

A STUDY OF INDIA'S INTRA-INDUSTRY TRADE

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Chapter – I

Introduction

- **The Problem**
- **Objective of the Study**
- **Methodology, Sample and Data Source**
- **Research Gaps & Expected Contribution**
- **Research Questions**
- **Hypotheses to be tested**
- **Review of Literature**
- **Short Overview**

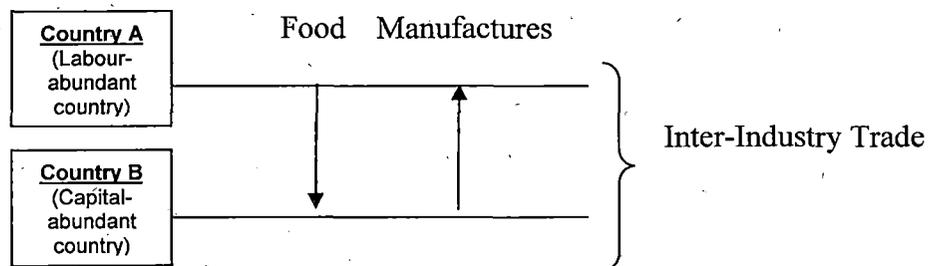
Chapter – I

Introduction

1.1: The Problem

The concept of Intra-Industry Trade was first used by Linder (1961) and then by Bela Balassa (1966). But the term is very much popular today especially in the context of liberalization and globalization. An intra-industry trade occurs when countries both export and import the same kinds of goods. This pattern of trade contradicts the traditional concept of trade known as inter-industry trade developed first by David Ricardo and then by Eli F. Heckscher and Bertil Ohlin(1933). The inter-industry trade developed by David Ricardo simply states once trade is allowed between two countries, each country should involve in the production of its comparative advantage good and export that amount of that good just after its own consumption to the second country in exchange for the other good. Obviously, it is a 2×2 model i.e. two countries produce two goods according to their comparative advantage and exports and imports are taken place with dissimilar products. If, for example, country A produces and exports (being a labour abundant country) food and imports manufactures from country B (country B, say, a capital abundant country), then this is an example of inter-industry trade. In such a trade situation production occurs without economies of scale. In the case of inter-industry trade, a capital-abundant country is a net exporter of capital intensive good and a net importer of labour-intensive good. Trade in a two-country world without increasing returns may be depicted in diagram (1) drawn below.

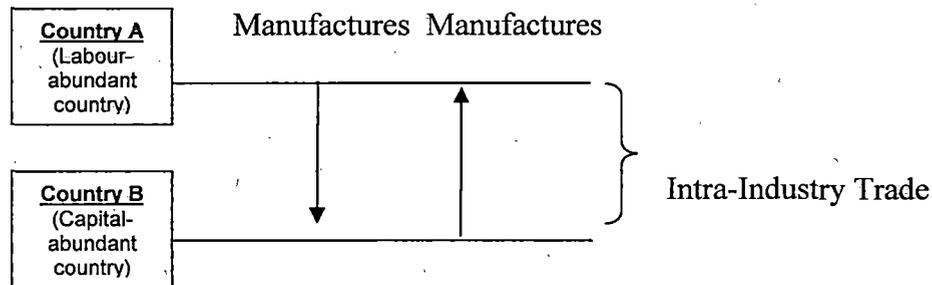
Diagram 1: Inter-Industry Trade



If two countries are similar in their capital labour ratios, then there will be little inter-industry trade. Thus under such a situation an intra-industry trade between countries

will tend to occur. An intra-industry trade i.e. trade based on increasing returns to scale may be shown in terms of the following diagram (2)

Diagram 2: Intra-Industry Trade



Intra-industry trade plays an important role in the trade in manufactured goods among the industrially developed countries. This trade accounts for about one-fourth of world trade and it occurs when countries are similar in their relative factor supplies and when scale economies and product differentiation are important (Krugman, 1997).

Intra-industry trade widens the scope of a new phenomenon in international trade which involves the exchange of non-homogeneous goods of the same industry or broad product group. This pattern of trade became apparent since the formation of European Union or Common Market when all sorts of restrictions to the flow of trade among the members of Customs Unions were removed in 1958. Balassa (1967), for the first time, noticed this pattern of trade and observed that in most of the increase in world trade involved exchange of differentiated goods within industrial classification. The intra-industry trade reduces and eliminates all sorts of trade barriers, reduces unit costs, helps production units concentrate in the production of a few varieties and styles of a product. The most striking factor is that it benefits consumers because a large choice of goods and services are available before them. Although it is said that intra-industry trade is quite opposite to that of comparative advantage theory Lancaster (1980) explains that in the case of intra-industry trade (IIT) there is much influence of comparative advantage in disguise. It is said that Ricardian theory is a reflection of natural comparative advantage while intra industry trade gives an exposition of acquired comparative advantage.

Several explanations for the occurrence of intra-industry trade can be offered (See Herbert Grubel and P.J. Lloyd, 1975). One such cause for intra-industry trade is the product differentiation. Consumers' tastes vary. Producers try to distinguish their products in the minds of consumers in order to achieve brand loyalty and this enhances

intra-industry trade. Secondly, transport costs for a product may play a dominant role in the creation of intra-industry trade. People of a country living in the border areas very often purchase some goods from the neighbouring countries rather than the domestic markets especially to avoid the burden of transport cost. Thirdly, two countries may have similar per capita income but the distributions of income may be different. This situation(s) may lead to intra-industry trade. Grubel (1970) has provided a hypothetical explanation of this sort of trade. The explanation, Grubel provides, can be applied in the case of Linder model (1961) in predicting the pattern of intra-industry trade. Fourthly, production experience through learning by doing helps reducing cost of production. This helps increase both export and import for each country. Due to this intra-industry trade is expanded over time. Finally, intra-industry trade depends on the way trade data are recorded and analyzed. If, for example, the product category is large or broad there will be greater intra-industry trade and vice-versa.

1.2: Objective of the Study

Intra-industry trade reduces and eliminates all sorts of trade barriers, reduces unit costs and widens the consumer's choice over goods and services. The main objective of the research investigation is to find out a good measure of intra-industry trade for a developing economy like ours, highlight some of theoretical issues on testing intra-industry trade, expose the comparison of different trade explanations and concentrate on intra-industry trade, measure impact of the intra-industry trade on average per capita income and to analyse the influence of various country specific factors on the intensity and the probability of intra-industry trade, India's bilateral trade with the major trading partners especially with the SAARC(i.e. Bangladesh), the USA and EU countries. Finally we would like to estimate the welfare effect of intra-industry trade in the context of liberalization, privatization and globalization.

1.3: Methodology, Sample and Data Sources

Before Bela Balassa, Staffin Linder initiated the analysis of intra-industry trade, noting that countries at similar stages of development had a high degree of trade; evidently he had in mind trade in similar products, so defined. Similarly, J.N. Bhagwati's (1964) survey of the theory of international trade where Linder's theory of trade was set along side Ricardo's and the H-O theory as an alternative approach of significance. There are a number of alternative indices of intra-industry trade exchange, the properties of which have been quite widely explored. Trade specialization is distinguished between

intra-industry and inter-industry specialization. The methods to estimate the two kinds of specialization are different. Therefore several ways of measurement are necessary to carry out the empirical studies. The economic literature so far identifies six techniques to measure the inter-industry specialization. These techniques are: (i) Hine and Greenaway Method (ii) Sapir Method, (iii) Aquino-Balassa Index, (iv) Gini Index. (v) Normalized Balance and (vi) Donges and Riedel Index (Detail in chapter-II). These techniques are applied to measure inter-industry trade according to necessity. Intra-industry trade, being linked to consumer preferences, is more difficult to predict than the inter-industry trade. The intra-industry trade is probably much more influenced by stochastic factors and random processes.

The traditional measure of intra-industry trade is the Grubel-Lloyd Index (1975). Before Grubel-Lloyd index Bela Balassa developed an index in 1966 that measured the degree of the trade overlap-simultaneous import and export of goods within an industry. This is shown in equation (1) below

$$B_{ij} = \frac{|X_i - M_i|}{(X_i + M_i)} \dots\dots\dots (1)$$

Where i = Commodity with in industry j . This index, the ratio of net trade to gross trade, ranges from 0 to 1, with 0 representing "Perfect" trade overlap, and therefore pure intra-industry trade, while 1 represents pure inter-industry trade. In order to calculate the degree of intra-industry trade for all industries (country level), Balassa took an unweighted average for each B_{ij} , i.e.

$$B = \frac{1}{n} \sum B_{ij} \dots\dots\dots (2)$$

Where n = number of industries. This can be generalized to be a weighted index, i.e.

$$B = \sum_{j=1}^n w_j B_{ij} \dots\dots\dots (3)$$

Where w_j = industry j 's share of total trade.

Though the essence of this index has remained intact to this day, an index that measured intra-industry trade that gave pure intra-industry trade a value of zero was not intuitively appealing. Grubel and Lloyd (1975) proposed an alternative index as follows:

$$GL = \frac{(X_i + M_i) - |X_i - M_i|}{(X_i + M_i)} = 1 - \frac{|X_i - M_i|}{(X_i + M_i)} = 1 - B_{ij} \dots\dots\dots (4)$$

Where i = commodity within industry j , that assigned pure Intra-Industry Trade a value of 1 and pure inter-industry trade a value of 0. As with the Balassa Index, the Grubel-Lloyd Index has been calculated as an unweighted average to measure the degree of intra-industry trade at the country level.

This class of index has been criticized for suffering from categorical/sub-group aggregation issues. These issues have two basic forms that bias the index towards table 1.1 the grouping of two products in the same industry that should not be classified together, the Canoe and Tanker example above; and the trade imbalance. The grouping of two, or more, categories together that should not be in the same industry is best explained using the table 1.1 shown below.

Table 1.1: Simple Aggregation Bias in GL Index

| Category | X_i | M_i | $ X_i - M_i $ | $(X_i + M_i)$ | GL index |
|-------------------|-------|-------|---------------|---------------|----------|
| 3 Digit | 150 | 160 | 10 | 310 | 0.968 |
| Sub Group 5 Digit | 0 | 160 | 160 | 160 | 0.00 |
| Sub Group 5 Digit | 150 | 0 | 150 | 150 | 0.00 |

Suppose we have one 3-digit “industry” that contains two sub-groups and each sub-group is independently engaged in (pure) inter-industry trade. We can see that the Grubel-Lloyd Index is zero for each of these sub-groups, so if we took an average, weighted or unweighted, of the two, the Grubel-Lloyd Index would still be zero. If, however, the import and export values summed to form the 3-digit category, it appears that we have almost pure intra-industry trade with Grubel-Lloyd index of 0.968. Though this is an extreme example, it should be clear that aggregating across improper categories can lead to a misrepresentation of the degree of intra-industry trade.

The simple aggregation bias example above is a particular case of trade imbalance bias however, can occur when sub-group appropriately aggregated. This problem arises when the net trade-gross trade ratio is characterized by opposite trade imbalances for the sub groups (Greenway and Milner, 1983). Suppose there are two commodities/sub groups with in an industry

$$\frac{|X_i - M_i|}{(X_i + M_i)} = \frac{|(X_{1i} - M_{1i}) + (X_{2i} - M_{2i})|}{(X_{1i} + M_{1i} + X_{2i} + M_{2i})} \dots\dots\dots (5)$$

If the country in question is a net exporter (importer) in both sub-group the weighting effect of the ratio is maintained, but if the country is a net exporter of one good and a net

importer of the other good, the weighting effect is lost and the Grubel-Lloyd Index will take on a different value (Greenway and Milner. 1983). This can be seen table 1.2.

Table 1.2: Trade Imbalance Bias in the GL Index

| Category | X_i | M_i | $ X_i - M_i $ | $(X_i + M_i)$ | GL index |
|-------------------|-------|-------|---------------|---------------|----------|
| 3 Digit | 180 | 310 | 130 | 490 | 0.735 |
| Sub Group 5 Digit | 80 | 160 | 80 | 240 | 0.667 |
| Sub Group 5 Digit | 100 | 150 | 50 | 250 | 0.880 |
| 3 Digit | 230 | 260 | 30 | 490 | 0.939 |
| Sub 5 Digit | 80 | 160 | 80 | 240 | 0.667 |
| Sub 5 Digit | 150 | 100 | 50 | 250 | 0.800 |

In the first category, the country is a net importer in both sub-groups, but in the second category the country is a net importer in one good and a net exporter in the other. Grubel-Lloyd Index does not recognize the direction of trade, the sub group indices are the same in both cases, but when the sub-groups are aggregated, the Grubel-Lloyd Index for the second category is biased upward.

The index can be corrected by replacing the original net trade-gross trade ratio with the following net trade-gross trade ratio, i.e.

$$\frac{\sum_{i=1}^n |X_{ij} - M_{ij}|}{(X_j + M_j)} \dots\dots\dots (6)$$

Where i = sub-group i with in j . This adjustment removes the trade imbalance bias that results from countries being a net exporter in one sub-group of an industry and a net importer in another sub-group as well as the simple aggregation bias. We are left with the following index of intra-industry trade, i.e.

$$GL'_j = \frac{\sum_{i=1}^n |X_{ij} - M_{ij}|}{(X_{ij} + M_{ij})} \dots\dots\dots (7)$$

Generally speaking, if a country is a net exporter/importer in both goods, $GL = GL'_j$, but if it is a net exporter in one good and a net importer in another, $GL > GL'$; $0 \leq GL' \leq GL \leq 1$ (Greenway and Milner. 1983). There was another adjustment suggested to the G-L index by Aquino. (1978) in response to an imbalance in overall trade. Greenway and Milner (1981) subsequently showed that the suggested adjustment is more

likely to induce, rather than remove, distortions in the Grubel-Lloyd index. Not surprisingly, this Aquino adjustment has fallen out of favour.

The samples include SAARC countries, viz., India, Pakistan, Bangladesh, Bhutan, Nepal, Maldives and Sri Lanka. The periods under consideration are between 1975-1990 and 1991-2003.

Secondary data are being used to explain India's Intra-Industry Trade with the SAARC, OECD and some industrially advanced countries. Important data sources are World Banks Publications, World Development Report, Asia Development Bank Publications, Statistical Year Book, EPW Research Foundation, RBI Bulletin, the Centre for Monitoring Indian Economy (CMIE), Directorate General of Commercial Intelligence and Statistics (DGCI&S), World Trade Development Report, etc.

1.4: Research Gaps and Expected Contribution

Product cycle theory, economies of scale, and Linder hypothesis of differentiated tastes describe the benefits and reasons for mutually beneficial trade between two countries. There are several other ways to explain this situation. In 1970s Krugman came up with another explanation of trade benefits in terms of intra-industry trade argument. With increase in overall world trade in general and with two firms in the same industry trading with one another in particular, theoretical significance of intra-industry trade has increased tremendously. Many eminent economists have done innumerable works. Eminent contributors were Linder (1961), Bhagwati (1964 & 1982), Balassa (1966 & 1986), Grubel & Lloyd (1975), Finger (1975), Venables (1979), Chipman (1992), Krungman (1970 & 1997), Lancaster (1980), Helpman (1981) and others. Recent literature on intra-industry trade shows that little work has been done on India's pattern of intra-industry trade in the context of globalization. This study specifically would seek to identify a suitable measure of intra-industry trade for a developing county like India, identify the pattern of India's intra-industry trade with SAARC nations, and with some of the developed industrialized nations like the US. The welfare effect of intra-industry trade will be carefully investigated applying some suitable statistical measures.

1.5: Research Questions

The investigation seeks to deal with the following questions relevant to our purpose:

- (i) How would we account for trade in goods of similar factor proportions?
- (ii) Has intra-industry trade increased the well-being of the countries involved in trade?

- (iii) Why is there such a large volume of trade between countries with similar endowment?
- (iv) Is intra-industry trade beneficial for the developing nations?
- (v) Is IIT compulsory to all the trading partners in the context of globalization?
- (vi) Is it possible to measure intra-industry trade in a systematic manner?

1.6: Hypotheses to be Tested

In this research investigation we would like to test the following hypotheses: The first hypothesis is that the intensity and the probability of IIT are positively correlated with the differences in per capita income between the trading partners. This will be tested with the help of supporting data. The second hypothesis that we would like to test is that higher the share of IIT the higher the average per capita income in the trading countries. This again will be tested numerically taking relevant data. The third hypothesis is that the extent of IIT between any pair of countries is negatively correlated with differences in per capita incomes, representing differences in demand structure. The fourth hypothesis is that the extent of intra-industry trade depends on the concentration of trade i.e., the lesser the trade barrier the greater is the intra-industry trade and larger is the well-being of the country concerned. The fifth hypothesis is that trade liberalization biases trade expansion towards IIT. We would test this hypothesis taking India's intra-industry trade data. This will be tested taking trade data from reliable sources. The sixth hypothesis is that a country's share of bilateral IIT is negatively correlated with the absolute difference in bilateral incomes per capita. The result based on this hypothesis does not depend on the wishes of the researcher. Finally, the IIT benefits the trading nations. This possibility will be tested in the Indian condition. Apart from the above set of hypotheses, we have every freedom of inclusion and exclusion hypothesis.

1.7: Review of Literature

In the field of international economics many empirical and theoretical works on intra-industry trade have been done by economists since 1966 (Balassa, 1966). Since then a vast literature has developed on the subject. In the present context we would like to make a brief review of the existing literature on IIT especially relevant for our purpose.

Balassa (1986) has tested various hypotheses as to the determinants of IIT in some thirty-eight developed and developing countries exporting and importing manufactured goods. The econometric model, fitting data, clearly shows that the extent of IIT increases with the level of economic development, size of domestic markets, and the openness of

national economies. The analysis shows that the existence of trading patterns with common borders and geographical proximity further contributes to intra-industry trade. This study in fact supports and complements ten relevant theoretical literatures. The estimates made in this study have separated the countries into developed and developing country groups.

An empirical implementations of the oligopolistic model of intra-industry trade are investigated in the context of petro-chemical industry (Bernhofen, 1998) suggesting a new approach to the empirical analysis of intra-industry trade. It is motivated by the empirical industrial organization literature. The trade data reveal the prevalence of intra-industry trade at the individual product level. A theoretical extension of the Brander model has shown to yield testable hypotheses about the effects of country-specific differences in industry characteristics on the Grubel – Lloyd index of intra-industry trade.

Venables (1979) examines the role of subsidies to domestic production as a policy instrument for an economy whose imports are supplied by the imperfectly competitive firms. The main thrust is that under certain conditions welfare may be raised by undertaking domestic production, even if costs in the domestic industry exceed the supply price of imports.

Grubel and Lloyd (1975) have measured international trade for the major developed countries of the world by industries and time-periods and at different levels of statistical aggregation, with the help of a statistical index. The index is as follows:

$$\bar{B}_i = \frac{\sum_{i=1}^n B_i (X_i + M_i)}{\sum_{i=1}^n (X_i + M_i)} \times 100$$

$$= \frac{\sum_{i=1}^n (X_i + M_i) - \sum_{i=1}^n (X_i - M_i)}{\sum_{i=1}^n (X_i + M_i)} \times 100$$

\bar{B}_i measures average intra-industry trade directly as a percentage of the export plus import trade. This is also equal to the sum of the intra-industry trade for the industries as a percentage of the total export plus import trade of the n industries.

Developed countries impose more trade barriers on middle-income countries than

on either poor or other developed countries (Fischer & Serra, 1996). Main result obtained the derivation of conditions under which a rich country rejects trade with middle-income countries, but accepts trade with either similar or poor countries. It is also seen that if increased inequality lowers median wealth in the developed country the range of countries for which free trade is rejected is enlarged.

Linder (1961) was one of the first who first emphasised the demand side explanations for international trade. The major finding of Linder's explanation is that countries with similar demand structures would develop similar sets of goods, first for home consumption, later for export, and the resulting trade would look intra-industry trade.

Shifting comparative advantage (Posner, 1961; Vernon, 1961) theories explain that trade takes place not only because of differences in technologies across countries but due to continuous renewal of existing technologies and because of their transfer to other countries.

Finger (1975) argues that intra-industry trade within three-digit SITC categories can be explained by the factor proportion theory. He explains that factor intensities vary almost as much within these groups as among them. This means that SITC groups do not constitute industries in the sense the terms is used in Heckscher-Ohlin model, and the terms intra-industry trade is a misnomer.

There is a causal link between intra-industry trade and economic integration. Economic integration encourages inter-industry rather than intra industry trade specialization (Drabek & Greenway, 1984). Many economists examine the causal links between intra-industry trade and economic integration and consider whether these can be expected to differ systematically between Customs Unions involving developed market economies and those involving centrally planned economies. Intra-industry trade is measured for members of the EEC and compared with indices for various members of CMEA (as well as several non-EEC European countries). Data show that average levels of IIT are indeed higher for EEC countries and various explanations for this finding are discussed.

Intra-industry trade tends to be prevalent between countries that are similar in their capital-labour ratios, skill levels, and so on. Intra-industry trade will be dominant between countries at a similar level of economic development and gains from this trade will be large when economies of scale are strong and products are differentiated

(Krugman, 1997). Intra-industry trade is more common of manufactured goods than of raw materials, textiles or footwear.

Veeramani (2001) has analyzed two aspects of India's intra-industry trade in manufactured goods. The analysis concentrates on the discussion of India's Intra-Industry Trade in the post-reformed era. It examines the impact of trade liberalization on intra-industry trade. The paper also analyses the influence of various country specific factors on the intensity and probability of intra-industry trade in India's bilateral trade with the major trading partners. The econometric exercise shows that certain country specific factors, which are found to be important in theory, are pertinent in determining the country pattern of India's intra-industry trade.

Mitsuyo Ando (2005) investigates the development of East Asia trade structure, the machinery trade of each East-Asian country in the 1990s into one-way trade (horizontal IIT), using finely disaggregated international trade data. The significance of vertical importance of one-way trade dropped and also shows that no evidence that most vertical IIT conform to the vertical product differentiation model. The explosive increase in the vertical IIT is largely due to the expansion of back-and-forth transaction in vertically fragmented production processes across borders.

Verdoorn (1960) found that the formation of customs union among the Benelux countries had stimulated large two-way trade flows of similar products.

Hellvin Lisbeth (1994) compared the extent of intra-industry trade in between different groups of Asian countries. It was found that intra-industry trade in manufactures was most important in trade between the NICs-NECs (about 29 percent), while only about one percent of the trade among LDCs and between LDCs and NECs are intra-industry trade. In non-manufacturing goods, the greatest intra-industry trade share is found in trade among the LDCs. The pattern of intra-industry trade within Asia is consistent with the predictions, despite the presence of developing countries inward oriented trade regimes and intra-Asia trade is dominated by the NICs, especially Singapore and the Republic of Korea whose economies are relatively undistorted and export oriented.

Culem Claudy and Lumdbërg Lars (1983) state that intra-industry trade is an increasingly important phenomenon in international trade. Measured on the 4-digit level of the ISIC, the share of intra-industry trade of the total foreign in manufactures varied between 35 percent and 80 percent for a sample of 11 industrial countries. The European countries in the sample all have a higher share of intra-industry trade in their total foreign

trade than the non-European countries. Intra-industry trade is much more important among developed countries than between developed and developing countries. It shows that the intra-industry share of total trade between two countries tends to be higher, the less are the difference in average income and the geographic distance between the trading partners. The share of intra-industry trade in the total international of the developed countries in the sample has been increasing during the 1970s. The highest rate of increase is shown by the intra-industry trade with the less developed countries in particular Southern Europe.

Kulkarni and Ishizaki (2001) intended to inspect the intra-industry trade index for Japanese manufacturing trade as a whole and the dividing it into commodity groups and in different time blocks. There is no evidence that intra-industry trade is completely absent in any commodity groups and in different time blocks. There has been an increasing evidence of intra-industry trade for Japanese manufacturing. After investigation, it is proved that Japanese manufacturing trade is completely intra-industry oriented.

Balassa (1967) was probably the first to point out some of the modified implications for the welfare calculation of trade liberalization and the costs of adjustment policies. According to him, in the case of industries like those manufacturing machinery, precision equipment, and intermediate products at higher levels of fabrication, the gain from trade liberalization are likely to come sense to include cost reductions obtained through the lengthening of production runs associated with the reduction of individual plants. Further, he argued that in the case of consumer products, the benefits from much of the increased two-way trade will be in the form of improvements in consumer welfare resulting from the availability of a wider variety of products within each industry. He followed this up by claiming that the structural adjustment costs due to increased intra-industry trade would be low as increased exchange of differentiated consumer goods is compatible with unchanged production in every country and that in the case of number of other products, changes in production-composition within the industry can be achieved relatively easily.

Chipman (1988, 1991) argues that the oft-cited statistics on the large share of intra-industry trade in total trade provide no basis for rejecting the H-O factor proportions model of trade, and develops a theorem that it is always possible to find endowments for which 100 percent of trade is intra-industry trade.

In the early 1980s a new set of models gained prominence in international trade. Krugman (1979, 1980), Lancaster (1980), Helpmen (1981) studied the far-reaching implications of monopolistic competition for international trade theory. To a large extent, this line of research that was part of 'New' trade theory was motivated by two stylized facts that the traditional theories of international trade Ricardo or Hecksher-Ohlin failed to explain. First, why does most of world trade flow between developed countries that are similar in terms of endowments and technology? Second, why is it that major fraction of trade consists of intra-industry trade in similar products?

Helpman and Krugman (1985) showed that a monopolistic competition model could explain both facts as long as firms produce differentiated products with increasing returns to scale technology, and as long as consumers have utility functions that reward diversity.

Michael J. Gilligan (1997) says that one of the starting features of the international economy in the last thirty years has been the dramatic increase in intra-industry trade among nations-trade in different varieties of the same products. This trade was not explained by existing international trade theory, which predicted inter-industry trade between countries with different factor endowments. Economists have developed a set of models over the last fifteen years to explain this pattern of trade. The typical model explains this trade with monopolistic competition.

Brander (1981) and Brander and Krugman (1983) highlight the strategic interactions between international firms as the main determinant of two-way trade. One implication of these important models is that intra-industry trade is *prima facie* a phenomenon associated with increased competition. Two way trades with collusion are generally not considered.

Markusen and Venables (2000) establish the importance of both relative and absolute factor endowments in determining whether or not multinationals operate. The investigation suggests that convergence in income levels between major trading blocks – Europe, the US and Japan may be one cause of the growth of multinationals. It can also be shown that the world as a whole benefits from the presence of multinationals, and these gains accrues disproportionately to countries whose factor endowment is such that, in the absence of multinationals, they would have few national firms.

Hassan Kalbasi (1995) examines empirically that IIT is high among developed countries or newly industrial countries but there is theoretical and empirical evidence that

a low IIT exists among developed and developing countries and most of OECD members are among high income countries. Economic distance, large difference in factor endowments and technology levels are important reason of low IIT. On the other hand there are many aggregations among European countries and most of them are members of WTO. This will make more trade barriers for non-member countries. This could strong reason of large fall in IIT.

Greenway and Milner (1981) examined that the level of simultaneous exchange of similar products generated by permanent or recurring microeconomic influences. In cross sectional modeling, aimed at, "explaining" or identifying determining factors, the judicious selection of years so as to avoid periods of obvious, overall disequilibrium may be an appropriate means of excluding transitory influences of significant payments adjustment forces. Alternatively, during periods when substantial and continuing adjustment influences are present, then the averaging of the indices over a judiciously selected time period may be preferable.

Tharakam (1985) investigates that a considerable part of the growth in world trade, particularly amongst developed countries, is of an intra-industry trade (IIT) nature- the simultaneous export and import of products that are very close substitute for each other in terms of factor inputs and consumption.

Grubel-Lloyd (1967) estimates that 48 percent of the trade of ten industrialized countries involved goods belonging to the same basic industry groups.

Helpman, Krugman and Lancaster (1979) argue that modern trade in automobiles, computer, defense equipment and so on is primarily in terms of Intra-Industry.

Yarbrough- Yarbrough (1999) pointed out that even through Grubel-Lloyd found that about 66 percent of the trade in chemicals was intra-industry type, since the chemicals industry is large and diverse; it is not unusual to import some type of chemicals and export other.

Husted-Melvin (1999) recognized that "some intra-industry trade is purely a statistical phenomenon, one that would go away if economists had access to highly detailed data on trade(e.g. data on trade in cotton vs. wool sweater)". In such a case, intra-industry trade could just be an illusion.

According to Havrylyshyn and Civan (1985), India's IIT in 1978 was 37.4 percent of total trade with the world as compared to 15.6 percent in 1968. India's IIT with the

Newly Industrializing Economics was 15.1 percent in 1978 as compared to 17 percent in 1968.

S.V. Hariharan (1998) examines the export performance of Indian economy and compares its performance with other countries of the Asian region in recent year. He focused the growth of exports of India for a period of fifty years from 1947 to 1996. The export performance of India has been compared with other Asian countries, namely Bangladesh, Bhutan, China, Fiji, Indonesia, Korea, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Singapore, Sri Lanka and Thailand. The relative performance of India is assessed through linear growth rate of export, average for five year periods, export-GDP ratio, per capita exports and share in the exports of the origin. The value of exports is sizeably higher for Japan, Korea, Singapore, China, Indonesia Malaysia, and Thailand analysed in terms of average for five years periods. Hence, India's performance cannot be regarded as very impressive. Most of the Asian countries have registered higher growth rate of exports than India.

Satish C. Jha (1996-97) investigates the changing pattern of intra-regional trade in the Asian region. One of the important characteristics of Asia is its rapid growth in international trade. During the period from 1980 to 1992, the average rates of growth of Asian merchandise exports and imports were 9.6 and 6.1 percent respectively, compared with the world average of 5.5 percent for both exports and imports. Consequently, Asia's share in world trade rose sharply from 15.9 percent in 1980 to 25.3 per cent in 1991 for exports, and from 17 percent to 21.5 percent for imports over the same period. Among the Asian countries, the largest bilateral trade flows are between people republic of China and Hong Kong, which accounted for 73 billions of US dollars in 1992. Another striking feature is the dominant importance of Japan and the Newly Industrialized Countries in Intra-Asian trade. Japan's exports to Hong Kong and Taipei, and China are over 20 billions of US dollars each while its exports to Korea, Singapore and Thailand are over 10 billions of US dollar each. Intra-regional flows in South Asian economies are very small in value, partly because of the small value of their total external trade and partly because of traditionally higher barriers to trade in those countries.

Jitender Kumar Dhanwal and Moneet Kumar (1995) investigate the trade relationship between India and some of the Asian countries. The data on trade during the period 1985-86 to 1992-93 have been used for this study. The Asian countries taken for investigation are SAARC countries (i.e. South Asia Countries) and East Asian countries

including China and Japan. India has been consistently enjoying a favourable balance of trade with this region and her exports and imports are growing. Bangladesh is India's largest trading partner in the region followed by Sri Lanka. India has adverse balance of trade with East Asia. India has traditionally strong trading relationships with most of the countries in this region, which accounted for 1.5 per cent of India's global trade during the period April-October 1992. India has established joint committees with Australia, New Zealand, South Korea, Philippines and Thailand. In addition, there is joint commission with Australia and Malaysia. This enables regular contact to discuss bilateral issues on trade, investment and economic co-operation.

J.B. Kelegama (1994) examines how far the SAARC Preferential Trading Arrangement will help for the expansion of mutual trade in Asia. Intra-regional trade in South Asia works out to less than 3 per cent of the total trade of the region. This indicates that the trade complementarities in South Asia are limited and it constitutes only a small market for the area's products. Trade complementarities have grown in other regions mainly based on manufactures. However, this has not taken place in SAARC due to the small size of the manufacturing sector and the restricted range of products. Machinery forms only a small fraction of intra-regional trade while bleached cotton fabrics and grey woven cotton fabrics are the major manufactured items. The cotton fabrics are exported only by India. Raw cotton and rice are the principal commodities of intra-regional trade and both are exported by Pakistan. Tea is exported by Bangladesh, India and Sri Lanka while jute and jute products are exported mainly from Bangladesh. India has the largest volume of intra-regional trade in 1990 followed by Pakistan, Bangladesh and Nepal. The decline in the share of intra-regional trade in SAARC compared to the total trade during the past decade seems to indicate that the complementarities based on agricultural products and light manufactures have reached their limits. The goods produced in the sub-region do not appear to meet the consumer demands of the important countries. Although the SAARC countries have diversified their exports in recent years by launching new export industries, they are geared to export markets outside the sub-region.

Kumeresan Govindan (1994) attempts to investigate the overall trade pattern and intra-regional trade pattern for different South Asian countries with emphasis in agricultural commodities. The author also investigates to identify the causes for low level of intra-regional trade and suggests measures to strengthen the trade within the region. The overall trade pattern of South Asian countries. The author at different points of time

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analyzes the extent of intra-regional and the direction of trade. According to him, the share of intra-regional exports to total exports of the region remains around three to four percent between 1970 and 1990. The share of intra-regional imports in total imports has come down from 2.9 percent in 1970 to 1.9 percent in 1990. The overall magnitude of intra-regional trade has gone down from 3.2 percent in 1970 to 2.3 percent in 1990. Another important feature noted by the author is that about 40 percent of trade of the SAARC countries is with the Asian-Pacific Economic Co-operation Region. By investigating the trade pattern of selected food commodities, the author observes that intra-regional trade is small for most of the commodities. South Asian countries are exporting food commodities, mainly to other developing countries and industrial countries. About 60 per cent of total exports of food commodities from the SAARC countries are exported to other Asian developing countries and 37 percent of food exports go to industrial countries.

1.8: Short Overview

Chapter II is related to various measurement techniques for IIT. This chapter specifically deals with the theories of specialization and methodology for measurement. Determinants of specialization and trade have clearly spelt out with a brief analysis of reasons for IIT. In a section the effect of trade and a distinction between inter and intra-industry trades have been made. Chapter III is about our overall performance of trade. It makes a comprehensive discussion of historical development of trade with the elaborate representation of our exports and imports of goods and services. India's foreign trade picture during post reform period has been clearly depicted. A directional analysis of our exports and imports, and exports and imports as percentage to GDP has been done with the help of simple statistical tools and techniques. A comparison of Indian exports with the world exports has also been made in this chapter. Chapter IV deals with examining Indo-Bangladesh trade with an extension of Indo-SAARC trade relations. Trade intensity indices have made to identify trend, structure and current picture of Indo-Bangladesh trade. In this context also we have particularly analyzed the importance of India in the overall trade of Bangladesh and also the importance of Bangladesh in the overall trade of India. To see the intensity of IIT with the neighbouring countries we have measures Indo-Bangladesh IIT indices. Growth and pattern of our IIT has been presented in chapter V. In this chapter we have also analyzed Indo-US IIT pattern. The chapter makes an exhaustive study on the growth of IIT under liberalization, India's merchandise and IIT with East

Asia, Indo-EU trade relation. Evidence and measurement of India's overall IIT have been done. In Indo-US section of this chapter we have described the issues such as India's trade with the USA, IIT between these two great democracies with a methodology for measuring IIT. Chapter VI summarises and concludes.



Chapter II

On the Measurement of Intra-Industry Trade

- **Introduction**
- **Theories of Specialization**
- **Methodology for Measurement**
- **Determinants of Specialization and Trade**
- **The Basic Model of Intra-Industry Trade**
- **The Effect of Trade**
- **Inter-Industry Trade and Intra-Industry Trade**
- **Inter-Industry Trade Specialization Indices**

Chapter II

On the Measurement of Intra-Industry Trade

2. 1: Introduction

The Phenomenon of intra-industry trade is a prime example of a widely known and accepted empirical regularity in the search for a satisfactory theoretical foundation for many years. For a long time the empirical researchers were therefore clearly ahead of the theoretical researchers. For our purposes, a relevant question peeps into our mind: what is intra-industry trade? It refers to the fact that many countries simultaneously export and import very similar goods and services; intra- industry trade is therefore trade within the same industry or sector. Germany, for example, exports cars to France and simultaneously imports cars from France as well. Why does Germany do this? This question is related with the aspects of a nations demand structure, as well as its supply structure.

The intra- industry trade phenomenon was first noted empirically when a group of European countries formed the European common market(1994) which has now grown into the European Union and currently consists of 25 countries. It was soon realized that intra-industry trade is a general characteristic of international trade flows. Path-breaking empirical research in measuring the size and importance of intra-industry trade was performed by Pietor Verdoorn (1960), Bela Balassa (1966), and Herbert Grubel and Peter Lloyd (1975).

The theories of comparative advantage developed until then, based on Ricardian technology differences or Heckscher-Ohlin factor abundance, cannot explain this type of trade. Both types of models assume that firms in the industry produce identical goods, such that consumers do not distinguish between the goods produced by different firms.

As the costs of trade fall, specialisation becomes more profitable, both inter, and intra-industry trade should increase. Further more, reductions in trade costs due to improvements in communication technology have also led to increase in trade in services such as consultancy advice or financial services often delivered through the internet.

