leather and footwear components mainly due to the break-up of former USSR, Depressed market...
conditions for leather in EEC countries and Delay in clearance of imported consignment.

India faces stiff competition from countries of European Union like Spain, Portugal, Germany, France, Italy and UK which have a strong supply base. ACP countries which have the benefit of STABEX support under the LOME conventions are also emerging as significant suppliers in particular of bovine leather. There is also a possibility that countries like Spain, Portugal and Italy might try to expand their share of finished leather goods in the EU market. This could make the competition for India in the leather goods more severe; but it could also throw up opportunities for supply of finished leather goods to feed the expanding leather industry in the union. The nature of union’s new GSP regime will also influence further prospects of India’s exports of leather and leather goods in Europe.

In view of competition from developed countries, the Government has set up an inter-ministerial committee to provide a single window clearance to enable leather exports to meet their requirements of imported raw materials, machinery etc. on a priority basis. The export base of this item has been strengthened by the change in the composition of exports wherein there has been an increase in the share of finished products and items with higher value additions. The leather exports promotion council has also taken steps to improve the skills of technical personnel and to promote the development, fabrication and distribution of improved tools for tanning etc.

Further, the state trading corporation under its scheme offers credit facilities against stocks to units importing hides and skins for export production. In additions to this, India needs to improve further quality of leather, set-up corporate level pollution free modern tanneries and organize global marketing of leather goods. The products should also be diversified after extensive marketing research in export markets to suit consumer’s preference.
3.3.4) CHEMICAL AND RELATED PRODUCTS:

The growth rate of exports of chemical and related products in pre and post economic reforms period has been presented in the following table (3.7) which shows that differential intercept and differential slope coefficients are not statistically significant. However, the value of $R^2$ and adjusted $R^2$ is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. India’s exports of chemical and related products, one of the rapidly growing non-traditional items of exports, registered an impressive growth during pre-reform period due to the following reasons:

### TABLE 3.7
GROWTH RATE OF INDIA’S EXPORTS OF CHEMICAL AND RELATED PRODUCTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>5.188</td>
<td>0.131</td>
<td>39.591*</td>
<td>0.000</td>
<td>0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>0.415</td>
<td>0.225</td>
<td>1.846</td>
<td>0.075</td>
<td>0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.187</td>
<td>0.018</td>
<td>10.516*</td>
<td>0.000</td>
<td>0.2128</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>-0.036</td>
<td>0.019</td>
<td>-1.873</td>
<td>0.071</td>
<td>565.88*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

- $5.188 + 0.187t$  
  I.G.R: 18.7%  
  C.G.R: 20.56%

Regression Equation for Post-Reform Period (1992 to 2012)

- $5.603 + 0.151t$  
  I.G.R: 15.1%  
  C.G.R: 16.29%

* & F* Statistically Significant at 5% level of Significance

(a.) Duty-free access to raw material against replenishment licensing for exports of selected products.

(b.) Provision of advance licensing under duty exemption scheme against
firm exports orders.

(c.) Rationalization of custom duty on imports of various drug intermediates vis-à-vis the corresponding bulk drugs.

(d.) Reduction in import duty on glove making machinery and ceramic moulds.

(e.) Improvement in standard of products and up-gradation of technology.

(f.) Emergence of new markets.

(g.) Increase in productive capacity of chemical industry.

(h.) Growing world demand.

But the exports of chemicals and related products declined during post-reform period as compared to pre-reform period. This decline in exports of chemicals in post-reform period may be attributed to demand contraction in developed countries resulting from global recession.

3.3.5) ENGINEERING GOODS:

Exports of engineering goods comprise diverse range of items like ferroalloys, non-ferrous metals, iron and steel, machinery and transport equipment etc. The growth rate of exports of engineering goods in pre and post economic reforms period has been presented in the following table (3.8):

The regression results show that differential intercept and differential slope coefficients are statistically significant. The value of $R^2$ and adjusted $R^2$ is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The compound growth rate is found to be low (9.42 percent) during pre-reform period as compared to post-reform period due to the factors such as: Recession in industrial countries, Financial difficulties of importing developing countries, The slowdown in economic activity in west Asia, Technological obsolescence compared with its competitors, High and rising prices of non-ferrous metals in the international market, Disruption of trade with CIS, Payment difficulties in
some countries in Africa, infrastructural constraints and higher costs of key inputs.

### TABLE 3.8

GROWTH RATE OF INDIA’S EXPORTS OF ENGINEERING GOODS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.491</td>
<td>0.154</td>
<td>42.151*</td>
<td>0.000</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>Dummy Variable D)</td>
<td>-1.165</td>
<td>0.264</td>
<td>-4.411*</td>
<td>0.000</td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.090</td>
<td>0.021</td>
<td>4.290*</td>
<td>0.000</td>
<td>0.2502</td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time(D.t)</td>
<td>0.088</td>
<td>0.023</td>
<td>3.876*</td>
<td>0.001</td>
<td></td>
<td>360.26*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

\[ 6.491 + 0.090t \]

I.G.R 9%

C.G.R 9.42%

Regression Equation for Post-Reform Period (1992 to 2012)

\[ 5.326 + 0.178t \]

I.G.R 17.8%

C.G.R 19.48%

\( t^* \) & \( F^* \) Statistically Significant at 5% level of Significance

But exports of engineering goods almost doubled during post-reform period as C.G.R is found to be 19.48 percent due to following factors:

a. Rising demand from countries in East Asia and China.

b. Exports of technology intensive items (like iron and steel, transport equipment etc.) with demand picking up in non-traditional markets like Latin America and Africa.

c. Growing industrial base of the country.

d. Access to imports of capital goods by the engineering units at concessional rates.

e. Fixation of minimum value addition levels.

f. Streamling of procedures for ensuring optimal use of funds under IPRS i.e. International Price Reimbursement Scheme.

Finally, the sharp rise in the engineering goods exports indicates that
despite rising protectionism in the developed countries and strong competition in international market from the newly industrialized countries these items have achieved acceptable quality and quantity standards.

3.3.6) COTTON YARN, FABRICS, MADE-UP ETC:

In ancient times, Indian cotton textiles were famous all over the world for their elegance and fine finish. Even before the industrial revolution in the European countries, India occupied a place of repute among exporters in cotton textiles. It was only from the second half of the last century that the mill industry took roots in the country. Since then, the industry has grown from strength to strength through many periods of vicissitudes. The growth rate of exports of cotton yarn, fabrics and made-up etc in pre and post economic reforms period has been presented in the following table (3.9):

<p>| TABLE 3.9 |
| GROWTH RATE OF INDIA’S EXPORTS OF COTTON YARN, FABRICS &amp; MADE-UP ETC IN PRE AND POST ECONOMIC REFORMS PERIOD |</p>
<table>
<thead>
<tr>
<th>Coefficients- Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>5.854</td>
<td>0.117</td>
<td>49.993*</td>
<td>0.000</td>
<td>0.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>0.903</td>
<td>0.201</td>
<td>4.500*</td>
<td>0.000</td>
<td>0.95</td>
<td>Adjusted R²</td>
<td>0.1902</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.097</td>
<td>0.016</td>
<td>6.112*</td>
<td>0.000</td>
<td></td>
<td>Standard Error of the Estimate</td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time</td>
<td>-0.038</td>
<td>0.017</td>
<td>-2.168*</td>
<td>0.039</td>
<td>227.75*</td>
<td>F-value</td>
<td></td>
</tr>
<tr>
<td>(D.t)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)  
5.854+0.097 t  
I.G.R  
9.7%  
C.G.R  
10.18%

Regression Equation for Post-Reform Period (1992 to 2012)  
6.757+0.059 t  
I.G.R  
5.9%  
C.G.R  
6.0%

t* & F* Statistically Significant at 5% level of Significance
The above table (3.9) shows that differential intercept and differential slope coefficients are statistically significant. The value of $R^2$ and adjusted $R^2$ is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. India’s exports of cotton yarn, fabrics and made-up etc. has shown an impressive performance during the pre-reform period as C.G.R is found to be 10.18 percent due to following factors:

(a) The Adjustments in exchange rates.

(b) Increased exports to non-quota countries in keeping with the stance of textile policies in force.

(c) The spurt in exports to Asian countries particularly Bangladesh, Japan, Dubai, Sri-Lanka, South Korea, Hong Kong and Singapore.

(d) Increased unit value realization.

In order to give a further thrust to the exports of yarn and fabrics and to control cotton prices in the local markets, the government allowed the imports of raw cotton against exports of fabrics under the advance licensing scheme. The Government took several measures to step-up textile exports such as: Rationalization of duty structure on various types of yarns and fibers was effected in the Union Budget for 1992-93. Excise duty on cotton, blended and viscose yarn was raised and at the same time, duty on polyester and nylon filament yarns was brought down to reduce the wide gap between the duty structures on these two sectors. The multiplicity of rates was reduced by having only five duty slabs on cotton yarn and three for cellulosic spun yarn.

But the exports of cotton yarn have shown a declining trend during post-reform period. This decline may be attributed to demand contraction in the developed countries resulting from global recession. Though our production has increased a lot in the past resulting in a boost in the export of this commodity, more consistent and continuous efforts are still required in this direction.
3.3.7) READYMADE GARMENTS:

Readymade Garments have emerged as an important item in India's export trade. The growth rate of exports of readymade garments in pre and post economic reforms period has been presented in the below table (3.10) which shows that differential intercept and differential slope coefficients are statistically significant. The value of $R^2$ and adjusted $R^2$ is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports of readymade garments is found to be 14.68 percent during pre-reform period but only 8.87 percent during post-reform period.

**TABLE 3.10 GROWTH RATE OF INDIA'S EXPORTS OF READYMADE GARMENTS IN PRE AND POST ECONOMIC REFORMS PERIOD**

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.089</td>
<td>0.059</td>
<td>103.932*</td>
<td>0.000</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>0.668</td>
<td>0.100</td>
<td>6.648*</td>
<td>0.000</td>
<td>0.99</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.137</td>
<td>0.008</td>
<td>17.210*</td>
<td>0.000</td>
<td></td>
<td></td>
<td>0.0951</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>-0.052</td>
<td>0.009</td>
<td>-6.031*</td>
<td>0.000</td>
<td></td>
<td></td>
<td>F-value 1138.85*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991) |

$$6.089 + 0.137t$$

I.G.R 13.7%
C.G.R 14.68%

Regression Equation for Post-Reform Period (1992 to 2012)

$$6.757 + 0.085t$$

I.G.R 8.5%
C.G.R 8.87%

$t^* \text{ & } F^* \text{ Statistically Significant at 5% level of Significance}$

This implies that exports of readymade garments have shown a remarkable performance during pre-reform period as compared to post-reform period. The importance of these exports in India’s export trade is that they are based mostly on domestic raw materials, making them the largest single net earner of foreign exchange. The renewal of consumer preferences
abroad for cotton clothing has resulted in larger access to the markets of the USA, European Common Market (ECM) and other quota countries under the Multi – Fiber Agreement (MFA) for 1987-92. The other factors responsible for excellent performance of exports of readymade garments during pre-reform period are: Revival of demand in western countries, Larger off-take by Germany and Sweden, Recovery in world trade, Opening up of new markets, Raising up of the replenishment percentage for various types of garments under the pass book scheme, Higher rates of Cash Compensatory Support (CCS) for exports to non-Quota countries and Garment export Policy (1990).

Further, the exporters of readymade garments have been allowed to use foreign brand names subject to the condition that only indigenous fabrics are used and royalties are not repatriated abroad on domestic sales.

But the exports of readymade garments declined in post reform period mainly due to demand contraction in developed countries resulting from global recession, depressed market conditions for garments in the USA, Western Europe and stiff competition from countries like China, Bangladesh, Pakistan and Indonesia.

Lastly, significant and sustained increase in garment exports can come only if MFA is liberalized and efforts are directed towards non-quota countries. Diversification of fabric base leading to exports of high value added items of synthetic and blends, silk and woolen fabrics is necessary to sustain the momentum of growth in this case. Efforts should be made to explore new and competitive markets where demand for our product is high. More stress should be laid on quality, production of low cost and aggressive marketing so that our products are sold in existing as well as new markets.

3.3.8) GEMS AND JEWELLERY:

Gems and Jewellery comprising diamonds, gold jewellery, silver jewellery etc. constitute a growth potential export sector. The product group of gems and jewellery makes significant contribution to country’s overall export earnings and remains in forefront of foreign exchange earners. The
gems and jewellery export sector is highly import oriented. The growth rate of India’s exports of gems and jewellery in pre and post economic reforms period has been presented in the below table (3.11):

**TABLE 3.11**
GROWTH RATE OF INDIA’S EXPORTS OF GEMS & JEWELLERY IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.420</td>
<td>0.098</td>
<td>65.508*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.182</td>
<td>0.168</td>
<td>-1.086</td>
<td>0.287</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.144</td>
<td>0.013</td>
<td>10.833*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>-0.011</td>
<td>0.014</td>
<td>-0.746</td>
<td>0.462</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>6.420+0.144 t</td>
<td>I.G.R</td>
<td>14.4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C.G.R</td>
<td>15.48%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>6.238+0.133 t</td>
<td>I.G.R</td>
<td>13.3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C.G.R</td>
<td>14.22%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\* Statistically Significant at 5% level of Significance

The above table (3.11) shows that differential intercept and differential slope coefficients are not statistically significant. The value of R² and adjusted R² is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports of gems and jewellery is found to be 15.48 percent during pre-reform period which indicates that exports of gems and jewellery have shown an impressive performance during pre-reform period due to the following reasons:

(a) The liberalization of imports of machinery, and transport equipment needed for this sector.
(b) Softening of value added requirements to encourage the setting up of gold jewellery units in the 100 percent exports-oriented complexes and export processing zones.

(c) Setting in of the revival of US economy which is a major importer.

(d) Import of gold of 8 carat under the replenishment scheme subject to the import being accompanied by an Assay certificate specifying the purity, weight and alloy content.

(e) Cutting and polishing of gems and jewellery treated as manufacturing for the purposes of exemption under section 10A of the Income Tax Act.

But during the post reform period, exports of gems and jewellery declined slightly due to the following reasons:

(a) Non-availability of good quality rough gemstones.

(b) Breaking of single channel supply and growing competition.

(c) Demand contraction in developed countries resulting from global recession.

(d) Decline in cut and polished diamonds.

(e) Fall in off-take in major markets like Hong Kong, Singapore, Israel, Belgium, and Japan, Switzerland and Germany and a possible shift in consumer spending in USA.

However, The Government of India and the Gem and Jewellery Export Promotion Council (GJEPC), a representative body of the trade, have taken several steps to improve exports of gems and jewellery and enhance competitiveness which are as follows:

(a) A medium term export strategy for various sectors, including gems and jewellery, prepared by Ministry of Commerce and Industry.

(b) GJEPC and Government constantly exploring the possibility of direct procurement of rough diamonds from mining countries; Funds provided by the Government for setting up the Sardar-Vallab Bhai Patel centre
of jewellery design and manufacture at Surat to give a fillip to the sector;

(c) Promotion of the image of Indian diamonds and Jewellery by GJEPC abroad through advertisements, publicity and participation in international fairs, buyer-seller meets, and direct approach to market retailers;

(d) Market study by GJEPC through experts in the field to identify new markets. Development by GJEPC of Indian designer to various international trade fairs and exhibitions to study the latest trend in design;

(e) Promotion of export of ‘Hallmark’ jewellery from India to assure customers of quality and purity of jewellery made in India, and

(f) Provision of infrastructure facilities for training to enhance the quality, design and global competitiveness of Indian jewellery. A training institute of international level i.e. Indian Institute of Gems and Jewellery has also been set up to boost the exports of Gems and Jewellery.

3.3.9) HANDICRAFTS EXCL. HANDMADE CARPETS:

The growth rate of exports of handicrafts excl. handmade carpets in pre and post economic reforms period has been presented in the below table (3.12) which shows that differential intercept is found to be statistically significant but differential slope coefficient is not found to be statistically significant. The value of $R^2$ and adjusted $R^2$ is found to be not high but F-test is found to be statistically significant at 5 percent level of significance. The C.G.R of exports of handicrafts is found to be only 0.6 percent during pre-reform but it is found to be negative during post reform period. It implies very poor performance of exports of handicrafts pre and post economic reforms period due to competitive industry, high cost, low availability of material and shortage of skilled labor.
TABLE 3.12
GROWTH RATE OF INDIA’S EXPORTS OF HANDICRAFTS EXCL. HANDMADE CARPETS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>5.397</td>
<td>0.195</td>
<td>27.749</td>
<td>0.000</td>
<td>R^2</td>
<td>0.51</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>1.244</td>
<td>0.333</td>
<td>3.732</td>
<td>0.001</td>
<td>Adjusted R^2</td>
<td>0.46</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.006</td>
<td>0.026</td>
<td>0.219</td>
<td>0.828</td>
<td>Standard Error of the Estimate</td>
<td>0.3160</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>-0.033</td>
<td>0.029</td>
<td>-1.161</td>
<td>0.255</td>
<td>F-value</td>
<td>10.29</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

5.397+0.006 t

I.G.R 0.6%
C.G.R 0.60

Regression Equation for Post-Reform Period (1992 to 2012)

6.641-0.027 t

I.G.R -2.7%
C.G.R -2.67

t * & F*Statistically Significant at 5% level of Significance

3.3.10) PETROLEUM PRODUCTS:

The growth rate of exports of petroleum products in pre and post economic reforms period has been presented in the below table (3.13) which shows that differential intercept is found to be statistically significant whereas differential slope coefficient is found to be insignificant. The value of R^2 and adjusted R^2 is found to be high and F-test is also found to be statistically significant at 5 percent level of significance. The growth rate of India’s exports of petroleum products has shown a remarkable performance during pre-reform and post-reform period as C.G.R is found to be 24.73 percent during pre-reform period and 37.57 percent during post-reform period. Enhanced domestic refining capacity developed with a supportive tariff structure is mainly responsible for surge in exports of petroleum products in post-reform period.
### TABLE 3.13
GROWTH RATE OF INDIA’S EXPORTS OF PETROLEUM PRODUCTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>( R^2 )</th>
<th>Adjusted ( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constant Term</strong></td>
<td>4.011</td>
<td>0.572</td>
<td>7.011*</td>
<td>0.000</td>
<td></td>
<td>0.84</td>
</tr>
<tr>
<td><strong>Dummy Variable (D)</strong></td>
<td>-3.406</td>
<td>0.981</td>
<td>-3.473*</td>
<td>0.002</td>
<td></td>
<td>0.82</td>
</tr>
<tr>
<td><strong>Time (t)</strong></td>
<td>0.221</td>
<td>0.078</td>
<td>2.842*</td>
<td>0.008</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interaction of Dummy &amp; Time (D.t)</strong></td>
<td>0.098</td>
<td>0.085</td>
<td>1.163</td>
<td>0.254</td>
<td></td>
<td></td>
</tr>
<tr>
<td>( R^2 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>( \text{Adjusted } R^2 )</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991):

\[
4.011 + 0.221 t
\]