Trade specialization evolves considerably over time thus bringing about different kinds of economic development across countries as well as across region within countries. There are three main stands of literature concerning trade specialization: neo-classical trade theory, new trade theory and new geography theory. Neo-classical trade

theory explains patterns of regional specialization on the basis of comparative advantage resulting from differences in productivity (technology) (Ricardo, 1817) or endowments (Heckscher, 1919-Ohlin, 1933) between countries and regions. The basic characteristics of these models are perfect competition, constant return to scale and homogenous goods. The neoclassical theory envisages that, as factors of production and consumers are scattered across regions, the structure of industrial production will be dispersed geographically. Each region will specialise in the production in which it has a comparative advantage, and in this way, inter-industry specialization is stimulated. Inter-industry trade refers to the simultaneous exchange of goods of different varieties or categories.

During the 1980s, new trade theory models were developed to explain high level of intra-industry trade (IIT) and the large proportion of world trade between very similar countries (Amiti, 1998). IIT is defined as the simultaneous export and import of products, which belong to the same sector (Vollrath, 1991). Intra-industry trade (IIT) is also dubbed "two-way trade". IIT is prevalent in regions and industries where increasing returns to scale in production, monopolistic competition and product differentiation play an important role, although endowments do not differ significantly between them (Erkkila, 1996). The new trade models postulates that increasing returns to scale and trade costs will induce activities to locate in regions with good market access "the Core" away from remote areas "the Periphery". This will translate inter-industry trade across companies, which will concentrate in the production of a unique differentiated product. These two driving forces will continue until all increasing-returns activities are concentrated near the core of the market, thereby, showing that intra-industry trade between the core and the periphery vanishes (Briilhart, 1998). Although, geographical advantage plays a role in the new trade theory, it is however considered an exogenous, as if it was determined by physical rather than economic characteristics.

The new economic geography models indicate instead, that a geographical advantage is endogenous and regional specialization is the result of the spatial pattern of agglomeration of economic activities (Krugman, 1991). Firms locate in an economic centre, which can be considered as it only because other firms locate there. This means that there is a commutative causation process according to which the accesses of new firms in a location make it a more altercative site to additional firms. The cumulative causation process is based on technological externalities (learning by doing and

knowledge spillovers and pecuniary externalities between firms. As long as externalities are localised, also, production is geographically concentrated, and the logic of increasing returns to scale implies that once pattern of industrialization has been established, it will persist over time.

2. 2: Theories of Specialization

Theories of trade specialization can be divided into two schools: neo-classical theory and new trade theory. While the neo-classical theory assumes perfect competitive markets and constant returns to scale, the new trade theory is based on imperfect competition and economies of scale. Now we will discuss the current state of the theories and show the differences between these schools.

Neo- Classical theory or Comparative Advantage approach

The neo-classical theory considers location and trade as a function of exogenous characteristics of regions and countries. The underlying characteristics, such as geography, endowments and technology, make space itself uneven (Ottaviano and Puga, 1988). If regions did not present different characteristics, economic activities would spread out evenly in space. If factors of production are assumed internationally immobile and spillovers are absent in the production, and then initial factors endowments and technology differences determine the specialization patterns of the region.

The standard model of comparative advantage considers two countries, two goods and two sectors the labour intensive sector and capital-intensive sector. As factors of production and consumers are scattered across regions, the structure of industrial production will be dispersed geographically. Each region will specialize in the production in which it has a comparative advantage, and in this way inter-industry trade is stimulated. Inter-Industry Trade indicates therefore the specialization of regions in different economic activities according to their diverse endowments.

The comparative advantage approach cannot, explain the changing pattern of international trade and location. Growing parts of EU trade concerns similar product within the same industries endowments are very similar which the factors of production are mobile. (Vanables, 1998).

New trade theory

The new trade theory was developed to explain high level of intra-industry trade and large proportion of world trade between similar countries (Amiti, 1998). The new trade theory is characterized by scale economies and imperfectly competitive markets.

Consumer preferences for a large variety of products, increasing returns and pecuniary externalities lead firms to specialize in the production of differentiated goods of the same industry.

A dominant element for the theory is the market size. The existence to scale economics encourages firms to concentrate their production in one country and the presence of trade costs stimulates firms to choose the country that has the largest market for their goods (Amiti, 1988). A country with an unusually high demand for a good becomes an excellent site to locate production, and thus an exporter of that particular good.

Resources and factors of production are mobile between regions and sectors within a country but immobile across nations. This implies two specific developments in the specialization of regions. Firstly, scale economies and trade costs lead firms and workers to locate in few places close to large markets, this will translate in inter-industry specialization between the core regions. Secondly, scale economics will lead intra-industry trade across companies, which will concentrate in the production of a unique differentiated product. These two driving forces will continue until all increasing returns activities are concentrated near the core of the market, thereby, showing that intra-industry trade between the core and the periphery vanishes (Brühlhart, 1998).

The new trade theory can explain the formation of cities in the persistence of the one- Periphery pattern. Krugman and Venables (1990) study the importance of imperfect competition for location and conclude that the core has more imperfectly competitive firms than the periphery and that the core's share of world industry is larger than its share of world endowments.

2. 3: Methodology for Measurement

The present study for measuring such trade in regarding the choice of an index for calculation and the choice about the level of aggregation/desegregation at which the volume of intra-industry trade is to be measured. As many indices have proliferated since identification and theorizing of IIT. We have chosen the Grubel-Lloyd uncorrected index of the purpose of actual measurement. The major reasons for such a choice are: (i) the index adequately captures the true essence of intra-industry trade (as the residual component of net exports or imports) with minimum mathematical complexity. (ii) the value of such an index is easy to be interpreted. By manipulating the right hand side of the index we get its value as twice the smaller item amongst export and import divided by

the total trade volume; which means that it is the net contribution of the industry to current account equilibrium (credit as well as debit) a equivalently the degree of self sufficiency of particular industry in international market.

The formula that has been used in the Grubel-Lloyd index.(1973) is given by

$$GL(U) = 1 - \frac{\sum_{i=1}^n |X_i - M_i|}{\sum_{i=1}^n (X_i + M_i)}$$

Where X_i = exports (in value terms) of product group i .

M_i = imports (in value terms) of product group i .

The above equation gives the aggregate index overall commodities, $i = 1, 2, 3, \dots, n$.

The value of $GL(U)$ ranges from 0 to 1 if there is no IIT (i.e. one of X_i or M_i is zero) $GL(U)$ takes a value of zero. If all trade is IIT (i.e. $X_i = M_i$), $GL(U)$ takes a value of 1.

Grubel and Lloyd (1975) proposed the following weighted index to arrive at an overall measure of IIT

$$GL(U) = \frac{\sum_{i=1}^n |X_i + M_i| - |X_i - M_i|}{\sum_{i=1}^n |X_i + M_i|}$$

2. 4: Determinants of Specialization and Trade

This section describes some specific factors of the level of intra-industry trade.

(i) Country size

The relation between country size and the level of IIT comes from the assumption that larger countries produce a wider range of goods than smaller countries. Suppose the world has only two countries, one of which produces two third of all the different types of goods, and the other produces one third. If preferences are the same across the countries, and people describe all goods equally, then the residents of the larger country will spend one third of their income on imported goods, while there is the smaller country will spend two thirds of their income on imports. The larger country can provide a wider range of goods from domestic production than the smaller one. Through the above example is clearly stylized, the result persists in quite a wide class of theoretical framework. On a global level, supports the argument that world trade should increase as country size becomes more equal for a fixed number of countries (Helpman, 1984). As a proxy for country size this analysis uses the IMF and World Economic Outlook measures of a

country's world output share. These trend to be slow moving; the largest change between 1970 and 2000 has been a 1.8 Percentage point fall in the German share of world output.

(ii) Differing income distributions in countries

Levels of income per head might have a role in explaining trade, as suggested by Linder (1961). He observed that consumers with similar levels of income per head tend to consume similar bundles of goods. Even if consumer's preference for variety is same at different levels of income, budget constraints have an effect on consumption bundles. When income levels are low, consumers concentrate their spending on necessities, such as staple foods and basic clothing. In these sectors, it is not possible for firms to create differentiated products, so there is little scope for intra-industry trade. As income level rises, spending patterns shift towards manufacturing products. These tend to have more sophisticated production processes that allow for product differentiation and many prompt intra-industry trades. Higher incomes, however, also lead to higher expenditure on services, for example eating out restaurants, which tend to be less traded. This shift could have an offsetting effect as income rises.

(iii) Product differentiation

Many varieties of a product exist because producers attempt to distinguish their products in the minds of consumers in order to achieve brand loyalty or because consumers themselves want a broad range of characteristics in a product from which to choose. Thus, U.S. firms may produce large automobiles and non-U.S. producers may produce smaller automobiles. The consequence is that some foreign buyers preferring a large car may purchase U.S. product while some U.S. consumers may purchase a smaller, imported car. Because consumer tastes differ in innumerable ways, more so than the varieties of products manufactured by any given country, some intra-industry trade emerges because of differentiation.

(iv) Degree of product aggregation

This explanation rests on the observation that IIT can result merely because of the way of trade data are recorded and analysed. If the category is broad (such as beverage and Tobacco), there will be greater intra-industry trade, than would be the case of a narrower category is examined (such as beverage alone or, even more narrowly, wine of fresh grapes). Suppose a country is exporting beverages and importing tobacco. The broad category of "beverage and tobacco" [a category in the widely used standard International Trade Classification (SITC) system of the United Nations] would show IIT,

but the narrower categories of “beverage” and “tobacco” would not. Some economists think that finding IIT in the real world may be mainly a statistical artifact because of the degree of aggregation used, even though actual calculations use less broad categories than “beverage” and “tobacco”. Nevertheless, many trade analysts judge that IIT exists as an economic characteristic of trade and not primarily as a result of using aggregative classification categories.

(v) Dynamic economies of scale

This determinant is related to the product differentiation reason. If IIT has been established in two versions of a product, each producing firm (one in the home country, one in the foreign country) may experience “learning by doing” or what has been called dynamic economies of scale. This means that per unit cost reductions occur because of experience in producing a particular good. Due to these cost reductions, sales of each version of the product may increase over time since one version was an export and the other an import for each country, intra- industry trade is enhanced over time because of this production experience.

(vi) Cost of trade

There are many different ways in which international trade might incur costs over and above those incurred by domestic trade. Such costs included; transport costs and communication costs, imposed tariffs and non- tariff barriers, search costs, the cost of building and maintaining a network of customers, currency exchanges and exchange rate risk. Some of these frictional costs may have fallen over the past 20 years. Transport costs and communication costs may have fallen as technology improves. Tariffs and non-tariff barriers to trade have fallen through successive multilateral and bilateral trade agreements and might continue to do so as part of total agreements such as ‘Uruguay Round’. Capital market liberalization may also have reduced the cost of foreign currency transactions and have created by ability to hedge against exchange rate risk.

2. 5: The Basic Model of Intra-Industry Trade

The new trade theory has two main theoretical approaches in modeling and explaining the flows of intra-industry trade. The first is based on trade in differentiated goods in which the market structure is characterized by monopolistic competition with costless entry and the source of comparative advantage is given by exploitation by firms of internal increasing returns to scale. The second type, are models of oligopolistic competition and intra-industry trade in identical products. Trade is driven by firm’s entry

strategies in foreign markets. Markets are segmented by the existence of transportation costs. The possibilities for firms of making extra- profits by discriminating prices cure them to sell abroad f.o.b. prices. The dumping practice is the main source for intra - industry trade.

This section describes Krugman's (1979, 1980, 1987) model of intra-industry trade based on increasing returns and monopolistic competition. This model provides a straight way of thinking about the relation between innovation and export specialization in manufactures. This set up follows a general equilibrium framework tat it is described in two steps. The first derives the equilibrium for a closed economy. The second analyses the impact of trade. To highlight the role of technical change in the model, Hicks-neutral technology index was added to the production function.

Close economy equilibrium

On the demand side, the model assumes that consumer preferences for varieties or differentiated goods enter, symmetrically, into the utility function. This ensures a positive consumption for all available varieties. Consumer's maximization problem is given by

$$\text{Max } U = \sum_{i=1}^n v(c_i) \quad \text{Subject to } \sum_i P_i c_i = 1 \dots\dots\dots(1)$$

$$\text{Where } v' > 0, v'' < 0; \epsilon_i = - \frac{v''}{v' c_i}$$

P_i = Price variety i ; c_i = Per-capita consumption of variety i , $v(c_i)$ = indirect utility function.

Because of the additive separable specification of $U(c)$; the elasticity of substitution is equivalent to the demand elasticity that each monopolist faces. In addition, ϵ is assumed decreasing function of c_i that is assumed a decreasing function of c_i , that is, $\delta\epsilon/\delta c_i < 0$.

The first order conditions for the maximum problem (1) have the form

$$P_i = \lambda^{-1} v'(c_i) \dots\dots\dots(2)$$

On the supply side, the model assumes that a linear technology with labour as only input, competitive labour market and full employment.

$$\text{Let } x_i = \beta^{-1} [A(t) l_i - \alpha] \text{ be the production function of variety } x_i \dots\dots\dots(3)$$

Where $A(t)$ = Hicks-neutral technology index, α = sunk R&D costs and β = Permanent associated to marginal cost. Solving l_i gives the amount of labour effectively demand in the production of x_i , it follows that firm i 's average cost function $C(w,x)/x_i$ is –

$$AVC_i = c/x_i = w \cdot \left\{ \frac{\beta}{A(t)} + \frac{\alpha}{A(t) \cdot x_i} \right\} \dots\dots\dots (4)$$

Where w = wage rate. Thus, average costs are decreasing in output keeping everything else fixed, and it trends asymptotically to a constant marginal cost to $w\beta/A(t)$. Further, changes in technology and increases in the scale of operations give the sources of change of the average cost function, that is

$$\frac{d(AVC_i)}{AVC_i} = \frac{dA}{A} - \phi \cdot \frac{dx_i}{x_i} \dots\dots\dots (5)$$

$$\text{Where } \phi = \frac{\alpha \cdot w}{A(t)I_i}$$

The first term of the R.H.S of (5) is the rate of cost diminishing and depicts a downward shift. The second is an induced effect and represents a downward movement along the AVC curves. The source of increasing returns bears on the fixed cost parameters α .

The monopolist's pricing rule with costless entry sets the firm's optimal prices and output. In that sense, final prices are second best prices, enough to cover all fixed costs. It follows that firm's profit maximizing prices, given the technology in equation (3) is equal to

$$P (1+1/\epsilon) = w \cdot [\beta/A (t)] \dots\dots\dots (6)$$

The above condition states for the equality between monopolist's marginal revenues and costs.

Solving P in equation (6) and dividing by w yields

$$\frac{P^m}{w} = (\epsilon / \epsilon - 1) \cdot \beta / A(t) \dots\dots\dots (7)$$

The firm's optimal price cannot be determined from equation (7) because the elasticity of demand, by assumption in the model, decreases with output. Optimal output will consequently depends on the Zero Profit condition, in particular

$$P \cdot x_i - w \cdot I_i = 0 \dots\dots\dots (8)$$

Replacing I_i and solving x_i yields

$$x_i^m = \alpha [A(t) (P/m) - \beta]^{-1}$$

Or

$$\frac{P}{w} = \frac{1}{A(t)} [\alpha / x_i + \beta] \dots\dots\dots (9)$$

The profit maximizing price schedule (7) along with the Zero profit condition (9) determine the equilibrium for a closed economy. These equations have two important features. First, equation (7) is upward sloped because ϵ is a decreasing function, by assumption, of the number of varieties. Equation (9) by turn is downward sloped with x_i . The above implies a cross point between the two functions and the existence of an equilibrium. Second, both functions will shift downward if there is a technical change dA/A , which implies lower equilibrium prices p/w .

It remains to figure out what is the equilibrium number of firms. Under monopolistic competition there is a unique producer for each variety, Therefore the number of firms are equal to the current number of varieties (if a monopolist produces two or more varieties and the technology is separable, then each production line can be treated as an independent firm). Full employment assumption implies that the labour supply is equal to the demand for labour engaged in the production of all goods, that is

$$L = \sum_{i=1}^n I_i \dots \dots \dots (10)$$

Subtracting I_i from equation (3) and setting $x = x_i$, for every i , yields

$$\eta = \frac{A(t).L}{a. \epsilon} \dots \dots \dots (11)$$

Thus, the equilibrium number of firms or varieties is an increasing function of changes in technology $A(t)$, but is decreasing to sunk costs of reach X . The preceding affects summaries the dynamics in the case of a closed economy when technical change is included as structural parameter in the model. Given a market size, technological improvements are welfare enhancing, through lower producer prices and expanded number of varieties, if there are increasing returns in research. Otherwise, the return to research will decrease and firms will not engage in new R & D Projects. Finally, the number of varieties will expand with factor accumulation dL/L .

2 .6: The Effect of Trade

A natural extension of this analytical framework is to analyse the effects of trade. In this case, the model assumes symmetric conditions in technology and consumer preferences for the foreign economy, and no transportation costs. Then real wages w/p , are the same as before trade. Krugman’s model tries to determine whether there are gains from trade under the above conditions. To answer this question it is useful to introduce the national income identity. In particular, economy’s national income comes from labour

earnings and will be equal to aggregate output, that is $w.L = P.x$. In per capita terms, this equality becomes $w/p = x/L$. Total per capita consumption according to equation (1) is equal to aggregate income, it follows that

$$x_i = L \cdot c_i \dots\dots\dots(12)$$

That is, the supply of each variety must be equal to it is per – capita consumption times the labour force.

When two economies with the above features engage in trade, they form an integrated economy with an expanded labour force equal to $\bar{L} = L + L^*$ where L^* counts for the labour forces of the foreign country. Similarly, the number of varieties would be given by $n = n + n^*$. Firms in turn will face an expanded market and will have the incentive to increase their current scale of operations because there is a demand for all varieties at home and abroad, allowing those to exploit further scale economies. Thus, trade has the same effects as factor accumulation through increases in the labour force. According to equations (9), (11) and (12), trade has three positive effects – (i) increase the production of each variety x_i , (ii) lowers the equilibrium prices and (iii) expands the range of varieties. Hence, there is a welfare improvement for both economies due to an increase in choice and higher real wages (w/p).

On the other hand, the model predicts that trade is balanced but its direction – which goods are produced in each economy – is not determined. The number of varieties produced in each economy will depend on the size of labour force.

$$\eta = \frac{A(t).L}{\alpha \cdot \epsilon} \quad \text{And} \quad \eta^* = \frac{A(t).L^*}{\alpha \cdot \epsilon} \dots\dots\dots(13)$$

And imports are a constant function of national income

$$M = w.L \cdot (L^*/L + L^*) \text{ and } M^* = w.L \cdot (L/L + L^*) \\ \rightarrow M = M^* \dots\dots\dots(14)$$

Where M^* represents foreigner’s imports that are equal to home’s exports. This completes the characterization for the open economy equilibrium. In sum, increasing returns drives trade.

The next task is to establish the linkage between technical change and intra – industry trade specialization. The key variable for that linkage is the trade of return to research. Let r denotes the rate of return of R&D investments and x - R & D sunk costs become an increasing function of r . Taking the total differential of equation (13), keeping constant the size of labour force L and L^* , yields.

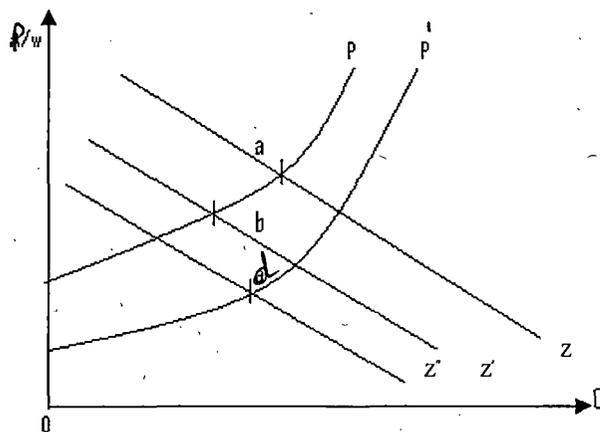
$$\frac{d\eta}{\eta} = \frac{d\eta^*}{\eta} = \frac{dA}{A} - \Phi \cdot \frac{dr}{r} + \sum_{i=1} \lambda_i \cdot \frac{dc_i}{c_i} \dots \dots \dots (15)$$

$$\text{Where } \phi = \frac{\alpha'(r) \cdot r}{\alpha(r)} ; r_i = \frac{\epsilon'(c_i) \cdot c_i}{\epsilon(c_i)}$$

But from equation (12) given L is fixed, it follows that $dx_i/x_i = dc_i/c_i$.

Equation (15) shows that improvements in technology, the return of innovation and the growth in per capita consumption are the sources of change of the equilibrium number of varieties after trade. When firms face an expanded market due to trade, the rate of return r increases because sales and firm's net cash flow has expanded. This induces firms to undertake new investments industrial designs and research. This process, which takes place across firms, will lead to new cost reducing technologies and the production of new designs. With lower marginal and average costs, producers' price fall, raising real wages and per capita consumption. This, trade under this setting reinforces productivity changes through the expansion of markets.

The above analysis is illustrated in the figure, which draws relative producer price P/w against per capita consumption C , of a representative good. Point a, depicts the autarky equilibrium. Trade shifts the zero-profit schedule downwards, because of the expansions in the labour force L . The equilibrium after trade is given by b, at lower point P/w and C , because new varieties have already entered in consumer's demand. If technical changes take place due to increase in R& D investments and higher return for research, the new equilibrium is d, at the lower real prices.



2. 7: Inter-Industry Trade and Intra-Industry Trade

Liberalization of trade creates changes in trade flows and specialization. Depending on the characteristics, the trade is classified as both inter-industry trade and intra-industry trade.

Inter-industry trade

Inter-industry trade can be understood as exchanging one type of good, produced in one industry for another type of good, produced in another industry, for example exchanging rice and cars. Evidently, some countries have better opportunities to produce rice while others have endowments suitable for the production of cars; this is essentially the base for the theory of comparative advantage.

The basic Ricardian model lies as ground for the more sophisticated Heckscher-Ohlin model. These theories focus on the supply side of the model and are based on theories of comparative advantage. Comparative advantages arise since countries have relatively different endowments of factors of production, for example capital and labours. According to Ricardian model, countries will specialize in production of the good that the lowest opportunity cost, caused by different production methods and different labour productivity.

The Heckscher-Ohlin model expands the theory and explains how trade emerges when factors productivity is equal across the world. The specialization of production will depend on a country's relative factor endowments and thereby relative price of factors of production. A labour rich country will produce the labour-intensive product and this specialization will continue until the incentive to trade is taken away, i.e. factor prices are equalized. Theories based on comparative advantage state that the greater the difference in factors endowments between two countries the greater the trade.

Intra- industry trade

The characterization of Intra- industry trade is simultaneous import and exports essentially the same kind of good. The most frequent intra – industry trade take places in the developed part of the world, between countries that have a similar economic and social structure. What lies behind the behaviour of importing and exporting the same kind of good are numerous things, but in the end it is the assumption of the consumer's love for variety that creates the demand for till another variety of the same kind of good. There are several gains from intra-industry trade. A price are pressed down by increased

competition in trade and as the market grows, there are expected gains from increasing returns to scale, which lowers the average production cost.

The supply of more varieties through imports satisfies the consumers that get a higher utility and to a lower price. Furthermore, according to theory, consumers that get a higher utility and to a lower price. Further, more, according to theory, intra-industry trade creates less distortion than inter-industry trade in an economy in the process of integration. The logic behind this is that one expects more flexibility within industries between industries, hence smaller adjustment costs are exhibited in industries with a large share of intra-industry trade.

The basic models of intra-industry trade refer to factors such as the existence of economies of scale and the production of differentiated goods. Assuming that the world consists of several smaller nations, producers can specialize in one variety each and because of economies of scale attain some monopoly power. The assumption of market structure of monopolistic competition makes producers of differentiated commodities perceive that they neither can affect the price level when they enter the market, nor the variety choice. Whereas the homogenous commodities are assumed to be produced in markets characterized by perfect competition. As consequences, the producers of differentiated commodities are assumed to produce in markets characterized by perfect competition. As consequences, the producers of differentiated commodities set their price to maximize profits and they all end up producing a different variety of the products. Since consumers have a love for varieties and all varieties will be consumed, intra-industry trade will take place when there are no trade restrictions.

Theory of intra-industry trade offers hypotheses on both country specific factors and industry specific factors. The empirical assessment is undertaken to evaluate the relationship between the extent of intra-industry trade and industry specific factors as well as country specific factors. The hypotheses are presented below:

1. Intra-industry trade is expected to be higher in industries with higher degree of economies of scale and product differentiation. [Helpman, Elhanan and Krugman, Paul R. (1999) P. 168]. To meet consumer's demand for great variety, the producers take advantage of economies of scale in production and are able to specialize in production of a specific variety, which is then traded for other differentiated commodities. Hence, more differentiated products that are produced with economies of scale will increase the level of intra-industry Trade.

2. The degree of intra-industry trade is expected to be higher in trade between economies with high per capita income and between economies with greater similarities in per capita income. [Hine, Robert C. and Greenaway, David & Milner, Chris (1999). P. 83]. Differentiated commodities are assumed more capital intensive in production than homogenous commodities. An increase in income per capita and thus also in capital endowments yields an increase in the production of differentiated commodities and as a consequence also intra-industry trade. Further economies that are more similar are expected to have similar intra-industry specialization indices.
3. The degree of intra-industry trade is expected to be higher in trade between larger economies and the more similar the economies are in size. [Helpman, Elhanan and Krugman, Paul R. (1999) P. 2005]. Producers in large economies have a bigger market for products produced with increasing returns to scale. Thus, more differentiated products will be exported which will increase the extent of intra-industry trade. Furthermore, countries of similar size have the potential to export and import differentiated commodities produced with economies of scale. With different size of the economies, a larger economy can take advantage of economies of scale and export large amounts of a commodity and a smaller country would be forced to import differentiated commodities since they cannot benefit from economies of scale in their production.
4. Open economies are expected to have higher degree of intra-industry trade than closed economies. [Helpman, Elhanan and Krugman Paul R. (1999) P. 19]. This is especially important for smaller economies since larger economies may exhibit economies of scale even in autarky. However, if a small economy is closed, subsistence production accounts for a large share of total production and the development of the economy and higher share of production in capital-intensive commodities.
5. The intra-industry trade is expected to grow faster within the integration area than with world. [Langhammer, Rolf J. and Hiemenz, Ulrich (1998) P. 419]. Because of the abolishment of trade barriers creation will increase trade flows. Additionally, since producers are able to take advantage of economies of scale and produce more differentiated products within the integration area, the overall trade volume is

expected to increase more in the integration area than in trade with the world. Since intra-industry trade take places within these products, an increase in trade flows within the integration area will enhance even higher growth in intra-industry trade.

2.8: Inter-Industry Trade Specialisation Indices

The economic literature identifies about six techniques to measure the inter-industry specialisation.

Balassa index

Balassa (1965) explored the possibility of relying on various theoretical explanations of international trade to determine the patterns of comparative advantage. He stated that, “Comparative Advantages” appear to be the outcome of a number of factors, some measurable, other not, some easily pinned down, and other less so. One wonders, therefore, whether more could not be gained if, instead of enunciating general principles and trying to apply these to explain actual trade flows, one took the observed patterns of trade as a point of departure.... Blassa suggested to consider the comparative advantages as they “are revealed” by international trade because actual exchange “reflects relative cost as well as difference in non- price factors”. He proposed a specialization indicator also known as the Balassa index

$$By_i = 100 \left(\frac{x_{yi}}{\sum_{y=1}^N x_{yi}} \right) / \left(\frac{\sum_{i=1}^M x_{yi}}{\sum_{y=1}^N \sum_{i=1}^M x_{yi}} \right)$$

Where B_{yi} stands for country i 's export of commodity y . The Balassa index has a lower bound of zero and no upper bound. A country, that is more specialized in some industry than the average of all countries taken together, presents an index value greater than 100 for this industry, whereas a value smaller than 100 reveals specialization compared to the average of all countries. In other terms value greater than 100 reveal the presence of comparative advantages. The standard deviation of this index across products can be used as measures of the comparative importance of inter – industry specialization and intra-industry trade. In fact, the greater the extent of inter-industry specialization, the greater is the value of standard deviation.

Many researchers have used the Balassa index to determine a country's weak and strong sectors. Michael Porter, for instance, adopted a Balassa index exceeding 1, in some cases strengthened to a Balasa index exceeding 2, to identify a country productive sector.

Normalised Balance and Neven index

The normalised balance is given by the ration between the value of trade and the value of total trade. This index, which takes into account both imports (m) and exports (x) is a good indicator for the economic performance of a country i . It is defined as

$$NB_{ji} = \left(\frac{x_{ji} - m_{ji}}{x_{ji} + m_{ji}} \right)$$

This ratio ranges between -1 and $+1$. When the normalised balance is 1, a country or a region is completely specialized in the production of commodity j . When it is -1 , there is despecialisation. When the index is zero, imports and exports are even. The normalized balance presents a limitation in that, since it focuses each time on a single commodity j , it does fulfill the contrasting dimension inherent in the principle of comparative advantages.

Neven (1995) provided an extended Normalized Balance formula to over come the aforementioned shortcoming

$$NEV_{ji} = (x_{ji} / X_i - m_{ji} / M_i) / (x_{ji} / X_i + m_{ji} / M_i)$$

Where x and m are the total exports and imports of country i . The Neven index, however does not take into account world imports and exports.

Donges and Riedel index

The Donges and Riedel index (1977) circumvents the Neven index's limitations by including both country and world trade performance. Formally, it is expressed as

$$D-R_{ki} = \left[\left(\frac{(x_{ki} - m_{ki}) / (x_{ki} + m_{ki})}{(x_{kw} - m_{kw}) / (x_{kw} + m_{kw})} \right) - 1 \right] X[\text{Sign}(x_{ki} - m_{ki})]$$

Where x_{ki} refers to the exports of commodity k in country i , m_{ki} to imports of commodity k in country i and x_{kw} and m_{kw} to the total world exports and imports of the commodity k .

Aquino index

Aquino (1999) suggests a new index given by

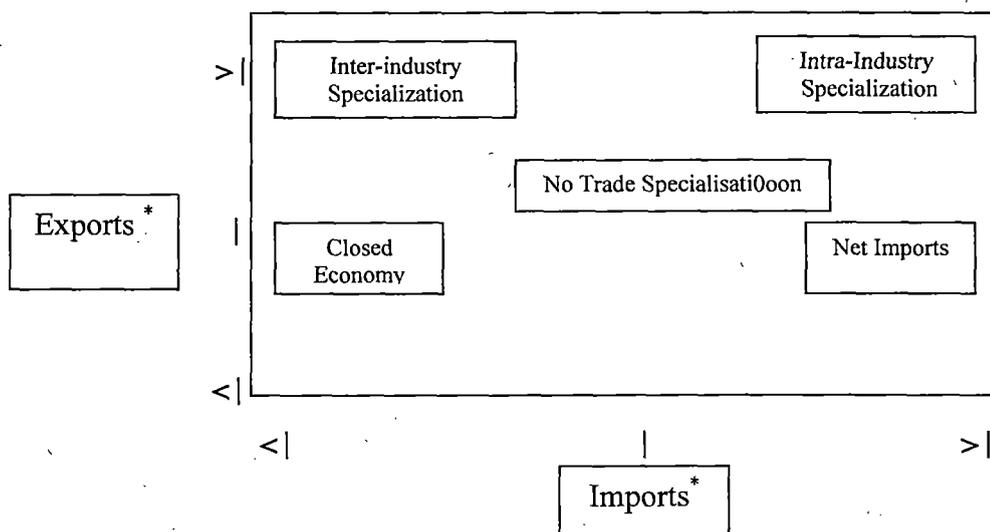
$$A_{ki} = 100 * \left[\frac{x_{ki} / \sum_{K=1}^M x_{ki}}{\sum_{i=1}^N x_{ki} / \sum_{i=1}^N \sum_{k=1}^M x_{ki}} \right] / \left[\frac{m_{ki} / \sum_{K=1}^M m_{ki}}{\sum_{i=1}^N m_{ki} / \sum_{i=1}^N \sum_{k=1}^M m_{ki}} \right]$$

Where x_{ki} refers to the exports of commodity k of a country or region i and m_{ki} to the imports of commodity k of a country or region i . This index is the ratio between the Balassa index calculated for exports and the Balassa index for imports. The numerator represents the share of commodity k in the exports of region i relatively to the share of

commodity k in the exports of the country. The denominator represents the same relative share for imports. The Aquino index, therefore, gives a measure of specialization by sector and region for the country. By considering the normalized quotas of exports as well as imports, this indicator appears to be an unbiased measure of specialization and an unbiased predictor of the intensity of comparative advantage. In fact, the Aquino index overcomes the shortcoming of the Balassa index, in which only exports are considered. In order to get a measure of country trade specialization for all sectors rather than for each sector, we use the standard deviation of the Aquino index (Algieri et. al. 2001).

One limitation of the Aquino index is that it measures only the relative values of the Balassa index for imports and exports. For example, when $A_{ki} = 1$, the index does not distinguish whether this is due to either high relative exports and imports of commodity k (that is the Balassa index for imports and the Balassa index for exports of an industry are equal and both greater than one), or due to low relative exports and imports of commodity k (that is the Balassa index for imports and the Balassa index for exports are equal and both smaller than one), or whether the trade profile of commodity k does not differ from the one of the country (that is the Balassa index for imports and the Balassa index for exports are both equal to one). To gain more detailed information out of the index, one could look separately at the numerator and denominator of the Aquino index for each industry, that is the Balassa index for imports and the Balassa index for exports. It then becomes possible to determine not only the sectors of specialization but also to define the area of trade structure. Plotting the Balassa index for exports on the vertical axis against the Balassa index for imports on the horizontal axis, we get the following matrix

Figure 2.1: The Aquino Matrix-Regional Specialization Patterns Relative to the country-The Balassa index



The economic literature identifies other three techniques to measure the inter-industry specialization which do not make of import and export flows the Hine-Greenaway method, the Sapir method, and the Gini method.

Hine and Greenaway method

Hine (1990) and Greenaway and Hine (1991) use the Finger -Kreinin statistics (F-K) applied to production and export data on 28 manufacturing industries in order to compute specialization in Europe over the period 1980-85. They prove that inter-industry specialization has been increasing in European Community and in the EC- EFTA areas. The first step in their analysis was to calculate for individual countries the share of each industry in total production. These shares were then compared between countries to obtain a measure of industrial similarity. The Finger statistics is defined as follows

$$(F-K)_{ij} = \sum_{m=1}^N \text{Min}(x_{mi}, x_{mj})$$

Where x_{mi} refers to the industry m 's share in total production of country i and x_{mj} to the industry m 's share in total production of country j . This index ranges between zero and one: it gives a unit value if countries have identical production patterns (intra-industry trade), and gives a zero value for disjoint ones (inter- industry trade). Finger – Kreinin is a relative index in that it compares the industrial share in total exports of one country with respect to another.

The drawback in this index is that the mean of the $F-K$ index may not be a satisfactory summary measure of specialization, if the bilateral comparison of a country j with every other country in the sample moves in different directions. Large variation in production shares of small countries could easily drive the value of the index (Amiti, 1999). The index is, therefore, misleading because it does not take into account of the size and the different characteristics of the countries.

Sapir method

Sapir (1996) adopts the Herfindhal index to measure manufacturing specialization in Europe using data on 100 manufacturing industrial sectors. He finds the specialization remained constant in Italy, Germany and Great Britain between 1977 and 1992, and increased in France since 1986. The index is formalised in the following way

$$H_i = \sum_i (s_i)^2$$

Where, s_i is the share of sector i in the total exports of the country. A value of H close to unity implies that the little specialization in sector, while a value close to 100 implies complete specialization in one sector. The main implication is that the Herfindhal index is an absolute measure because it indicates the geometric distance between the distribution of production share and a uniform distribution (Amiti, 1999).

Gini index

Another method to measure the intensity of specialization is to calculate the Gini index. In order to do so, it is first necessary to construct a Lorenz curve by ranking the Balassa index in descending order and then by representing the cumulative value of the denominator on the horizontal axis and the cumulative value of the numerator on the vertical axis. There are differences between the 45° line and the Lorenz curve multiplied by two gives the Gini index. This index can take values between zero and 1, if the index is zero, there is no specialization; The higher the Gini index, the more specialized the country.

The Gini index is based on comparison between the geographic patterns of employment for one industry and in the aggregate. With the Gini index, inter-industry comparison appear to be very sensitive to industry characteristics and results are highly dependent on the concentration of the production with in the industry (Maurel and Sidillot, 1999). For this reason, it is a better measure of productive specialization rather than trade specialization. Moreover, the Gini index places implicit relative value on changes in the middle parts of the distribution. This implies that a transfer from a big industry to a small one has a much greater effect on the country if the two industries are near to the central part of the distribution rather than at either end (Aniti, 1999). For example, the horizontal axis indicate, region j 's production of industry i as a proportion of total country production of industry i , While the vertical axis indicates region j 's share of manufacturing in the total manufacturing of the country.