\( \text{I.G.R} \): 22.1%

\( \text{C.G.R} \): 24.73%

Regression Equation for Post-Reform Period (1992 to 2012):

\[
0.605 + 0.319 t
\]

\( \text{I.G.R} \): 31.9%

\( \text{C.G.R} \): 37.57%

\( t^* \) & \( F^* \) Statistically Significant at 5% level of Significance

### FIG.3.7: COMPOSITION OF INDIA’S EXPORTS, 1980

1980

- Agriculture And Allied Products
- Ores and Minerals:
- Leather and Manufactures
- Chemicals and Related Products
- Engineering Goods
- Cotton Yarn, Fabrics, Made-up etc.
- Readymade Garments
- Gems and Jewellery
- Handicrafts (excl. Handmade Carpets)
- Petroleum Products
FIG. 3.8: COMPOSITION OF INDIA'S EXPORTS, 1992

- Agriculture And Allied Products
- Ores and Minerals:
- Leather and Manufactures
- Chemicals and Related Products
- Engineering Goods
- Cotton Yarn, Fabrics, Mades-up etc.
- Readymade Garments
- Gems and Jewellery
- Handicrafts (excl. Handmade Carpets)

FIG. 3.9: COMPOSITION OF INDIA'S EXPORTS, 2012

- Agriculture And Allied Products
- Ores and Minerals:
- Leather and Manufactures
- Chemicals and Related Products
- Engineering Goods
- Cotton Yarn, Fabrics, Mades-up etc.
- Readymade Garments
- Gems and Jewellery
- Handicrafts (excl. Handmade Carpets)
- Petroleum Products
3.4 DIRECTION OF INDIA’S EXPORTS (1980 to 2012)

Direction of foreign trade refers to the relative share of various countries or country group in our imports and exports. Not only the composition of India’s foreign trade has undergone substantial changes, there has also been marked change in the relative share of our exports and imports to various countries signifying the emerging new economic relationships.

In the present section, we have discussed the direction of India’s exports. The growth rate of India’s exports to major regions pre and post economic reforms period has been obtained by using the following regression equation:

\[ \ln Y = b_0 + b_1 D + b_2 t + b_3 (D \cdot t) \]

3.4.1) EXPORTS TO INDUSTRIAL COUNTRIES:

The growth rate of India’s exports to Industrial countries in pre and post economic reforms period has been presented in the below table (3.14):

| TABLE 3.14 |
| GROWTH RATE OF INDIA’S EXPORTS TO INDUSTRIAL COUNTRIES IN PRE AND POST ECONOMIC REFORMS PERIOD |

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>8.095</td>
<td>0.105</td>
<td>77.073*</td>
<td>0.000</td>
<td>0.97</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.563</td>
<td>0.180</td>
<td>-3.127*</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.097</td>
<td>0.014</td>
<td>6.784*</td>
<td>0.000</td>
<td>Standard Error of the Estimate 0.1706</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.029</td>
<td>0.016</td>
<td>1.834</td>
<td>0.077</td>
<td>F-value 403.45*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
\[ 8.095 + 0.097 t \]
I.G.R 9.7%
C.G.R 10.18%

Regression Equation for Post-Reform Period (1992 to 2012)
\[ 7.532 + 0.126 t \]
I.G.R 12.6%
C.G.R 13.42%

* & F*Statistically Significant at 5% level of Significance
The above table (3.14) shows that the differential intercept is found to be statistically significant but differential slope coefficients is not found to be statistically significant. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to statistically significant at 5 percent level of significance. The C.G.R of India’s exports to industrial countries is found to be 10.18 percent in pre-reform period whereas it is found to be slightly greater i.e. 13.42 percent in post-reform period. This implies that India’s exports to industrial countries have shown an improved performance during post-reform period reflecting the recovering in demand of these countries’ products.

3.4.2) EXPORTS TO DEVELOPING COUNTRIES:

The growth rate of India’s exports to developing countries in pre and post economic reforms period has been presented in the following table (3.15):

<table>
<thead>
<tr>
<th>TABLE 3.15</th>
<th>GROWTH RATE OF INDIA’S EXPORTS TO DEVELOPING COUNTRIES IN PRE AND POST ECONOMIC REFORMS PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients-Intercept / Slope</td>
</tr>
<tr>
<td>Constant Term</td>
<td>7.603</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.978</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.061</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.100</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

\[ 7.603 + 0.061 t \]

I.G.R 6.1%

C.G.R 6.2%

Regression Equation for Post-Reform Period (1992 to 2012)

\[ 6.625 + 0.161 t \]

I.G.R 16.1%

C.G.R 17.46%

\*Statistically Significant at 5% level of Significance.

The above table (3.15) shows that differential intercept and differential slope coefficients are statistically significant. F-value is also
found to be statistically significant at 5 percent level of significance. The value of $R^2$ is very high i.e. 0.98. The C.G.R of India’s exports to developing countries is found to be 6.2 percent during pre-reform period. But exports to developing countries have shown a remarkable performance during post-reform period as C.G.R is found to be 17.46 percent. The rising share of developing countries in India’s export basket in post-reform period indicates a directional shift in exports from North to South. The increase in exports to developing countries during post-reform period is mainly contributed by higher exports to Asia, Africa and Latin American countries.

3.4.3) EXPORTS TO AFRICA:

Since independence, India has had cordial and friendly trade relations with Africa in general. Trade relations expanded considerably since 1947, particularly after the transition into 2nd millennium. The growth rate of India’s exports to Africa in pre and post economic reforms period has been presented in the following table (3.16):

<table>
<thead>
<tr>
<th>TABLE 3.16</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROWTH RATE OF INDIA’S EXPORTS TO AFRICA IN PRE AND POST ECONOMIC REFORMS PERIOD</td>
</tr>
<tr>
<td>-------------</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients – Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>5.760</td>
<td>0.133</td>
<td>43.229*</td>
<td>0.000</td>
<td>0.98</td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.888</td>
<td>0.228</td>
<td>-8.266*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>-0.014</td>
<td>0.018</td>
<td>-0.761</td>
<td>0.453</td>
<td></td>
<td>0.2164</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time</td>
<td>0.199</td>
<td>0.020</td>
<td>10.083*</td>
<td>0.000</td>
<td></td>
<td>515.31*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regression Equation for Pre-Reform Period (1980 to 1991)</th>
<th>5.760-0.014 t</th>
<th>I.G.R</th>
<th>-1.4%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C.G.R</td>
<td>-1.4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regression Equation for Post-Reform Period (1992 to 2012)</th>
<th>3.872+0.185 t</th>
<th>I.G.R</th>
<th>18.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C.G.R</td>
<td>20.32%</td>
</tr>
</tbody>
</table>

$t^* & F^*$Statistically Significant at 5% level of Significance
The above table (3.16) shows that differential intercept and differential slope coefficients are found to be statistically significant (because the p-values are very low). The value of $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports to Africa is found to be negative during pre-reform period but exports to Africa have shown a remarkable improvement during post reform period as C.G.R is found to be 20.32 percent.

The sharp rise in India’s exports to Africa during post-reform period may be due to the “Focus Africa” programme of Government. Further, India and SACU (The Southern African Customs Union) have expressed their intent to enter into a Preferential Trade Agreement (PTA) with the aim of promoting expansion of trade between the two parties and providing mechanism to negotiate and conclude a comprehensive Free Trade Agreement within a reasonable time. India and SACU have commenced negotiations for PTA in October, 2007 and three meetings of the negotiating teams have taken place so far. India and SACU signed a memorandum of understanding, an enabling instrument to facilitate negotiations, during the third round of negotiations held in New Delhi on 25-27 November 2008. All these steps will help to enhance the trade between India and Africa in future. The major items of India’s exports to Africa includes: cotton yarn, fabrics, manufacture of metal, transport equipment, organic chemicals, primary and semi-finished iron and steel, machinery and instruments etc.

3.4.4) EXPORTS TO ASIA:

The growth rate of India’s exports to Asia in pre and post economic reforms period has been presented in the following table (3.17) which shows that differential intercept and differential slope coefficients are not statistically significant. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance.
TABLE 3.17
GROWTH RATE OF INDIA’S EXPORTS TO ASIA IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients - Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
<th>F * Statistically Significant at 5% level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Constant Term</strong></td>
<td>-0.014</td>
<td>0.128</td>
<td>51.148*</td>
<td>0.000</td>
<td>0.98</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Dummy Variable (D)</strong></td>
<td>-0.208</td>
<td>0.219</td>
<td>-0.947</td>
<td>0.352</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Time (t)</strong></td>
<td>0.095</td>
<td>0.017</td>
<td>5.484*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interaction of Dummy &amp; Time (D.t)</strong></td>
<td>0.046</td>
<td>0.019</td>
<td>2.408</td>
<td>0.023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

\[-0.014 + 0.095 t\]

I.G.R 9.5%
C.G.R 9.96

Regression Equation for Post-Reform Period (1992 to 2012)

\[-0.222 + 0.141 t\]

I.G.R 14.1%
C.G.R 15.14

The C.G.R of India’s exports to Asia is found to be 9.96 percent during pre-reform period. But exports to Asia have shown a remarkable improvement during post-reform period as C.G.R is found to be much greater i.e. 15.14 percent mainly because of the following reasons:

1) The growing economic prosperity in South-East Asia.

2) Greater trade co-operation among Asian countries particularly South Asian countries.

3) Recovery from the crisis by East Asian countries.

4) The series of FTAs/CECAs signed by India with countries from Asia Region.

5) India’s “Look East Policy” and sustained efforts to develop strong relations with Asian countries.
“Greater trade liberalization and regional integration are also key to realizing India’s potential and benefitting from greater integration into the regional economy”, Burton said (IMF director). He observed that while India’s exports are still growing at a higher pact, the country is a small market for imports from ‘Emerging Asia’.

3.4.5) EXPORTS TO EUROPEAN UNION (EU):

International trade relations constitute the single most important plank of EU’s external relations. After having established common external customs tariff, as a corollary to its internal customs union, the European Union embarked on the road of a common trade policy. The European Union had taken its place on the world stage as a trading partner in its own right and constituted, as a matter of fact, one of the largest trading blocs in the world.

Foreign trade makes an important contribution to economic growth in both the EU and India and bilateral trade has been the bedrock of the Indo-EU relationship. The European Union (EU), a block of 27 countries is one of India’s largest trading partners and India was EU’s 9th largest trading partner in 2009. The growth rate of India’s exports to EU in pre and post economic reforms period has been presented in the following table (3.18) which shows that differential intercept and differential slope coefficients are not statistically significant (because the p-values are very high). The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports to EU is found to be 9.63 percent during pre-reform period but the exports to EU increased during post-reform period as C.G.R is found to be 12.74 percent.

India’s exports to EU consists of mainly; agricultural and marine products, leather and its products including footwear, chemical and allied products, textiles and garments, jute and coir products, gems and jewellery, engineering and electronic goods.
TABLE 3.18
GROWTH RATE OF INDIA’S EXPORTS TO EUROPEAN UNION IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>7.275</td>
<td>0.108</td>
<td>67.656*</td>
<td>0.000</td>
<td></td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.391</td>
<td>0.184</td>
<td>-2.122*</td>
<td>0.042</td>
<td></td>
<td>0.97</td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.092</td>
<td>0.015</td>
<td>6.292*</td>
<td>0.000</td>
<td></td>
<td>0.97</td>
<td>0.1747</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.028</td>
<td>0.016</td>
<td>1.769</td>
<td>0.087</td>
<td></td>
<td>396.47*</td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
7.275+0.092 t
I.G.R 9.2%
C.G.R 9.63%
Regression Equation for Post-Reform Period (1992 to 2012)
6.884+0.120 t
I.G.R 12%
C.G.R 12.74%

* t & F* Statistically Significant at 5% level of Significance

However, India’s exports to EU have shown a positive trend during pre-reform and post-reform period. The growing Indian exports to EU may be the result of agreements between the two countries. The list of few agreements between India and EU is as follows:

2. New 5-year Commercial and Economic Co-Operation Agreement (June 23, 1981),
5. Textile and Clothing Agreement (December, 1994).

India is negotiating two Regional Trading Agreements (RTAs) with the European Union:

(a) India-EU broad based Trade and Investment Agreement negotiations.
(b) India-European Free Trade Association (EFTA) negotiations on broad-based bilateral trade and Investment Agreement.
The rapid developments taking place in the Europe and the structural adjustment and stabilization moves initiated in the Indian economy by the Government, open up host of opportunities for both to strengthen their relationship.

3.4.6) EXPORTS TO WESTERN HEMISPHERE:

The growth rate of India’s exports to Western Hemisphere region pre and post economic reforms period has been presented in the below table (3.19) which shows that differential intercept is found to be statically insignificant whereas differential slope coefficient is statistically significant. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports to Western Hemisphere is found to be 11.40 percent during pre-reform period but the exports to Western Hemisphere increased at a rapid rate during post-reform period as C.G.R is found to be much greater i.e. 23.49 percent.

**TABLE 3.19**

<table>
<thead>
<tr>
<th>Coefficients-Intercept / slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>2.811</td>
<td>0.217</td>
<td>12.977*</td>
<td>0.000</td>
<td>0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.316</td>
<td>0.371</td>
<td>-0.851</td>
<td>0.402</td>
<td>0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.108</td>
<td>0.029</td>
<td>3.654*</td>
<td>0.001</td>
<td>0.97</td>
<td>0.3519</td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.103</td>
<td>0.032</td>
<td>3.227*</td>
<td>0.003</td>
<td>0.97</td>
<td></td>
<td>399.22*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

\[ 2.811 + 0.108 t \]

I.G.R 10.8%

C.G.R 11.40%

Regression Equation for Post-Reform Period (1992 to 2012)

\[ 2.495 + 0.211 t \]

I.G.R 21.1%

C.G.R 23.49%

$t^* \& F^*$ Statistically Significant at 5% level of Significance

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3.4.7) EXPORTS TO MIDDLE EAST:

The growth rate of India’s exports to Middle East in pre and post economic reforms period has been presented in the following table (3.20) which shows that differential intercept and differential slope coefficients are found to be statically significant as the p-value is found to be very low. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s exports to Middle East is found to be only 1.2 percent during pre-reform period but the exports to Middle East increased at a faster rate during post-reform period as C.G.R is found to be much greater i.e. 20.2 percent.

**TABLE 3.20**
GROWTH RATE OF INDIA’S EXPORTS TO MIDDLE EAST IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.846</td>
<td>0.141</td>
<td>48.396*</td>
<td>0.000</td>
<td></td>
<td></td>
<td>0.97</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.979</td>
<td>0.243</td>
<td>-8.160*</td>
<td>0.000</td>
<td></td>
<td></td>
<td>0.97</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.012</td>
<td>0.019</td>
<td>0.628</td>
<td>0.535</td>
<td></td>
<td></td>
<td>0.2298</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.172</td>
<td>0.021</td>
<td>8.222*</td>
<td>0.000</td>
<td></td>
<td></td>
<td>0.2298</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
6.846+0.012t  
I.G.R 1.2%
C.G.R 1.2%

Regression Equation for Post-Reform Period (1992 to 2012)
4.867+0.184t  
I.G.R 18.4%
C.G.R 20.2%

$^{*}$ & F* Statistically Significant at 5% level of Significance
FIG 3.10 SOURCES OF INDIA’S EXPORTS (1980 TO 2012)

FIG 3.11 SOURCES OF INDIA’S EXPORTS, PRE ECONOMIC REFORM PERIOD (1980 TO 1991)

FIG 3.12 SOURCES OF INDIA’S EXPORTS, POST ECONOMIC REFORM PERIOD (1992 TO 2012)
3.5 TRENDS IN INDIA’S IMPORTS

The structure of India’s imports has undergone a great change since the opening up of the Indian economy. The desire for rapid industrialization necessitated large imports of machinery, capital equipment, transport equipment and project goods. In the post-liberalization phase, the tolerance level of imports has undergone a significant upward revision in the face of greater avenues for foreign exchange inflows, thereby unshackling the hitherto dormant economic growth potential. With the move away from import substitution and towards promotion of trade based on dynamic advantage, the policy distinction between essential imports and otherwise has gradually subsided. Although petroleum still continues to have a dominant place in our imports, capital goods and other intermediary products for export purposes have emerged as key items of imports during post-reform era. Another significant development during 1990s has been the channelizing of imports of gold through official routes. Since 1997, when banks were allowed to import gold, the import of gold through passenger baggage has been declining significantly. In this section, we have computed the growth rate of India’s imports in terms of value, volume and unit value indices pre and post economic reforms period by using the following regression equation:

\[ \ln Y = b_0 + b_1 D + b_2 t + b_3 (D \cdot t) + U \]

The empirical results showing the growth rate of India’s imports in terms of value, volume and unit value indices pre and post economic reforms period has been presented in the following table 3.21,3.22 and 3.23: -
### TABLE 3.21

GROWTH RATE OF INDIA'S IMPORTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>9.462</td>
<td>0.106</td>
<td>88.888*</td>
<td>0.000</td>
<td>0.97</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.729</td>
<td>0.183</td>
<td>-9.472*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.036</td>
<td>0.014</td>
<td>2.502*</td>
<td>0.018</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.120</td>
<td>0.016</td>
<td>7.634*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991): 9.462 + 0.036 t

I.G.R 3.6%
C.G.R 3.6%

Regression Equation for Post-Reform Period (1992 to 2012): 7.733 + 0.156 t

I.G.R 15.6%
C.G.R 16.88%

* t & F Statistically Significant at 5% level of Significance

### TABLE 3.22

GROWTH RATE OF INDIA'S VOLUME INDICES OF IMPORTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>2.198</td>
<td>0.083</td>
<td>26.575*</td>
<td>0.000</td>
<td>0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.137</td>
<td>0.142</td>
<td>-8.018*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.043</td>
<td>0.011</td>
<td>3.796*</td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.092</td>
<td>0.012</td>
<td>7.557*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991): 2.198 + 0.043 t