References

- Annicchiarico, Barbara and Quintieri, Beniamino.(2000): "Aggregated Measures of Intra-Industry Trade: A Critical Comparison". *Mimeo*, CEIS- University of Rome Tor Vergata.
- Aquino, Antonio.(1978):"Intra-Industry Trade and Intra-Industry Specialization as Concurrent Sources of International Trade in Manufactures", *Weltwirtschaftliches Archiv*, Vol. 114, pp. 275-295.
- Azhar, Abdul K., Elliott, Robert J.R. and Milner, Chris.(1998): "Static and Dynamic Measurement of IIT and Adjustment: A Geometric Reappraisal", *Weltwirtschaftliches Archiv*, Vol. 134, pp. 404-422.
- Azhar, Abdul K., Elliott, Robert J.R. (2001): "A Note on the Measurement of Trade-Induced Adjustment". *Mimeo*, University of Manchester.
- Balassa, Bela. (1985): "Intra-Industry Specialization". *European Economic Review*, vol. 30, pp. 27-42.
- Balassa, Bela nad Bauwens, Lue.(1987): "Intra-Industry Specialization in a Multi-Country and Multi-Industry Framework". *Economic Journal*, Vol. 97, pp. 923-939.
- Briilhart, Marius.(1994): "Marginal Intra-Industry Trade: Measurement and Relevance for the Pattern of Industrial Adjustment", *Weltwirtschaftliches Archiv*, Vol. 130, pp. 600-613.
- Briilhart, Marius. (1999): "Marginal Intra-Industry Trade and Trade-Induced Adjustment: A Survey". In: Briilhart, M. and Hine, R.C., *Intra-Industry Trade and Adjustment: The European Experience*. Macmillan, London.
- Briilhart, Marius.(2000):"Dynamics of Intra-industry Trade and Labor-Market Adjustment", *Review of International Economic*, vol. 8, pp. 420-435.
- Briilhart, Marius and Elliott, Robert .(1998): "Adjustment to the European Single Market: Inferences from Intra-Industry Trade Patterns",*Journal of Economic Studies*, vol. 25., pp. 225-247.
- Briilhart, Marius and Hine, Robert C. (1998) : *Intra-Industry Trade and Adjustment: The European Experience*. Macmillan, London.
- Chirstodoulou, Maria.(1992): "Intra-Industry Trade in Agrofood Sectors: The Case of the EEC Meat Market",*Applied Economics*, vol. 24, pp. 875-884.
- Dixon, Peter B. and Menon, Jayant.(1995): "Measures of Intra-Industry Trade as Indicators of Factor Market Disruption", *Economic Record*, vol. 73, pp. 233-237.
- Dreze, Jacques.(1961): "Les exportations intra-C.E.E. en 1958 et la position Belge". *Recherches Economiques de Louvain*, vol. 27, pp. 717-738.

Elliot, Robert J.R.; Greenway, David and Hine, Robert C. (2000): "Tests for Factor Homogeneity and Industry Classification". *Weltwirtschaftliches Archiv*, 23

Ethier, Wilfred. (1982): "National and International Returns to Scale in the Modern Theory of International Trade", *American Economic Review*, Vol. 72, pp. 388-405.

Greenaway, David and Hine, Robert C. (1991): "Intra-Industry Specialization, Trade Expansion and Adjustment in the European Economic Space", *Journal of Common Market Studies*, Vol. 24, pp. 603-622.

Greenaway, David; Hine Robert C.; Milner, Chris and Elliot, Robert. (1994): "Adjustment and the Measurement of Marginal Intra-Industry Trade", *Weltwirtschaftliches Archiv*, vol. 130, pp. 418-427.

Greenaway, David; Lloyd, Peter and Milner, Chris. (1998): "Intra-Industry FDI and Trade Flows: New Measures of Globalization of Production". *GLM Research Paper*, No. 98/5, Centre for Research on Globalization and Labour Markets, University of Nottingham.

Greenaway, David and Milner, Chris. (1986): *The Economic of Intra-Industry Trade*. Oxford, Basil Blackwell.

Grubel, Herbert and Lloyd, Peter J. (1975): *Intra-Industry Trade*. Macmillan, London.

Hamilton, Clive and Kniest, Paul. (1991): "Trade Liberalization, Structural Adjustment and Intra-Industry Trade: A Note". *Weltwirtschaftliches Archiv*, Vol. 12, pp. 356-367.

Haynes, Michelle; Upward, Richard and Wright, Peter. (2000): "Smooth and Sticky Adjustment: A Comparative Analysis of the US and UK", *Review of International Economic*, Vol. 8, pp. 517-532.

Kol, Jacob and Mennes, L.B.M. (1989): "Corrections for Trade Imbalance: A Survey". *Weltwirtschaftliches Archiv*, Vol. 125, pp. 703-717.

Krugman, Paul (1981) "Intra-Industry Specialization and the Gains from Trade", *Journal of Political Economy*, Vol. 89, pp. 959-973.

Little, Jane Sneddon. (1996): "U.S. Regional Trade with Canada during the Transition to Free Trade", *New England Economic Review*, January 1996, pp. 3-22.

Lloyd, Peter J. (1998): "Globalization, International Factor Movements and Market Adjustments". CREDIT Research Paper, No. 98/7, University of Nottingham.

Lovely, Mary and Nelson, Doug. (2000): "On the Economic Relationship Between Marginal Intra-Industry Trade and Labour Adjustment in a Division of Labour Model". *Review of International Economic*, Vol. 8, pp. 436-447.

Menon, Jayant and Dixon, Peter B. (1997): "Intra-Industry versus Inter-Industry Trade: Relevance for Adjustment Costs", *Weltwirtschaftliches Archiv*, Vol. 133, pp. 164-169.

Oliveras, Joaquin and Terra, Ines. (1997): "Marginal Intra-Industry Trade Index: The Period and Aggregation Choice". *Weltwirtschaftliches Archiv*, Vol. 133, pp. 170-179.

Shelburne, Robert L. (1993): "Changing Trade Patterns and the Intra-Industry Trade Index: A Note". *Weltwirtschaftliches Archiv*, vol. 129, pp. 829-833.

Thom, Rodney and McDowell, Moore. (1999): "Measuring Marginal Intra-Industry Trade". *Weltwirtschaftliches Archiv*, Vol. 135, pp. 48-61.

Verdoorn, P. J. (1960): *The Intra-Block Trade of Benelux* In: *Robinson, E.A.G. (ed.) Economic Consequences of the Size of Nations*, Macmillan, London.

Vona, Stefano. (1991): "On the Measurement of Intra-Industry Trade", *Weltwirtschaftliches Archiv*, Vol. 127, pp. 678-700.

Wright, Peter; Haynes, Michelle and Upward, Richard. (2001): "Estimating the Wage Costs of Inter-and Intra-Sectoral Adjustment", *CEPR Discussion Paper*, No. 2710.

Chapter III

Our Overall Trade Performance

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Chapter III

Our Overall Trade Performance

3.1: Introduction

This chapter deals with India's trade performance during a decade before the introduction of new trade policy in 1991 and up to 1999-2000. The trade performance will be judged with the help of trade-related data i.e. the volume of exports, imports and the growth rates of exports and imports. Not only this, the chapter gives an overview of trade of agricultural and allied products and of manufactures separately.

3.2: Historical Development

India had an active and mutually enriching trade with all the early civilizations. The history of India's trade and commerce goes back to the Phoenician times when not only did cotton and teak, spices, silks and precious stones changed hands, but a whole series of ideas and thought systems were shared. Indian silks and fine muslins were highly prized and there is contemporary evidence of a flourishing trade between India and the distant European countries since pre-Christian times.

Commerce in India is recorded as far back as 3500 BC when a fairly large scale agricultural economy was existing in the main river basin areas, spreading gradually over the next 3000 years to all parts of the continent. "The Archaeological excavations carried out during the 1920s and 1930s at Mohen-jo-Daro and Harappa (both now in Pakistan) and excavator at Rangpur (in Gujarat) clearly indicate that well before 1500 BC. Indians were carrying on trade with far-off lands, with West Asia and beyond (Vibha Mathur, 2005).

The most important feature of India's foreign trade was that India always had a surplus with the whole world including Europe, which was settled by the inflow of gold into India. But there was a steep decline in trade in the subsequent years since 1800 BC when the Aryans were ravishing most of Asia. Trade routes were blocked and consequently commerce with different countries was at a virtual standstill (Mathur, 2005).

Indian trade existed even before the Christian era. During the Kushana period, India's trade and commerce with the Roman Empire reached stones. During the seventh and eighth centuries A.D. Indian trade had developed further, though by the eighth

century, the Arabs had already proved themselves to be very strong competitors obtaining a foothold in Sind. (Mathur, 2005)

In the tenth century B. C., India had commercial relations with foreign countries in which the Arabs played the role of 'International'. In the first two centuries of the Christian era, there was a considerable increase in trade between India and Rome. The Gupta period, however, is regarded as the golden age in Indian history and Indian trade and culture during this period made a great impact on Central Asia and Malaysia. It can, therefore, be said that trade existed in our country from times immemorial.

During the Mauryan period, beginning around 325 BC, the ship building industry was flourishing solely under state monopoly. Emperor Chandra Gupta established a Board of admirals in 321 BC to control the hiring out of ships, levy duty on imports and exports and other administrative chores. (Mathur, 2005)

Some of those who are reputed to have discovered certain countries, like Columbus, actually were in search of our country which came to be known as 'Golden Bird', largely through the trade which we had with other parts of the world. Archaeological discoveries in India and other parts of the world, have proved the existence of flourishing trade in the Gupta and Mauryan periods, as stated above also. The trade, however, in those times was mainly 'visible trade'. The Europeans, particularly the British, formed trading companies in their countries with a view to develop trade with India. East India Company was an example of this. It came to carry away precious goods – gold, silver, raw materials and even finished goods to England and gave in turn services like Defense, Civil administration etc. Trade, then, became both 'visible' and 'invisible'.

The Mughal period from 1526 to 1707 AD also is viewed as a period of economic and cultural revival in India. While trade and industry progressed well, fine arts, sculpture were also advancing.

In the British period, trade involved heavy imports of Indian textiles into England. According to one estimate, the total exports of bullion to India through the East India Company alone were of 21 million. But the foreign trade of India was in a way an important instrument for exploiting and running the Indian economy.

By the end of the British rule, the foreign trade of India had settled down to a typical colonial pattern. Much of the foreign trade of India was concentrated in the countries of the British Empire. The foreign trade of India, moreover, was handled by the British and other European trade was further strengthened by an almost exclusive control

of the foreign exchange business relating to foreign trade in the hands of the foreign banks.

Before the Second World War, India was forced to export more than import in order to meet the unilateral transfer of payments to Britain, in the form of salaries and pensions for British officers (civil and military). During the Second World War, there was a basic change in the nature of India's foreign trade.

During the Second World War, the British Government commandeered from the poverty-stricken people of India huge supplies of foodstuffs, clothing, leather-ware, iron and steel, cement, railway equipment for the prosecution of their war. The balance of trade was so favorable with Britain, the principal customer of Indian goods, that even after paying off the sterling debt, India was able to build a huge sterling balance amounting to Rs. 1.733 crore.

The engagement of Britain, Japan and Germany in the war did not allow them to export manufactured commodities to India and to the Far and Middle countries. A vacuum was also created in the countries of the Middle East and Far East and consequently India was able to create markets for her manufacturers in these countries and for importing raw materials to feed her growing consumer goods industries.

The first half of the 20th century witnessed many turbulent events. Beginning with the First World War, the problems during the inter-war period, the great depression (1929-34) and the Second World War, all of them disturbed the world economy. Most of the economies were directly or indirectly stricken badly by these events. During 1919 to 1939, Indian imports and exports showed a declining trend. Our exports during Second World War rose rapidly, the imports remained more or less stagnant. After independence, particularly after the beginning of planning, a new trend set in.

The stupendous task of economic reconstruction and industrialization beckoned the dawn of India's independence in 1947. The goals of achieving an all round economic self-sufficiency transforming the backward agrarian Indian economy into an industrial nation and ensuring the millions a better quality of life. This warranted colossal amount of resources quite apart from building the requisite infrastructure and marshalling foreign exchange to translate the set objectives into actual reality.

The present chapter has been planned to study the following aspects:

(i) To study the commodity composition of Indian merchandise exports and imports over the period under study. (ii) To study the structural changes having taken place in the

composition of Indian merchandise exports and imports during post reforms period as compared to pre-reformed period. (iii) To study the changes in the direction of Indian exports and imports during the period under study. (iv) To evaluate the impact of policy changes on the Gross-Domestic Product (GDP) and balance of trade during the Post-reformed Period.

3.3: Methodology and Data Sources

The present study is based on secondary data. The data sources are the Economic Survey, Government of India (various issues), Report on Currency and Finance, Annual Report, Reserve Bank of India (various issues) and CMIE. It covers the period from 1980-81 to 1999-2000 and is carried out to study the overall performance with special reference to composition and direction of Indian foreign trade. The study is further divided into two periods, namely, period I i.e. from 1980-81 to 1989-90 termed as pre-reformed period; and period II. i.e. from 1990-91 to 1999-2000 termed as post-reformed period. To analyse the composition of Indian merchandise exports, the average percentage of share of agricultural and allied products. ores & minerals, manufactured goods (textile fabrics, which includes cotton yarn, fabrics, made-ups readymade garments etc. jute manufactures, chemicals and allied products, machinery, transport equipments and metal manufactures), mineral fuels and lubricants have been calculated both for period I and II. Furthermore the annual average percentage growth of exports of above-mentioned constituents during period II over period I has also been calculated. Similarly to study the composition of Indian merchandise imports, the average percentage share of food and live animals, raw material and intermediate manufactures (petroleum oil & lubricants, fertilizers & chemical, iron & steel) and capital goods (non electric machinery apparatus & appliances, electric machinery apparatus & appliances) have been calculated. The average percentage growth of different constitutions of imports during period II over period I has also been calculated.

To study the direction of Indian exports and imports again the data have been divided into two periods i.e. period I covers 1980-81 to 1989-90 and period II covers 1990-91 to 1999-2000. To analysis the changes which have taken place in regard to the direction of Indian exports i.e. the percentage share for all the years as well as annual average percentage share of Indian export to important destinations, namely, OECD (Organization for Economic Cooperation and Development); OPEC (Organization of Petroleum Exporting Countries); Eastern and Developing Countries have been calculated

for all the years in both the periods. OECD includes EU (European Union). North America and Asia and Oceania. OPEC includes Iran, Kuwait and Saudi Arabia. Developing countries include countries of Africa, Asia, Latin America and Caribbean countries.

To study the impact of new economic policy introduced during the early 1990s, a comparison of pre and post-reforms period i.e. period I and period II has been carried out. For this purpose the balance of trade has been calculated for both the periods. Moreover exports as well as imports as percentage to gross domestic product (GDP) have also been calculated for both the periods. The percentage changes in exports and imports during the entire period of twenty years have also been calculated. Furthermore to compare the performance of Indian exports and imports during period II over period I, the annual average percentage growth rates have been computed.

The following tools have been employed for our purpose:

Arithmetic Mean (AM): To understand the magnitude of exports and imports and to compare with other periods, simple arithmetic mean is used as average.

Index Number : The value of exports (or imports) in the year 1981 is taken as the base year figure and to index numbers for various year other years have been worked out by using the following formula

$$\text{Index Number} = \frac{\text{Value of Exports (or Imports) in the year } i}{\text{Value of Exports (or Imports) in the year 1981.}}$$

Linear Growth Rate (LGR): The linear growth rate per annum is expressed in percentage and it is calculated by using the following formula

$$\text{L.G.R.} = \frac{\text{Last year value} - \text{First year value}}{\text{First year value} \times \text{No of years}} \times 100$$

3.4: India's Exports

India's share in global exports had declined steadily from 2.4 percent in 1948 to 0.7 percent in 1980 and again to 0.4 percent in 1996 and was hovering at around 0.6 percent in 2002-2003. Exports constitute a key factor in economic development of a country. For a developing country, it is essential to build up a sizeable export surplus. The rate of economic growth is largely determined by the rate at which a country can expand its capacity.

Higher rates of economic growth tend to be associated with higher rates of export growth. A country tries to promote growth while ignoring export performance may

succeed in the short-run, but it will be hard-pressed to sustain growth over a long period of time.

Commodity Composition of Indian Exports

The commodity-wise composition of Indian exports during 1981 to 1990 and 1991 to 2000 has been presented in Table 3.1. During the post independence period India has gradually transformed from a predominantly primary product exporting country to an exporter of manufactured products. Before liberalization, the share of agriculture and allied products was 27.70 percent in 1985-86. This went down to 19.41 percent of its share during post liberalization period. The loss of agricultural sector was the gain of the percent in 1980-81 to 62.70 percent in 1986-87, to 72.91 percent in 1990-91, 78.94 percent in 1994-95 and finally increased to 79.93 percent in 1999-2000.

However prior to the introduction of economic reforms i.e. during 1981-90, the average annual share of manufactured goods in Indian export was 64 percent which increased to 76.87 percent during period II. On the other hand, the share of primary goods i.e. food, ores, minerals and mineral fuels declined from 35 percent during period I to 23 percent during period II.

A detailed analysis of manufactured goods shows that the share of textile fabrics & manufactures increased from an annual average of 17.56 percent during period I to 23.91 percent during period II. The share of traditional export of India i.e. Jute has consistently declined over the period. Its share has declined from 1.95 percent in period I to 0.52 percent period II.

Table 3.1: Composition of Indian Exports During Pre-reformed Period (1980-81 to 1989-1990)
(In Rs. Crores)

| Year | Total | Agr. & allied prod. | Ore. & min. | Total | Textile fabrics & manu | Jute manu | Clem. & allied products | Trans & jewel. | Mach. Trans & metal manu. | Mineral fuels & lubri. |
|---------|-------|---------------------|-------------|--------------|------------------------|-------------|-------------------------|----------------|---------------------------|------------------------|
| 1980-81 | 6711 | 2057 | 414 | 3747 | 933 | 330 | 225 | 618 | 827 | 280 |
| | | 30.65 | 6.17 | 55.83 | 13.90 | 4.92 | 3.35 | 9.21 | 12.32 | 0.42 |
| 1981-82 | 7806 | 2221 | 458 | 4370 | 1047 | 258 | 364 | 761 | 945 | 225 |
| | | 28.45 | 5.87 | 55.98 | 13.41 | 3.31 | 4.66 | 9.75 | 12.11 | 2.88 |
| 1982-83 | 8803 | 2450 | 491 | 4551 | 1556 | 206 | 348 | 1015 | 867 | 1240 |
| | | 27.33 | 5.59 | 51.70 | 17.68 | 2.34 | 3.95 | 11.53 | 9.85 | 14.09 |
| 1983-84 | 9771 | 2622 | 506 | 4969 | 1481 | 171 | 328 | 1294 | 807 | 1590 |
| | | 26.83 | 5.18 | 50.85 | 15.16 | 1.75 | 3.36 | 13.24 | 8.26 | 16.27 |
| 1984-85 | 11744 | 2997 | 678 | 6210 | 1718 | 341 | 483 | 1237 | 956 | 1823 |
| | | 25.52 | 5.43 | 52.88 | 14.63 | 2.90 | 4.11 | 10.53 | 8.14 | 15.52 |
| 1985-86 | 10895 | 3018 | 785 | 6374 | 1795 | 262 | 498 | 1503 | 954 | 655 |
| | | 27.70 | 7.21 | 58.50 | 16.48 | 2.40 | 4.57 | 13.80 | 8.76 | 6.01 |
| 1986-87 | 12452 | 3422 | 717 | 7808 | 2179 | 244 | 583 | 2074 | 1133 | 418 |
| | | 27.48 | 5.76 | 52.70 | 17.50 | 1.96 | 4.68 | 16.66 | 9.10 | 3.36 |
| 1987-88 | 15674 | 3504 | 765 | 10707 | 3309 | 241 | 801 | 2613 | 1480 | 657 |
| | | 22.38 | 4.88 | 68.31 | 21.11 | 1.54 | 6.11 | 16.67 | 9.44 | 4.19 |
| 1988-89 | 20232 | 3723 | 1003 | 4947 | 3722 | 233 | 1288 | 4392 | 2256 | 518 |
| | | 18.40 | 4.96 | 73.88 | 18.40 | 1.15 | 6.37 | 21.71 | 11.15 | 2.56 |
| 1989-90 | 27681 | 4879 | 1363 | 20659 | 5398 | 296 | 2143 | 5296 | 3289 | 740 |
| | | 17.63 | 4.92 | 74.63 | 19.50 | 1.07 | 7.74 | 19.13 | 11.88 | 2.67 |
| Average | 13171 | 3089 | 714 | 8434 | 2314 | 958 | 706 | 2080 | 1351 | 789 |
| | | 23.44 | 5.12 | 64.00 | 17.56 | 1.95 | 5.36 | 15.78 | 10.25 | 5.99 |

Source: Government of India, Economic Survey (various issues)

Note: Figures in dark refer percentages to total

Table 3.2: Index for Composition of Indian Exports During Pre-reformed Period (1980-81 to 1989-1990)

| Year | Total | Agr & allied prod. | Ore & min | Textile fabrics & manu | Jute manu | Chem.& allied products | Trans & jewel | Mach trans & metal manu | Mineral fuels & lubri |
|---------|--------|--------------------|-----------|------------------------|-----------|------------------------|---------------|-------------------------|-----------------------|
| 1980-81 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1981-82 | 116.30 | 107.97 | 110.63 | 112.21 | 78.18 | 161.78 | 123.14 | 114.27 | 80.36 |
| 1982-83 | 131.17 | 119.11 | 118.60 | 166.77 | 62.42 | 154.67 | 164.23 | 104.84 | 442.86 |
| 1983-84 | 145.59 | 127.47 | 122.22 | 158.74 | 51.82 | 145.78 | 209.38 | 97.58 | 567.79 |
| 1984-85 | 174.99 | 145.70 | 163.77 | 184.14 | 103.33 | 214.67 | 200.16 | 115.60 | 651.07 |
| 1985-86 | 162.34 | 146.72 | 189.61 | 192.39 | 79.39 | 221.33 | 243.20 | 115.36 | 233.93 |
| 1986-87 | 185.55 | 166.36 | 173.19 | 233.55 | 73.94 | 259.11 | 335.60 | 137.00 | 149.29 |
| 1987-88 | 233.56 | 170.35 | 184.78 | 354.66 | 73.03 | 356.00 | 422.82 | 178.96 | 234.64 |
| 1988-89 | 301.47 | 180.99 | 242.27 | 398.89 | 70.61 | 572.44 | 710.68 | 272.79 | 185.00 |
| 1989-90 | 412.47 | 237.19 | 329.22 | 578.56 | 89.70 | 952.44 | 856.96 | 397.70 | 264.29 |

Note: Computed from Economic Survey (various issues), Government Of India

On the other hand, the share of chemicals and allied products has increased consistently during the period and it has been identified as a potential export product of India. Its average annual share increased from 5.36 percent during period I to 9.52 percent in 1980-81, to 13.80 percent in 1985-86, to 17.09 percent in 1994-95 and further to 20.50 percent during period I to 17.03 percent during period II. The share of machinery, transport equipment and metal manufactures has also increased from 10.25 percent during pre-reformed period to 13.78 percent during the post-reformed period. From the data it is revealed that the share fluctuated during 1980s, it remained stable during 1990s. Like the other primary products, the share of mineral fuels & lubricants increased sharply from 0.42 percent in 1980-81 to 16.27 percent in 1983-84 but declined sharply to 2.91 percent in 1990-91 which further declined to 0.43 percent in 1998-99. The annual average share has decreased from 5.99 percent during period I to 1.67 percent during period II.

The average annual level of India's total exports during period II valued at Rs. 93729 crore were higher by 61.13 percent than that recorded during period I i.e. Rs. 13177 crore. Between these two periods, the export of agricultural & allied products, ore & minerals and mineral fuels & lubricants recorded a lower growth of 45.89 percent, 25.56 percent and 9.84 percent respectively, whereas manufactured goods showed a higher growth of 75.43 percent. Among the manufactured goods, textile fabrics and manufactures as well

as machinery, transport equipments and metal manufactures showed a higher increase of 86.87 percent and 85.63 percent respectively. This period demonstrates the fluctuations in the international prices and changing pattern of domestic demand. The composition of Indian exports during post-reformed period is shown in table 3.3 and the export index in table 3.4.

Table 3.3: Composition of Indian Exports During Post-reformed Period (1990-91 to 1999-2000)
(In Rs.Crores)

| Year | Total | Agr. & allied prod. | Ore. & min. | Total | Textile fabrics & manu | Jute manu. | Clem. & allied products | Trans & jewel. | Mach. Trans & metal manu. | Mineral fuels & lubri. |
|---------|--------|---------------------|--------------|-----------------|------------------------|-------------|-------------------------|----------------|---------------------------|------------------------|
| 1991-92 | 44042 | 8228 18.68 | 2030 4.61 | 32693 74.23 | 10106 22.95 | 391 0.89 | 325 8.91 | 6750 15.33 | 5508 12.51 | 2041 2.36 |
| 1992-93 | 53688 | 9457 17.61 | 1814 3.38 | 40835 76.06 | 12498 23.28 | 355 0.66 | 3991 7.43 | 8896 16.57 | 7118 13.26 | 1520 2.83 |
| 1993-94 | 69751 | 13021 18.67 | 2371 3.40 | 52702 75.56 | 14863 21.31 | 389 0.56 | 5688 8.15 | 12533 17.97 | 9484 13.60 | 1554 2.23 |
| 1994-95 | 82674 | 13712 16.59 | 2538 3.07 | 54683 78.24 | 19945 24.12 | 473 0.57 | 7642 9.24 | 14131 17.09 | 10947 13.24 | 1610 1.95 |
| 1995-96 | 106353 | 21138 19.88 | 3061 2.88 | 80219 75.12 | 24149 22.71 | 621 0.58 | 9849 9.26 | 17644 16.59 | 14578 13.71 | 1761 1.66 |
| 1996-97 | 118817 | 24239 20.40 | 3185 2.68 | 88526 74.51 | 27793 23.39 | 552 0.46 | 11463 9.65 | 16872 14.20 | 17431 14.67 | 1832 1.54 |
| 1997-98 | 130101 | 2549 19.54 | 3062 2.35 | 99834 17.73 | 32108 24.46 | 694 0.53 | 13692 10.52 | 19867 15.27 | 19528 15.01 | 3399 1.08 |
| 1998-99 | 139752 | 26104 18.68 | 2827 2.02 | 109787 78.56 | 35381 25.46 | 582 0.42 | 14211 10.17 | 24945 17.85 | 18479 13.22 | 594 9.48 |
| 1999-00 | 159561 | 25016 15.68 | 3005 1.88 | 127532 79.93 | 40178 25.18 | 544 0.34 | 17389 10.90 | 32716 20.50 | 22251 13.95 | 3399 2.13 |
| Average | 93729 | 17265 18.42 | 2539 2.71 | 72054 76.87 | 224148 23.91 | 490 0.52 | 8930 9.52 | 15960 17.03 | 12920 13.78 | 3566 1.67 |

Source: Government of India, Economic Survey, (various issues)

Note: Figures in dark refer percentages to total

Table3. 4: Index for Composition of Indian Exports During Post-reformed Period (1991-91to 1999-00)

| Year | Total | Agri. & allied prod. | Ore & min | Textile fabrics & manu | Jute manu | Chem. & allied products | Trans & jewel | Mach trans & metal manu | Mineral fuels & lubri |
|---------|---------|----------------------|-----------|------------------------|-----------|-------------------------|---------------|-------------------------|-----------------------|
| 1991-92 | 656.26 | 400.00 | 490.33 | 1083.17 | 118.48 | 144.44 | 1092.23 | 666.02 | 728.92 |
| 1992-93 | 800.00 | 459.74 | 438.16 | 1339.54 | 107.57 | 1773.78 | 1439.48 | 860.70 | 542.86 |
| 1993-94 | 1039.53 | 633.01 | 559.66 | 1593.03 | 117.87 | 2528.00 | 2027.99 | 1146.79 | 555.00 |
| 1994-95 | 1231.92 | 666.60 | 613.04 | 2137.72 | 143.33 | 3396.44 | 2286.56 | 1323.70 | 575.00 |
| 1995-96 | 1584.77 | 1027.61 | 739.37 | 2588.31 | 188.18 | 4377.33 | 2855.06 | 1762.76 | 628.92 |
| 1996-97 | 1770.48 | 1178.37 | 769.32 | 2978.88 | 167.27 | 5094.67 | 2730.09 | 2107.73 | 654.29 |
| 1997-98 | 1938.62 | 1239.23 | 739.61 | 3448.37 | 210.30 | 6085.33 | 3214.72 | 2361.13 | 499.64 |
| 1998-99 | 2082.43 | 1269.03 | 682.85 | 3792.17 | 176.36 | 6316.00 | 40.36 | 2355.38 | 221.14 |
| 1999-00 | 2377.60 | 1216.14 | 725.85 | 4306.32 | 164.84 | 7728.44 | 5293.51 | 2690.57 | 1211.78 |

Note: Computed from Economic Survey (various year), Government of India

The export index with 1981 as the base came to 412.47 in 1989-90 and 2377.60 in 1999-00. This means that the export to the other countries have grown by 56.67 times during the second phase under investigation.

The analysis of data supports that some of Indian exports have moved upward in value addition chain whereby instead of exporting raw materials the country has switched over to processed items during the post-reformed period.

3.5: Foreign Trade During Post-reformed Regime

An important aspect of trade of a country is its composition. Exports indicate the facts about the goods that we have and how much of them we can and are willing to sell. The changes in the composition of trade mirror the developments taking place in the domestic structure of production over a period of time.

In the early years of planning, traditional commodities alone were important but with the success of industrialization and general improvement in the structure of the economy, new commodities also became important. At present, India's exports by major commodity groups are: manufactures which include engineering goods, chemicals and allied products, cotton yarn, fabric etc., jute manufactures, leather and its manufactures, readymade garments, gems and jewellery. Together, they accounted for 76.1 percent in 2001-2002 as is evident from table 3.5 which depicts composition of India's exports in percent share from 1950-51 to 2001-02 and agriculture and allied products category

includes cashew kernels, coffee, marine products, raw cotton, rice, spices, sugar, tea and mate, tobacco etc. Together these accounted for 13.4 percent of total exports in 2001-2002.

Table 3.5 gives composition and value of India's major export items from the period 1990-91 to 2001-02. Table 3.6 highlights the percentage share of different export items in total export of India.

Agricultural and Farm Products

Agricultural products like tea, coffee, cashew nuts, spices and leather 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, cigarettes, jute, sugar, paper, processed foodstuffs and vanaspati. Moreover, agricultural sector provides market for capital goods (tractors, pump sets and other agricultural machinery), inputs (fertilizers, insecticides), and light consumer goods.

In 1990-91, agricultural and allied goods exported were valued at Rs. 6317 crore but there was a tremendous fall in their share to 19.40 percent. As compared to 1960-61, it can be stated that during a span of 30 years, share of agricultural and allied goods exported by India suffered a major setback. From a large share of 44.24 per cent in 1960-61, its share came down to only 19.40 per cent.

Table 3.5: India's Exports by Commodity Groups (1990-91 to 2001-2002)

| Commodity | 1990-91 | 1994-95 | 1995-96 | 1998-99 | 1999-00 | 2000-01 | 2001-02 |
|---|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| I. Agricultural & allied goods | 6317 | 13712 | 21138 | 26104 | 25016 | 28582 | 29312 |
| Coffee | 252 | 1053 | 1503 | 1728 | 1435 | 1185 | 1095 |
| Tea & mate | 1070 | 975 | 1171 | 2265 | 1785 | 1976 | 1719 |
| Oil cakes | 609 | 1798 | 2349 | 1942 | 1638 | 2045 | 2263 |
| Tobacco | 263 | 255 | 447 | 762 | 1009 | 871 | 808 |
| Cashews | 447 | 1247 | 1237 | 1627 | 2461 | 1883 | 1652 |
| Spices | 239 | 612 | 794 | 1633 | 1767 | 1619 | 1497 |
| Sugar | 38 | 62 | 506 | 24 | 40 | 511 | 1782 |
| Raw cotton | 846 | 140 | 204 | 207 | 78 | 224 | 43 |
| Rice | 462 | 1206 | 4568 | 6281 | 3126 | 2943 | 3174 |
| Fist & fish preparations | 960 | 3537 | 3381 | 4369 | 5125 | 6367 | 5897 |
| Meat, etc. | 140 | 403 | 627 | 788 | 819 | 1470 | 1193 |
| Fruits & vegetable | 213 | 606 | 802 | 931 | 1247 | 1609 | 1560 |
| Misc. food items | 213 | 282 | 745 | 546 | 668 | 1094 | 1236 |
| II Ores & minerals | 1497 | 2538 | 3061 | 2827 | 3005 | 4139 | 4736 |
| Mica | 35 | 22 | 27 | 43 | 42 | 64 | 56 |
| Iron ore | 1049 | 1297 | 1721 | 1615 | 1175 | 1634 | 2034 |
| III. Manufactured goods | 23736 | 64688 | 80219 | 109787 | 127532 | 160723 | 161161 |
| Textiles | 6832 | 19945 | 24149 | 35581 | 40178 | -- | -- |
| Cotton yarn | 2100 | 7014 | 8619 | 11661 | 13388 | 16030 | 14655 |
| Ready-made garments | 4012 | 10305 | 12295 | 18364 | 20649 | 25478 | 23877 |
| Coir yarn | 48 | 173 | 210 | 317 | 200 | 221 | 295 |
| Jute manufactures | 298 | 473 | 621 | 582 | 544 | 932 | 612 |
| Leather etc. | 2600 | 5057 | 5790 | 6847 | 6890 | 8914 | 9110 |
| Handicrafts | 6167 | 16730 | 20501 | 4950 | 5058 | 5097 | 4406 |
| Gems & Jewellery | 5247 | 14131 | 17644 | 24945 | 32716 | 33734 | 34845 |
| Chemicals & Allied Products | 2111 | 7642 | 9849 | 14211 | 17389 | 22851 | 22393 |
| Machinery, transport equip. | 3872 | 10947 | 14578 | 18479 | 22251 | 31870 | 33093 |
| IV. Mineral fuels & lubricants | 948 | 1610 | 1761 | 594 | 3399 | 8822 | 10411 |
| V. Others | 55 | 126 | 174 | 441 | 609 | 1305 | 3398 |
| Total | 32559 | 82674 | 106353 | 139752 | 159561 | 203571 | 209018 |

Source: Government of India, Economic Survey (2002-2003)

In 1994-95, Rs. 13, 712 crore worth of agricultural and allied goods were exported with a share of 16 per cent in the total exports of our country. The year 1996-97, however, saw an increase in the share of agricultural goods, which was 20.3 per cent but fell down

a little to 18.8 percent in 1997-98. In 1999-2000, the value of agricultural exports was Rs. 25,016 crore and in 2001-2002 it was Rs. 29,312 crore representing a share of 13.4 per cent. Perhaps there has been a slide decline (-) 2.2 % change in the percentage share of this group in India's total exports.

Table 3.6 Composition of India's Exports During 1990-91 to 2002-03

| Commodity Group | (Percent shares) | | | | | | |
|--------------------------------------|------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| | 1900-91 | 1991-92 | 1993-94 | 1999-2000 | 2000-01 | 2001-02 | 2002-03* |
| I. Agri. & allied goods | 19.40 | 18.68 | 18.0 | 15.2 | 13.5 | 13.4 | 11.9 |
| Tea | 3.28 | 2.75 | 1.5 | 1.1 | 1.0 | 0.8 | 0.7 |
| Coffee | 0.77 | 0.75 | 0.8 | 0.9 | 0.6 | 0.5 | 0.4 |
| Tobacco | 0.81 | 0.86 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 |
| Spices | 0.73 | 0.89 | 0.8 | 1.1 | 0.8 | 0.7 | 0.7 |
| Cashew | 1.37 | 1.53 | 1.5 | 1.5 | 0.9 | 0.8 | 0.9 |
| Marine products 2.95 | 2.95 | 3.28 | 3.7 | 3.2 | 3.1 | 2.8 | 2.8 |
| Raw cotton | 2.60 | 0.69 | 0.9 | -- | 0.1 | -- | -- |
| II. Ores & minerals | 4.60 | 4.61 | 4.0 | 2.5 | 2.6 | 2.9 | 3.8 |
| III. Manu. goods | 72.90 | 74.23 | 75.5 | 80.7 | 78.0 | 76.1 | 75.8 |
| Leather | 7.98 | 7.10 | 6.0 | 2.6 | 2.9 | 2.8 | 2.4 |
| Gems & jewellery | 16.11 | 15.33 | 18.0 | 20.4 | 16.6 | 16.7 | 17.3 |
| Ready-made garments | 12.32 | 12.31 | 11.6 | 12.9 | 12.5 | 11.4 | 10.7 |
| IV. Minerals & lubricants | 2.91 | 2.36 | 2.9 | 0.1 | 4.2 | 4.8 | 5.0 |
| V. Others | 0.17 | 0.12 | 0.7 | 1.5 | 1.7 | 2.8 | 3.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

Source: Government of India, Economic Survey, 2002-2003.