I.G.R 4.3%
C.G.R 4.31%

Regression Equation for Post-Reform Period (1992 to 2012): 1.061 + 0.135 t

I.G.R 13.5%
C.G.R. 14.45%

* t & F Statistically Significant at 5% level of Significance

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### TABLE: 3.23
GROWTH RATE OF INDIA’S UNIT VALUE INDICES OF IMPORTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>4.615</td>
<td>0.074</td>
<td>62.635*</td>
<td>0.000</td>
<td>0.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.671</td>
<td>0.126</td>
<td>-5.315*</td>
<td>0.000</td>
<td>0.52</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>-0.003</td>
<td>0.010</td>
<td>-0.300</td>
<td>0.766</td>
<td></td>
<td></td>
<td>0.1197</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.029</td>
<td>0.011</td>
<td>2.675*</td>
<td>0.012</td>
<td></td>
<td></td>
<td>12.73*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

$I.G.R = 4.615 - 0.003 t$

$C.G.R = -0.3\%$

Regression Equation for Post-Reform Period (1992 to 2012)

$I.G.R = 3.944 + 0.026 t$

$C.G.R = 2.6\%$

$t^* $ Statistically Significant at 5% level of Significance

$F^* $ Statistically Significant at 5% level of Significance

**INTERPRETATION OF REGRESSION RESULTS:**

**3.5.1) INDIA’S IMPORTS:**

The table 3.21 shows that the differential intercept and differential slope coefficients are found to be statistically significant (because the p-Values are very low) which implies that there is a structural change in post-reform period. The compound growth rate of India’s total imports is found to be 3.6 per cent during pre-reform period but it found to be much greater i.e. 16.88 per cent in post-reform period. This implies that India’s imports exhibited a sharp increase during post-reform period due to the factors such as: Fall in domestic crude oil production, sharp rise in domestic demand, Steep rise in price of crude petroleum and other commodities, Lower tariff barriers, Removal of NTB’s and QR’s, A buoyant domestic economy, Higher export growth, Cheaper dollar, Acceleration in industrial growth, Buoyant
manufacturing sector and Continued effect of trade liberalization.

However, the growth of imports in the nineties has been characteristically different from the earlier period, especially from the policy point of view. In 1991, Indian Government initiated a major import liberalization program as part of it what is now commonly known as the New Economic Policy. Import liberalization consisted of gradual reduction of import tariffs and elimination of import restrictions. Import licensing has been virtually scraped for new materials, intermediate components and capital goods. Due to these policy measures and above mentioned factors imports have shown a rising trend during post-reform period.

FIG 3.13 INDIA'S IMPORTS, (1980 TO 2012)
3.5.2) INDIA'S VOLUME INDICES OF IMPORTS:

The table 3.22 shows that the differential intercept and differential slope coefficients are found to be statistically significant (as the p-values are very low). The correlation coefficient is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India's volume indices of imports is found to be 4.31 percent during pre-reform period but it is found to be much greater i.e. 14.45 percent during post-reform period which implies that the volume indices of imports has shown an upward trend during post-reform period.

The surge in quantum indices of imports may be due to a rise in imports of machinery and transport equipment needed for industrial activity and infrastructure development and imports of food items to meet the domestic supply shortages and high volume growth of miscellaneous manufactured articles, chemicals and related products and vegetable oils.

3.5.3) INDIA'S UNIT VALUE INDICES OF IMPORTS:

The table 3.23 shows that the differential intercept and differential slope coefficients are statistically significant because the p-values are very low. The value of R^2 and Adjusted R^2 is very high and F-test is also found to be statistically significant at 5 percent level of significance.

The compound growth rate of India's unit value indices of imports is found to be negative during pre-reform period but is found to be positive i.e. 2.63 percent during post-reform period. This implies that the growth rate of India's unit value indices of imports witnessed an upward trend during post-reform period.
FIG 3.16
INDIA'S UNIT VALUE INDICES AND QUANTUM INDICES OF IMPORTS, 1980 TO 2012

FIG 3.17
INDIA'S UNIT VALUE INDICES AND QUANTUM INDICES OF IMPORTS, PRE-REFORM PERIOD (1980-1991)
3.6 COMPOSITION OF INDIA’S IMPORTS

Growth emerging from imports is almost true for all economies. Imports provide the required techniques and capital goods which the economy is incapable of producing itself. Availability of imported goods is a determinant of the rate of economic growth and can also be a limiting factor. The volume of imports required for development is determined by the following variables:

a.) Import content of investment
b.) Techniques of production required for development
c.) Export earnings
d.) Foreign exchange reserves, and
e.) Foreign aid flow

There have been a number of subtle compositional shifts within the broad level of aggregation during the last decade that need to be recognized.
For instance, within the petroleum products, there has been a shift from imports of petroleum products towards crude imports following a large scale increase of refinery capacity over time. The detailed analysis of composition of India’s imports is as follows:

3.6.1) PETROLEUM, CRUDE AND PRODUCTS:

The insufficiency of oil production in India necessitated large imports of oil, mostly petroleum and petroleum products. In fact, since independence the development of our petroleum industry has been impressive. Expansion of the industrial sector is invariably associated with a growing consumption of petroleum products. But price factor is also responsible for the increasing share of this item in our total imports. The growth rate of India’s imports of petroleum, crude and products pre and post economic reforms period has been presented in the following table (3.24) which shows that differential intercept and differential slope coefficients are found to be statistically significant. The value of $R^2$ and Adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports of petroleum products is found to be negative during pre-reform period but it is significantly positive during post-reform period.

It implies that imports of petroleum, crude and products has shown a buoyant growth during post-reform period due to hefty / sharp rise in international crude oil price, off take in domestic energy demand, relative stagnation in domestic oil production and Gulf crisis in early nineties. Worsening economic outlook, faltering global energy demand and a lack of agreement on supply cuts between OPEC and non-OPEC have contributed to rise in oil prices. To procure crude oil at lower prices, the government is also pursuing an innovative better deal under the UN sponsored “oil for food” program me proposing to exchange our surplus wheat stocks with crude oil from Iraq.
TABLE 3.24
GROWTH RATE OF INDIA'S IMPORTS OF PETROLEUM, CRUDE & PRODUCTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>8.423</td>
<td>0.175</td>
<td>48.268*</td>
<td>0.000</td>
<td>0.95</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-2.573</td>
<td>0.299</td>
<td>-8.600*</td>
<td>0.000</td>
<td>0.95</td>
</tr>
<tr>
<td>Time (t)</td>
<td>-0.012</td>
<td>0.024</td>
<td>-0.527</td>
<td>0.602</td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.197</td>
<td>0.026</td>
<td>7.631*</td>
<td>0.000</td>
<td>0.2835</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
8.423-0.012 t
I.G.R -1.2%
C.G.R -1.2%

Regression Equation for Post-Reform Period (1992 to 2012)
5.850+0.185 t
I.G.R 18.5%
C.G.R 20.32%

* Statistically Significant at 5% level of Significance

3.6.2) BULK CONSUMPTION GOODS:

The growth rate of imports of bulk consumption goods in pre and post economic reforms period has been presented in the below table (3.25) which shows that the differential intercept and differential slope coefficients are statistically significant. The value of R^2 and Adjusted R^2 is quite high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports of bulk consumption goods is negative during pre-reform period but is found to be positive and very high during post-reform period. This implies that imports of bulk consumption goods have shown a sharp increase during post-reform period.
TABLE 3.25
GROWTH RATE OF INDIA’S IMPORTS OF BULK CONSUMPTION GOODS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>7.330</td>
<td>0.212</td>
<td>34.533*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-2.864</td>
<td>0.364</td>
<td>-7.870*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>-0.089</td>
<td>0.029</td>
<td>-3.070*</td>
<td>0.005</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.235</td>
<td>0.031</td>
<td>7.471*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>7.330 -0.089t</td>
<td>I.G.R</td>
<td>-8.9%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C.G.R</td>
<td>-8.52%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>4.466+0.146 t</td>
<td>I.G.R</td>
<td>14.6%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C.G.R</td>
<td>15.71%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Statistically Significant at 5% level of Significance
F* Statistically Significant at 5% level of Significance

Rise in imports of bulk consumption goods is mainly contributed by edible oil, pulses and sugar due to lower domestic production of these goods. On the other hand, imports of cereals and cereals preparation have shown a negative growth rate during post - reform period mainly because of higher production in the country and progress of import substitution.

3.6.3) FERTILIZERS:

Fertilizers consist of crude fertilizers, manufactured fertilizers, sulphur and unroasted iron pyrites etc. The growth rate of India’s imports of fertilizers in pre and post economic reforms period has been presented in the following table (3.26):
The above table (3.26) shows that differential intercept is found to be statistically significant whereas differential slope coefficient is not found to be statistically significant. The C.G.R of India’s imports of fertilizers is found to be 3.25 percent during pre-reform period but 14.22 percent during post-reform period. This implies that India’s imports of fertilizers have increased in post-reform period. Imports of fertilizers were low in pre-reform period mainly because of reduction in the imports of manufactured fertilizers and the imports of manufactured fertilizers witnessed a decline on account of following reasons:

a.) Higher domestic production following better capacity utilization.

b.) Slow down in off take on account of drought.

c.) Lower prices abroad.

d.) Further, the improvement in domestic availabilities, the easing of international fertilizer prices, following the fall in petroleum prices, led
to the drop in India’s imports of manufactured fertilizers during pre-reform period.

But the imports of fertilizers increased during post-reform period on account of a sharp increase in imports of manufactured fertilizers. Turnaround in the imports of manufactured fertilizers was caused by higher volumes induced by falling prices and robust demand by the agricultural sector.

3.6.4) NON-FERROUS METALS:

The growth rate of India’s imports of non-ferrous metals pre and post economic reforms period has been presented in the following table (3.27) which shows that differential intercept and differential slope coefficients are found to be statistically significant because p-values are very low. F-test is also found to be statistically significant at 5 percent level of significance.

**TABLE 3.27**

**GROWTH RATE OF INDIA’S IMPORTS OF NON-FERRROUS METALS IN PRE AND POST ECONOMIC REFORMS PERIOD**

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.034</td>
<td>0.230</td>
<td>26.292*</td>
<td>0.000</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.745</td>
<td>0.393</td>
<td>-4.435*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.015</td>
<td>0.031</td>
<td>0.473</td>
<td>0.640</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.111</td>
<td>0.034</td>
<td>3.275*</td>
<td>0.003</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>6.034 +0.015 t</td>
<td>I.G.R</td>
<td>1.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>4.289 +0.126 t</td>
<td>I.G.R</td>
<td>12.6%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* t Statistically Significant at 5% level of Significance
* F Statistically Significant at 5% level of Significance
The C.G.R of India’s imports of non-ferrous metals is found to be very low (1.51 Percent) during pre-reform period on account of reduction in aluminum imports brought about by improvement in production and somewhat weak domestic demand. But the C.G.R is found to be much greater i.e. 13.42 percent during post-reform period. This implies that India’s imports of non-ferrous metals have increased during post-reform period due to the pick-up in domestic industrial activity.

3.6.5) IRON AND STEEL:

It will be virtually impossible to achieve any success on the industrial front without adequate supplies of these metals to sustain and step up industrial production. Since a country’s advancement depends largely on industrialization, which in turn feeds on such essential metals, adequate stock of these metals is also a must. The growth rate of India’s imports of iron and steel in pre and post economic reforms period has been presented in the following table (3.28):

<table>
<thead>
<tr>
<th>TABLE 3.28</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROWTH RATE OF INDIA’S IMPORTS OF IRON &amp; STEEL IN PRE AND POST ECONOMIC REFORMS PERIOD</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>constant term</td>
<td>7.326</td>
<td>0.341</td>
<td>21.496*</td>
</tr>
<tr>
<td>dummy variable (D)</td>
<td>-2.993</td>
<td>0.584</td>
<td>-5.123*</td>
</tr>
<tr>
<td>time (t)</td>
<td>-0.078</td>
<td>0.046</td>
<td>-1.690</td>
</tr>
<tr>
<td>interaction of dummy &amp; time (D.t)</td>
<td>0.229</td>
<td>0.050</td>
<td>4.542*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.74</td>
<td>0.71</td>
<td>0.5537</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regression Equation for Pre-Reform Period (1980 to 1991)</th>
<th>I.G.R</th>
<th>C.G.R</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.326 -0.078 t</td>
<td>-7.8%</td>
<td>-7.51%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regression Equation for Post-Reform Period (1992 to 2012)</th>
<th>I.G.R</th>
<th>C.G.R</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.333 +0.151 t</td>
<td>15.1%</td>
<td>16.29%</td>
</tr>
</tbody>
</table>

t * Statistically Significant at 5% level of Significance

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The above table (3.28) which shows that differential intercept and differential slope coefficients are found to be statistically significant which implies that there is a structural change in post-reform period. The value of $R^2$ is high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports of iron and steel is found to be negative during pre-reform period. The negative growth rate of iron and steels' imports reflects improvement in domestic production resulting from great availability of power and coal and better matching of domestic supply to the pattern of demand, and success achieved in import substitution. But the imports of iron and steel accelerated during post-reform period as the C.G.R is found to be very high i.e. 16.29 percent. The sharp surge in imports of iron and steel may be attributed to following factors:

a.) To support high growth in the manufacturing sector.
b.) Pick up in domestic industrial activity.
c.) Fall in international steel Prices
d.) Rising demand in a buoyant economy.

3.6.6) CAPITAL GOODS:

Capital goods group, including machinery, manufacture of metals, transport equipment and project goods is an important item in the list of non-bulk imports. The growth rate of India's imports of capital goods in pre and post economic reforms period has been presented in the below table (3.29) which shows that differential intercept and differential slope coefficients are statistically significant because the p-values are very low. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports of capital goods is found to be 8.43 percent during pre-reform period but it is found to be much greater during post-reform period i.e. 17.11 percent. This indicates that imports of capital goods have shown a rising trend during post-reform period.
| TABLE 3.29 |
| GROWTH RATE OF INDIA’S IMPORTS OF CAPITAL GOODS IN PRE AND POST ECONOMIC REFORMS PERIOD |

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>7.704</td>
<td>0.162</td>
<td>47.485*</td>
<td>0.000</td>
<td>R²</td>
<td>0.95</td>
<td></td>
<td>203.64*</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.393</td>
<td>0.278</td>
<td>-5.007*</td>
<td>0.000</td>
<td>Adjusted R²</td>
<td>0.95</td>
<td>Standard Error of the Estimate</td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.081</td>
<td>0.022</td>
<td>3.671*</td>
<td>0.001</td>
<td></td>
<td>0.2636</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.077</td>
<td>0.024</td>
<td>3.203*</td>
<td>0.003</td>
<td>F-value</td>
<td>203.64*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991):
7.704 + 0.0811 LG.R
8.1%
C.G.R 8.43%

Regression Equation for Post-Reform Period (1992 to 2012):
6.311 + 0.158 t
I.G.R 15.8%
C.G.R 17.11%

i* & F* Statistically Significant at 5% level of Significance

The high growth in capital goods imports is contributed by both electrical and non-electric machinery and transport equipment, reflecting higher domestic investment, resurgence of manufacturing and rising needs of industrial sector and export sector. Imports of project goods, which reflect technological maturity and industrial capability of countries, have shown a negative growth rate during post-reform period which indicates depressed investment conditions.

Increased imports of capital goods facilitated buoyant industrial activity. The apprehension regarding domestic capital goods production being swamped by imports was unfounded, since larger imports of capital goods took place along with a sharp surge in domestic production of capital goods. In addition, the industrial liberalization of the nineties has further pushed up the imports of capital goods during post-reform period.

3.6.7) PEARLS, PRECIOUS AND SEMI-PRECIOUS STONES:

The growth rate of India’s imports of pearls, precious and semi-precious stones in pre and post economic reforms period has been presented in the following table (3.30):
TABLE 3.30
GROWTH RATE OF INDIA'S IMPORTS OF PEARLS, PRECIOUS & SEMI-PRECIOUS STONES IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R²</th>
<th>Adjusted R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>6.091</td>
<td>0.146</td>
<td>41.593*</td>
<td>0.000</td>
<td>0.96</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.367</td>
<td>0.251</td>
<td>-1.463</td>
<td>0.154</td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.149</td>
<td>0.020</td>
<td>7.476*</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>-0.016</td>
<td>0.022</td>
<td>-0.735</td>
<td>0.468</td>
<td></td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)
6.091 + 0.149 t
I.G.R 14.9%
C.G.R 16.06%

Regression Equation for Post-Reform Period (1992 to 2012)
5.724 + 0.133 t
I.G.R 13.3%
C.G.R 14.22%

*p * Statistically Significant at 5% level of Significance
F* Statistically Significant at 5% level of Significance

The above table (3.30) shows that differential intercept and differential slope coefficients are not found to be statistically significant. The value of R² and adjusted R² is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India's imports of pearls, precious and semi-precious stones is found to be 16.06 percent during pre-reform period and 14.22 percent during post-reform period. The imports of pearls, precious and semi-precious stone is done mainly as a raw material for the gems and jewellery industry, which is a significant export item of India. But the greatest decline in the imports of pearls, precious and semi-precious stones during post-reform period reflects the fall in export share of gems and Jewellery.

3.6.8) TEXTILE YARN, FABRICS, MADE-UP ETC.

The growth rate of India's imports of textile yarn, fabrics, made-up etc in pre and post economic reforms period has been presented in the following table (3.31):
<table>
<thead>
<tr>
<th>Coefficients-Intercept /Slope</th>
<th>Constant Term</th>
<th>4.449</th>
<th>0.108</th>
<th>41.124*</th>
<th>0.000</th>
<th>R^2</th>
<th>0.98</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.282</td>
<td>0.185</td>
<td></td>
<td>-6.912*</td>
<td>0.000</td>
<td>Adjusted R^2</td>
<td>0.98</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.070</td>
<td>0.015</td>
<td></td>
<td>4.761*</td>
<td>0.000</td>
<td>Standard Error of the Estimate</td>
<td>0.1757</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.091</td>
<td>0.016</td>
<td></td>
<td>5.687*</td>
<td>0.000</td>
<td>F-value</td>
<td>541.36*</td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>4.449 +0.070 t</td>
<td>I.G.R</td>
<td>7%</td>
<td>C.G.R</td>
<td>7.25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>3.167 +0.161 t</td>
<td>I.G.R</td>
<td>16.1%</td>
<td>C.G.R</td>
<td>17.46%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table (3.31) shows that the differential intercept and differential slope coefficients are found to be statistically significant. The correlation coefficient is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports of textiles is found to be 7.25 percent during pre-reform period but it is found to be much greater i.e. 17.46 percent during post-reform period.