The EXIM Policy of 2002-2007 gives a major thrust to agricultural exports by removing export restrictions on designated items. The efforts to promote export of agro and agro based products in the floriculture and horticulture sector have been sustained in the notification of 32 Agri-Exporting Zones across the country. Non-actionable subsidies such as transport subsidy have been provided for the export of fruits, vegetables, floriculture, poultry and dairy products.

Coffee is another traditional commodity exported by our country whose percentage share in total export earnings has been within the range of 0.45-3.00 percent in a span of 50 years (1950-51 to 1998-99). In 1950-51, Rs. 1.4 crore worth of coffee was exported which rose to Rs. 7 crore in 1960-61. A decade later, i.e. in 1970-71, coffee exported was valued at Rs. 25 crore showing a rise of 257 percent. There was, however, a

remarkable rise in the export of coffee in 1980-81, which was valued at Rs. 214 crore showing a steep rise of 7.56 percent over its previous decade.

In 1990-91, after a gap of 10 years, there was still not much rise in the export of coffee, as Rs. 252 crore worth of it was exported. In 1994-95, however, there was a sharp increase in the export of coffee, its value being Rs. 1053 crore showing an increase of 318 percent over 1990-91. In 1997-98, coffee exports further rose to Rs. 1,622 crore, accounting for 1.3 percent of India's total exports. It touched a peak of Rs. 1,728 crore worth of exports in 1998-99. Exports of coffee stood at Rs. 1,435 crore in 1999-2000 and fell sharply to Rs. 1,095 crore in 2001-02. Hence, after a continuous rise for over 6 years the coffee exports started to decline in 1999-2000 and have fallen drastically by over 36 percent in the current year compared to the 1998-99 figure.

Competition to India comes mainly from Kenya and some other ACP countries. Non-ACP competitors are the South American countries for coffee. India will have to step up production and improve its quality to enhance the export of coffee.

Tea has been the most important traditional commodity in our exports. The Indian tea industry is a prolific source of foreign exchange for the Central and State Governments. India has the largest average as well as the highest production of tea in the world. It even occupied the first position in our export items in few years of 1960's. As Table 5.1 indicates, our exports of tea were valued at Rs. 80.4 crore in 1950-51 and rose to Rs. 124 crore in 1960-61. Indeed, the devaluation of Indian currency in June 1966 failed to improve foreign exchange earnings from tea exports. In terms of post-devaluation rupees, the value of the exports declined to Rs. 114.84 crore in 1965-66 and increased again to Rs. 148 crore in 1970-71.

Early 1990s saw a tremendous rise in the export of tea which was valued at Rs. 1070 crore, showing a rise of 151.1 percent over its previous decade. Exports of tea declined a little to Rs. 975 crore in 1994-95 rising again to Rs. 1,171 crore in 1995-96. In 1997-98, tea exported by our country was valued at Rs. 1,505 crore which depicted a rise of 45 percent over 1996-97. Regarding its share in our total exports, tea had the largest share of 19.3 percent in 1960-61 (share of tea in 1950-51 was 13.21 percent). However, its share started declining and in 1970-71, it came down to only 9.64 percent. Share of tea in total goods exported by India, in 2001-02 stood at 0.8 percent a perceptible fall of (-) 16.7 percent over 2000-01. Value of tea exported by India in 2001-02 stood at Rs. 1719 crore.

The downward trend in agricultural and allied goods can be attributed to a major setback suffered by the export of tea and coffee. Our principal customers of tea are the UK, the USA, Canada, UAE, Australia, Russia and Germany. But the main problem in regard to tea exports has been a stagnant demand and cutthroat competition from rivals like Sri Lanka, China, Indonesia and Hongkong.

After several years of uncertainty and unprofitable working, now the Indian tea industry appears to be doing fairly well, though there are still many difficulties and problems in our tea production and exports. A serious weakness of our tea industry is that, too little, attention has been given to replanting and modernization and also to the development of high quality tea. High cost is another problem in our tea exports.

Summing up our evaluation of the poor performance of India's tea exports in recent years, it can be said that a major reason has been competition from other producers and also that other beverages have become more popular in recent years. Also, our competitors have been increasing their yield quite rapidly.

For the rapid growth of tea industry, measures like relationship of excise duties, grant of depreciation on plantations etc. would be very helpful. It is also very important for plantations to become more efficient and competitive and to concentrate on producing superior quality tea. It is also crucial that we adjust our exports to the consumption patterns in the importing countries by evolving instant and other forms of tea which would help to sell a large volume of tea at a lower price.

Indian tea industry, in the coming years can be expected to play a major role in the country's economic development and foreign trade only if it is given the encouragement and the incentives to strengthen its competitive capacity.

Tobacco has been yet another highly paying traditional exportable item and its relative share in the country's exports, like that of the other traditional exportable has been marginal and has moved in a narrow direction.

Our exports of tobacco were valued at Rs. 19 crore in 1950-51 and at Rs. 16 crore in 1960-61. In the subsequent years, the export increased moderately and accounted for Rs. 33 crore in 1970-71.

The beginning of 1990s saw a drastic fall in the share of tobacco in total goods exported by India. It declined to 0.81 percent in 1990-91. In 1994-95, it further came down to 0.2 percent. In 1997-98 and 1998-99, its share was 0.80 and 0.80 percent respectively. In spite of the fact that the quality of tobacco has improved, a major reason

in the decline of this commodity has been its inadequate production. The trend seems to continue since the beginning of 1999-2000 when tobacco exports touched to Rs. 1,009 crore but declined to Rs. 871 crore in 2000-01 and further to Rs. 808 crore in 2001-2002. In 2001-02, the share of tobacco in total exports hovered at 0.3 percent.

The UK had been the most important market for India in the 1950s but at present it is exported mainly to Belgium, Germany, the Netherlands, Japan and Singapore. India's exports suffered also because of increased competition from other tobacco-producing countries and also due to special performance of special areas and tobaccos of certain origin. India did not do her best to exploit even the limited opportunities open to her. Its demand from the UK also suffered because of inferior quality.

Cashew Kernel is another of our traditional export items can be noted from Table 4.1 that export of cashew kernel has shown a continuous increase during the first and second decades of planning. As a result of vigorous sales efforts, its exports recorded a significant improvement from Rs. 8.6 crore in 1950-51 to Rs. 18.9 crore in 1960-61. The value of exports increased from Rs. 57 crore in 1970-71 to Rs. 140 crore in 1980-81, showing a rise of 145.6 percent over its previous decade.

In 1990-91, there was almost a four-fold increase in the value of cashew kernel exported by our country Rs. 447 crore worth of cashew kernel was exported in 1990-91 which rose remarkably to Rs. 1,237 crore in 1995-96 indicating a rise of 176.7 percent. In 1997-98, Rs. 1,384 crore worth of cashew kernels were exported by our country. The exports of this commodity touched a remarkable level of Rs. 2,461 crore in 2000-01 and further to Rs. 1,652 crore in 2001-02. Its share stood at 0.8 percent of total Indian exports in 2001-02 which is alarming keeping in view that it has maintained its share at more than 1 percent since the 1950's. The share of this commodity in our total exports was 1.41 percent in 1950-51 which increased to 2.96 percent and 3.71 percent in 1960-61 and 1970-71 respectively. In 1980-81, its share fell down to 2.01 and further to 1.37 percent in 1990-91. From 1991-92 to 1994-95, its share was constant at 1.5 percent. In 1997-98 and 1998-99, its share was 1.1 and 1.71 percent respectively.

Major markets for this commodity are the UK, the USA, Russia, Germany, the Netherlands, Canada and Australia. Till 1970s our exports of cashew kernel were, by and large, concentrated only in two markets, the USSR and the USA. Although, India's main drawback in regard to cashew export was the dependence on imports of raw nuts, the indigenous production of raw nuts was not sufficient to meet India's exports of kernels.

Spices in 1950-51, our foreign exchange earnings through spices accounted for Rs. 25.5 crore, which fell down to Rs. 16.6 crore in 1960-61. A decade later, in 1970-71 spices worth Rs. 38.9 crore were exported which was double the amount of its previous decades. Early 1990s again saw a remarkable rise in the spices exported by India. Rs. 239 crore worth of this good was exported in 1990-91 which rose to Rs. 794 crore in 1995-96, showing a rise of 232.2 percent over 1990-91. In 1997-98, spices exported were valued at Rs. 1,408 crore which was almost double the amount of 1995-96. The value of spices exported in 1999-2000 stood at Rs. 1767 crore, at Rs. 1619 crore in 2000-01 and Rs. 1497 crore in 2001-02 showing a fall of 270 crore over a 3 year period.

Spices had a share of 4 percent in 1950-51 which fell down to 2.65 percent in 1960-61. This share was almost constant at 2.54 percent in 1970-71. However, there has been a decline in the share of spices since 1980-81, when the share of spices in total exports decreased to only 0.16 percent. From 1990-91 to 1994-95, this share remained almost constant at 0.7 percent. In 1997-98 and 1998-99, the shares had risen to 1.1 and 1.35 percent respectively. The share of this commodity has infact dropped down considerably to 0.3 percent in 2001-02.

The important partners for this group are France, the Netherlands and the UK. Competition to India comes mainly from Kenya and some other ACP countries which have stepped up their exports in recent years. Non-ACP countries are Malaysia, Indonesia and Brazil for this product.

Marine products have emerged as an important source of foreign exchange earnings. Export of marine goods was, quite stagnant in 1970-71. From Rs. 2.5 crore and Rs. 5. Crore in 1950-51 and 1960-61, it rose to Rs. 33 crore in 1970-71, showing an increase of 560 percent over its previous decades. It increased sharply to Rs. 217 crore in 1980-81 and there was a four-fold rise in the value of this good exported to Rs. 960 crore in 1990-91. In 1994-95, Rs. 3,381 crore worth of marine goods were exported which showed an increase of 252 percent over 1990-91. In 1997-98, there was a further rise in the value of this item. Rs. 4,313 crore worth of marine goods were exported (see table 3.5).

Marine products have continuously shown an upward trend since 1950s. From a negligible share of 0.41 percent in 1950-51, it rose to 0.78 percent and to 2.02 percent in 1960-61 and 1970-71 respectively. Beginning of 1980s saw a further rise in the share of marine goods which was 3.23 percent in 1980-81. In 1990-91, its share declined a little to

2.95 percent but rose quickly to 4.3 percent in 1994-95. However, from 1995-96 to 1998-99, its share has been 3.4 percent and 2.98 percent respectively. The share of marine products has rather declined marginally to 2.8 percent in 2001-02. The government has focused on promoting special schemes to improve the export of the commodity, Till the early 1960s, Ceylon and Burma were our important markets but in late 1970s Burma discontinued its import and Ceylon had also reduced its off-take considerably. USA and Japan, have on the other hand, emerged as the most important markets for our marine goods.

Among the European Union countries major partners are the UK, Italy and France. India's major export item in this group is frozen shrimps. Other important market is Australia. The competition to India comes mainly from China, Indonesia, Thailand, Bangladesh, Cuba and Tunisia besides ACP countries. The fisheries sector in the latter has benefited substantially under the LOME Conventions through financial support for development and exploitation of fishery resources for higher processing and for stabilization of export earnings.

The development to be considered by the Indian industry in this sector should include (i) increased competition from some of the European Union countries themselves consequent to the rights that they may secure under the Lome Convention; (ii) increased competition from third world countries including ACP countries; (iii) the uniform and stricter implementation of health regulations and packaging and labeling laws throughout the Union; (iv) the major sea food firms in the union joining hands through mergers and acquisitions for large scale operations; (v) the limitations faced by India due to concentration of its supplies in one product group namely, shrimps and (vi) the inelastic supply base of the country.

Processed Foods: The food processing industry in India comprises of three groups, namely (i) small-scale or cottage-scale unorganized sector, (ii) medium-scale; and (iii) large-scale organized sector. The government is committed to provide a large thrust to food processing industry for increasing income of farmers, create employment opportunities, diversify the rural economy and foster rural industrialization. This sector can go a long way in improving agricultural productivity, reducing wastage of fruits, vegetables and other perishable food items and improving food availability, both for the domestic market and for exports:

India is the largest producer of fruits in the world, yet its share in processed fruits trade is very meager. It is estimated that India's share of world trade in the food processing sector is only 1 percent. Besides India's poor performance, its direction of trade and content is also not in tune with the global scenario. The major items of exports are traditional Indian and Western products like pickles, chutneys, jams, ketchup and squashes, whereas international demand is for fruit pulps, concentrates, juices and freeze dried products. The main markets for Indian exports are Russia, the USA, the UK and the Middle East. On the other hand, the major importers of processed fruits are Europe and the affluent East Asian markets. Processed vegetables comprise only a small portion of world trade, relative to other processed items. The overall trade in these items is only about 4 percent of the total trade in preserved fruits and vegetables. However, the importance of processed vegetables has been rising over time, and currently, the demand for some of these items, such as canned mushrooms and tomato paste has been growing. Given India's large raw material base in the production of vegetables, the growing demand indicates tremendous export potential in this area.

On the export front, export of fruits and vegetables had been steadily increasing. It increased from Rs. 77.16 crore in 1982-83 to Rs. 588.43 crore in 1997-98 and Rs. 1608 crore in 2000-2001, with a sharp decline in 1985-86 and a slight decrease in 1987-88. Major items of fruits and vegetables exported from India include fresh mangoes, fresh grapes and onions. Quantity wise and value wise trend has been erratic. Indian mango and grapes are exported to the UAE, Bangladesh and United Kingdom. Other fresh fruits have a market in Bangladesh, the UAE and Saudi Arabia. Destinations of onion exports include Bangladesh, the UAE, Malaysia, Sri Lanka and Singapore. Fresh vegetables are exported to Sri Lanka, the UAE, Saudi Arabia and Belgium.

Export performance of processed fruits and vegetables is encouraging. Mango pulp, pickles & chutneys and dried and preserved vegetables constitute major item of export under this category. From the angle of domestic product mango pulp constitutes the most important mango product in India. The major producers of mango pulp in the country are M/s Wimco Ltd., Tropical Fruits International Ltd., Kissan and Nafed. The major importers of mango pulp from India are Saudi Arabia, the USA, the UK, the UAE and Netherlands. Pickles and chutneys and dried and preserved vegetables are exported to the UK, the USA and UAE.

Export of meat & meat products has also increased considerably. Buffalo meat and sheep/goat meat are the major items of export. It accounts for more than 84 percent of the total meat & meat products exported from the country. The trend in respect of export of sheep/goat meat is exported to Malaysia, the UAE, Iran and Oman. Sheep/Goat meat has a market in Saudi Arabia, UAE, Oman and Bahrain.

Being a major producer of fruits and vegetables, there is huge raw material availability for processing. It is estimated that only about 0.5 percent of the fruits and vegetables produced in India gets commercially processed. India's share in world export of processed fruits and vegetables is about 0.4 percent. This indicates tremendous potential for growth of processed fruits and vegetable sector in India. The capacity for fruit and vegetable processing has grown steadily from 0.275 million tones in 1980 to 1.40 million tones in 1994.

Manufactured Goods: This is a major commodity group exported by India, whose share in the total exports of our country has consistently grown from 1950-51 till date. In 1960-61, its share in the total goods exported was 45.33 percent. In 1970-71, it rose to 50.29 percent and further to 55.83 percent in 1980-81. In 1990-91, there was a sharp increase in the share of this commodity group, it represented 72.90 percent of the total exports by India. In 1994-95, its share further rose to 78.1 percent. It declined to 74.1 percent in 1996-97 and in 1998-99, its share was 75.83 percent. In 2000-01 it stood at 78 percent and fell marginally to 76.1 percent in 2001-02.

The consistent rise in the share of this commodity group can be attributed to many major commodities, whose exports have shown a remarkable increase in a span of 50 years. These goods include gems and jewellery, ready-made garments, cotton yarn and fabrics, leather and leather manufactures machinery and electronic goods etc.

Cotton Yarn Fabrics: 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.

In 1950-51, our exports of this commodity was valued at Rs. 80 crore but declined to Rs. 65 crore in 1960-61. During the above period, India found it very difficult to capture the international market because of relatively high cost in Indian textile industry, due to rising labour costs and use of outworn machinery.

However, the devaluation and the use of modern and new automatic machinery increased our exports of cotton textiles. During 1970-71, exports of this commodity

increased to Rs. 142 crore and further to Rs. 408 crore in 1980-81, showing almost a four-fold rise over its previous decade. In 1990-91, a decade later, cotton yarn exported was valued at Rs. 2100 crore which depicted a rise of 414.7 percent over 1980-81. In 1995-96, foreign exchange earnings received through this commodity reached a peak of Rs. 8,619 crore showing a rise of 310.4 percent over 1990-91. In 1997-98, cotton yarn exported was valued at Rs. 12,094 crore. The exports of cotton yarn rose sharply in 2000-01 and stood at Rs. 16,030 crore but dropped sharply in 2001-02 to Rs. 14,655 crore, a fall of almost 8.5 percent over the previous year.

In 1950-51 and 1960-61, share of this commodity was 18.8 and 10.2 percent respectively. In 1970-71 its share was 9.25 percent which declined to 6.07 percent in 1980-81. In 1990-91, it increased to 6.45 percent and further to 8.5 percent in 1994-95. In 1997-98, this share further increased to 9.5 percent. In 2000-01 and 2001-02, its share stood at 7.9 and 7.0 percent respectively.

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.

Ready-made Garments: It has been the single largest net foreign exchange earner after gems and jewellery among all the products in the country's export basket in the last few years. The performance of Indian garments export sector shows how an efficiently managed labour intensive sector can be transformed into a profitable foreign exchange earner. Exports of readymade garments have taken place with very little import content. Garment production is carried out largely without modern technology and automation because it is reserved for the small scale sector. The garment manufacturing and export activities in India are mainly located in Delhi, Mumbai, Chennai, Tirupur, Bangalore, Jaipur and Ludhiana. The bulk of India exports are to the USA and the EU (70 percent) and to Australia, Canada and Norway. The garment export sector has centred around an extensive subcontracting system which made use of power loom fabrics and second hand machinery.

The foreign exchange earnings from ready-made garments was Rs. 1 crore in 1960-61. Prior to 1960-61 there was virtually no export of readymade garments from India. It grew to Rs. 29 crore in 1970-71 and there was a tremendous increase in the export of this commodity by 1980-81. In 1980-81, it increased to Rs. 550 crore. From Rs. 550 crore in 1980-81, exports of ready-made garments increased to Rs. 4,012 crore in

1990-91 registering a growth rate of 629 percent over the previous decade. In 1995-96, Rs. 12,295 crore worth of ready-made garments were exported showing a growth of 206 percent over 1990-91. In 1997-98, Rs. 14,032 crore worth of garments were exported, showing a marginal rise of 14 percent over mid-nineties. In 1998-99 a total of Rs. 20,649 crore worth of readymade garments were exported which rose to Rs. 25,478 in 2000-01 but declined to Rs. 23,877 crore in 2001-02, a fall of Rs. 1,601 crore.

Within manufactured goods, the share of this commodity has grown both in size and share continuously and consistently over a period of five decades. In 1960-61, ready-made garments represented 0.16 percent of the total exports of our country. After a decade, i.e. in 1970-71, the share of this commodity group increased to 2 percent. In 1980-81, however, there was a steep rise in the share of this group, it rose to 8.19 percent. It further rose to 12.32 percent in 1990-91 and remained almost constant at 12 percent in 1994-95. In 1997-98 and 1998-99, ready-made garments had a share of 11.1 percent and 13.41 percent respectively. This share stood at 13.14 percent in 1999-2000 but has been declining since then to 12.5 percent in 2000-01 and further to 11.4 percent in 2001-02.

Major markets for readymade garments are Germany, the UK, France, Russia and Japan. Exports to both these markets have shot up considerably. The reasons for this is a renewed consumer preference for cotton garments in the developed countries. This seems to have revived the world trade in cotton garments. Moreover, there was a world-wide shortage of cotton after 1986 which inflated the price of cotton garments traded in the international market. Cotton is the fabric base for more than 70 percent of the garments exported from India, and so we have obviously capitalized on these circumstances. Secondly, the availability of more levels in bilateral agreements under the MFA has given a boost to exports in restrained countries. In 1987, the USA increased its base level quota for India by 17 percent and again by another 18 percent in 1988. The EU increased its quota allocations to India by 15 percent in 1987 and by 28 percent in 1989. And finally, Indian garment exports have evidently benefited from some of the government measures announced in recent years to help the export sector, which include inter alia, duty drawbacks, advance licensing and the provision of cash compensatory support.

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 at low cost and aggressive marketing so that our products are sold in existing as well as new markets.

The item-wise composition of Indian garment exports also reveals that there has always been a fairly high degree of concentration in terms of items of exports. Woven clothing has always comprised more than 70 percent of India's clothing exports. And within this category the specific item which has dominated the market that comes under the heading "women's outerwear non-knit". Women's woven outerwear includes dresses, skirts and blouses. Even within these items, clothing based on cotton fabrics have accounted for virtually all the exports. Another significant item which has also been the mainstay of our garment exports are men's shirts made of cotton. It may therefore be concluded that both in terms of items and in terms of the fibre base Indian garment exports are not sufficiently diverse in nature. The high item concentration in India's garment exports shows that we have relied rather heavily on a small range of items.

Given the highly volatile nature of demand in the international market such lack of diversification is not conducive for garment exports in the long run. When viewed in this context the current boom in garment exports should not give rise to complacency. Moreover, the heavy reliance on pure cotton as the fabric base points to another underlying weakness in our garment trade. It also explains why our garment exports have not been able to penetrate new markets in a big way and have remained confined to the US and the EU. The pure cotton garments which form the bulk of our garment exports are popular only in the rich countries. Indian garment exporters have been encouraged to explore markets in non-quota countries owing to the stringent upper limits on exports to the restrained countries. But tapping these non-quota countries in effect implies making in-roads into the markets of the developing economies like Africa, West Asia and Latin America.

Leather and Leather Manufactures: Since partition India's traditional exports of raw hides and skins had greatly fallen, exports have since consisted mainly of leather and leather manufactures. In 1950-51, leather and leather manufactures worth Rs. 35.4 crore were exported. This declined to Rs. 28 crore in 1960-61. The main factors affecting exports of this commodity were the use of outmoded equipment and machinery employed in the processing and manufacturing sector. In 1970-71, Rs. 80 crore worth of leather and leather manufactures were exported which increased substantially to Rs. 390 crore in 1980-81 showing a rise of 387.5 percent over its previous decade.

In 1990-91, foreign exchange earnings through the exports of leather and its manufactures was Rs. 2,600 crore which registered a growth of 566.66 percent over 1980-

81. In midnineties, i.e. in 1995-96, the value of leather goods exported doubled to Rs. 5,790 crore. In 1997-98, there was a marginal decline in the export of this value. It came down to Rs. 5,461 crore. There has been a consistent rise in the value of exports of this group since 1999-2000 when it stood at Rs. 6,890 crore and raised further to touch Rs. 8,914 crore and Rs. 9110 crore in 2000-01 and 2001-02 respectively.

The share of leather and leather manufactures stood at 7.98 percent in 1990-91. However, in 1995-96, there was again a fall in the share of this commodity which came down to 5.44 percent. In 1997-98 and 1998-99, leather and its manufactures including footwear had a share of 4.3 percent and 4.18 percent respectively. In 2001-2002 the share stood at 2.8 percent similar to last year's share.

Major markets for this commodity are Italy, the UK, Germany and France. India faces stiff competition from countries of European Union like Italy, Spain, Portugal, Germany, the UK and France which have a strong supply base.

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 of the Union. The nature of Union's new GSP regime (1995-2004) will also influence further prospects of India's exports of leather and leather goods in Europe.

In view of competition from developed countries, proper steps must be taken to boost the exports of this commodity. Improvement in the quality of leather and efficiency in the leather industry is a must. The products should also be diversified after extensive marketing research in export markets to suit consumer's preference.

Gems and Jewellery: Gems and Jewellery comprising diamonds, coloured gemstones, gold jewellery, pearls non-gold jewellery, synthetic stones and costume/fashion jewelry constitute a growth potential export sector. Exports of all items of this product group taken together have increased phenomenally since the liberalization measures. The product group of gems and jewellery makes significant contribution to India's overall export earnings and remains in the forefront of foreign exchange earners.

Diamonds account for 80 to 93 percent share in the total exports of gems & jewellery. In fact cut and polished diamonds remain the single largest item which has made significant contribution to the export effort of this sector. The other two main items, though distantly following diamonds, are gold jewellery and coloured gemstones together

accounting for 6 to 18 percent share of the total exports of gems & jewellery. In 1950-51, gems and jewellery worth less than Rs. 1 crore were exported which increased a little to Rs. 1 crore in 1960-61. Foreign exchange earnings through the export of this commodity was Rs. 618 crore in 1980-81 which indicated a tremendous growth of 1273 percent over its previous decade. In 1990-91 the value of this commodity exported was Rs. 5247 crore registering a growth of 749 percent over its previous decade.

In 1995-96, gems and jewellery exported were valued at Rs. 17,644 crore which depicted a rise of 236 percent over its value in 1990-91. In 1997-98, gems and jewellery rose only by 8 percent over its value in 1995-96, the value being Rs. 19,014 crore. In 1999-2000 a total of Rs. 32716 crore worth of gems and jewellery were exported which rose to Rs. 33,734 crore and Rs. 34,845 crore in 2000-01 and 2001-02 respectively.

The share of this commodity has increased consistently and continuously over a period of 50 years. In 1960-61 its share only 0.26 percent. After a span of ten years, i.e. in 1970-71 it grew to 2.93 percent. Its share rose sharply to 9.21 percent in 1980-81. In 1990-91, the share of gems and jewellery rose to 16.11 percent and in mid-nineties, i.e. 1994-95, it further increased to 17.1 percent. In 1997-98 and 1998-99, its share was 15.1 and 16.03 percent respectively. This share increased to 16.6 percent in 2000-01 and 16.7 percent in 2001-02 respectively.

India's major trading partner is Belgium, from where huge amount of rough diamonds are imported and huge quantity of polished and cut diamonds, precious and semi-precious stones are exported. Besides Belgium other markets are France, the USA, Germany and the UK. The US continues to be the single largest market for Indian gems & jewellery. Indian jewellery exports to the US no longer qualify for import tax exemption under General Selling Preference, an incentive offered by the US to stimulate trade with developing countries. Under the Competitive Needs Limit of the United States GSP(General Selling Preference)law, a country can lose GSP eligibility on an item if imports of that particular item from the country exceed 50 percent of the total US import of that item or if imports of the item from the country exceed \$ 101 million in 1992. Exporters were informed that their goods would be subjected to an import tax of 6.5 percent.

Machinery and Electronic Goods: Electronics and computer software have emerged as the major sectors in India's export basket in recent years. The Ministry of Commerce, Government of India, has identified these sectors as thrust areas for exports. Machinery

and electronic goods had acquired the status of major constituent of our exports only during mid-1970s, due to rapid industrialization in the country. Our exports of this commodity were almost negligible during the first and second five year plans. Table 3.5 shows that in 1960-61, our exports of this commodity group were valued at Rs. 22 crore only which rapidly raised to Rs. 198 crore in 1970-71.

Electronics is the fastest growing sector of the Indian industry. Exports of electronic goods (including computer software) have increased at a steady pace over the years. The growth of the software industry in India is closely associated with the growth of the computer industry itself. With the implementation of the computer policy by the Government of India, the software industry has been growing rapidly in terms of revenue as well as the range of products introduced in the market. On the export front, software has been earning more foreign exchange for the country as compared to hardware, during the past few years.

The potential for software exports is tremendous and it is this factor which makes software exports a thrust area. India's export performance in strategic electronics has been quite erratic. The growth of electronic components industry has been largely dependent on the consumer electronics industry which buys large quantities of electronic components of all types.

In 1980-81, export of this commodity group was valued at Rs. 827 crore, showing a rise of 317.6 percent over its previous decade. In 1990-91, foreign exchange earnings from this commodity were valued at Rs. 3,872 crore, showing a tremendous rise by 368 percent over 1980-81. In mid 1990s, i.e. in 1995-96, Rs. 14,578 crore worth of these goods were exported which showed a rise of 276.4 percent over 1990-91. In 1997-98, foreign exchanges earned from the export of these goods were valued at Rs. 18,354 crore showing a marginal rise of 26 percent over 1995-96.

In 1960-61, their share was only 3.42 percent of the total export; it grew remarkably to 12.80 percent in 1970-71. The share remained almost constant at 12.32 percent in 1980-81. In the early 1990s, its share declined marginally to 11.89 percent in 1990-91. In mid 1990s, i.e. in 1994-95, its share was 13.7 percent and in 1998-99, it further declined to 10.52 percent. Its share has fallen considerably and stood at 2.7 percent in 2001-02.

Despite the rapid rise in our exports share of the machinery and electronic goods is still negligible. The world market in this commodity is dominated by the developed

countries of the world. In the context of price, quality after-sale service and credit facilities, the markets are highly competitive. In this respect, it is very difficult for us to compete with the giant producers with well established trade connections throughout the world.

India, with a low industrial base in relation to the advanced countries, can hope to have a good share of these markets, provided it takes into account some important developments taking place around the world especially within EU which is our largest partner. These are: (a) harmonization of standards (b) use of improved technology (c) increased volumes of production and automation (d) improved buying power of European firms (e) introduction of product liability causes (f) economics of scale and improved productivity and (g) vacation of industrial areas due to environmental reasons and rising labour costs.

3.6: A Directional Analysis: Indian Exports

Since the inception of planning era, India's foreign trade has made new strides in different directions. New markets have been explored, new items have been added to the export-basket and traditional commodities like tea, leather, jute, manufactures etc. have been marketed with more value added to them.

India's foreign trade with her trading partners has not only grown at differential rates but also been determined by different forces, some of which have been common to all regions and countries and other have been unique to particular regions.

The region-wise data about the direction of Indian Export during 1981 to 1990 and 1991-2000, have been presented in the table 3.7 and table 3.8.

Table 3.7: Direction of Indian Exports During Pre-reformed Period (1980-1981 to 1089-90)
(In Rs. Crores)

| Year | Total | Total | EEC/EU | N. America | Asia & Oceania | OPEC | Eastern Europe | Developing Countries |
|---------|-------|--------------|--------------|--------------|----------------|--------------|----------------|----------------------|
| 1980-81 | 6711 | 3126 | 1447 | 806 | 708 | 745 | 1486 | 1286 |
| | | 46.58 | 21.56 | 12.01 | 10.55 | 11.10 | 22.14 | 19.16 |
| 1981-82 | 7806 | 3427 | 1442 | 988 | 824 | 940 | 1975 | 1232 |
| | | 43.90 | 18.47 | 12.66 | 10.55 | 12.04 | 25.30 | 15.78 |
| 1982-83 | 8803 | 3558 | 1470 | 959 | 946 | 820 | 2025 | 1068 |
| | | 14.42 | 16.70 | 10.89 | 10.75 | 9.32 | 23.00 | 12.03 |
| 1983-84 | 9771 | 4367 | 1756 | 1487 | 938 | 881 | 1610 | 1563 |
| | | 44.69 | 17.97 | 15.22 | 9.60 | 9.02 | 16.48 | 16.00 |
| 1984-85 | 11744 | 5272 | 2002 | 1897 | 1190 | 944 | 22442 | 1441 |
| | | 44.89 | 17.05 | 16.15 | 10.13 | 8.04 | 19.10 | 12.27 |
| 1985-86 | 10895 | 5532 | 1929 | 2106 | 1304 | 835 | 2294 | 1463 |
| | | 50.78 | 17.71 | 19.33 | 11.97 | 7.66 | 21.05 | 13.43 |
| 1986-87 | 12452 | 7004 | 2736 | 2469 | 1501 | 774 | 2390 | 1871 |
| | | 56.25 | 21.97 | 19.83 | 12.05 | 6.21 | 19.19 | 15.02 |
| 1987-88 | 15674 | 18838 | 3934 | 3086 | 1889 | 962 | 3594 | 2204 |
| | | 56.39 | 25.10 | 19.69 | 11.61 | 6.14 | 22.93 | 14.06 |
| 1988-89 | 20232 | 11301 | 4926 | 3925 | 2450 | 1193 | 3356 | 3315 |
| | | 58.86 | 24.25 | 19.40 | 12.11 | 5.90 | 16.59 | 16.38 |
| 1989-90 | 27681 | 14743 | 6906 | 4739 | 3099 | 1841 | 5336 | 4246 |
| | | 53.26 | 24.95 | 17.12 | 11.20 | 6.65 | 19.28 | 15.34 |
| Average | 1377 | 9717 | 2855 | 2246 | 1478 | 993 | 261 | 1969 |
| | | 51.00 | 21.67 | 17.04 | 11.22 | 7.53 | 19.97 | 14.94 |

Source: Government of India, Economic Survey (various issues)

Note: Figures in dark refer percentages to total

*Excluding members of OPEC

Table 3.8: Direction of Indian Exports During Post-reformed Period (1990-91 to 1999-2000)
(In Rs.Crores)

| Year | Total | Total | EEC/EU | N. America | Asia & Ocenia | OPEC | Eastern Europe | Developing Countries |
|----------------|--------------|--------------|--------------|--------------|---------------|--------------|----------------|----------------------|
| 1990-91 | 32553 | 17428 | 8951 | 5077 | 3401 | 1831 | 5819 | 3377 |
| | | 53.54 | 27.50 | 15.60 | 10.45 | 5.62 | 17.88 | 10.37 |
| 1991-92 | 44042 | 25482 | 11899 | 7666 | 3401 | 3850 | 4814 | 7101 |
| | | 57.86 | 27.02 | 17.41 | 7.72 | 8.74 | 10.93 | 16.12 |
| 1992-93 | 53688 | 32467 | 15196 | 10737 | 4897 | 5180 | 2259 | 11177 |
| | | 60.47 | 28.30 | 20.00 | 9.12 | 9.65 | 4.21 | 20.82 |
| 1993-94 | 69751 | 39672 | 18182 | 13256 | 6336 | 7473 | 2657 | 16902 |
| | | 56.88 | 26.07 | 19.00 | 9.08 | 10.71 | 3.81 | 24.23 |
| 1994-95 | 82674 | 48491 | 22075 | 16602 | 7623 | 7631 | 2983 | 19731 |
| | | 58.65 | 26.70 | 20.08 | 9.22 | 9.23 | 3.61 | 23.87 |
| 1995-96 | 106353 | 59223 | 28157 | 19487 | 8870 | 10300 | 4092 | 27324 |
| | | 55.68 | 26.47 | 18.32 | 8.34 | 9.68 | 3.85 | 25.69 |
| 1996-97 | 118817 | 66035 | 29660 | 24525 | 8722 | 11475 | 3484 | 32224 |
| | | 55.68 | 24.96 | 20.64 | 7.34 | 9.66 | 2.93 | 27.12 |
| 1997-98 | 130101 | 72418 | 32840 | 26892 | 8952 | 13138 | 4204 | 34079 |
| | | 55.66 | 25.24 | 20.67 | 6.88 | 10.10 | 3.23 | 26.19 |
| 1998-99 | 139752 | 824104 | 36361 | 32279 | 8818 | 14992 | 3911 | 34218 |
| | | 58.75 | 26.02 | 23.10 | 6.13 | 10.73 | 2.77 | 24.48 |
| 1999-00 | 159561 | 91461 | 39445 | 38886 | 9330 | 16910 | 4894 | 40906 |
| | | 57.32 | 24.72 | 24.72 | 5.85 | 10.60 | 3.07 | 25.64 |
| Average | 93729 | 53478 | 24277 | 19541 | 7035 | 9278 | 3902 | 22704 |
| | | 57.05 | 25.90 | 20.85 | 7.50 | 9.90 | 4.16 | 24.22 |

Source: Government of India, Economic Survey (various issues)

Note: Figures in dark refer percentage to total.

*Excluding members of OPEC

The fast changes which have taken place at the international level during 1980s and 1990s are not comparable with the past. Disintegration of erstwhile U.S.S.R. during the late 1980s has brought significant changes in the direction of Indian exports and imports. The data reveals that the combined share of OECD countries has consistently increased from 46.58 percent in 1980-81 to 50.78 percent in 1985-86 to 55.68 percent in 1995-96, which further increased to 57.32 percent in 1999-2000. If we compare averages of period I and period II, we find that India's exports to OECD countries have increased from 51 percent to 57 percent. Similarly If we compare to average share of Indian exports to European Union (EU) and North America, it has increased from 21.67 percent and

17.04 percent of 25.90 percent and 20.85 percent respectively during these two periods. However the share of Indian exports to Asia and Oceania has declined from 11.22 percent to 7.50 percent during the period I and II the share of OPEC countries in India's exports has decreased from 11.10 percent in 1980-81 to 7.66 percent in 1985-86, to 5.62 percent in 1990-91, which increased to 9.68 percent in 1995-96 and further increased to 10.60 percent in 1999-00. So the data reveals fluctuations during the period under study. If we compare average period I to period II. We find that the share of OPEC Countries has increased from 7.43 percent to 9.90 percent.