This implies that the imports of textile have increased during post-reform period mainly on account of India’s commitment under World Trade Organization (WTO) and removal of Quantitative Restrictions (QRs) on textile imports. Lastly, Liberalization of textile imports has led to sharp rise in India’s imports of textile items.

3.6.9) CHEMICAL MATERIAL AND PRODUCTS:

Chemicals have emerged as another main item of our rising imports with the increasing tempo of expansion and diversification of Indian
industry. Since planning, there has been an increasing trend in imports of chemicals. The growth rate of India’s imports of chemical material and products pre and post economic reforms period has been presented in the below table (3.32) which shows that the differential intercept and differential slope coefficients are found to be statistically significant. The value of R\(^2\) and adjusted R\(^2\) is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports of chemical material and products is found to be 5.5 percent during pre-reform period but is found to be much greater i.e. 17.82 percent during post-reform period.

### TABLE 3.32
GROWTH RATE OF INDIA’S IMPORTS OF CHEMICAL MATERIAL & PRODUCTS IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients-</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R(^2)</th>
<th>Adjusted R(^2)</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept /</td>
<td>4.368</td>
<td>0.106</td>
<td>41.347*</td>
<td>0.000</td>
<td>0.98</td>
<td>0.98</td>
</tr>
<tr>
<td>Slope</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant Term</td>
<td>-1.628</td>
<td>0.181</td>
<td>-8.987*</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.054</td>
<td>0.014</td>
<td>3.773*</td>
<td>0.001</td>
<td></td>
<td>0.1716</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.110</td>
<td>0.016</td>
<td>7.009*</td>
<td>0.000</td>
<td></td>
<td>513.69*</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991)

4.368 + 0.054t

I.G.R 5.4%

C.G.R 5.5%

Regression Equation for Post-Reform Period (1992 to 2012)

2.740 + 0.164t

I.G.R 16.4%

C.G.R 17.82%

*Statistically Significant at 5% level of Significance

This implies that India’s imports of chemicals have registered a sharp turnaround during post-reform period. India’s chemical imports are either for the purpose of further processing in chemical industry or for the usage as intermediates in other manufacturing sector. Imports of chemicals have increased in post-reform period mainly to support high growth in the manufacturing sector.
However, the Government has been announcing a number of measures to improve the competitiveness of the Indian chemical industry. These include: abolition of industrial licensing to most of the chemical sub-sectors, excepting a small list of hazardous chemicals. The Government is also continuously reducing the list of reserved chemical items for production in the small scale sector, thereby facilitating greater investment in technology up-gradation and modernization. The Government has initiated policies for setting up of integrated Petroleum, Chemicals and Petrochemicals and Investment Regions (PCPIR). Such an initiative is likely to attract major investment, both domestic and foreign, into the regions, which would have enabling infrastructure that would provide conducive and competitive environment for setting up of manufacturing units.

3.6.10) GOLD AND SILVER:

During the post-reform period India’s imports of gold and silver has increased mainly due to a revival in rural demand on the back of the rebound in agricultural output and due to surge in domestic demand both for exports and consumption. With a view to reduce the imports of gold in the long-run, the Union Budget 1999-00 announced the launching of Gold Deposit scheme 1999 to draw out privately held gold stock and reduce India’s dependence on imports. Under the scheme, investors can deposit gold with banks and receive fixed term interest bearing certificates or bonds in exchange. On maturity, depositors can take back their gold or its equivalent in rupees.

Further, to make India a gold trading hub, Government has constituted a committee to examine the regulatory structure of the Indian gold industry. The committee would, inter alia, recommend appropriate customs and foreign trade measures required to facilitate manufacturing and trading in gold.
FIG 3.19
COMPOSITION OF INDIA’S IMPORTS, 1980

1980
- Petroleum, Crude and Products
- Consumption Goods:
  - Fertilizers
  - Non-ferrous metals
  - Iron and Steel
  - Capital Goods
  - Pearls, Precious & Semi-Precious stones
  - Textile Yarn, Fabrics, Mades-up etc.
  - Chemical Material & products
- Gold and Silver

FIG 3.20
COMPOSITION OF INDIA’S IMPORTS, 1992

1992
- Petroleum, Crude and Products
- Consumption Goods:
  - Fertilizers
  - Non-ferrous metals
  - Iron and Steel
  - Capital Goods
  - Pearls, Precious & Semi-Precious stones
  - Textile Yarn, Fabrics, Mades-up etc.
  - Chemical Material & products
- Gold and Silver
3.7 DIRECTION OF INDIA’S IMPORTS (1980 TO 2012):

On the import front, developmental imports have pre-dominated the country accompanied by phases of import curbs and controls as well as liberalization. These changes had taken place parallel to economic development more often as a prerequisite arising out of the needs and priorities of the economy molded through different government policies and other factors such as economic and political conditions prevailing in the domestic economy and the rest of the world. As a result, there emerged the spatial structure of India’s trade with rest of the world which is not the same in pattern which had existed at the beginning of the planning period. The growth rate of India’s imports from the major regions/ countries pre and post economic reforms period has been obtained by using the following regression equation:

$$\ln Y = b_0 + b_1 D + b_2 t + b_3 (D \cdot t)$$

The detailed analysis of directional pattern of India’s imports is as follows:
3.7.1) IMPORTS FROM INDUSTRIAL COUNTRIES:

The growth rate of India’s imports from Industrial countries in pre and post economic reforms period has been presented in the following table (3.33):

<table>
<thead>
<tr>
<th>TABLE 3.33 GROWTH RATE OF INDIA’S IMPORTS FROM INDUSTRIAL COUNTRIES IN PRE AND POST ECONOMIC REFORMS PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coefficients- Intercept / Slope</strong></td>
</tr>
<tr>
<td>Constant Term</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
</tr>
<tr>
<td>Time (t)</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
</tr>
</tbody>
</table>

Regression Equation for Pre-Reform Period (1980 to 1991) 8.788+0.052 t 1.G.R 5.2%  C.G.R 5.33%
Regression Equation for Post-Reform Period (1992 to 2012) 7.275+0.140 t 1.G.R 14%  C.G.R 15.02%

The above table (3.33) shows that the differential intercept and differential slope coefficients are statistically significant because the p-values are very low. This implies that there is a structural change in post-reform period. The value of R^2 is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s imports from Industrial countries is found to be 5.33 percent during pre-reform period but it is found to be almost triple i.e. 15.02 percent in post-reform period. It indicates the India’s imports from Industrial countries have increased in post-reform period.
3.7.2) IMPORTS FROM DEVELOPING COUNTRIES:

The growth rate of India’s imports from developing countries in pre and post economic reforms period has been presented in the following table (3.34):

**TABLE 3.34**

GROWTH RATE OF INDIA’S IMPORTS FROM DEVELOPING COUNTRIES IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th></th>
<th>Coefficients-Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>8.747</td>
<td>0.169</td>
<td>51.744*</td>
<td>0.000</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-2.074</td>
<td>0.290</td>
<td>-7.155*</td>
<td>0.000</td>
<td>0.95</td>
<td>0.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.006</td>
<td>0.023</td>
<td>0.282</td>
<td>0.780</td>
<td>0.2746</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.165</td>
<td>0.025</td>
<td>6.592*</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td>212.29*</td>
</tr>
</tbody>
</table>

**Regression Equation for Pre-Reform Period (1980 to 1991)**

8.747 + 0.006 t  
I.G.R 0.6%
C.G.R 0.6%

**Regression Equation for Post-Reform Period (1992 to 2012)**

6.673 + 0.171 t  
I.G.R 17.1%
C.G.R 18.64%

* Statistically Significant at 5% level of Significance

The above table (3.34) shows that differential intercept and differential slope coefficients are found to be statistically significant. The value of R^2 and adjusted R^2 is very high. F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s imports from developing countries is found to be only 0.6 percent during pre-reform period but it is found to be much greater i.e. 18.64 percent during post-reform period. The rising growth rate of India’s imports from developing countries is mainly contributed by high growth rate of our imports from Asia, Africa and Latin American countries.
3.7.3) IMPORTS FROM ASIA:

The growth rate of India’s imports from Asia in pre and post economic reforms period has been presented in the following table (3.35):

**TABLE 3.35 GROWTH RATE OF INDIA’S IMPORTS FROM ASIA IN PRE AND POST ECONOMIC REFORMS PERIOD**

<table>
<thead>
<tr>
<th></th>
<th>Coefficients- Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>Standard Error of the Estimate</th>
<th>F-value</th>
<th>t * &amp; F* Statistically Significant at 5% level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>7.271</td>
<td>0.129</td>
<td>56.564*</td>
<td>0.000</td>
<td>0.98</td>
<td>0.97</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-1.976</td>
<td>0.220</td>
<td>-8.96*</td>
<td>0.000</td>
<td></td>
<td>0.97</td>
<td>0.2088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.037</td>
<td>0.017</td>
<td>2.146*</td>
<td>0.040</td>
<td></td>
<td>0.97</td>
<td>0.2088</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.153</td>
<td>0.019</td>
<td>8.041*</td>
<td>0.000</td>
<td>487.00*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regression Equation for Pre-Reform Period (1980 to 1991)</strong></td>
<td>7.271+0.037 t</td>
<td>I.G.R</td>
<td>3.7%</td>
<td></td>
<td></td>
<td>0.97</td>
<td>0.2088</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Regression Equation for Post-Reform Period (1992 to 2012)</strong></td>
<td>5.295+0.190 t</td>
<td>I.G.R</td>
<td>19%</td>
<td></td>
<td></td>
<td>0.97</td>
<td>0.2088</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The above table (3.35) shows that the differential intercept and differential slope coefficients are found to be statistically significant. The value of R^2 and adjusted R^2 is found to be very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of imports from Asia is found to be only 3.76 percent during pre-reform period but it is found to be much greater i.e. 20.92 percent in post-reform period. This implies that imports from Asia have increased significantly in post-reform period. This could be attributed to

a.) Rapid economic development of many Asian countries like china, Thailand, Singapore, Malaysia etc.

b.) Greater trade Co-operation among the members of SAARC (South Asian Association For Regional Co-operation)
In addition, the growth rate of imports from Asia has shown a rising trend particularly after the East Asian Financial crisis, reflecting in part the exchange rate depreciation of the currencies of the region, and in part, the effect of greater proximity of the region, having a greater impact after India’s trade liberalization since 1991.

3.7.4) IMPORTS FROM AFRICA:

The growth rate of India’s imports from Africa in pre and post economic reforms period has been presented in the below table (3.36) which shows that the differential intercept and differential slope coefficients are not found to be statistically significant because the p-values are very high. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance.

| Table 3.36 GROWTH RATE OF INDIA’S IMPORTS FROM AFRICA IN PRE AND POST ECONOMIC REFORMS PERIOD |
|-------------------------------------------------|---------------------------------|-----------------|---------|
| Constants-Intercept/Slope | S.E   | t-statistics | P-value | R^2 | Adjusted R^2 | Standard Error of the Estimate | F-value |
| Constant Term | 5.461 | 0.294 | 18.579* | 0.000 | 0.90 | 0.89 | 0.4776 | 93.93* |
| Dummy Variable (D) | -0.613 | 0.504 | -1.215 | 0.234 | | | | |
| Time (t) | 0.085 | 0.040 | 2.123* | 0.042 | | | | 2.123* |
| Interaction of Dummy & Time (D.t) | 0.071 | 0.043 | 1.630 | 0.114 | | | | 1.630 |

Regression Equation for Pre-Reform Period (1980 to 1991)

5.461 + 0.085 t  

I.G.R 8.5%  
C.G.R 8.87%

Regression Equation for Post-Reform Period (1992 to 2012)

4.848 + 0.156 t  

I.G.R 15.6%  
C.G.R 16.88%

The C.G.R of imports from Africa is found to be 8.87 percent during pre-reform period but it is found to be almost double i.e. 16.88 percent in post-reform period. This implies that India’s imports from Africa have increased in post-reform period, mainly due to higher imports of crude oil, gold, cashew nuts, inorganic chemicals, wood and wood products, iron and
steel, cotton raw, pulp and waste paper, non-ferrous metals, electronic goods, pearls, precious, semi-precious stones.

3.7.5) IMPORTS FROM EUROPEAN UNION:

The growth rate of India’s imports from EU in pre and post economic reforms period has been presented in the following table (3.37):

<table>
<thead>
<tr>
<th>TABLE 3.37</th>
<th>GROWTH RATE OF INDIA’S IMPORTS FROM EUROPEAN UNION IN PRE AND POST ECONOMIC REFORMS PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients-Intercept / Slope</td>
</tr>
<tr>
<td>Constant Term</td>
<td>8.023</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-0.922</td>
</tr>
<tr>
<td>Time (t)</td>
<td>0.068</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.047</td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>8.023+0.068t</td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>7.101+0.115t</td>
</tr>
</tbody>
</table>

I.G.R & F* Statistically Significant at 5% level of Significance.

The above table (3.37) shows that differential intercept and differential slope coefficients are found to be statistically significant. The value of R^2 and Adjusted R^2 is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s imports from EU is found to be 7.0 percent during pre-reform period but it is found to be much greater i.e. 12.18 percent in post-reform period. It implies that India’s imports from EU have expanded at a much faster rate than India’s global imports. India’s imports from EU have increased mainly
because of removal of all Quantitative Restrictions (QRs) by India during post-reform period. India’s imports from EU cover a wide range of items like: iron and steel, gems and jewellery particularly rough diamonds, capital goods, particularly machinery and transport equipment, organic chemicals, inorganic chemicals, chemical material and products, non-ferrous metals, professional and scientific instruments etc.

3.7.6) IMPORTS FROM WESTERN HEMISPHERE:

The growth rate of India’s imports from Western Hemisphere in pre and post economic reforms period has been presented in the following table (3.38):

<table>
<thead>
<tr>
<th>TABLE 3.38</th>
<th>GROWTH RATE OF INDIA’S IMPORTS FROM WESTERN HEMISPHERE IN PRE AND POST ECONOMIC REFORMS PERIOD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients-Intercept / slope</td>
</tr>
<tr>
<td>Constant Term</td>
<td>6.127</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-3.381</td>
</tr>
<tr>
<td>Time (t)</td>
<td>-0.007</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.216</td>
</tr>
<tr>
<td>Regression Equation for Pre-Reform Period (1980 to 1991)</td>
<td>6.127-0.007 t</td>
</tr>
<tr>
<td>Regression Equation for Post-Reform Period (1992 to 2012)</td>
<td>2.746+0.209 t</td>
</tr>
</tbody>
</table>

The growth rate of India’s imports from Western Hemisphere region pre and post economic reforms period has been presented in the below table (3.38) which shows that both the differential intercept and differential slope coefficients are found to be statically significant. The value of R² and
adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s imports from Western Hemisphere is found to be negative during pre-reform period but the imports from Western Hemisphere increased at a rapid rate during post-reform period as C.G.R is found to be much greater i.e. 23.24 percent.

3.7.7) IMPORTS FROM MIDDLE EAST:

The growth rate of India’s imports from Middle East in pre and post economic reforms period has been presented in the following table (3.39):

<table>
<thead>
<tr>
<th>TABLE 3.39</th>
</tr>
</thead>
</table>

GROWTH RATE OF INDIA’S IMPORTS FROM MIDDLE EAST IN PRE AND POST ECONOMIC REFORMS PERIOD

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Intercept / Slope</th>
<th>S.E</th>
<th>t-statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>8.296</td>
<td>0.366</td>
<td>22.674*</td>
<td>0.000</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td>-2.298</td>
<td>0.627</td>
<td>-3.663*</td>
<td>0.001</td>
</tr>
<tr>
<td>Time (t)</td>
<td>-0.026</td>
<td>0.050</td>
<td>-0.523</td>
<td>0.605</td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
<td>0.179</td>
<td>0.054</td>
<td>3.313*</td>
<td>0.002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>Standard Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant Term</td>
<td>0.76</td>
<td>0.73</td>
<td>0.5945</td>
</tr>
<tr>
<td>Dummy Variable (D)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time (t)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction of Dummy &amp; Time (D.t)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Regression Equation for Pre-Reform Period (1980 to 1991)</th>
<th>8.296 - 0.026 t</th>
<th>I.G.R</th>
<th>-2.6%</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.G.R</td>
<td>-2.57%</td>
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</table>

<table>
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<tr>
<th>Regression Equation for Post-Reform Period (1992 to 2012)</th>
<th>5.998+0.153 t</th>
<th>I.G.R</th>
<th>15.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td>C.G.R</td>
<td>16.53%</td>
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</table>

$\text{t}^* \& \text{F}^*$ Statistically Significant at 5% level of Significance

The above table (3.39) shows that differential intercept and differential slope coefficients are found to be statically significant as the p-value is found to be very low. The value of $R^2$ and adjusted $R^2$ is very high and F-test is also found to be statistically significant at 5 percent level of significance. The C.G.R of India’s imports from Middle East is found to be negative during pre-reform period but the imports from Middle East increased at a faster rate during post-reform period as C.G.R is found to be much greater i.e. 16.53 percent.
3.8 CONCLUSIONS

The important conclusions emerging out of the study are presented in this section:

India’s exports performance improved significantly during the post-reform period and there has been a perceptible change in the value, composition and direction of India’s exports. Though the volume and value of exports has increased manifold, India’s share in the world exports is still not up-to the expectation. The share of manufactured goods as well as the proportion of high value and differential products, petroleum products has increased in India’s export basket reflecting that Indian economy is being diversified and non-traditional items of exports are gaining importance. It is expected that exports would grow at an average of 25 percent over the next few years. An emboldened Government has further set an export target of US$ 450 billion for 2013-14, doubling current exports. India’s entry into new markets and robust performance in engineering goods, gems and jewellery and textile segments are the reason behind the growth spurt.

But to other side of coin imports grew at a faster rate than exports which means that India has become a perennially trade deficit country. It may be due to incipient economic recovery and pick-up in domestic manufacturing activity. The demand for imports is bound to increase due to the envisaged growth of the economy- raw materials, capital goods, components and energy. The opening up of a variety of consumer goods is also likely to add to the import basket. India has been also periodically required to depend on external sources for certain mass consumption items like edible oil. Since the increase in imports could have been due to relaxation of the import regime, and thus has been on the expected lines, and also because the commitments under World Trade Organization (WTO) make the import policies virtually irreversible, the trade gap could only be dealt with by increasing India’s exports. India’s imports requirements have changed along with the structural changes and have grown in volume too with different phases of import liberalization at the official level since the year 1991.