Another significant change in the destination pattern is a sharp decline in the share of East European countries, of which former U.S.S.R constituted a major part. The share of East Europe declined very sharply from 22.14 percent in 1980-81 to 3.85 percent in 1995-96 and 3.07 percent in 1999-00. If we compare average of period I and period II, it has declined from 19.97 percent to 4.16 percent i.e. an average decline of about $\frac{3}{4}$ of the total share.

One of the reasons cited for this is the transition of economic structure of East European Countries. Until the early 1990s a major share of India's trade with these countries was governed by rupee-double agreement. The termination of rupee trade and the economic turmoil faced by them resulted in sharp decline in India's trade with these countries. This decline in trade has affected India's agricultural and allied exports more as compared to manufactured exports. However, data reveals a sharp increase in the share of developing countries which compensated the loss suffered on India's export on an average has increase from 14.94 percent during period I to 24.27 percent in period II; though the increase is not consistent.

As in 2001-02, India's major export destination were European Union (EU) which accounted for nearly 21.8 percent of India's total exports, USA which accounted for 19.4 percent of India's exports to it, OPEC accounting for 12 percent of India's exports. Together, these countries account for nearly 65 percent of India's total exports to the world.

The Post-war world has been marked by the emergence of various trade blocs. The concept of trade bloc can be best described as a group of countries, coming together and allowing, within the group, complete freedom in the movement of goods, capital and services. Interestingly, West Europe, went a step further by announcing that in their 1992

programmed, these would not only be complete freedom in the movement of goods, capital and services, but also people, thus popularizing the term four freedoms.

The rate of growth exports to EU was highest during 1991-92 and after then this was going declining. Rate of growth of exports of North America was highest (51%) during the 1991-92 and after then it declined gradually and during the 1997-98, growth rate was only of 9.7%. India's exports to Asia and Oceania were not increased at a constant rate. Rate of growth of exports to other OECD countries was highest (34%) during 1991-92 and after 1991-92, the rate of growth of exports was decreasing and during the 1995-96 there was sudden declined of 20.7% in the rate of growth of exports. India exports a large amount to the OPEC. Rate of growth of annual average of exports to the OPEC was 31% during the 1990s. During the 1991-92, we observed a high rate of growth of exports (110%) to the OPEC. During the 1999-2000 exports to OPEC were increased eight and half times of the period of 1990-91.

India's export to Europe has declined sharply. During the 1990s, the annual average rate of growth of exports to Eastern Europe was only of 3.9%. On the other hand India's export to SAARC has increased and other Asian Developing Countries imports from India a large amount. Exports to Latin American Countries have increased about 1717% during the 1999-2000 comparing with 1990-91.

It will be clear from the table those largest partners of India to which India exports at a largest amount in value terms were EU, North America Asia & Oceania.

In respect of total exports, in value terms, the share to EU, Asia & Oceania, other OECD countries and Eastern Europe has declined during the 1990s. On the other hand, in respect of total exports, in value terms, the share to the North America, OPEC, SAARC, other Asian Developing Counties and Latin American Countries has increased gradually during the 1990s. Table 3.7 indicates that EU as in 1998-99 was India's largest trading partner accounting for 26.92 percent of its total exports to the world. USA emerged as the second largest trading partner accounting for 21.78 percent of largest exports of the world followed by OPEC and Japan which had a share of 10.55 percent and 5.0 percent respectively in 1998-99. Asia is also one of the largest trading partners of our country and had accounted for 21 percent of India's exports to the world in 1997-98. This figure has rather changed and in 2001-02 Asia stood as India's largest trading partner with a 22.4 percent share followed by EU at 21.8, USA at 19.4 and OPEC at 12.0 percent share.

Exports to European Union (EU)

International trade relations constitute the single most important plank of the 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 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 blocks in the world.

Foreign trade makes an important contribution to economic growth in both the European Union and India and bilateral trade has been the bedrock of the Indo-EU relationship. Over the years, the European Union has emerged as India's largest trading partner, with a share of 26.92 percent of its global exports in 1998-99 and almost 25 percent of its imports coming from EU. This share has however seen a fall over the last 6-7 years with the share pegged at 21.8 percent in 2001-2002. Over the past decade, EU has become a major destination for India's products and a source of supplies for the critical imports including important raw materials and investment goods.

Table 3.9: Direction of India's Trade with World Exports

| Country | 1990-91 | 1995-96 | 1996-97 | 1999-2000 | 2000-01 | 2001-02 |
|--------------------------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| I. OECD of which | 17428 | 59223 | 64587 | 91461 | 107238 | 103120 |
| a. EU, of which : | 8951 | 28157 | 29352 | 39445 | 46120 | 45524 |
| i. Belgium | 1259 | 3748 | 3825 | 5926 | 6718 | 6632 |
| ii. France | 766 | 2499 | 2525 | 3888 | 4660 | 4507 |
| iii. Germany | 2549 | 6614 | 6627 | 7533 | 8715 | 8529 |
| iv. Netherlands | 644 | 2572 | 2989 | 3838 | 4021 | 4120 |
| v. U. K. | 2128 | 6726 | 7208 | 8817 | 10502 | 10306 |
| b. North America | 5077 | 19487 | 24470 | 38886 | 45509 | 43391 |
| i. Canada | 281 | 1022 | 1235 | 2506 | 2999 | 2789 |
| ii. U.S.A. | 4797 | 18466 | 23234 | 36380 | 42510 | 40602 |
| c. Other OECD, of which : | 3401 | 8870 | 8654 | 9330 | 10341 | 9494 |
| i. Australia | 321 | 1257 | 1356 | 1748 | 1854 | 1994 |
| ii. Japan | 3039 | 7411 | 7068 | 7303 | 8198 | 7204 |
| II. OPEC, of which: | 1831 | 10300 | 11365 | 16910 | 22223 | 25016 |
| i. Iran | 141 | 514 | 689 | 659 | 1037 | 1207 |
| ii. Iraq | 44 | 2 | 8 | 214 | 384 | 986 |
| iii. Kuwait | 74 | 453 | 546 | 669 | 1037 | 1207 |
| III. Eastern Europe of which: | 5819 | 4092 | 3366 | 4894 | 4964 | 4859 |
| i. G.D.R. | - | - | - | - | - | - |
| ii. Romania | 96 | 100 | 69 | 54 | 56 | 54 |
| iii. Russia | 5255 | 3496 | 2766 | 4108 | 4061 | 3807 |
| IV. Other LDC's, of which : | 5465 | 27324 | 31648 | 40906 | 54282 | 58614 |
| i. Africa | 668 | 3584 | 3438 | 4841 | 6489 | 7796 |
| ii. Asia | 4665 | 22613 | 26641 | 33391 | 43566 | 46803 |
| iii. Latin America and Caribbean | 132 | 1127 | 1569 | 2674 | 4228 | 4015 |
| V. Others | 2010 | 5414 | 5659 | 5390 | 14864 | 17410 |
| Total | 32553 | 106353 | 117525 | 159561 | 203571 | 209018 |

Source: *Government of India, Economic Survey, 2002-2003*

India's exports to EU can be classified into following broad categories:

agricultural and marine products, leather and its products including footwear, chemicals and allied products, textile and garments, jute and coir products, gems and jewellery, engineering and electronic goods.

Nearly 70 percent of India's exports to EU comprise of commodities which include leather, tea, diamonds, cotton fabrics, tobacco, precious and semi-precious stones and coffee. The residual exports of about 30 percent comprising engineering goods,

chemicals and software form a dynamic area which still has a wider scope for exploitation. Detailed analysis shows that India's major partners in EU have been UK, Germany, Belgium, Italy, the Netherlands and France.

Austria, Finland, Sweden, Greece, Luxembourg, Portugal, Denmark, and Ireland are small partners. Share of Luxembourg till 1992-93 had almost been negligible. Share of Portugal, Greece, and Ireland was even less than 1 percent of India's total exports to EU. In 1998-99, these countries together accounted for 5.9 percent of total exports to EU, showing a remarkable increase from 1992-93. Share of Spain has risen from 1.98 percent in 1983-84 to 6.85 percent in 1998-99.

United Kingdom: As a market for Indian products, the UK was a close second to Germany till 1994-95. From 1995-96 onwards, it is the number one trading partner with India. India's major exports to the UK include ready-made garments (16 percent), Leather (12.14 percent), gems and jewellery (7.41 percent), Engineering goods (15.18 percent) in 1998-99. Agricultural goods in 1998-99 accounted for 13 percent of total goods exported.

UK's share of value and value in India's total exports of it to world was the highest (13 percent in 1997-98). India's exports to tobacco etc. to world in 1997-98 was Rs. 1058.51 crore and UK's share was Rs. 138.12 crore (a share of 13 percent). Exports of leather and its manufactures including footwear to world by India was Rs. 4294 crore and to UK it was Rs. 519.59 crore (a share of 12 percent) in 1997-98. Exports of readymade garments to world amounted to Rs. 11,720 crore and to UK alone it was Rs. 863 crore (a share of 7.36 percent). UK's share in the export of cashew-kernels was 6.6 percent, rice 5.5 percent, cotton 4 percent, spices 6 percent and engineering goods 6 percent in 1997-98.

Germany: India's major exports to Germany include Ready-made garments, leather and its manufactures, carpets and other floor coverings. Together, their share accounted for more than 45 percent of total exports to EU. Exports to Germany increased from Rs. 20 crore in 1960-61 to Rs. 108.34 crore in 1973-74 and to Rs. 473 crore in 1983-84 representing more than a four-fold rise over its previous decade. The exports to Germany further shot up spectacularly to Rs. 1,773 crore in 1989-90 before the German Unification.

After the unification in 1990, exports increased from Rs. 2749 crore in 1990-91 to Rs. 7929 crore in 1998-99 registering a growth of 211 percent. Thereafter, they jumped to Rs. 8,715 crore in 2000-01 and declined marginally to Rs. 8,529 in 2001-02.

Germany had witnessed eco-politico resurgence as the country entered into the 1990s. The unification of the Germany and the integration of the European market in 1992 are having profound effects on its economy. For Germany, the Single European Market by the end of 1992 could not have been better timed. The market took shape at a time when Germany had emerged as a big technological power, following all pervasive modernization and technological upgradation and some of the other EU member nations were lagging behind in meeting the tough competition given by the German firms.

Moreover, German unification has brought tremendous opportunities for India. Unification has led to steep rise in German imports as the German industry alone cannot possibly supply all the goods needed for the reconstruction of the economy. India should avail of these opportunities in the present as well as future. India should also be cautious from East Asia, a region which has been maintaining its exports at a commendable rate despite various restrictions. The four NIC-South Korea, Taiwan, Hong Kong and Singapore-account for nearly 40 percent of German exports to the South, South-East and Far East Asia combined excluding Japan. The share of these four economic in the German market is about 53 percent of the total imports from this region.

India's position among the East Asian nations, in the early 1990s, was fifth or sixth with regard to trade with Germany, China, Taiwan, South Korea and Hong Kong scored over India in exporting to Germany in aggregate, as also selected commodities of India's interest such as garments, leather product and engineering goods. Garments and other finished products have become one major category now in India's exports to Germany.

Indo-German trade has to be seen in a broader perspective viewed on a holistic frame. The new targets of the trade relationship cannot be achieved merely in terms of quantitative parameters. A new qualitative element will have to be introduced with a time frame as reference point.

Belgium: From mid 1990s, Belgium has become an important source of destination for exports. In 1993-94, Belgium had a share of 14.56 percent in the total goods exported to the European Union. In 1997-98 and 1998-99, its share was 13.9 and 14.32 percent respectively in the total goods exported to the world is also very significant. From a small share of 1.4 percent in 1960-61, it rose to 2.4 percent in 1980-81 and to 6.3 percent in 1990-91. In 1997-98, its share was 6.1 percent which indicates that Belgium has emerged as an important destination for exports by India. After this the share of Belgium has

declined and has been hovering around 3.5 percent since the last 3-4 years and stood at 3.2 percent in 2001-02. The value of goods exported to Belgium in 2001-02 stood at Rs. 6632 crore.

France: France is also a major market in the EU for India's exports, especially for ready-made garments, leather and its articles and footwear, products of chemical and engineering goods. Together, they constituted 54 percent of total goods exported to France in 1998-99. Exports to France stood at Rs. 9 crore in 1960-61 which grew to Rs. 18 crore in 1970-71 rising by 100 percent over its previous decade. Export to France have risen sharply since 1990-91 from Rs. 766 in that year to Rs. 4,507 crore in 2001-02, i.e. registering a growth of over 600 percent in the last decade which is phenomenal.

Italy: Italy is fast emerging as an important market for Indian exports, especially for textiles and garments and leather and its manufactures. Ready-made garments constituted 10 percent of total exports by India to Italy in 1998-99. Among other important export items, leather and its manufactures, engineering goods and chemical materials had a share 15 percent, 6 percent and 8 percent respectively in 1998-99.

India's exports to Italy had risen from Rs. 69.32 crore in 1973-74 to Rs. 157.5 crore in 1981-82 and from Rs. 139.7 crore in 1982-83 to Rs. 4,996 crore in 1998-99 rising almost 35 times over the period.

The Netherlands: India's export to Netherlands has been steadily growing over the years. In 1980-81, goods exported to Netherlands stood at a figure of Rs. 152 crore which increased to Rs. 644 crore in 1990-91 rising by 324 percent over its previous decade. Exports continued to rise from mid 1990s. In 1998-99, Rs. 3285 crore worth of goods were exported to Netherlands. This figure has since then risen to Rs. 4,120 crore in 2001-02.

Major exports to Netherlands include apparel, cashew-kernels, products of chemicals, especially pharmaceuticals, leather and its manufactures and engineering goods. Together, they constituted 51 percent of the total goods exported to Netherlands in 1998-99.

India has been facing increasing difficulty in gaining market access due to the protectionist policies of the Union in areas like clothing, where India has comparative advantage. On the other hand, import liberalization in India has provided a fast growing market for European industry. Besides, composition of India's exports to the Union is not well diversified. Leather and its products, textiles and its articles and pearls and precious

stones account for two-thirds of India's total exports to the Union. India must try to diversify its exports to the Union of commodities which have a greater demand.

India must particularly concentrate on markets like Denmark, Germany, Italy, UK and Spain intra-Union imports are relatively of lesser magnitude. In certain products like apparel and clothing, knitted and crocheted goods, carpets, tobacco, animal feeds, pearls and precious and semi-precious stones, India has better price and competitiveness with non-Union suppliers.

Since the services sector has expanded, Indian banks must enter the area of investment banking so as to utilize the increasing opportunities. India can also gain a foothold in foreign travel, which is likely to increase in the years to come.

Certain recommendations like promoting Indian presence in the EU, promoting co-operation on standards, encouraging technology, absorption and undertaking aggressive marketing should be adopted by Indian industries to enhance their exports to the Union. Hence, it can be concluded that there is a high potential of increasing trade relations with the European Union especially after the Unification.

Exports of USA: USA covers more than 80 percent, on an average, of India's exports to the dollar area and is also a major importer of India's total exports. At the initial stages of planned development, India having mainly traditional goods to offer, the principal items of exports were jute manufactures, tea, spices, cashew kernels, cotton textiles, metal ores, minerals etc. Jute manufactures accounted for the highest proportion of exports to USA, in 1950-51, followed by spices, their respective shares being 30.5 percent and 13.3 percent of India's total exports to USA.

The pattern of trade with USA has undergone gradual changes, over time and the traditional items of exports dwindled in importance yielding place to a variety of non-traditional products such as precious stones, works of art, floor coverings etc. whose proportion in total exports to USA increased whose proportion in total exports to USA increased over the years. To deal with the sophisticated market as that of USA, changes in the composition of trade were essential. Hence, new products, manufactured and semi-manufactured such as jewellery, handicrafts, food products, footwear, engineering goods etc. made for gradual diversification of exports.

From a share of 14.7 percent in 1990-91 in India's total exports to world, USA's share increased to 19.1 percent in 1994-95 and 19.5 percent in 1997-98. In 1998-99, USA accounted for 21.78 percent share of total goods exported by India to the world. In 1999-

200 this share further improved to 22.8 percent but saw a fall of 1.9 in 2000-01 to 20.9 percent. The September 11 attack on the US and the consequent downturn in the economy coupled with hostile action in Afghanistan and Iraq this year should have some bearing on the exports to US in the current year. The value of total goods exported to US stood at Rs. 40,602 crore in 2001-02.

Exports to OPEC: India had relatively old trade connections with Iran, Iraq, Indonesia, Kuwait, Negeria and Saudi Arabia. In the 1950s, it was India's turn to be placed in a more advantageous position where it had more to offer to these countries than to buy from them. A host of commodities such as tea, coffee, spices, hides and skins, cotton textiles and jute manufactures were exported to these countries could offer were imported such as mineral oil and its related products, fruits, precious and semi-precious stones.

Of the goods exported, tea, jute manufactures cotton textiles and spices made up for 17 percent, 10 percent, 17 percent, and 3 percent, respectively of India's total exports to OPEC. On imports sides, oil imports accounted for nearly 80 percent of total imports. The balance of trade was, in general, surplus for India.

Nineties have proved to be very important for India's foreign trade in OPEC. Our trade with OPEC has improved substantially and OPEC's share in Indian exports has increased from 6 percent in 1990-91 to 11 percent in 1998-99. Share of imports from OPEC have risen from 16 percent in 1998-99 23 percent in 1997-98 and falling to 19 percent in 1998-99. Major goods exported to OPEC in 1998-99 included agricultural products (31 percent), chemicals (8.2 percent), engineering goods (17 percent), RMG (14 percent). Goods imported from OPEC include capital goods, raw material and intermediaries. Together, they had a share of 77 percent in total imports in 1998-99 from OPEC. The total goods exported to OPEC in 2001-02 stood at Rs. 25016 crore.

Exports to Japan: Japan has been an important trading partner of India since the 1950s. In 1980-81 and 1990-91, share of exports of Japan was 8.9 percent and 9.3 percent respectively whereas imports had a share of 6.0 percent and 7.5 percent in the same years. In mid 1990s, exports to Japan had a share of 7.7 percent and imports from Japan also had a share of 7.1 percent. In 1998-99, the share of exports to Japan feels down to 4.9 percent. This share has been falling since then and was pegged at 4.0 percent in 2000-01 and further down to 3.4 percent in 2001-02.

India's foreign trade with her trading partners has not only grown at differential rates but ahs also been determined by different forces, some of which have been common

to all regions and countries and others have been unique to particular regions. One of the common factors have been the structural changes which have occurred in the Indian economy and have taken her far in the way of economic development and made her capable of offering various manufactured goods and more her capable of offering various manufactured goods and more of value-added items which were previously absent in her export basket.

EU's preferential treatment for associate countries or African, Caribbean or Pacific (A.C.P.) countries under the Lome Conventions and imposition of quotas and tariffs have also made matters difficult for Indian exports. India's exports have improved since seventies in relation to earlier decades but the growth in exports has not matched the growth in imports. There is ample scope to raise exports further. Opportunities for export growth may be located in those trade regions with which India's trade has not registered any substantial rise as yet. Trade with countries of developing ESCAP, Latin American countries and African countries are cases in point.

India's exports have been dominated by the developed countries which have resorted to increased protectionism since the 1970s and have even offered prices lower than those of other countries. Though exports cannot always flow to those countries which offer higher prices, nevertheless, it may be worthwhile to ensure that a major proportion of exports go to those countries which are in a position to give better prices. This is expected to have a beneficial impact on foreign exchange earnings.

For India to become a leading exporter in the world trade it will have to achieve at least 2 percent share of world exports by the year 2020. Based on the past trend in world trade and new developments in global economic scenario envisaged over the next few years, aggregate world exports are likely to cross 25,000 billion dollars by 2020. India's exports should, therefore, exceed 500 billion dollars to accomplish this vision. To many, this target might appear to be too ambitious to achieve and one might dismiss it as an exercise in wishful thinking. However, while formulating this vision, let us not be guided by undue conservatism or pessimism. Let us not under-estimate the great export potential of our agricultural sector as well as our service sector. It should not be surprising if our IT exports alone cross 150 billion dollar mark by the year 2020. What is required is to formulate a highly focused strategy and its rigorous implementation to achieve the desired export thrust.

3.7: Our Imports

Most of the developing countries are in the initial stages of economic development. Some of them remain totally undeveloped. These countries need to develop the necessary infrastructure, transport, and telecommunication system, basic and key industries. Besides, they need to modernize their agricultural sector to assure continuous supply of food to the people and raw materials to the industry. For these purpose, developing countries should import modern technology, industrial equipments and other necessary items. The commodity composition of Indian imports during 1981 to 1990 and 1991 to 2000 has been presented in table- 3.10, 3.11, 3.12, 3.13. The data reveal that the import of petroleum oil and lubricants showed wide fluctuations reflecting the movements in the international prices. The share of petroleum oil and lubricants was very high i.e. 42.25 percent in 1980-81 which declined sharply to 25.38 percent in 1985-86. However, oil imports decreased from 25.04 percent in 1990-91 to 20.69 percent in 1994-95 followed by 15.09 percent in 1998-99. Again its share increased sharply to 25.39 percent during 1999-2000. If we compare period I (Pre-reformed Period) average to the average of Period II (Post reformed Period) then we will find that its share has declined from 24.51 percent to 22.22 percent. The average annual share of food and live animals has increased from 2.49 percent during period I to 3.89 percent during period II. The average annual share of chemicals and fertilizers has decreased from 11.43 percent to 10.79 percent during post reformed over pre-reformed period.

Table 3.10: Composition of Indian Imports during Pre-reformed Period (1980-81 to 1989-90)
(In Rs.Crores)

| Year | Total | Raw Material & Intermediate | | | | Capital Goods | | |
|---------|-------|-----------------------------|----------------------------|---------------------|--------------|---------------|---|---------------------------------------|
| | | Manufactures | | | | Total | Non Electric Mach. Apparatus & appliances | Electric Mach. Apparatus & appliances |
| | | Food & Live animals | Petroleum Oil & Lubricants | Fertilizers & steel | Iron & Steel | | | |
| 1980-81 | 12549 | 380 3.05 | 5264 42.25 | 1490 11.96 | 852 6.84 | 1910 15.33 | 1089 8.74 | 260 2.09 |
| 1981-82 | 13608 | 690 5.07 | 5189 38.13 | 1513 11.12 | 1203 8.82 | 2716 15.40 | 1349 10.07 | 326 2.40 |
| 1982-83 | 14293 | 638 4.46 | 5622 39.33 | 1148 8.03 | 1203 8.42 | 2716 19.00 | 1439 10.07 | 494 3.46 |
| 1983-84 | 15832 | 1018 6.43 | 4832 30.52 | 1526 10.27 | 1048 6.62 | 3322 20.98 | 2051 12.95 | 675 4.26 |
| 1984-85 | 17134 | 695 4.06 | 5409 31.57 | 2771 16.17 | 941 5.49 | 3168 18.49 | 1928 11.25 | 730 4.26 |
| 1985-86 | 19658 | 854 4.34 | 4989 25.38 | 3256 16.56 | 1395 7.10 | 4285 21.80 | 2593 13.19 | 923 4.70 |
| 1986-87 | 20096 | 679 3.38 | 2811 13.99 | 1982 14.84 | 1556 7.74 | 6488 32.28 | 4263 21.21 | 1212 6.03 |
| 1987-88 | 22244 | 865 3.89 | 4043 18.18 | 2334 10.49 | 1320 5.93 | 6566 29.52 | 2826 12.70 | 1093 4.91 |
| 1988-89 | 28235 | 14943 5.29 | 4358 15.43 | 3744 13.26 | 1933 6.85 | 6955 24.64 | 2872 10.17 | 1563 5.54 |
| 1989-90 | 35416 | 1046 2.95 | 6274 17.72 | 4233 11.95 | 2305 6.51 | 8831 24.94 | 3532 9.97 | 1921 5.42 |
| Average | 19906 | 495 2.49 | 4879 24.51 | 2276 11.43 | 1376 6.91 | 1634 23.28 | 2394 12.03 | 920 4.62 |

Source: Government of India. Economic Survey, (various issues)

Note: Figures in dark refer percentages to total

Table 3.11: Index for composition of Indian Import During Pre-reformed Period (1980-81 to 1989-90)

| Year | Total | Food & live animals | Raw Material & Intermediate Manufactures | | | Capital Goods | |
|---------|--------|---------------------|--|-------------------------|--------------|--|--------------------------------------|
| | | | Petroleum oil & lubricants | Fertilizers & chemicals | Iron & steel | Non Electric Mach apparatus & appliances | Electric Mach apparatus & appliances |
| 1980-81 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| 1981-82 | 108.43 | 181.58 | 98.58 | 101.54 | 141.19 | 127.55 | 125.38 |
| 1982-83 | 113.89 | 167.89 | 106.80 | 76.78 | 141.19 | 132.14 | 190.00 |
| 1983-84 | 126.16 | 267.89 | 91.79 | 102.42 | 123.00 | 188.34 | 259.62 |
| 1984-85 | 136.54 | 182.89 | 102.75 | 185.97 | 110.44 | 177.04 | 280.77 |
| 1985-86 | 156.67 | 224.73 | 94.789 | 218.52 | 159.51 | 238.11 | 355.00 |
| 1986-87 | 160.01 | 178.68 | 53.40 | 133.02 | 182.26 | 262.90 | 466.15 |
| 1987-88 | 177.26 | 227.63 | 76.80 | 156.64 | 154.92 | 259.50 | 420.38 |
| 1988-89 | 224.99 | 393.23 | 82.79 | 251.28 | 226.88 | 263.73 | 601.15 |
| 1989-90 | 282.22 | 275.26 | 119.19 | 284.09 | 270.54 | 324.33 | 738.84 |

Note: Computed from Economic Survey data

Source: Government of India, Economics Survey, (various issues)

Table 3.12: Composition of Indian Imports During Post-reformed Period (1990-91 to 1999-2000) (In Rs. Crores)

| Year | Total | Food & Live animals | Raw Material & Intermediate Manufactures | | | Total | Capital Goods | |
|---------|--------|---------------------|--|---------------------|--------------|----------------|---|---------------------------------------|
| | | | Petroleum Oil & Lubricants | Fertilizers & steel | Iron & Steel | | Non Electric Mach. Apparatus & appliances | Electric Mach. Apparatus & appliances |
| 1990-91 | 43193 | 1112 2.57 | 10816 25.04 | 4696 10.87 | 2113 4.89 | 10466 24.23 | 4240 9.82 | 1702 3.94 |
| 1991-92 | 47851 | 1032 2.16 | 13127 27.43 | 6417 13.41 | 1970 4.12 | 10436 21.81 | 4020 8.40 | 1553 3.25 |
| 1992-93 | 63375 | 2187 3.45 | 17142 27.05 | 8104 12.79 | 2254 3.56 | 10839 17.10 | 4788 7.56 | 588 0.93 |
| 1993-94 | 73101 | 2043 2.79 | 18046 24.69 | 8411 11.51 | 2494 3.41 | 16663 22.79 | 6388 8.74 | 640 0.88 |
| 1994-95 | 89971 | 4651 5.17 | 18613 20.69 | 11784 13.10 | 3653 4.06 | 19990 22.22 | 9236 10.27 | 789 0.88 |
| 1995-96 | 122678 | 2838 2.31 | 25173 20.52 | 16754 11.28 | 3838 3.94 | 28289 23.06 | 14371 11.71 | 1292 1.05 |
| 1996-97 | 138920 | 3313 2.38 | 35629 25.65 | 15674 11.28 | 6866 4.94 | 29868 21.50 | 14801 10.65 | 1155 0.83 |
| 1997-98 | 154176 | 5513 3.57 | 30341 19.68 | 15136 9.82 | 5281 3.43 | 28016 18.17 | 15029 9.75 | 1406 0.91 |
| 1998-99 | 178352 | 10619 5.95 | 26919 15.09 | 15818 8.87 | 4474 2.51 | 32304 18.11 | 14267 8.00 | 1771 0.99 |
| 1999-00 | 21526 | 10473 4.87 | 54649 25.39 | 18463 8.58 | 3832 1.78 | 23556 10.94 | 17301 8.04 | 1897 0.88 |
| Average | 112685 | 4378 3.89 | 25046 22.22 | 12156 10.79 | 3778 3.35 | 21043 18.67 | 10444 9.27 | 1279 1.13 |

Source: Government of India, Economic Survey, (various issues)

Note: Figures in dark refer percentages to total

Table 3.13: Index for Composition of Indian Import During Post-reformed Period (1990-91 to 1999-00)

| Year | Total | Food & live animals | Raw Material & Intermediate Manufactures | | | Capital Goods | |
|---------|---------|---------------------|--|---------------------------|--------------|---|--------------------------------------|
| | | | Petroleum oil & lubricants | Fertilizer s & chemical s | Iron & steel | Non Electric Match apparatus & appliances | Electric Mach apparatus & appliances |
| 1990-91 | 344.19 | 292.63 | 205.47 | 315.17 | 248.00 | 389.34 | 654.61 |
| 1991-92 | 381.31 | 271.57 | 249.37 | 430.67 | 321.22 | 369.15 | 597.30 |
| 1992-93 | 505.02 | 575.52 | 325.64 | 543.89 | 264.55 | 439.67 | 226.15 |
| 1993-94 | 582.52 | 537.63 | 342.62 | 564.49 | 292.72 | 586.59 | 246.15 |
| 1994-95 | 717.13 | 1223.95 | 353.59 | 790.87 | 428.87 | 848.12 | 303.46 |
| 1995-96 | 2840.22 | 746.84 | 477.94 | 1123.82 | 567.84 | 1319.65 | 496.92 |
| 1996-97 | 1107.02 | 869.55 | 676.84 | 1051.94 | 805.86 | 1359.14 | 540.76 |
| 1997-98 | 3507.30 | 1450.78 | 376.39 | 1015.38 | 619.83 | 1380.07 | 681.15 |
| 1998-99 | 1421.24 | 2794.47 | 511.37 | 1061.61 | 525.11 | 1310.10 | 729.61 |
| 1999-00 | 171.53 | 2756.05 | 1038.16 | 1239.12 | 449.76 | 1588.10 | 854.21 |

Source: Government of India, Economics Survey (various issues)

Note: Computed from Economic Survey data

The share of iron and steel was 6.84 percent in 1980-81 which increased sharply to 8.84 percent in 1981-82 but declined to 5.49 Percent in 1984-85 increased in 1986-87 which declined to 4.89 percent in 1990-91 and thereafter consistently declined over the period and came down to a mere 1.78 percent in 1990-2000. Its average annual share has declined from 6.91 percent to 3.35 percent in period II. The share of capital goods in imports increased up to mid 1980s from 15.33 percent in 1980-81 to 32.29 percent in 1986-87 and declined sharply to 10.94 percent in 1999-2000. The annual average share of capital goods has decreased from 23.28 percent during period I to 18.67 percent in period II.

The detailed analysis of capital goods shows that the share of its constituents i.e., non-electric machinery apparatus & appliances decreased from 12.03 percent during period I to 9.27 percent during the period II. Electric machinery, apparatus and appliances also shows downward trend with an annual average from 4.62 percent during period I to 1.13 percent during the period II. The decline share of capital goods in imports during the post-reformed period is an indicator of stagnation in industrial development process.

The average annual level of India's total imports during period II valued at Rs. 112685 crore was higher by 46.61 percent than that recorded during period I which was

valued at Rs. 19906 crore. During these two periods the imports of food and live animals, petroleum lubricants and capital goods recorded a high growth rate of 78.37 percent and 35.41 percent respectively.

The imports of iron & steel, electric machinery apparatus & appliances show lower growth rate of 17.46 percent and 3.90 percent respectively. However, fertilizers and chemicals and non electric machinery apparatus & appliances showed annual growth of 43.27 percent and 33.63 percent during period II over period I. The changes in structure of Indian imports as discussed above are reflective of the influence of three factors, namely movement in international prices, changes in trade policy and pattern of domestic demand.

3.8: Direction of India's Imports

On the import front largest partners of India from which India imports at a larger amount in value terms are EU, OPEC, some Asian developing countries and North America. India's imports from EU were not increased with steady growth. There was high rate of growth during the 1992-93, 1995-96 and 1998-99 and there was low rate of growth during the 1994-95, 1997-98 and 1999-2000. The direction of Indian imports during 1981 to 1990 and 1991-2000 and region-wise data have been presented in tables 3.13 and 3.14. Data reveal that while there has been a sharp increase in the relative share of the developing countries, the share of industrialized countries has declined during the Post-reformed period as compared to the pre-reformed period. The increase in the share of developing countries is largely on account of the increase in the imports from the newly industrialized countries in the South East Asia. The share of OECD countries in India's imports has increased from 43.87 percent to 50.51 percent from Period I to Period II. This could be due to the fact that share of EU in India's imports has sharply increased from 21.02 percent in 1980-81 to 32.59 percent in 1986-87. On the other hand the share of North America, Asia and Oceania comparing Australia and Japan has remained stable during the two periods, around 10 percent and 9 percent respectively with minor fluctuations. The relative share of countries belonging to the OPEC group increased from 14.97 percent during Pre-reformed to 21.60 percent during the post reformed period. The share of OPEC group in India's imports reached the peak level of 27.79 percent in 1980-81 which has declined sharply to 9.70 percent in 1986-87 but increased to 16.30 percent and 26.01 percent in 1989-90.

Table 3.14: Directions of Indian Imports during Pre-reformed Period (1980-81 to 1989-90)
(In Rs.Crores)

| Year | Total | Total | EEC/EU | N. America | Asia & Oceania | OPEC | Eastern Europe | Developing Countries |
|----------------|-------|--------------|--------------|--------------|----------------|--------------|----------------|----------------------|
| 1980-81 | 12549 | 5740 | 2629 | 1815 | 932 | 3488 | 1296 | 1966 |
| | | 45.74 | 21.02 | 14.46 | 7.43 | 27.9 | 10.33 | 15.67 |
| 1981-82 | 13608 | 6378 | 3149 | 1728 | 1175 | 3770 | 1507 | 1911 |
| | | 46.87 | 23.14 | 12.70 | 8.63 | 27.70 | 11.07 | 14.04 |
| 1982-83 | 14293 | 6812 | 3422 | 1664 | 1439 | 3899 | 1717 | 1800 |
| | | 47.66 | 23.94 | 11.64 | 10.17 | 7.2 | 12.01 | 12.60 |
| 1983-84 | 15832 | 8186 | 3962 | 2174 | 1842 | 3225 | 1965 | 2414 |
| | | 51.70 | 25.02 | 13.73 | 11.63 | 20.37 | 12.41 | 15.25 |
| 1984-85 | 17134 | 8344 | 4221 | 2200 | 1471 | 3326 | 2152 | 3243 |
| | | 48.70 | 24.63 | 12.84 | 8.58 | 19.41 | 12.56 | 18.93 |
| 1985-86 | 19658 | 10527 | 5236 | 2515 | 2257 | 3420 | 2169 | 3466 |
| | | 53.55 | 26.62 | 12.79 | 11.48 | 17.40 | 11.03 | 17.76 |
| 1986-87 | 20096 | 12903 | 9549 | 2258 | 3041 | 1950 | 1537 | 3696 |
| | | 64.20 | 32.59 | 11.24 | 15.13 | 9.70 | 7.65 | 18.40 |
| 1987-88 | 22244 | 12380 | 7400 | 2300 | 2680 | 2953 | 2126 | 3800 |
| | | 55.66 | 32.59 | 10.34 | 20.05 | 13.27 | 9.56 | 17.08 |
| 1988-89 | 28235 | 16059 | 9005 | 3668 | 3387 | 3779 | 1947 | 5260 |
| | | 56.88 | 31.89 | 13.00 | 12.00 | 13.38 | 6.90 | 18.63 |
| 1989-90 | 35416 | 20224 | 11736 | 4713 | 3775 | 5074 | 2990 | 6031 |
| | | 57.10 | 33.14 | 13.31 | 10.66 | 14.33 | 8.44 | 17.03 |
| Average | 19906 | 8733 | 458 | 2032 | 1822 | 2981 | 1642 | 3359 |
| | | 43.87 | 22.88 | 10.21 | 9.15 | 14.97 | 8.25 | 16.87 |

Source: Government of India, Economic Survey, (various issues)

Note: Figures in dark refer percentages to total

Table 3.15: Direction of Indian Import During Post-reformed and Period (1990-91 to 1999-00)
(In Rs.Crores)

| Year | Total | Total | EEC/EU | N. America | Asia & Oceania | OPEC | Eastern Europe | Developing Countries |
|----------------|--------|--------------|--------------|--------------|----------------|--------------|----------------|----------------------|
| 1990-91 | 43193 | 23310 | 12680 | 5804 | 4826 | 7041 | 3377 | 7965 |
| | | 53.97 | 29.36 | 13.44 | 11.17 | 16.30 | 7.82 | 18.44 |
| 1991-92 | 47851 | 25936 | 12680 | 5804 | 4988 | 9414 | 2444 | 7427 |
| | | 54.21 | 26.50 | 12.13 | 10.42 | 19.67 | 5.11 | 15.49 |
| 1992-93 | 63375 | 35534 | 19124 | 17393 | 6739 | 13690 | 1606 | 9628 |
| | | 56.07 | 30.17 | 11.66 | 10.63 | 21.60 | 2.53 | 15.19 |
| 1993-94 | 73101 | 41036 | 21962 | 9319 | 7075 | 16377 | 1288 | 11246 |
| | | 56.14 | 30.04 | 12.75 | 9.68 | 22.40 | 1.76 | 15.38 |
| 1994-95 | 89971 | 46256 | 22339 | 9957 | 9517 | 19003 | 2129 | 17960 |
| | | 51.41 | 24.83 | 11.07 | 10.58 | 21.12 | 2.37 | 19.85 |
| 1995-96 | 122678 | 62254 | 32691 | 14191 | 11881 | 25568 | 4217 | 22509 |
| | | 52.38 | 26.35 | 11.57 | 9.68 | 20.86 | 3.44 | 18.35 |
| 1996-97 | 138920 | 69081 | 35202 | 14197 | 12724 | 16135 | 313 | 23179 |
| | | 49.73 | 25.34 | 10.22 | 9.16 | 26.01 | 2.25 | 16.68 |
| 1997-98 | 154176 | 79293 | 37719 | 15378 | 13804 | 35007 | 2880 | 27589 |
| | | 51.43 | 24.26 | 9.97 | 8.95 | 22.70 | 1.87 | 17.89 |
| 1998-99 | 178352 | 9954 | 43274 | 16937 | 16824 | 32711 | 2864 | 37360 |
| | | 51.56 | 24.26 | 9.50 | 9.43 | 18.34 | 1.60 | 21.10 |
| 1999-00 | 125236 | 92521 | 45556 | 17076 | 16099 | 48394 | 3345 | 44585 |
| | | 42.99 | 21.16 | 7.93 | 7.48 | 22.48 | 1.55 | 20.71 |
| Average | 112685 | 56919 | 28323 | 11606 | 10448 | 24336 | 2728 | 20962 |
| | | 50.51 | 25.13 | 10.30 | 9.27 | 21.60 | 2.42 | 18.60 |

Source: Government of India, Economic Survey, (various issues)

Note: Figures in dark refer percentages to total

This rise was mainly due to Gulf War and fixing of quotas by OPEC group of countries. However this share has declined to 22.48 percent in 1999-2000. The data show that there is a sharp decline in the share of East European countries in India's imports also. Their average share has declined from 8.25 percent in period I to 2.42 percent in period II. The share of former USSR and other East European countries in India's imports was as high as 10.33 percent in 1980-81 which increased 11.03 percent in 1985-86 but decreased to 7.82 percent in 1990-91 and further to 1.55 percent in 1999-2000, with absolute decline in the imports from most of the countries belonging to this group. On the other hand, the share of developing countries has gradually increased from 18.67 percent during pre-reformed period to 18.60 percent in post-reformed period.

3.9: Exports and Imports as Percentage of GDP

The composition and direction of exports and imports of India, it is interesting to compare average imports and import growth rate, trade balance, percentage change and their contribution to the gross domestic product of India. The relevant data have been presented in table 3.15 and table 3.16.

We have to measure the real impact of the changing structure and direction of Indian exports and imports on the balance of trade. Analysis of data shows. That the exports grew at an average annual rate of 61.10 percent during post-reformed period whereas imports grew at an average rate of 46.59 percent. This shows an impressive performance of exports as compared to imports. But when we take into account the rupee value of imports and exports, the position of exports is still not impressive as compared to imports. The data reveal that annual exports were to the tune of Rs. 13175 crore during pre-reformed whereas imports were to the tune of Rs. 19898 crore which led to a negative trade balance of (-) Rs. 6723 crore. Again average annual exports increased to Rs. 93683 crore during period II and average annual imports increased to Rs. 112609 crore which also shows a negative trade balance to the tune of (-) Rs. 18927 crore on an average. So negative trade balance has increased by Rs. 12204 crores from period I to period II, with a average growth rate of 18.15 percent.

Table 3.16: Exports and Imports as percentage of GDP During Pre-reformed Period (1980-81 to 1989-90)

| Year | Exports (Rs. Crore) | Imports (Rs. Crore) | Trade balance | Exports (percent of GDP) | Imports (percent of GDP) | Exports (percent change) | Imports (percent change) |
|----------------|---------------------|---------------------|---------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 1980-81 | 6711 | 12549 | -5838 | 4.65 | 8.69 | 4.57 | 37.25 |
| 1981-82 | 7806 | 13608 | -5802 | 4.61 | 8.03 | 16.32 | 8.44 |
| 1982-83 | 8803 | 14293 | -5490 | 4.66 | 7.57 | 12.77 | 5.03 |
| 1983-84 | 9771 | 15831 | -6060 | 4.45 | 7.21 | 11.00 | 10.76 |
| 1984-85 | 11744 | 17134 | -5390 | 4.76 | 6.94 | 20.19 | 8.23 |
| 1985-86 | 10895 | 19658 | -8763 | 3.89 | 7.01 | -7.23 | 14.73 |
| 1986-87 | 12452 | 20096 | -7644 | 3.97 | 6.41 | 14.29 | 2.23 |
| 1987-88 | 15674 | 22244 | -6570 | 4.41 | 6.26 | 25.88 | 10.69 |
| 1988-89 | 20231 | 28235 | -8004 | 4.78 | 6.67 | 29.07 | 26.93 |
| 1989-90 | 27658 | 35328 | -7670 | 5.67 | 7.24 | 36.71 | 25.21 |
| Average | 13175 | 19898 | -6723 | 4.6 | 7.2 | 16.36 | 14.94 |

Source: CMIE July 2001

Figure 3.1: Exports and Imports During Pre-reformed Period

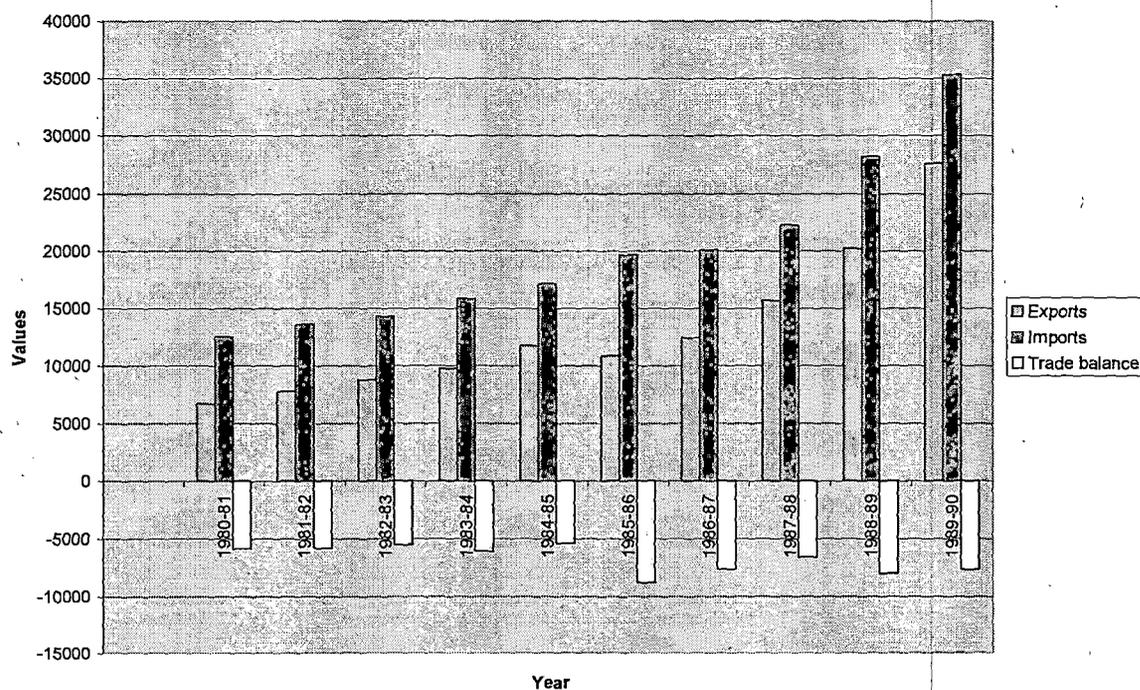
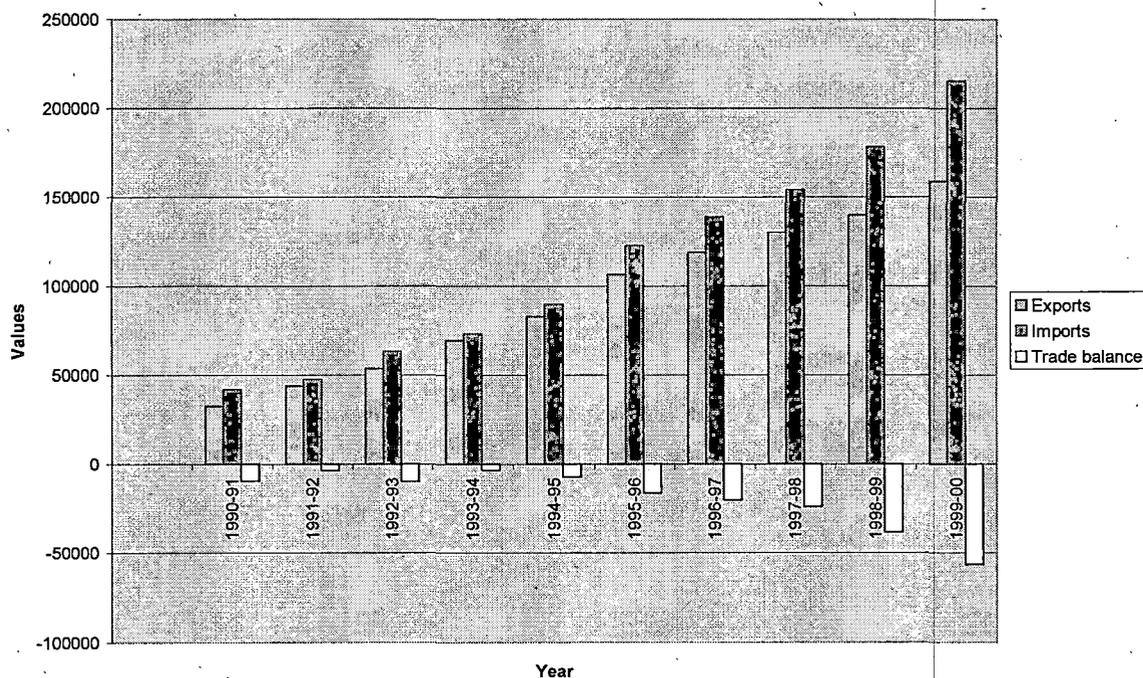


Table 3.17: Exports and Imports as percentage of GDP During Post-reformed Period (1990-91 to 1999-00)

| Year | Exports (Rs. Crore) | Imports (Rs. Crore) | Trade balance | -Exports (percent of GDP) | Imports (percent of GDP) | Exports (percent change) | Imports (percent change) |
|----------------|---------------------|---------------------|---------------|---------------------------|--------------------------|--------------------------|--------------------------|
| 1990-91 | 32558 | 42095 | -9537 | 5.72 | 7.40 | 17.72 | 19.16 |
| 1991-92 | 44042 | 47841 | -3799 | 6.74 | 7.32 | 35.27 | 13.65 |
| 1992-93 | 53688 | 63375 | -9686 | 7.18 | 8.48 | 21.90 | 32.47 |
| 1993-94 | 69649 | 73177 | -3428 | 8.12 | 8.52 | 29.91 | 15.57 |
| 1994-95 | 82673 | 89971 | -7297 | 8.19 | 8.91 | 18.53 | 22.95 |
| 1995-96 | 106352 | 122678 | -16326 | 9.00 | 10.38 | 28.64 | 36.65 |
| 1996-97 | 118817 | 138920 | -20103 | 8.2 | 10.20 | 11.72 | 11.34 |
| 1997-98 | 130101 | 154176 | -24076 | 8.58 | 10.17 | 9.50 | 10.98 |
| 1998-99 | 139752 | 178332 | -38580 | 7.93 | 10.12 | 7.42 | 15.67 |
| 1999-00 | 159095 | 215529 | -56433 | 8.13 | 11.01 | 13.84 | 20.86 |
| Average | 93683 | 112609 | -18927 | 7.8 | 9.3 | 19.45 | 20.09 |

Source: CMIE July 2001

Figure 3.2 : Exports and Imports During Post-reformed Period



Situation has worsened over this period of time. This implies that foreign exchange requirements of the government increased to finance the deficit in merchandise trade during the post-reformed period.

The performance of Indian exports can be seen from another angle by measuring the contribution of foreign trade to the gross domestic product (GDP) during the

respective reformed period. The data reveal that the share of annual average exports as percentage of gross domestic product has increased from 4.6 percent in pre-reformed period to 7.8 percent in post-reformed period which means a net gain of trade 3.5 of percent.

On the other hand, Imports were 7.2 percent of GDP on an annual average basis during the period I which increased to 9.3 percent of GDP during period II with a net gain of 2.1 percent. There was year wise decrease during the mid 80s and again increased in 90s to a peak level of 9 percent in 1995-96, which again decreased to 8.13 percent in 1999-00. On the other hand, imports were 8.69 percent of GDP in 1980-81 which declined up to 1998-89. However it increased consistently afterwards and reached to 11.01 percent of GDP in 1999-00. Analysis of the percentage changes in imports and exports on year to year basis shows an increase in with just one exception of exports in 1985-86 when the percentage change in exports is negative to the tune of (-) 7.23 percent. Exports and Imports on an average grew at the rate of 16 percent and 15 percent respectively during the pre-reforms period in comparison to 19.5 percent and 20 percent respectively in post-reforms period

The above analysis shows that both exports and Imports have increased during the pre and post liberalization periods. However, the rate of growth in imports as compared to exports during the post-liberalization period remained higher which led to higher trade deficit during the post-reform period. In other words, the study reveals that the trade reforms introduced during the 1990s could not narrow down the trade deficit which was one of the main objectives of new economic policy.

3.10: Comparing Indian Exports with World Exports

We have studied, trade in the post-reformed period (Composition of India's foreign trade, Pattern of trade, direction of trade) to understand changes of India's foreign trade position. But the study will be incomplete to understand the economic development by foreign trade unless we compare India's foreign trade with World trade. Now I am going to compare India's foreign trade Position with respect to World trade.

India's share (in percentage) in world's exports in 1971 was 0.61 percent. During 1971-1980, the annual average of India's share in World exports was 0.54 percent. During the early of 1980s India's share in world's exports was not so good. In 1981, this share was only of 0.44 percent and the next year it was 0.53 percent. The annual average of India's share in world's export during 1980s was 0.50 percent whereas during 1991 the

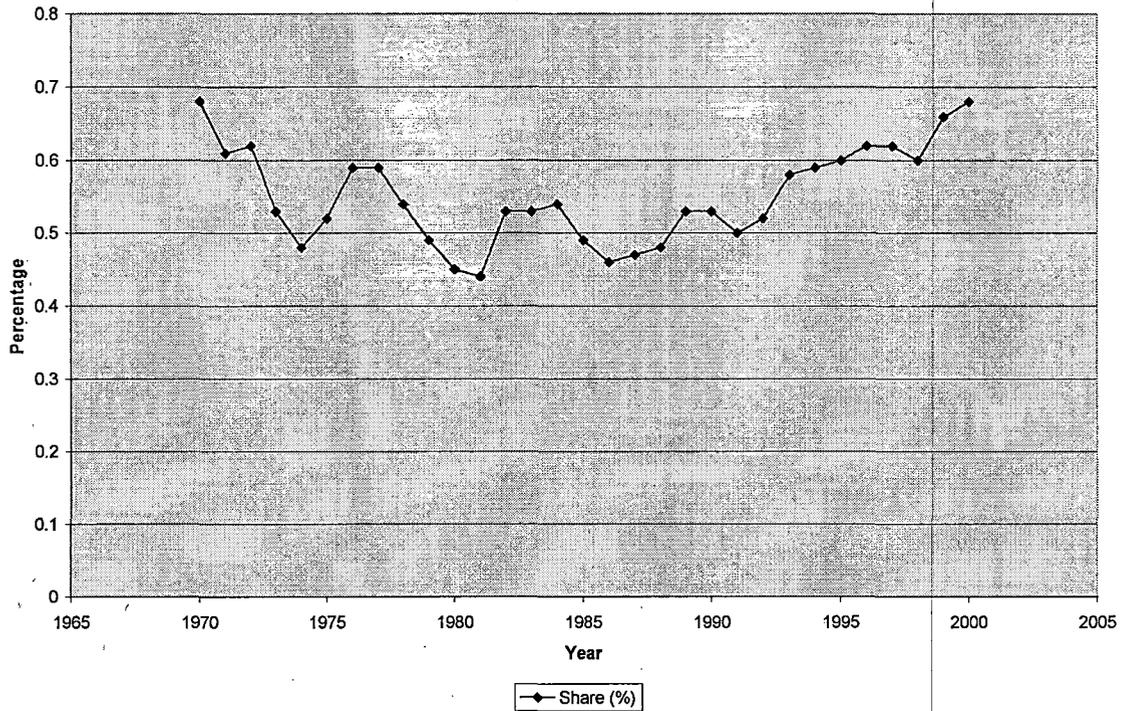
share of India's exports in World's exports was 0.60 percent. So it is clear from table 3.18 that India's share in world export has increased sharply during 1990s. We can also note that India's share in 1992 was 0.52 percent and in 1993 it increased to 0.58 percent and after 1993 India's share was increasing very highly and it became 0.68 percent. India has taken a target to increase her exports at 1% in world exports. So after seeing the trend time of increasing export's share in world exports, we can say that India's export will reach her target very shortly.

Table3.18: India's Share in World Exports

| Year | Share (%) | 10 years | 10 year average |
|------|-----------|------------------|-----------------|
| 1971 | 0.61 | 1971-1980 | 0.54 |
| 1972 | 0.62 | | |
| 1973 | 0.53 | | |
| 1974 | 0.48 | | |
| 1975 | 0.52 | | |
| 1976 | 0.59 | | |
| 1977 | 0.59 | | |
| 1978 | 0.54 | | |
| 1979 | 0.49 | | |
| 1980 | 0.45 | | |
| 1981 | 0.44 | 1981-1990 | 0.50 |
| 1982 | 0.53 | | |
| 1983 | 0.53 | | |
| 1984 | 0.54 | | |
| 1985 | 0.49 | | |
| 1986 | 0.46 | | |
| 1987 | 0.47 | | |
| 1988 | 0.48 | | |
| 1989 | 0.53 | | |
| 1990 | 0.53 | | |
| 1991 | 0.50 | 1991-2000 | 0.60 |
| 1992 | 0.52 | | |
| 1993 | 0.58 | | |
| 1994 | 0.59 | | |
| 1995 | 0.60 | | |
| 1996 | 0.62 | | |
| 1997 | 0.62 | | |
| 1998 | 0.60 | | |
| 1999 | 0.66 | | |
| 2000 | 0.68 | | |

Source: International Trade Statistics Yearbook, United Nations (various years)

Figure 3.3: India's Share in World Exports



3.11 Conclusion

The size of merchandise, as well as services trade, has been increasing steadily in recent years reflecting greater integration of the economy with the rest of the world. India's exports have been dominated by the developed countries which have resorted to increased protectionism since 1970s and have been offered prices lower than those of other countries. The significant changes which have taken place during the post reformed period in regard to the composition and direction of India foreign trade could not contribute positively to narrow down the deficit in the balance of trade. This is the result of a fast growth in Indian import during the post-reformed period. India's import requirements have also 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 1990-91. The other common factor has been the growing protectionist tendency of both developed and developing world, which adversely affected growth of India's exports as percent of GDP, was higher as compared to average percentage growth of imports as percent of GDP in post-reformed period. On the other hand, the percentage change in imports was higher in post-reformed period over pre-reformed period. This development is the result of repeated devaluation of Indian rupee and increasing import intensity of

both production and consumption during the post-reformed period. It implies that the increase in the volume of Indian merchandise exports during the post-reformed period was not sufficient to pay for the increased demand for the imports and the loss resulted on account of devaluation / depreciation of Indian rupee during the 1990s. Therefore, we strongly advocate that there is a need to review the foreign trade liberalization policy and sufficient protection measures should be worked out to protect the domestic sector.

References

- A.K. Choudhury (2000): "*Compliance with accounting standard in India: Why and how*", University of Western Sydney, Macarthur, Australia, Management Accountant, 177-181, March.
- Abraham, Joseph.(2002):"Development Dimensions of Multilateral Trade: The Role of WTO" Yajona, 19-24, December.
- Ahhewalia, Montek S. (1988): "*India's Economic Performance Policies and Prospects*", in *The Indian Economy*, ed. by E.B Lucas and Gustav F. Papanlik, Oxford University Press (Delhi).
- Alfered, Maizeles (1968): *Exports and Economic Growth of Developing counties*, Cambridge University Press, Cambridge.
- Balassa, Bela.(1978):"Exports and Economic Growth Further Evidence", Journal of Development Economics, Vol. 5, 181-189.
- Basu, Kaushik (2001): "Globalization and the Indian Economy", Vaanijya, First issue, 6-10, July-Sept.
- Bewa, R.S. (2001-02): "Challenges and Opportunities of globalization-implications for India" The Indian Economic Journal, Vol. 49, No. 3, January-March.
- Bhatia, Sitiesh.(2004): "Globalisation and India: Trade in services", Chartered Secretary, January, 54-56. New Delhi.
- Bhatt, P.R. (2003):"Second Generation Reforms: Some issues", Asian Economic Review, Vol. 45, No. 3, Dec.
- Bhattacharjee, Subhomoy. (2005): "Stimulus for Economy" Yojana, Vol. 49, March, 7-9.
- Bhattacharjee. B. (1999):"Export Stagnation: Causes and Corrective Action", Yojana, 55-58, January.
- Celestine, Avinash (2004): "The Pattern that in India", Business World, 36-37, Jan. 5.
- Chakraborty, S. (1988): "Development Experience in South Asia" Asian Development Review, Vol. 6. No. 1.
- Dagli, Valilal.(1973):*India's Foreign Trade*, Vora and Company Publication Private Limited.
- Deo Raj Singh (1985): *Pattern of Foreign Trade and Planning in India*, Criterion Publication, New Delhi.
- Deo Raj Singh (1995): "Export Performance Need for Quantum Jump" Industrial Researcher, Vol. XXII, No. 1, April-June.

Economic Intelligence Services (2001): *Foreign trade & balance of payments*, July 2001. Mumbai: CMIE Pvt. Ltd.

Ghosh Pradip K.(2001): "*International Trade and Third World Development*" Cambridge University Press, USA.

Govt. of India: Economic Survey, 2002-2003.

Govt. of India: Economic Survey, 2003-2004.

Govt. of India: Economic Survey, 2004-2005.

Krueger. A. (1998): "Why trade liberalization is good for growth." *Economic Journal* Vol. 108 No. 450, September, pp. 1513-1522.

Mathur,Vibha.(2003): *India: Foreign Trade Policy and WTO*, New Century Publications, Delhi. India.

Raghavan, M. (2004): "Terms of Trade between Agriculture and Non-agriculture in India, 1950-51 to 2000-01", *Social Scientist*, Vol. 32, No. 3-4, 16-29, March-April.

Raipuria, Kalyan M. (1999): "Exports in New Millennium", *Economic and Political Weekly*, 3270-3271, Nov. 20.

Reserve Bank of India (1999): *Report on currency and finance*, Mumbai, Reserve Bank of India.

Reserve Bank of India.(2002): *Report on currency and finance*, Mumbai, Reserve Bank of India.

Reserve Bank of India. Annual Reports, Various issues, Mumbai, Reserve Bank of India.

Severn, Alan K.(1968): "Exports and Economic Growth-Comment", *Kyklos*, Vol. 21, 546-548.

Shone,R.(1972) : *The Pure Theory of International Trade*, , Macmillan, Bombay, India.

Taneja, Nisha (2004): "Informal Trade in the SAARC Region", *Economic and Political Weekly*, 5367-5371, Dec. 18.

Veisbrot. Mark and Baker, Dean (2002): "The Relative Impact of Liberalization on Developing Countries" Centre for Economic and Policy Research Paper. June 12, 2002. Washington D.C.

Virmani, Arvind.(2003): "India's External Reforms-Modest Globalisation Significant Gains", *Economics and Political weekly*, 3373-3390, August, 9.

Wadhva, Charan D. (2003): "*Economic Reforms in India in Retrospect and Prospect*" *Man and Development*, 17-62, September.

World Bank.(2003): *World development indicators*, Washington D.C. World Bank.

Chapter- IV

Examining Indo-Bangladesh Trade

- **Introduction**
- **Characteristics and Economic Indicators**
- **Objectives**
- **India-SAARC Trade Relations**
- **Trend, Structure and Current Picture of Indo-Bangladesh Trade**
- **Trade Intensity Indices**
- **The Importance of India in the Overall Trade of Bangladesh**
- **The Importance of Bangladesh in India's Overall Trade**
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Chapter- IV

Examining Indo-Bangladesh Trade

4.1: Introduction

The South Asian Association for Regional Cooperation (SAARC) was established at the First Summit in Dhaka on December 7-8, 1985. Its members are Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. Among the SAARC countries India and Bangladesh are two major countries having long common historical past and similar cultural and social evolutions. As for trade, relation is concerned; India is the second largest trading partner of Bangladesh just after USA in 2003. India's position is at the top in Bangladesh's imports from the world (IMF, Direction of Trade Statistics, June 2004).

4.2: Characteristics and Economic Indicators

There are geographical, human resources, economic asymmetry, and wide disparity between India and other member countries of SAARC. Indian population is approximately three times the combined population of the remaining SAARC States, with its area and GDP constituting 70 percent and 78 percent respectively of the entire SAARC. India is 50 times of the size of Sri Lanka, 1000 times richer than Bhutan and has 4000 times as many people as Maldives. The SAARC region had once been unified by British rule, which had built up a railway system, similar laws, and an efficient system of post and telegraph communication and much more besides. It is the largest English speaking area and has the largest irrigation network in the world. Relevant particular of SAARC countries are as under.

Table 4.1: Particular of SAARC Countries

| Country | *Area (000.Sq. K.M.) | Population* (Year 2000) (Million) | G.D.P. (Year 1999)# (U.S.\$. Billion) |
|------------|-------------------------|--------------------------------------|--|
| Bangladesh | 144 | 130 | 46 |
| Bhutan | 47 | 0.8 | 0.4 |
| India | 3288 | 1016 | 447.3 |
| Maldives | 0.3 | 0.3 | 0.4 |
| Nepal | 141 | 24 | 5 |
| Pakistan | 796 | 138 | 58.2 |
| Sri Lanka | 66 | 19 | 16 |

Source: *World Development Report 2002

UNDP Report 2000

4.3: Objectives

The objectives of SAARC are: (i) to promote the welfare of the people of South Asia and to improve their quality of life. (ii) to accelerate economic growth, social progress and cultural development in the region and to provide all individuals the opportunity to live in dignity and to realize their full potentials. (iii) to promote and strengthen collective self-reliance among the countries of South Asia. (iv) to contribute mutual trust, understanding and appreciation of one another's problems. (v) to promote collaboration and mutual assistance in the economic, social, cultural, technical and scientific fields. (vi) to strengthen cooperation with other developing countries. (vii) to cooperate with international and regional organization with similar aims and proposes. Thus, the ultimate objective of regional cooperation is accelerating the pace of economic, social and cultural growth of SAARC countries with the principle of social justice and improving the welfare of the people of the region.

4.4: India-SAARC Trade Relations

In the SAARC region, many attempts have been made to encourage regional trade under the regulation of SAARC and the SAPTA. Despite constant attempt, it still could not take an effective shape as a regional trade body because of political problems between Pakistan and India. It indeed hampers the regional interests. Despite official declarations to transform the SAPTA into a FTA in this region by 2001, the idea seems to be unrealistic. India has had problems with RTAs since her neighbors do not want free trade with a giant neighbor they do not trust or like. Hence multilateralism will remain India's only choice. (Sarita, A. & Tanvi, P. 2000). During the ten-year pre-SAARC (1975-1985) Period, India's exports increased from US\$ 160 million in 1975 to US \$ 315 million in 1984 registering a compound growth rate of 7.8%. Compared to it, during the ten years post-SAARC period. India's exports increased from US \$ 277 million in 1986 to US \$ 1532 million in 1995 i.e., from 8% the exports increased to 30% constituting an additional growth of 22%. This reveals the fact that the formation of the SAARC as a bloc has encouraged India's exports to SAARC countries. Since 1991, the liberalization impact also has a positive impact-giving rise to further increase in India's exports to SAARC countries. From US \$ 622 million in 1991, the exports have touched a peak level of US \$ 2005 million in the year 2000 thus indicating an additional of 9% decadal growth in comparison to the pre liberalization period (1980-90) of 5%. Similarly, India's exports to the World during the pre and post liberalization periods have witnessed an upward

trend. On the other hand, India's imports from the SAARC countries are quite low. It was just US \$ 56 million in 1975 and rose to only US \$ 105 million during 1984 and further to only US \$ 182 in 1995. In fact, the immediate reform period has shown a decline in India's imports from SAARC registering a low level of US \$ 96 in the year 1993 and later picked up only to the extent of US \$ 363 million in 2000. They have grown at a constant rate of 7% throughout the pre liberalization and post liberalization periods. This shows that India is not a good importer for its neighboring countries. While in 1985 and further to US \$ 2368 million in 2000. The trend exhibits that there is a spectacular rise in India's trade with SAARC as compared to the increase in the India's global trade, which increased from US \$ 24594 million in 1985 to only US \$ 94018 million in 2000.

Table 4.2: India's Linear Growth Rate of Exports, Imports and Volume of Trade with SAARC Countries (In percent)

| Item | Bangladesh | Maldives | Nepal | Pa kistan | Srilanka | Total SAARC Bloc |
|----------------------|------------|----------|-------|-----------|----------|------------------------|
| Exports : | | | | | | |
| (1980-1990) | 16.3 | 8.37 | 4.79 | 24.97 | 1.85 | 8.61 |
| (1991-2002) | 10.67 | 18.86 | 21.13 | 14.49 | 10.63 | 12.43 |
| Imports: | | | | | | |
| (1980-1990) | -2.0 | 0 | -1.6 | -7.05 | -12.03 | -5.51 |
| (1991-2002) | 14.72 | 0 | 27.58 | 3.82 | 15.46 | 15.11 |
| Trade volume: | | | | | | |
| (1980-1990) | 13.55 | 8.37 | 2.96 | 1.38 | -0.91 | 4.49 |
| (1991-2002) | 10.89 | 18.86 | 22.96 | 9.91 | 11.03 | 12.81 |

Source: Linear growth rate computed from IMF, Direction of Trade Statistics Yearbook (various years) data

From table 4.2, it is clear that during the pre liberalization period India exported mostly to Pakistan followed by Bangladesh and Maldives. But after the liberalization, the direction of exports changed and Nepal and Maldives became the major exporting destination. In fact, the growth rate of exports to Pakistan has fallen down considerably. The tremendous decline may be attributed to the political disturbances with the two nations. But its export growth to the entire bloc as such has increased from 8.61% in pre-

liberalization period to 12.43% in the post-liberalization period and positive in the later period. Nepal is the major exporter of India indicating a high growth rate of about 27.5% followed by Sri Lanka (15.4%) and Bangladesh (14.7%). The total volume of trade with the bloc although has increased, still India does not have good trading patterns with the bloc. Except Nepal, all other nations have registered a very low growth rate. Overall, the growth of India's exports and imports clearly reveal the growing trade imbalance between India and its neighboring South Asian countries.

Table 4.3 presents the coefficients of variation indicating the stability of export and import relations of India with SAARC region. The variation in terms of exports is high in the case of Pakistan, Bangladesh and Maldives and it has been reversed in the post liberalization period except in the case of Maldives and Nepal. The low coefficients with respect to entire SAARC bloc obviously makes out that India's export relations is quite high. On the other side, there is no constant import trade. Although India's export relation is quite impressive, the overall trade is not stable since it does rely on her neighbours for its imports thus contributing to a low intra trade with in the SAARC region.

Table 4.3: Trade Stability between India and SAARC Countries (In percent)

| Item | Bangladesh | Maldives | Nepal | Pakistan | Srilanka | SAARC |
|----------------------|------------|----------|-------|----------|----------|-------|
| Exports : | | | | | | |
| (1980-1990) | 85.19 | 84.4 | 45.5 | 92.69 | 21.49 | 40.29 |
| (1991-2002) | 38.84 | 79.67 | 70.36 | 51.49 | 33.37 | 39.37 |
| Imports: | | | | | | |
| (1980-1990) | 53.36 | 0 | 48.85 | 43.19 | 66.49 | 28.61 |
| (1991-2002) | 60.91 | 0 | 92.35 | 78.58 | 48.64 | 57.20 |
| Trade volume: | | | | | | |
| (1980-1990) | 71.89 | 84.4 | 32.45 | 34.62 | 20.41 | 24.53 |
| (1991-2002) | 39.96 | -9.67 | 76.46 | 44.69 | 34.40 | 40.77 |

Source: Calculated from IMF, Direction of trade statistics Yearbook (various years)

*Data on Bhutan are not available

4.5: Trend, Structure and Current Picture of Indo-Bangladesh Trade

One of the important features of Indo-Bangladesh bilateral trade to be mentioned is that a large volume of informal or unrecorded trade, both in commodities and services, occurs every year and it is growing despite unilateral or regional or multilateral trade liberalization in these two countries (Pohit and Taneja. 2003, Eusufzai 2000). Due to non-availability of data on illegal trade. We concentrate our discussion on official data.

In this section, data on trend, structure and current state of Indo-Bangladesh trade are presented.

Share India-Bangladesh trade in SAARC Perspective

As mentioned earlier, both India and Bangladesh are two major partners in the SAARC region: Their combined share in the SAARC trade demonstrates their importance and high in the regional trade. Table 4.4 shows that the trade share of both countries was 56.23 percent of the intra-SAARC trade in 1990. This share increased to 64.5 percent in 2002. India's share is, more or less, double of Bangladesh's share in intra-SAARC trade with limited exception for some years. However, India's exports share is much higher than imports share in the regional trade. On the other hand, Bangladesh's position is just opposite; its imports share is much higher than exports share in the SAARC trade. This is shown in table 4.5.

Table 4.4: Share of India and Bangladesh in Intra-SAARC Trade, (1990-2002)

(Million of US dollars)

| Year | Intra -SAARC | India Trade | Bangladesh Trade | I+B * |
|------|--------------|-----------------|---------------------|-----------------|
| | (I) | (II) | (III) | (IV) |
| 1990 | 1590 | 584 (36.73) | 310 (19.5) | 894 (56.23) |
| 1991 | 1914 | 718 (37.51) | 331 (17.29) | 1049 (54.8) |
| 1992 | 2488 | 913 (36.7) | 423 (17.0) | 1336 (53.7) |
| 1993 | 2458 | 920 (37.43) | 532 (21.64) | 1452 (59.07) |
| 1994 | 2937 | 1151 (39.19) | 635 (21.62) | 1786 (60.81) |
| 1995 | 4263 | 1742 (40.86) | 1230 (28.85) | 2972 (69.71) |
| 1996 | 4928 | 1848 (37.5) | 1368 (27.76) | 3216 (65.26) |
| 1997 | 4447 | 1648 (37.06) | 967 (21.74) | 2615 (58.8) |
| 1998 | 6001 | 2549 (42.48) | 1376 (22.93) | 3925 (65.41) |
| 1999 | 5511 | 2370 (43.00) | 1206 (21.88) | 3576 (64.88) |
| 2000 | 3884 | 2400 (40.79) | 1138 (19.34) | 3588 (60.15) |
| 2001 | 6537 | 2783 (42.57) | 1383 (21.16) | 4166 (63.73) |
| 2002 | 6246 | 2739 (43.85) | 1290 (20.65) | 4029 (64.5) |

Source: Calculated from IMF, *Direction of Trade Statistics Yearbook* (various years) data

Note: Numbers within the parentheses indicate percentages to total

* I+B = India + Bangladesh

Table 4.5: Export and Import Share of India and Bangladesh in Intra-SAARC Trade, (1990-2002)
(In Percent)

| Year | India's Export Share | India's Import Share | Bangladesh's Export Share | Bangladesh's Import Share |
|------|----------------------|----------------------|---------------------------|---------------------------|
| 1990 | 30.63 | 6.10 | 3.77 | 15.72 |
| 1991 | 33.52 | 4.96 | 4.18 | 13.11 |
| 1992 | 28.90 | 7.80 | 1.81 | 15.19 |
| 1993 | 33.40 | 4.03 | 2.24 | 19.40 |
| 1994 | 34.80 | 4.39 | 1.70 | 19.92 |
| 1995 | 36.21 | 4.64 | 1.95 | 26.92 |
| 1996 | 33.48 | 4.02 | 1.18 | 26.58 |
| 1997 | 32.92 | 4.14 | 1.84 | 19.90 |
| 1998 | 34.23 | 8.25 | 1.72 | 21.21 |
| 1999 | 36.04 | 6.97 | 1.47 | 20.41 |
| 2000 | 34.31 | 6.48 | 1.50 | 17.84 |
| 2001 | 35.90 | 6.67 | 1.39 | 19.76 |
| 2002 | 33.34 | 9.51 | 1.19 | 19.47 |

Source: Calculated from IMF, *Direction of Trade Statistics Year Book* (various years) and *Direction of Trade Statistics Yearbook for Asia and the Pacific* (various years) data

Figure 4.1: Exports Share of India and Bangladesh

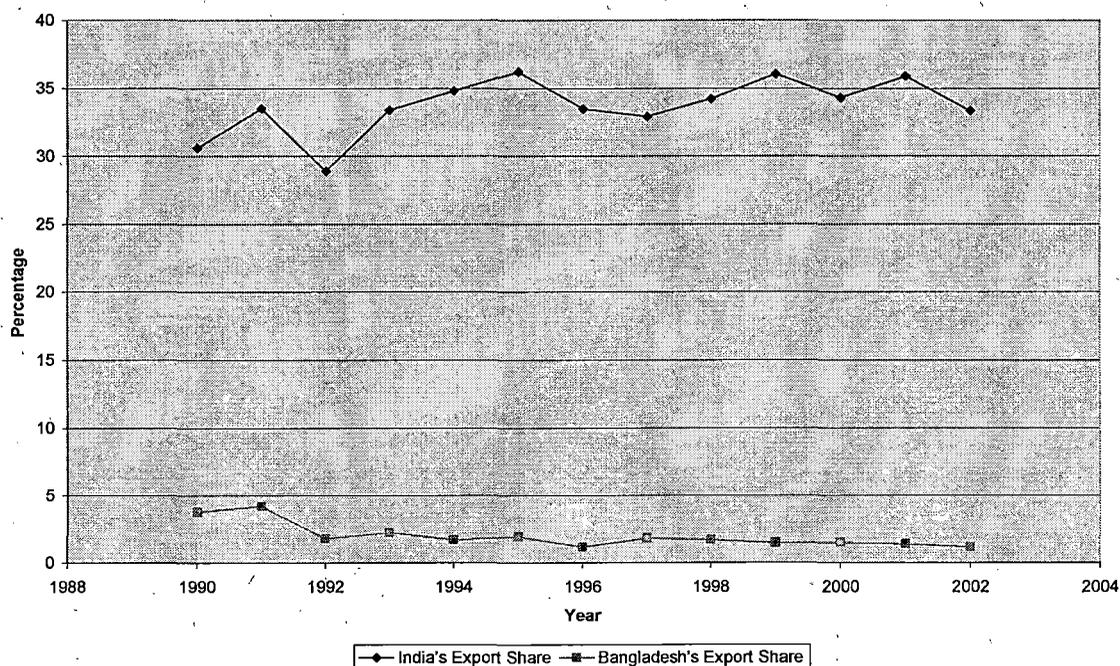
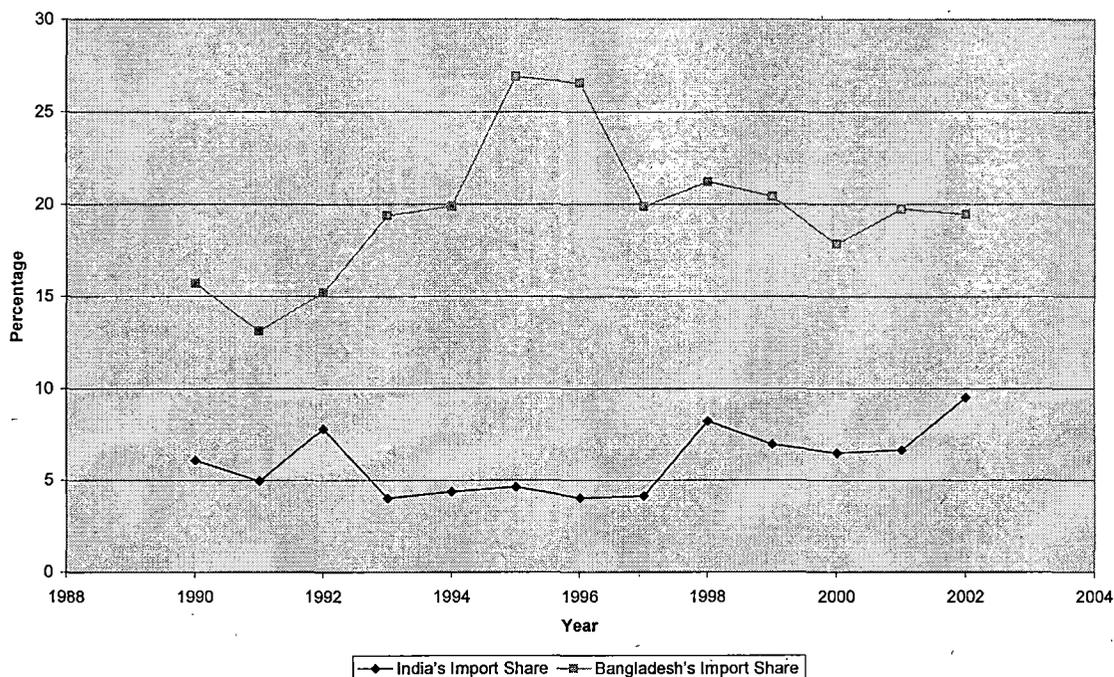


Figure 4.2: Imports Share of India and Bangladesh



4.6: Trade Intensity Indices

The trade intensity indices on both imports and exports demonstrate the bilateral trade Orientation of a country with its trading partners. The import intensity index can be defined as (Venkatsubbulu 1996 & Kojima, 1964):

$$m_{ij} = \frac{\frac{M_{ij}}{M_i}}{\frac{X_w - X_i}{X_j}}$$

Where

m_{ij} = import intensity index of trade of country i with country j

M_{ij} = Imports of a country i from trading partner j

M_i = Total imports of country i

X_w = Total world exports

X_i = Total exports of country i

Export intensity index can also be defined in the same way; that is

$$x_{ij} = \frac{\frac{X_{ij}}{X_i}}{\frac{M_w - M_j}{M_j}}$$

Where

x_{ij} = Export intensity index of trade of country i with country j

X_{ij} = Export of country i to trading partner j

X_i = Total exports of country i

M_j = Total imports of country j

M_w = Total world imports

M_i = Total imports of country i .

Exports and import intensity indices have been calculated for India's trade with Bangladesh and Bangladesh's trade with India for some selected years from 1980 to 2003. The results are noted in table 4.6 and table 4.7

It is observed that India's export intensity with Bangladesh is very high for all those years under study. This indicates that India was exporting extremely high to Bangladesh all the time than what it ought to export. The highest index, 130.11230, was observed in the year 2001. (Due to rupee depreciation along with further trade liberalization, tariff reductions, and more further to foreign investment in export-oriented sector like information technology in Indian economy). After that the index was declining and reached to 97.33020 in the year 2002, though it increased slightly in 2003.

Table 4.6: India's Export and Import Intensity Indices with Bangladesh

| Year | m_{ij} | x_{ij} |
|------|----------|-----------|
| 1980 | 1.00231 | 99.72132 |
| 1985 | 0.98235 | 105.73250 |
| 1990 | 0.73231 | 97.33672 |
| 1995 | 0.83129 | 120.66731 |
| 2000 | 0.34114 | 109.67329 |
| 2001 | 0.30121 | 130.11230 |
| 2002 | 0.21329 | 97.33020 |
| 2003 | 0.07291 | 101.00213 |

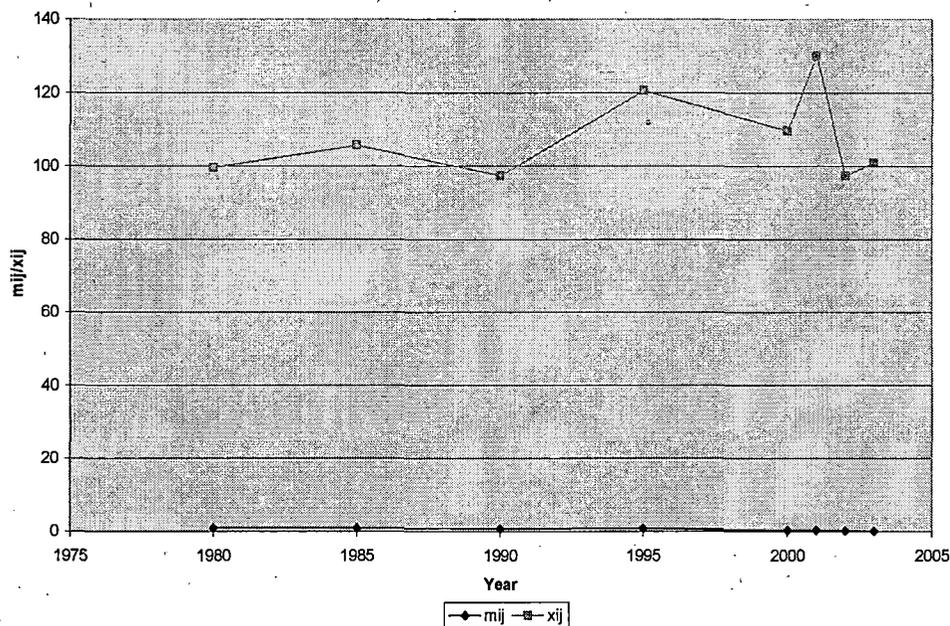
Source: Calculated from IMF, *Direction of Trade Statistics Yearbook* (various years) data

Where

m_{ij} = India's import intensity index with Bangladesh.

x_{ij} = India's export intensity with Bangladesh.

Figure 4.3: India's Export and Import Intensity Indices with Bangladesh



Compared to export intensity indices, India's import intensity indices with Bangladesh are very low. However, it is still far below the desired level of 100. The index value decreased tremendously in 2003 and reached to 0.07291. During 2000-2003, the index values were less than 0.5.

Therefore, it is revealed from the discussion that India imported much less from Bangladesh than its exported to Bangladesh.

Table 4.7: Bangladesh's Export and Import Intensity Indices with India

| Year | * m_{ij} | * x_{ij} |
|------|------------|------------|
| 1980 | 4.88552 | 1.41491 |
| 1985 | 4.62714 | 3.47303 |
| 1990 | 8.746103 | 1.90698 |
| 1995 | 25.35823 | 1.67226 |
| 2000 | 17.00011 | 1.36479 |
| 2001 | 20.10860 | 1.60816 |
| 2002 | 18.81877 | 1.00087 |
| 2003 | 21.61386 | 0.799651 |

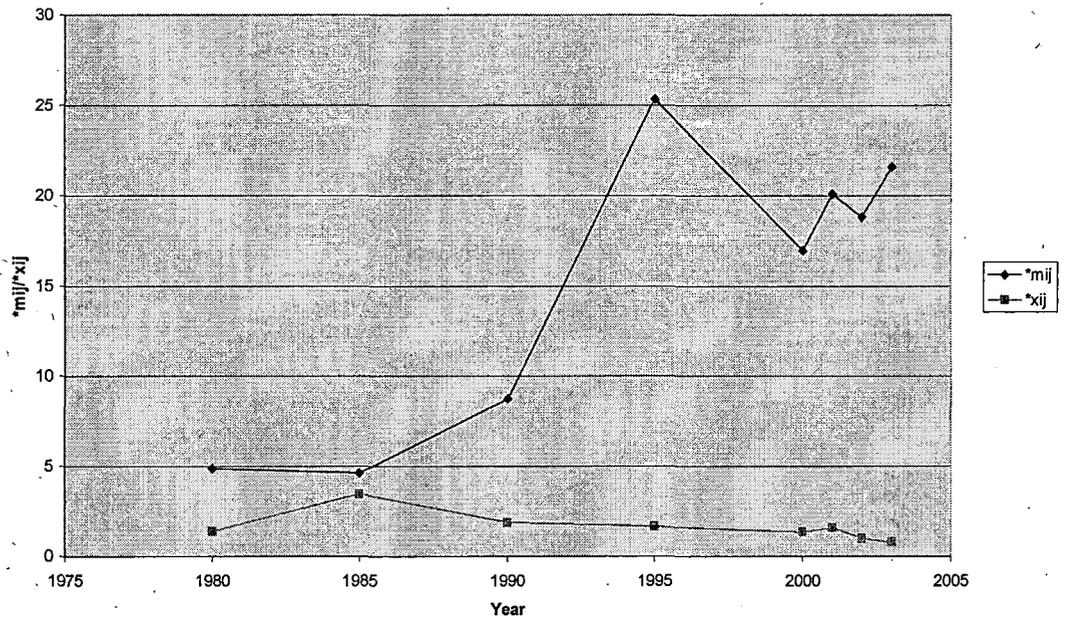
Source: Calculated from IMF, Direction of Trade Statistics Yearbook (various years) data

Where

* m_{ij} = Bangladesh's import intensity with India.

* x_{ij} = Bangladesh's export intensity with India.

Figure 4.4: Bangladesh's Export and Import Intensity Indices with India



The result from table 4.7 shows Bangladesh's export intensities with India were far below 100 for all those years. The highest index was 3.47303 in the year 1985. After that, it was cautiously declining and reached 1.36479 in 2000.

Bangladesh's import intensity indices with India are quite high than export intensity indices. The index value almost doubled in 1995 compared to 1980 or 1985. The index value increased tremendously in 1995 reaching to 25.35823.

The data indicates that Indo-Bangladesh trade was not as high as it should be. So there is a scope for trade expansion for both the countries.

4.7: The Importance of India in the Overall Trade of Bangladesh

India plays an important role in Bangladesh's trade since the independence, and recently, especially in 1990s the trade of Bangladesh trade with India increased tremendously. The table 4.8 compares the growth rates of Bangladesh's trade with India, SAARC countries and world for selected years from 1980 to 2003. It is observed from the table that the average annual growth rate of Bangladesh's trade with India during 1980 to 1995, were much higher than those with the SAARC and the world. For example, during 1980 to 1985, while average annual growth rates of Bangladesh's trade with the World and SAARC countries were 2.46 percent and 0.11 percent respectively, this figure was 9.72 percent with India. During 1985-1990, the growth rates with the world, SAARC

countries and India were 7.94 percent, 18.68 percent and 20.63 percent respectively. The growth rate with the world and SAARC countries were 16.70 percent and 57.85 percent respectively and the growth rate with India was 87.29 percent. Though the growth rates with SAARC countries and India were slightly negative during 1995-2000, those figure turns into positive in 2001. The overall performance was negative in 2002 following the 9/11 incident in 2001 in USA. The overall growth performance in 2003 was positive.

Table 4.8: Growth of Bangladesh's Trade with India in SAARC and Global Perspectives (Million of US \$)

| Year | BTWI | Annual growth rate | BTWS | Annual growth rate | BTWW | Annual growth rate. |
|------|--------|--------------------|-------|--------------------|-------|---------------------|
| 1980 | 63.6 | - | 164.8 | - | 3358 | - |
| 1985 | 94.5 | 9.72 | 163.9 | -0.11 | 3771 | 2.46 |
| 1990 | 192 | 20.63 | 317 | 18.68 | 5269 | 7.94 |
| 1995 | 1030 | 87.29 | 1234 | 57.85 | 9670 | 16.70 |
| 2000 | 995.6 | -0.67 | 1146 | -1.43 | 13147 | 7.19 |
| 2001 | 1256.3 | 26.91 | 1391 | 21.38 | 13176 | 0.22 |
| 2002 | 1185.2 | -5.66 | 1294 | -6.97 | 12480 | -5.28 |
| 2003 | 1541.6 | 30.07 | 1681 | 29.91 | 16744 | 34.17 |

Source: Calculated from IMF, *Direction of Trade Statistics Yearbook (various years)* data

Where

BTWI = Bangladesh's trade with India

BTWS = Bangladesh's trade with SAARC

BTWW = Bangladesh's trade with World.

India's share is not convincingly high in Bangladesh's trade although it has been increasing over the years. Table 4.9, it is observed that India's share in Bangladesh's global trade has increased to 10.7 percent in 1995 from 3.6 percent in 1990. This share has slightly decreased in recent years. But India's share in Bangladesh's global import has been increasing over the years. India's share in Bangladesh's global import increased to 15.5 percent in 2003 from 4.7 percent in 1990. On the other hand, India's export share decreased to 0.7 percent from 1.3 percent during the same period.

India's contribution to Bangladesh's export to SAARC countries increased to 53.5 percent in 2003 from 36.6 percent in 1990. India's share in Bangladesh's total trade with the SAARC countries increased from 60.6 percent to 91.7 percent during the same period.

Table 4.9: India's Share in Bangladesh, Global and SAARC Trade

| | (Million of US \$) | | | | | |
|------------------------------|--------------------|------|------|------|------|------|
| Item | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 |
| Global Exports of Bangladesh | 1671 | 3173 | 4786 | 4826 | 4566 | 7167 |
| Global Imports of Bangladesh | 3598 | 6497 | 8360 | 8350 | 7914 | 9577 |
| Exports to SAARC | 60 | 83 | 89 | 92 | 73 | 99 |
| Imports from SAARC | 257 | 1151 | 1057 | 1299 | 1221 | 1582 |
| Exports to India | 22 | 36 | 50 | 61 | 39 | 53 |
| Imports from India | 170 | 994 | 945 | 1195 | 1146 | 1489 |
| (I/W)T | 3.6 | 10.7 | 7.6 | 9.5 | 9.5 | 9.2 |
| (I/W)X | 1.3 | 1.1 | 1 | 1.2 | 0.8 | 0.7 |
| (I/W)M | 4.7 | 15.3 | 11.3 | 14.3 | 14.5 | 15.5 |
| (I/S)T | 60.6 | 83.5 | 86.8 | 90.2 | 91.6 | 91.7 |
| (I/S)X | 36.6 | 43.3 | 56.1 | 66.3 | 53.4 | 53.5 |
| (I/S)M | 66.1 | 86.3 | 89.4 | 91.9 | 93.8 | 94.1 |

Source: Calculated from IMF, Direction of Trade Statistics Yearbook (various years) data

Where

(I/W)T = India's share in Bangladesh's global trade (percent)

(I/W)X = India's share in Bangladesh's global exports (percent)

(I/W)M = India's share in Bangladesh's global imports (percent)

(I/S)T = India's share in Bangladesh's global imports (percent)

(I/S)X = India's share in Bangladesh's exports to SAARC Countries (percent)

(I/S)M = India's share in Bangladesh's imports from SAARC Countries (percent)

India was the fourth largest importing source in Bangladesh in 1990 just after Japan. But in 2003, India is the largest importing source (1489 million of US \$) for Bangladesh.

4.8: The Importance of Bangladesh in India's Overall Trade

In India's global trade, Bangladesh's contribution was 0.74 percent in 1990. This share rose to 1.59 percent (Table. 4.10) in 1995. After that, though this figure decreased marginally, it was still 1.13 percent in 2003. This is the official record of trade; if unofficial trade is also considered, this ratio would be double or even more.

With regard to exports, Bangladesh's contribution to Indian global exports is significant. In 1990, India's export to Bangladesh was 297 million US dollar, i.e. 1.67 percent of India's global exports. Within 5 years of time, i.e. in 1995, this ratio increased to 3.14

percent. In 2002 and 2003, Bangladesh's share in India's global exports was 2.11 percent and 2.42 percent respectively.

India imported from Bangladesh only 0.06 percent of its global imports in 1990. This ratio remained more or less the same over the years except 1995 and 2001. It was 0.23 in 1995 and 0.13 percent in 2001.

In the context of India's trade with SAARC Countries, Bangladesh's Contribution is significant. Bangladesh contributed 40.91 percent of India's total trade with the SAARC countries in 2003 (Table. 10). Bangladesh share of India's export to SAARC countries was 49.64 percent in 2003. In 2002, it was 52.57 percent. In 1990 and 1995, this ratio was higher i.e. 60.98 percent and 62.17 percent respectively. However, Bangladesh's share of India's imports from SAARC countries was not convincing. It is only 8.42 percent in 2003.

Table 4.10: India's Trade in Global and SAARC Perspective

| | (Million of US \$) | | | | | |
|-------------------------|--------------------|-------|-------|-------|-------|-------|
| Item | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 |
| Global Exports of India | 17813 | 30537 | 44313 | 44613 | 49312 | 57080 |
| Global Imports of India | 23990 | 34484 | 52773 | 51562 | 56517 | 71238 |
| Exports to SAARC | 487 | 1544 | 2018 | 2347 | 1982 | 2786 |
| Imports from SAARC | 97 | 198 | 381 | 436 | 492 | 748 |
| Imports from Bangladesh | 15 | 79 | 55 | 67 | 43 | 63 |
| (B/W)T | 0.74 | 1.59 | 0.94 | 1.2 | 1.02 | 1.13 |
| (B/W)X | 1.67 | 3.14 | 1.94 | 2.44 | 2.11 | 2.42 |
| (B/W)M | 0.06 | 0.23 | 0.1 | 0.13 | 0.07 | 0.08 |
| (B/S)T | 53.42 | 59.64 | 38.14 | 41.47 | 43.86 | 40.91 |
| (B/S)X | 60.98 | 62.17 | 42.61 | 46.31 | 52.57 | 49.64 |
| (B/S)M | 15.46 | 39.9 | 14.43 | 15.36 | 8.73 | 8.42 |

Source: Calculated from IMF, *Direction of Trade Statistics Yearbook (various years)* and United Nation's, *Statistical Yearbook (various years)* data

Where

(B/W)T = Bangladesh's share in India's global trade (percent)

(B/W)X = Bangladesh's share in India's global exports (percent)

(B/W)M = Bangladesh' share in India's global imports (percent)

(B/S)T = Bangladesh' share in India's global trade in SAARC countries (percent)

(B/S)X = Bangladesh' share in India's exports to SAARC countries (percent)

(B/S)M = Bangladesh' share in India's import from SAARC countries (percent)

From table 4.11, it is realized that India's largest export market in the SAARC region is Bangladesh all the time (1990 to 2003).

Table 4.11: Direction of India's Exports of SAARC Countries for Selected Years
(Percent of Total Share)

| Country | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 |
|------------|------|------|------|------|------|------|
| Bangladesh | 1.67 | 3.14 | 1.94 | 2.44 | 2.11 | 2.42 |
| Bhutan | --- | 0.04 | 0.03 | 0.04 | 0.01 | 0.01 |
| Maldives | 0.03 | 0.04 | 0.09 | 0.01 | 0.05 | 0.08 |
| Nepal | 0.22 | 0.35 | 0.89 | 0.97 | 0.35 | 0.38 |
| Pakistan | 0.24 | 0.23 | 0.37 | 0.49 | 0.3 | 0.32 |
| Sri Lanka | 0.57 | 1.25 | 1.23 | 1.23 | 1.2 | 1.68 |
| SAARC | 2.73 | 5.05 | 4.55 | 5.27 | 4.02 | 4.89 |
| World | 100 | 100 | 100 | 100 | 100 | 100 |

Source: Calculated from IMF, Direction of Trade Statistics Year book (various years) data

4.9: Indo-Bangladesh IIT Indices

Recent decades have witnessed an upsurge in Intra-Industry Trade i.e. trade in similar but differentiated products. Various theoretical arguments have been advanced for explaining this phenomenon. According to Grubel-Lloyd (1975), differences in the level of technology and human capital can lead to intra-industry trade even in products with identical factor input requirements. Krugman (1981) emphasizes the role of monopolistic competition and increasing return to scale in generating intra-industry trade. More precisely, Krugman argues that industries in which increasing returns are achieved at a low level of output each producing a different brand.

This section focuses on the extent of intra-industry trade between India Bangladesh, SAARC and the World. The following section discusses the Grubel-Lloyd indices of IIT at the bilateral level.

The importance of India-Bangladesh Intra-Industry Trade can also be examined. In 1990, IIT was 0.096 (table 4.12). After that, though this figure increased to 0.152 in 1995, which was the highest index value of IIT. The IIT index was continuously declining and reached to 0.087 in 2003. In the chemical and related products category, the bilateral intra-industry trade between India and Bangladesh largely consisted of inorganic chemical insecticides and herbicides. The intra-industry trade between India and the World, shown in table 4.12 displays a more upward trend, starting at a lower value of 0.852 in 1990 and increasing up to about the same share as intra-industry with the world.

India's trade with the SAARC countries the height IIT is 0.423 in 2003. In 1990, this value was 0.331. The rate of growth of intra-industry trade increased 28 percent in the study period. The historical pattern of intra-industry trade amongst the South Asian countries is highly erratic, and there are only a few products in which intra-industry trade occurred on a sustained basis. With few exceptions, leather products, textiles and clothing, and some basic machinery and tools have dominated the intra-industry trade profiles of the South Asian Countries. On average, the proportion of intra-industry trade to total has been very low for most of the products implying a low intensity of intra-industry trade in the region.

Table 4.12: India's Intra-Industry Trade with Bangladesh, Global and SAARC

| Item | 1990 | 1995 | 2000 | 2001 | 2002 | 2003 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| Global Exports of India | 17813 | 30537 | 44313 | 44613 | 49312 | 57080 |
| Global Imports of India | 23990 | 34484 | 52773 | 51562 | 56517 | 71238 |
| Exports to SAARC | 487 | 1544 | 2018 | 2347 | 1982 | 2786 |
| Imports from SAARC | 97 | 198 | 381 | 436 | 492 | 748 |
| Imports to Bangladesh | 297 | 960 | 860 | 1087 | 1042 | 1383 |
| Exports to Bangladesh | 15 | 79 | 55 | 67 | 43 | 63 |
| IIT between India and World | 0.852 | 0.939 | 0.959 | 0.928 | 0.932 | 0.890 |
| IIT between India and SAARC | 0.331 | 0.227 | 0.318 | 0.313 | 0.398 | 0.423 |
| IIT between India and Bangladesh | 0.096 | 0.152 | 0.121 | 0.116 | 0.079 | 0.871 |

Source: Calculated from IMF, Direction of Trade Statistics Yearbook (various years) data

4.10: Conclusion

This study highlights the importance of bilateral trade relationship between India and Bangladesh. Currently India is the 2nd largest trading partner of Bangladesh, and India's position is at the top for Bangladesh's import trade.

India and Bangladesh are very important trading partner in the SAARC region. India alone provided 94.1 percent of Bangladesh's imports from SAARC Countries in 2003. India's share in Bangladesh's total trade with the SAARC countries was 91.7 percent, and Bangladesh's share in India's total trade with the SAARC countries was 40.91 percent in 2003, India's largest export market is Bangladesh in the SAARC region. Among the SAARC countries, India is relatively placed at an advanced position and it is trying to diversify its exports. Consequently, the share of manufactured goods to total exports of India is increasing. This gives scope for other SAARC Countries to imports

manufactured goods from India. This is the major reason for India's favourable balance of trade with SAARC countries. This is a healthy sign in intra-regional trade.

There is a scope for mutual trade expansion between India, Bangladesh and SAARC countries. There are various possibilities like counter-trade, off shore trade fairs and exhibitions, market sharing arrangements and reduction of tariff and non-tariff barriers and utilize and existing potential for the expansion of SAARC region.

References

Adishesiah Malcom, S.(1987):“The Economic Rationale of SAARC”, South Asian Journal. Vol, 1 No. 1 Jun-Sep.

Bhattacharya, B. and Pal, P.(1998): “Trade Related Joint Ventures between India and Bangladesh” Indian Institute of Foreign Trade, New Delhi-110016.

Balassa, Bela. (1965): “Trade Liberalization and Revealed Comparative Advantage” The Machester School of Economic and Social Studies” Vol. 33.

CPR. (1995): *Indo Bangladesh Dialogue-Economic and Trade Cooperation*, Report, Prepared by Centre for Policy Research (CPR), New Delhi and Centre for Policy Dialogue (CPD), Dhaka.

Dasgupta, B. (2000): “International Institutions for Global Trade: The Case for South Asian Free Trade Association”. In Dutta, D. (ed.) *Economic Liberalization and Institutional Reform in South Asia: Recent Experiences and Future Prospect*. Atlantic Publisher.

Das Gupta, A.K.(1977): “The Problem of International Economic order”, International Studies, April June, Vol. 16.

Despande, G.P.(1981): “Long Shadow over South Asia” Economic and Political weekly, No. 2321.

Donges, J.B. (1977): “The Third World Demand for a New International Economic Order”, Kykios, Vol. 30.

Eusufazi, Zaki. (2000): *Liberalization in the Shadow of a Large Neighbor: A Case of Bangladesh-India Economic Relations*, Centre for Policy Dialogue, The University Press Limited, Dhaka, Bangladesh.

Edelman, J.A. (1977): “Aid and Income Distribution” in J.N. Bhagwati (ed): *The New International Economic Order*, MIT, Harvard University Press.

Frank Andre Curdar. (1980): “Development Crisis and Crisis of Development-Living in the Real World”, Economic and Political Weekly, Vol. XV, 5, Feb.

George Skorov. (1978): “Developing Nations in the Struggle for Economic Equality”, Social Sciences, Vol. 9, No. 3.

Grubel H. and Lloyd, P. (1975): *Intra-Industry Trade: The Measurement of International Trade Differentiated Products*, New York.

Gupta, Sisir. (1964): *Regional Integration in South Asia*, Asia Publishing House, New Delhi.

Halder, A. (1976): *India's Export Pattern Analysis on Potential Diversification*, Minerva Association Pvt. Ltd, Calcutta.

Hassan, M.K. (2002): "Trade with India and Trade Policies of Bangladesh" in Cook son, Forrest and Alam A.K.M.S. 2002 (ed.) *Towards Greater Sub-regional Economic Cooperation*, chapter 10.

Haq. M.U. (1980): "Beyond the Slogan of South-South Co-operation", *World Development*, Vol. 8.

Harrison, S. (1965): "Troubled India and her Neighbours", *Foreign Affairs*, January.

Hariharan, S.V. (1998): "Growth of India's Export in Asian Region", *Indian Economic Panorama*, Vol. 8. No. 1.

Hassan, M.K. (2001): "Is SAARC a viable Economic Block? Evidence from Gravity Model", *Journal of Asian Economics*, Vol. 12, No. 2 North-Holland.

Jagdish, N. Bhagwati. (1972) ed, "*Economic and World Order*" New Delhi.

Jha, L.K. (1982): "North South Debate", Chanakya Publications, New Delhi.

IMF, Various Years. *Direction of Trade Statistics Year Book*. Washington.

Kelegama, J.B. (1994): "Will the SAARC Preferential Trading Arrangement Expand Mutual Trade in South Asia", *Economic Review*, May-June.

Kumar Rajiv. (1988): "Co-operation of Economic Policies" *South Journal*, Vol. 1 No. 3, Jan-March.

Krugmen, P.R. (1981): "Intra-Industry Specialization and the Gain from Trade" *Journal of Political Economy* Vol. 89. No. 5.

Kemal, A. (2002): "A plan to strength on Regional Trade Cooperation in South Asia" in T.N. Srinivasan (ed): *Trade Finance and Investment in South Asia*, Social Science Press, New Delhi.

Kojima, K. (1964): "The Pattern of International Trade among Advanced Countries" *Histosubashi, Journal of Economic*, Vol.5 No.1 June.

Maddan, D.K. (1996): *Indo-Bangladesh Economic Relations and SAARC*, Deep and Deep Publications, New Delhi – 110059.

Mayer, Jorg & Wood. A.(2001): "South Asia's Export Structure in a Comparative Perspective", *Oxford Development Studies*, Vol. 29, No. 1.

Munsi, S.D. (1979): "India's Beneficial Bilateralism in South Asia" *India Quarterly*, Oct-Dec.

Mahendra P. Lama (2000): "SAARC: Shallow Regionalism Political Abstinence and Economic Advocacy", *BISS*, Vol. 21. No. 1.

Pohit, S and Taneja, N.(2003): "India's Informal Trade with Bangladesh: A Qualitative Assessment", The World Economy, Vol. 26, No. 8, Blackwell Publishing.

Rahaman, M. (2000): "Bangladesh – India Bilateral Trade: An Investigation into Trade in Service", Draft Report, Prepared under South Asia Network of Economic Research Institutes (SANEI) Study Programme, CPD, Dhaka.

Rahaman, M. (1998): "Bangladesh-India Bilateral Trade: Current Trends, New Perspectives, New Challenges" BISS journal, Vol. 19, No.1.

Rahaman M. (1998): "Intra-Regional Trade in South Asia: Current Status, Emerging Opportunities and Future Challenges", in Sadrel A.L. Reza (ed.) *Export led Growth Strategy for South Asia: Prospects and Challenges*, Asian and Pacific Development Centre.

Satrete Aiyar and Tanni Popal (2001): "WTO and Regional Trade Agreements", WTO monthly Digest.

Sharma, A and P.K. Mehata (1997): "Indian Exports to the Europeans Union in the Emerging Economic Environment" Asia-Pacific Development Journal, Vol. 4, No. 1. UNDP-2002.

United Nations: Statistical year book for Asia and the pacific (various years).

Taneja, N. (2001): "Informal Trade in the SAARC region" Economic and Political Weekly, Vol.XXIV , 17 March.

Venkatasubbuler, T.(1996): *India's Trade with SAARC Countries*, Discovery Publishing House. New Delhi. 110002.

World Bank (2001): "World Development Indication" Washington D.C.

World Bank: World Development Report (Various Years), Oxford University Press.

Yeats, Alexander J. (1998): "Just How Big Global Production Sharing" World Bank Policy Research Working Paper 1817, The World Bank, Washington, D.C.

Chapter-V

Growth and Pattern of India's Intra-Industry Trade with Special Reference to the USA

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Chapter-V

Growth and Pattern of India's Intra-Industry Trade with Special Reference to the USA

5.1: Introduction

Economic liberalization was started in India in the mid-1980s and got intensified in the early 1990s. It is held that, liberalization would lead to a restructuring in which production units respond to market signals. These changes, in turn, are expected to be manifested in the structure of India's international trade. The quantitative evidence of intra-industry trade in manufactures shows that for the developed as well as developing countries, there has been growing volume of two-way trade over time. With regard to trade between developed and developing countries, the average share of intra-industry trade has increased although not as much as in the case of the developed countries. A very rapid expansion in the manufactured exports from the less developed countries (LDCs) is evident especially in the countries that followed the outward oriented policies. According to World Bank (1997), after the newly industrializing countries of East and South-East Asia, between 1985 and 1995, South Asia's annual average per capita income growth was 2.9 percent. The present study focuses on two aspects of India's intra-industry (IIT) trade in manufactured commodities before and after economic liberalization. First, it examines the changes in the intensity of multilateral intra-industry trade between 1987-88, 1994-95, 1998-99 and 2002-2003 (hence fourth 1988, 1995, 1999 and 2003) to understand the impact of trade liberalization on intra-industry trade. Second, we evaluate India's intra-industry trade performance, examine the country's economic features and assess their relative importance as determining factors.

5.2: Growth of IIT under Liberalization

The potential for the occurrence of IIT had been evenly limited under the import substitution policy regime in India. For, as already indicated, the policy regime provided indiscriminate protection to domestic produces and hence there was no compulsion on the part of firms to rationalize their product lines. Further, adherence to tight import regime and to the criterion of 'indigenous on-availability' in granting import licenses meant that the policy framework virtually ruled out the possibility of recording competing imports within an industry.

The scenario, however, had undergone significant changes during 1990s. The type of allocative efficiency gain resulting from liberalization is intertwined with the emerging pattern of specialization. Broadly speaking three channels of allocative efficiency gains can be possible. First, there may be inter-industry resource shifts from inefficient to efficient industries. Second, resources may shift from inefficient to efficient firms within an industry. A third possibility is the intra-firm resource shifts from inefficient to efficient activities.

The inter-industry resource re-allocation process is highly unlikely. For liberalization initiatives that are meant to address the rigidities in the functioning of markets for factors of production-labour, capital and land-are how to come by and some of the critical steps like labour market liberalization are yet to be pursued (Srinivasan, 2000 and Ahluwalia 2002). The reforms undertaken, so far, are mostly those intended to do away with the rigidities in the functioning of the product markets. Persistence of rigidities in the factor markets would stand in the way of re-allocating resources across industries. Even in a situation where factor market rigidities do not exist, the pattern of inter-industry resource re-allocation may come about in myriad ways, resulting in considerable ambiguities, as exposed by Rudrik (1992).

What may be plausible is the intra-firm resource shifts from inefficient to efficient activities. Policy-induced incentives for firms to diversify production no longer exist. Instead, firms are likely to restructure their operation by specializing in fewer product lines so as to exploit possible economies of scale. As pointed out by Globerman and Dean (1990), specialization in the home market will be potentially reinforced by international demand for the differentiated products. Furthermore, in the face of increased foreign competition, highly concentrated industrial structures (like that of India) are especially bound to rationalization. Indeed, based on their survey, Desai et al (1999) reported that, after the 1991 liberalization, Indian firms in the machine tool industry have reduced their product range and that they have been vertically disintegrating, phasing out the production of components and sourcing more from outside.

In essence, the observed growth of IIT under liberalization is a manifestation of the ongoing process of product rationalization within the industry. But, the extent of intra-industry restructuring and, therefore, the level of IIT can vary in different industries depending upon whether their characteristics are compatible with the conditions necessary for the occurrence of IIT or not. We will provide below descriptive statistics of

the levels of IIT across industries and then set out to provide some explanations for the observed variation.

5.3: India's Merchandise and Intra-Industry Trade with East Asia

Table 5.1, 5.2 and 5.3 present the trends in merchandise-trade and intra-industry trade between India and the East Asian countries. It is observed that with the exception of Japan, India's trade with other East Asian countries has increased rapidly since the crises of 1997-98. Thus, barring few exceptions, the growth rate of India's export to and import from East Asian economies (viz. China, Japan, Korea and the ASEAN includes Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam) was in general higher than that of India's exports and imports to the rest of the world.

India's overall merchandise trade with East Asia more than doubled from about US \$ 13 billion in 1997-98 to about US \$ 17 billion in 2003-04 registering a compound annual growth rate of 13 percent (Table 5.1 and Table 5.2). The bulk of this increase was contributed by the rapid increase in bilateral merchandise trade between India and China, which expanded more than four-fold from about US \$ 1.7 billion in 1997-98 (US \$ 0.7 billion in exports and US \$ 1 billion in imports). In the year 2004, bilateral merchandise trade between India and China is expected to exceed US \$ 10 billion. In 1997-98, India-China intra-industry trade index was 0.78 but in 2003-04 it reaches in 0.85 and the volume of world trade in goods and services grow rapidly by 4.5 percent, compared to only 3.1 percent in the previous year. The robust performance of India and the emerging market economics also contributed to the good performance of the world economy. India's bilateral trade with ASEAN-6 expanded from US \$ 5.8 billion in 1997-98 to US \$ 12.7 billion by 2003-04; while the corresponding increase with Korea was from about US \$ 1.5 billion to US \$ 3.2 (Table 5.1 and Table 5.2). There has been considerable diversification of India's trade relation among the ASEAN members (Sharma and Mehta, 2002; Sen., et. al, 2004). Among the ASEAN-6, Malaysia, Singapore, Thailand and Indonesia are all emerging as strong trading partners in India. In 1997-98, the level of intra-industry trade in was 0.83 but in 2003-2004, it is 0.90. In this year Indian economy was passing through a difficult phase by several unfavourable domestic and external developments. The following initiatives have been taken in relation to external sector reforms. (i) Agri-Economic Zones set up for promoting agricultural exports on the basis of specific products and geographical areas. (ii) Special financial package introduced for large value exports (annual exports of over Rs. 100 crores) of selected products. (iii)

Medium term exports strategy formulated to achieve a quantum jump in exports in the next five years. (iv) Market and Initiatives (AMAI) scheme introduced to boost exports.

Table 5.1: India's Exports to East Asia: 1997-98 to 2003-04 (US \$ million)

| | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|---------------|---------------|
| World | 35048.7 | 33211 | 36760 | 44147 | 43976 | 52856 | 63622 |
| China | 719 (2.1) | 427 (1.3) | 539 (1.5) | 830 (1.9) | 955 (2.2) | 1981 (3.7) | 2967 (4.7) |
| Korea | 468 (1.3) | 307 (0.9) | 476.5 (1.3) | 447 (1.0) | 473 (1.1) | 646 (1.2) | 764 (1.2) |
| Japan | 1901 (5.4) | 1651 (5.0) | 1685 (4.6) | 1782 (4.0) | 1515.6 (3.4) | 1869 (3.5) | 1719 (2.7) |
| ASEAN-6 | 2419.6 (6.9) | 1589.2 (4.8) | 2190.3 (6.0) | 2813.7 (6.4) | 3390.2 (7.7) | 4528 (8.6) | 5700 (9.0) |

Source: Calculated from CMIE, Foreign Trade and Balance of Payments, 2004

N. B.: Figures in parentheses indicates share in India's total world export

Table 5.2: India's Imports from East Asia: 1997-98 to 2003-04 (US \$ million)

| | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 |
|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| World | 41534.6 | 42379.2 | 49798.6 | 50056.3 | 51588.4 | 61571.6 | 77237 |
| China | 1120.7 (2.7) | 1096.5 (3.3) | 1288.3 (2.6) | 1494.9 (3.4) | 2043.3 (4.6) | 2799.3 (5.3) | 4059.1 (6.4) |
| Korea | 1002.9 (2.4) | 1394.1 (4.2) | 1274.9 (3.5) | 891 (2.0) | 1145.3 (2.6) | 1525.9 (2.9) | 2460.1 (3.9) |
| Japan | 2147.5 (5.2) | 2465.2 (7.4) | 2538.9 (6.9) | 1835.5 (4.2) | 2153.7 (4.9) | 1841.1 (3.5) | 2649.3 (4.2) |
| ASEAN-6 | 3382.3 (8.1) | 4142.6 (9.8) | 4918.9 (9.9) | 3881.2 (7.7) | 4025 (7.8) | 4825 (7.8) | 6959 (9.0) |

Source: Calculated from CMIE, Foreign Trade and Balance of Payments, 2004

N. B.: Figures in parentheses indicates share in India's total world imports

Table 5.3: India's IIT with East Asia: 1997-98 to 2003-2004.

| | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 |
|---------|---------|---------|---------|---------|---------|---------|---------|
| World | 0.925 | 0.871 | 0.859 | 0.947 | 0.920 | 0.928 | 0.903 |
| China | 0.781 | 0.56 | 0.59 | 0.71 | 0.64 | 0.83 | 0.85 |
| Korea | 0.64 | 0.37 | 0.54 | 0.67 | 0.58 | 0.60 | 0.46 |
| Japan | 0.94 | 0.80 | 0.80 | 0.99 | 0.83 | 0.99 | 0.80 |
| ASEAN-6 | 0.83 | 0.55 | 0.62 | 0.84 | 0.91 | 0.97 | 0.90 |

Source: Calculated from CMIE, Foreign Trade and Balance of payment, Centre for Monitoring Indian Economy, 2004.

The following observations may be made concerning the trends in merchandise trade between India and ASEAN during the fast decade.

(i) India's merchandise exports to ASEAN have more than tripled from about US \$ 1.0 billion in 1991-92 (3.7 percent of its exports) to US \$ 3.4 billion in 2001-02 (7.7 percent of its world exports). The overall trade has been upwards, except during the East Asia crisis period of 1997-99. However, merchandise export values between ASEAN and India have already surpassed from India to ASEAN has been accompanied by a shift in the share of individual countries in India's total exports to ASEAN during this period. With the exception of Singapore, the share of all other ASEAN member countries in India's export rose during the 1991-92 period, with a fivefold increase in the share of India's exports to Vietnam. However, Singapore has continued to remain the largest market in ASEAN for India's merchandise exports, followed by Malaysia, Thailand, Indonesia and the Philippines.

(ii) India's merchandise imports from ASEAN have also tripled, from US \$ 1.3 billion in 1992 to about US \$ 4.0 billion in 2001-2002. ASEAN accounted for 8 percent of India's imports from the world in 2001-2002. Thus, ASEAN countries are more important for India as import sources than as exports markets. This suggests that India has been able to contribute positively to ASEAN's export-led recovery from the crisis [Asher, et, al 2003].

As with exports, the rising level of merchandise imports by India from ASEAN has also been accompanied by a shift in the share of individual ASEAN countries during this period. With exceptions of Singapore and Vietnam, the share of all other ASEAN member countries in India's imports registered an increase over the 1991-2002 periods, led by a seven-fold increase in the share of India's imports from Indonesia. This has led to a relative increase in Indonesia's importance as an import source for India, with that of Singapore declining over period.

The absolute volume of merchandise imports from Singapore to India has been declining since the year 1999-2000. Given this trend, the decision of Singapore Business Federation (SBF) or its constituents to which all chambers of commerce and industry in Singapore compulsorily belong to not open an office in India is rather perplexing.

(iii) India-ASEAN merchandise trade was worth more than US \$ 7.4 billion in 2001-02. Since India's imports from ASEAN have outpaced those of its exports, the balance of trade has been largely in favour of ASEAN during the 1991-02 period.

Table 5.4: Trends In India's Merchandise Exports to ASEAN, 1991-92 to 2001-02

| India's Exports to | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| World (mn US \$) | 17998.3 | 18538.8 | 22213.0 | 26337.5 | 31841.9 | 33498.0 | 35048.7 | 33211.0 | 36760.0 | 44147.0 | 43708.0 |
| ASEAN-6 (mn US \$) | 1022.3 | 1242.9 | 1675.1 | 1899.6 | 2702.8 | 2851.6 | 2419.6 | 1589.2 | 2190.3 | 2813.7 | 3383.6 |
| Share in ASEAN (percent) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Share in total exports (percent) | 5.7 | 6.7 | 7.5 | 7.2 | 8.5 | 8.5 | 6.9 | 4.8 | 6.0 | 6.4 | 7.7 |
| Indonesia (mn US \$) | 149.5 | 138.5 | 234.7 | 277.8 | 663.4 | 592.3 | 437.8 | 185.2 | 325.1 | 394.9 | 539.3 |
| Share in ASEAN (percent) | 14.6 | 11.1 | 14.0 | 14.6 | 24.5 | 20.8 | 18.1 | 11.7 | 14.8 | 14.0 | 15.9 |
| Share in total exports (percent) | 0.8 | 0.7 | 1.1 | 1.1 | 2.1 | 1.8 | 1.3 | 0.6 | 0.9 | 0.9 | 1.2 |
| Malaysia (mn US \$) | 203.9 | 189.9 | 247.0 | 286.6 | 393.8 | 531.6 | 490.5 | 321.6 | 447.2 | 601.1 | 773.6 |
| Share in ASEAN (percent) | 19.9 | 15.3 | 14.7 | 15.1 | 14.6 | 18.6 | 20.3 | 20.2 | 20.4 | 21.4 | 22.9 |
| Share in total exports (percent) | 1.1 | 1.0 | 1.1 | 1.1 | 1.2 | 1.6 | 1.4 | 1.0 | 1.2 | 1.4 | 1.8 |
| Philippines (mn US \$) | 64.7 | 54.7 | 58.2 | 99.5 | 144.5 | 183.8 | 239.0 | 118.7 | 143.7 | 201.6 | 248.0 |
| Share in ASEAN (percent) | 6.3 | 4.4 | 3.5 | 5.2 | 5.3 | 6.4 | 9.9 | 7.5 | 6.6 | 7.2 | 7.3 |
| Share in total exports (percent) | 0.4 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.4 | 0.4 | 0.5 | 0.6 |
| Singapore (mn US \$) | 391.0 | 588.9 | 751.2 | 770.5 | 903.0 | 978.3 | 780.7 | 517.3 | 669.8 | 862.4 | 970.1 |
| Share in ASEAN (percent) | 38.2 | 47.4 | 44.8 | 40.6 | 33.4 | 34.3 | 32.3 | 32.6 | 30.6 | 30.7 | 28.7 |
| Share in total exports (percent) | 2.2 | 3.2 | 3.4 | 2.9 | 2.8 | 2.9 | 2.2 | 1.6 | 1.8 | 2.0 | 2.2 |
| Thailand (mn US \$) | 200.1 | 253.7 | 356.1 | 406.7 | 473.6 | 447.5 | 344.9 | 320.9 | 449.9 | 528.7 | 634.7 |
| Share in ASEAN (percent) | 19.6 | 20.4 | 21.3 | 21.4 | 17.5 | 15.7 | 14.3 | 20.2 | 20.5 | 18.8 | 18.8 |
| Share in total exports (percent) | 1.1 | 1.4 | 1.6 | 1.5 | 1.5 | 1.3 | 1.0 | 1.0 | 1.2 | 1.2 | 1.5 |
| Vietnam (mn US \$) | 13.0 | 17.4 | 28.0 | 58.6 | 124.6 | 118.2 | 126.8 | 125.4 | 154.6 | 225.0 | 217.9 |
| Share in ASEAN (percent) | 1.3 | 1.4 | 1.7 | 3.1 | 4.6 | 4.1 | 5.2 | 7.9 | 7.1 | 8.0 | 6.4 |
| Share in total exports (percent) | 0.1 | 0.1 | 0.1 | 0.2 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 |

Source: Calculated from CMIE, Foreign Trade and Balance of Payments, Centre for Monitoring Indian Economy, October 2000.

The foregoing analysis shows that the ASEAN -6, Malaysia, Singapore Thailand and Indonesia are all emerging and strong trading partners in India. However, recent studies on product composition indicate that pharmaceuticals, metal scraps, leather goods, textiles, machinery and electronic components and gems and jewellery are among the product areas with clear potential for future merchandise trade expansion between ASEAN and India [Sharma and Mehta 2002; Sen. 2002]. This has significantly increased the prospects for achieving India-ASEAN bilateral trade.

The bilateral trade between India and Japan has exhibited a sharp downward trend (see table 5.1 and table 5.2), particularly concerning India's exports to Japan. The level of intra-industry trade between India and Japan is very significant. In 2001-2003, IIT is almost one (see table 5.3). The two sides must urgently consider ways to deepen their bilateral merchandise trade relationship, particularly as these are wider areas where their interest converges.

It is observed that East Asia's share (except that of Japan) in India's exports has been increasing particularly since 2000-2001, with that of India's import also exhibiting similar trends. In particular, China's share in India's exports and imports expanded from 19 percent and 3.4 percent to 4.7 percent and 6.4 percent respectively, which that of ASEAN-6 increased from 6.4 percent and 7.7 percent to 9 percent respectively for both flows.

However, trade shares do not provide any indication as to the extent to which two countries prefer to trade amongst themselves, relative to their other trading partners in the rest of the world (ROW).

Table 5.5: Trends In India's Merchandise Imports to ASEAN (1991-92 to 2001-02)*(Million US \$)*

| India's Imports from | 1991-92 | 1992-93 | 1993-94 | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 |
|----------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------------------|----------------------|
| World (mn US \$) | 19554.9 | 21883.5 | 23304.9 | 28662.2 | 36729.8 | 39165.5 | 41534.6 | 42379.6 | 49798.6 | 50056.3 | 51261.3 |
| ASEAN-6 (mn US \$) | 1274.6 | 1126.7 | 1101.7 | 1940.0 | 2688.0 | 2921.1 | 3382.3 | 4142.6 | 4918.9 | 3876.14 ^a | 3991.57 ^b |
| Share in ASEAN (percent) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Share in total (percent) | 6.5 | 5.6 | 4.7 | 6.8 | 7.3 | 7.5 | 8.1 | 9.8 | 9.9 | 7.7 | 7.8 |
| Indonesia (mn US \$) | 67.4 | 60.0 | 119.5 | 322.3 | 461.8 | 599.2 | 828.9 | 828.9 | 960.0 | 904.4 | 1039.2 |
| Share in ASEAN (percent) | 5.3 | 4.9 | 10.8 | 16.6 | 17.2 | 20.5 | 20.0 | 20.0 | 19.5 | 23.3 | 26.0 |
| Share in total imports (percent) | 0.3 | 0.3 | 0.5 | 1.1 | 1.3 | 1.5 | 2.0 | 2.0 | 1.9 | 1.8 | 2.0 |
| Malaysia (mn US \$) | 392.0 | 405.8 | 249.2 | 490.2 | 904.1 | 1042.2 | 1610.4 | 1610.4 | 2026.5 | 1151.6 | 1137.3 |
| Share in ASEAN (percent) | 30.8 | 33.1 | 22.6 | 25.3 | 33.6 | 35.7 | 38.9 | 38.9 | 41.2 | 29.7 | 28.5 |
| Share in total exports (percent) | 2.0 | 1.9 | 1.1 | 1.7 | 2.5 | 2.7 | 3.8 | 3.8 | 4.1 | 2.3 | 2.2 |
| Philippines (mn US \$) | 31.5 | 9.8 | 5.9 | 11.8 | 21.5 | 16.5 | 37.3 | 37.3 | 56.3 | 63.0 | 91.6 |
| Share in ASEAN (percent) | 2.5 | 0.8 | 0.5 | 0.6 | 0.8 | 0.6 | 0.9 | 0.9 | 1.1 | 1.6 | 2.3 |
| Share in total imports (percent) | 0.2 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 |
| Singapore (mn US \$) | 696.3 | 632.1 | 626.1 | 900.0 | 1115.2 | 1064.2 | 1383.9 | 1383.9 | 1536.3 | 1435.7 | 1298.9 |
| Share in ASEAN (percent) | 54.6 | 51.5 | 56.8 | 46.4 | 41.5 | 36.4 | 33.4 | 33.4 | 31.2 | 37.0 | 32.5 |
| Share in total imports (percent) | 3.6 | 2.9 | 2.7 | 3.1 | 3.0 | 2.7 | 3.3 | 3.3 | 3.1 | 2.9 | 2.5 |
| Thailand (mn US \$) | 48.9 | 58.3 | 57.2 | 171.7 | 170.0 | 197.4 | 273.1 | 273.1 | 328.2 | 315.0 | 424.5 |
| Share in ASEAN (percent) | 3.8 | 4.8 | 5.2 | 8.8 | 6.3 | 6.8 | 6.6 | 6.6 | 6.7 | 8.1 | 10.6 |
| Share in total exports (percent) | 0.2 | 0.3 | 0.2 | 0.6 | 0.5 | 0.5 | 0.6 | 0.6 | 0.7 | 0.6 | 0.8 |
| Vietnam (mn US \$) | 38.5 | 60.6 | 43.8 | 44.1 | 15.5 | 1.7 | 9.1 | 9.1 | 11.7 | 6.5 | - |
| Share in ASEAN (percent) | 3.0 | 4.9 | 4.0 | 2.3 | 0.6 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | - |
| Share in total imports (percent) | 0.2 | 0.3 | 0.2 | 0.2 | 0.04 | 0.00 | 0.02 | 0.02 | 0.02 | 0.01 | - |

Source: Calculated from CMIE, Foreign Trade and Balance of Payments, Centre for Monitoring Indian Economy, October 2000

For this reason, intra-industry trade indices are often considered as more useful tool for analyzing bilateral trade linkages. In the context of this chapter, the indices are designed to capture the extent to which India regards its trading partners (the East Asian economies) as being important in relation to the former trade with the rest of the world (ROW), and vice versa. The indices are computed using the data from IMF's Direction of Trade statistics yearbook.

Considerable acceleration in the merchandise trade strongly suggests that there is substantive scope for expansion of trading relation between India and East Asia. India's 2004-09 National Trade policy envisages its merchandise exports and imports to rise to US \$ 195 billion and US \$ 210 billion respectively by 2009. If trade in service transactions is added, India's total international trade is set to exceed US \$ 500 billion by the end of the decade.

India's vigorous unilateral liberalization and its perusal of bilateral trade pacts could facilitate this expansion. The India-ASEAN Free Trade Agreement is going to be operational very soon with an "Early Harvest" scheme involving 105 products. This is likely to be expanded to include other areas in due course. Concomitantly, the Comprehensive Economic Cooperative Agreement (CECA) pact between India and Singapore is reportedly progressing towards the concluding stage.

5.4: India-EU Trade Relation

The European Union, which was formally established on November 1, 1993 includes 25 member countries. It represents just 6% of the world's population. But it accounts for more than 20% of global imports and exports (European Commission, 2002). This has made the EU emerge as the leading trade power of the world today.

Trade was one of the first areas in which EU countries agreed to pool their sovereignty, transferring to the European Commission the responsibility for handling trade matters, including negotiating international trade agreements on their behalf. This implies that the EU's member states negotiate as one, both their trading partners at the World Trade Organization (WTO), thereby maximizing their influence on the international scene (Urwin, 2004).

Traditionally, India had a multi-dimensional relationship with the EU, which is our largest trading partners the biggest source of our foreign direct investment, a major supplier of our developmental aid, an important source of technology and also a home to a large and influential Indian diasporas (India- EU relation 2002).

India attained the status of the EU's largest trading partner right in the first year (1993) of the latter's establishment and since then has maintained a steady growth not only in volume of its trade the EU but also in diversity, with a third of Indian exports reaching the EU destinations. India is the EU's seventeenth largest supplier and twentieth largest destination of exports.

India is traditionally the exporter of textiles, agricultural and marine products, gems and jewellery, leather and engineering and electronic products. Sectors like chemicals, carpets, granites and electronics have exhibited the fastest growth in the last five years. Indian exports from Europe on the other hand, comprise mainly gems and jewellery, engineering goods, chemicals and minerals.

The hidden trade liberalization in India has started in the 1980s and its full effect came out during the 1990s. Faced with rising inflation (13.6%) and a balance of payments crisis in mid 1991, the Government of India introduced a fairly comprehensive package comprising trade and exchange liberalization, reduction of tax rates, industrial de-licensing, deregulation, currency devaluation and privatisation of the public sector.

The growth rate has been much higher both exports and imports during liberalization. The growth rate of exports has increased from 7.4% in 1980-81 to 10.1% in 1999-2000. The reason for such increment goes to buoyancy in world demand, revival of world trade and trade policy initiatives taken by the government. On the other hand, the share of imported manufacturing goods rose by 35.8 percent in 1980-81 to 48 percent in 1990s and sharply rose to 78 percent in 1999-2000. The responsible sectors in this respect are electronic goods, textile yarn, and fabrics and made ups, machinery, iron and steel, professional instruments. Most of these sectors are energy intensive.

Table 5.6: India – EU Trade (1991-2000)

(In €Mio)

| Year | Exports | % Change | Import | % Change | Total Trade | % Change | Trade Gap Export- Import |
|------|---------|-------------|--------|-------------|----------------|-------------|-----------------------------------|
| 1991 | 4756 | - | 5219 | - | 9975 | - | -473 |
| 1992 | 4878 | 2.57 | 5246 | 0.05 | 10124 | 1.49 | -368 |
| 1993 | 5880 | 20.54 | 6294 | 19.06 | 12174 | 20.25 | -414 |
| 1994 | 6912 | 17.55 | 7053 | 12.06 | 13965 | 14.71 | -141 |
| 1995 | 7794 | 12.76 | 9442 | 33.87 | 17236 | 23.42 | -1648 |
| 1996 | 8588 | 10.19 | 9895 | 4.80 | 18483 | 7.24 | -1307 |
| 1997 | 9465 | 10.21 | 10208 | 3.16 | 19673 | 6.44 | -743 |
| 1998 | 9790 | 3.43 | 9539 | -6.56 | 19329 | -1.74 | 251 |
| 1999 | 10020 | 2.35 | 10344 | 8.43 | 20364 | 5.35 | -324 |
| 2000 | 12341 | 23.16 | 13303 | 28.86 | 25644 | 25.93 | -962 |
| 2001 | 12941 | 4.86 | 12610 | -5.21 | 25524 | -0.47 | 331 |

Source: India – EU Annual Report, Brussels.

5.1: India-US Trade

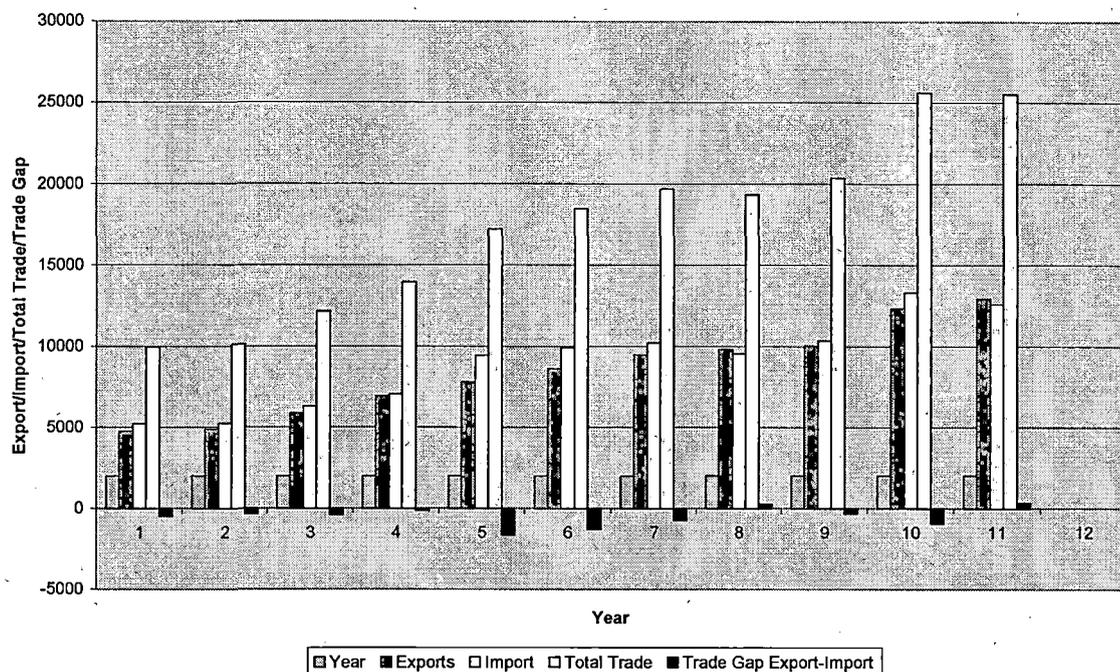


Table 5.7: India's Balance of Trade with EU Countries

(In US \$ million)

| COUNTRY | 1997-98 | 1998-99 | 1999-2000 | 2000-01 | 2001 |
|-------------|----------|----------|-----------|----------|----------|
| France | -25.83 | 110.10 | 185.52 | 379.20 | 100.74 |
| Belgium | -1452.77 | -1588.92 | -2313.62 | -1329.49 | -1372.38 |
| Germany | -607.2 | -288.74 | -107.6 | 147.98 | -239.75 |
| Italy | 219.59 | -33.26 | 385.8 | 585.17 | 501.74 |
| Luxembourg | -1.53 | 2.55 | 2.76 | 0.36 | 2.25 |
| Netherlands | 357.70 | 299.34 | 414.86 | 442.56 | 397.47 |
| Denmark | 67.97 | 86.84 | 75.71 | 31.88 | 31.25 |
| Ireland | 31.19 | 27.25 | 24.46 | 31.18 | 17.44 |
| UK | -350.89 | -665.97 | -667.78 | -869.21 | -402.33 |
| Greece | 63.07 | 125.65 | 68.48 | 91.48 | 76.96 |
| Spain | 280.99 | 285.06 | 408.07 | 524.10 | 508.43 |
| Portugal | 95.82 | 96.94 | 115.29 | 134.71 | 133.85 |
| Austria | 4.04 | 17.94 | 8.58 | 11.30 | -1.49 |
| Finland | -117.64 | -101.36 | -80.83 | -149.28 | -92.34 |
| Sweden | -108.53 | -50.61 | -92.31 | -62.03 | -247.44 |

Source: India-EU Annual Report.

For emerging economies like India, the EU is one of the most accessible and open market. EU-India trade has grown impressively over the years, from € 4.4 billion in 1980

to € 33 billion in 2004. EU is India's one of the largest trading partner accounting for 23 percent of Indian exports and 16 percent of total imports in 2004-05. In 2005, bilateral trade grew by 20 percent in 2005 the EU's exports to India amounted to € 21 billion and the EU imports from India to € 19 billion.

EU has been enjoying a favourable balance of trade with India since 1990 as shown in table 5.6 and table 5.7.

Although the gap at times has reduced, the trend in 1995 and 1996 was markedly in favour of the EU at over ECU 1648 million and ECU 1307 million respectively. Again, in 1997 the gap has considerably reduced to ECU 743 million. In 1998 India-EU Trade for the first time in favour of India. The intra-industry index was 0.99 and the percentage in the IIT level was 3.13 percent with respect to previous year 1997. (See table 5.8). This was partly due to the South East Asian financial crisis favouring a shift in the EU focus on countries such as India. Again in 1999 as the EU's economy picked up its overall trade improved. India-EU bilateral trade touched for the first time ECU 20.3 bn. India's exports registered ECU 10.002 bn and imports ECU 10,3446 bn, and the balance of ECU 320 million remained in EU's favour India's strength lies its traditional exports like textiles, agricultural and marine products, gems and jewellery, leather and engineering and electronics products.

Table 5.8: Overall India's IIT with EU (1991-2001)

| Year | Value of Intra-Industry Trade Index | % Change over previous years. |
|------|-------------------------------------|-------------------------------|
| 1991 | 0.95 | - |
| 1992 | 0.96 | +1.05 |
| 1993 | 0.97 | +1.04 |
| 1994 | 0.99 | +2.06 |
| 1995 | 0.90 | -9.09 |
| 1996 | 0.93 | +3.33 |
| 1997 | 0.96 | +3.22 |
| 1998 | 0.99 | +3.13 |
| 1999 | 0.98 | -1.01 |
| 2000 | 0.96 | -2.04 |
| 2001 | 0.99 | +3.13 |

Source: Calculated from table 5.6

In general, country-wise intra-industry trade between India-EU over the period 1991 to 2001 is very significant.

In terms of imports, the European Union supplies almost 23 percent of India's total imports. Indian exports are mainly dominated by textiles and clothing (32.5 percent), agricultural and marine products (8.57 percent), gems and jewelry (12.24 percent) and leather and leather goods (10.03 percent) which together account for more than 60 percent of total exports. During the year 2002, EU's major items of exports to India were of engineering goods, gems and jewellery, chemical and allied products. These items accounted for approximately 77.5 percent share in EU's total exports to India. Other items, which have notable shares, are metal and metal goods (6.3 percent) and transport equipment (5.18 percent). During the same period, India's exports to EU comprised textiles and clothing (30.87 percent), gems and jewellery (12.01 percent), leather and leather goods (11.67 percent), engineering goods (10.93 percent), chemical and allied product (8.74 percent) and agricultural and allied products (7.38 percent). It is interesting to note that textiles and clothing, leather and leather goods and gems and jewellery constitute around 55 percent of EU's total imports from India.

Table 5.9: Product wise Intra-Industry Trade Between India and EU (2000 & 2004)

| Products | (000 euros) | | | | | |
|--------------------------------|-------------|---------|------|---------|---------|------|
| | 2000 | | | 2004 | | |
| | EX | IMT | IIT | EX | IM | IIT |
| a. Textile | 4004153 | 220251 | 0.11 | 4282569 | 205205 | 0.09 |
| b. Chemicals and Minerals | 1905711 | 1639406 | 0.93 | 2326989 | 1957168 | 0.91 |
| c. Engineering Products | 1676587 | 4539194 | 0.54 | 2157212 | 5923463 | 0.53 |
| d. Gems and jewellery | 1454708 | 5215390 | 0.44 | 1658970 | 5312731 | 0.48 |
| e. Leather and Leather goods | 1388318 | 86015 | 0.12 | 1429308 | 106476 | 0.14 |
| f. Agriculture products | 1264142 | 115673 | 0.17 | 1360367 | 118191 | 0.16 |
| g. Metals stones, granite etc. | 1064323 | 1090368 | 0.99 | 1656545 | 1427907 | 0.93 |
| h. Other manufactured items | 443959 | 658322 | 0.81 | 510660 | 106476 | 0.35 |

Source: EUROSTAT

Table 5.10: Product wise IIT Level between India and EU

| Products | 2000 | | | 2001 | | | 2002 | | |
|--------------------------------------|---------|---------|------|---------|---------|------|---------|---------|------|
| | EX | IM | IIT | EX | IM | IIT | EX | IM | IIT |
| a. Textile | 3120043 | 180653 | 0.11 | 3541171 | 202931 | 0.11 | 3941472 | 214631 | 0.10 |
| b. Chemicals and Minerals | 1785213 | 1400216 | 0.88 | 1950023 | 1527321 | 0.87 | 2007212 | 1974102 | 0.99 |
| c. Engineering Products | 1272412 | 3251610 | 0.56 | 1811002 | 4701321 | 0.56 | 1721321 | 4218210 | 0.58 |
| d. Gems and jewellery | 1254881 | 3217290 | 0.42 | 1400218 | 4283021 | 0.49 | 1600217 | 5037017 | 0.48 |
| e. Leather and Leather goods | 1012712 | 75213 | 0.14 | 1279231 | 79220 | 0.11 | 1304151 | 80556 | 0.12 |
| f. Agriculture products | 997891 | 92116 | 0.16 | 1023051 | 102251 | 0.18 | 1143721 | 191241 | 0.18 |
| g. Metals stones, granite etc. | 943739 | 947340 | 0.99 | 1002161 | 1101251 | 0.95 | 1008115 | 1208563 | 0.91 |
| h. Other manufactured items | 326929 | 641201 | 0.68 | 365621 | 750260 | 0.65 | 424120 | 821730 | 0.68 |

Source: Calculated from EUROSTAT

Table 5.10 shows that, IIT index varies from 0.11 to 0.99 in different product groups. The index ranged from 0.88 (in 2000) to 0.99 (2002) for the chemicals and minerals products, from 0.99 (in 2000) to 0.99 (in 2003) for metals, stones granite etc products and 0.68 (in 2000) to 0.81 (in 2003) in other manufactured items. This calculation also clearly shows that India's merchandise trade was intra-industry oriented.

Finally we compare the trend of India-EU trade pattern between pre-liberalization and post liberalization period. We have seen that the EU has been an important trade partner for India ever since its very inception. From table 4.5, Indian exports during the pre-liberalization period have risen very slowly. In 1998, India-EU trade for the first time was in favour of India (See table 5.10). From the table 5.11 it shows that the growth rate of India's exports to EU countries has markedly declined. Earlier the growth of exports was high towards Austria, Belgium-Luxembourg, Finland, Germany, Greece, Italy Portugal, Sweden and UK.

Table 5.11: India's Linear Growth Rate of Exports, Imports and Trade Volume and IIT with EU *(In percent)*

| Countries | Export | | Imports | | Trade Volume | | IIT | IIT |
|-------------|-----------|-----------|-----------|-----------|--------------|-----------|-----------|-----------|
| | (1980-90) | (1991-00) | (1980-90) | (1991-00) | (1980-90) | (1991-00) | (1981-90) | (1980-90) |
| Austria | 17.98 | 3.81 | 18.25 | 8.22 | 18.15 | 6.11 | 0.99 | 0.63 |
| Bel-lux | 15.68 | 10.41 | 14.75 | 0.49 | 14.97 | 4.00 | 0.96 | 0.08 |
| Denmark | 5.48 | 8.89 | 8.93 | 6.86 | 7.11 | 7.87 | 0.76 | 0.87 |
| Finland | 22.5 | 3.93 | 8.12 | 16.65 | 10.96 | 13.54 | 0.53 | 0.38 |
| France | 6.40 | 10.73 | 7.97 | 8.01 | 7.41 | 9.32 | 0.89 | 0.85 |
| Germany | 13.38 | 5.09 | 8.59 | 3.66 | 10.2 | 4.30 | 0.78 | 0.83 |
| Greece | 12.97 | 10.56 | -18.07 | 12.09 | -2.93 | 10.94 | 0.83 | 0.93 |
| Ireland | 7.40 | 17.40 | 1.34 | 24.74 | 5.05 | 20.56 | 0.31 | 0.82 |
| Italy | 12.78 | 9.63 | 8.13 | 9.42 | 10.16 | 9.53 | 0.78 | 0.99 |
| Netherlands | 4.61 | 7.55 | 7.21 | 6.47 | 6.31 | 7.11 | 0.78 | 0.92 |
| Portugal | 20.78 | 9.02 | 17.47 | 10.99 | 18.58 | 9.30 | 0.91 | 0.90 |
| Spain | 9.81 | 4.78 | 1.94 | 10.16 | 5.14 | 3.62 | 0.33 | 0.63 |
| Sweden | 12.4 | 6.59 | 14.3 | 6.30 | 13.79 | 6.40 | 0.92 | 0.97 |
| UK | 9.69 | 7.69 | 7.15 | 10.90 | 8.00 | 1.38 | 0.85 | 0.82 |
| Total EU | 11.11 | 5.31 | 9.29 | 3.95 | 9.89 | 4.59 | 0.41 | 0.86 |

Source: Computed from Direction of Trade Statistics Year book (various issues)

In the post-liberalization period, the growth rates have fallen for all these nations and the exports went in to markets of Denmark, France and Ireland. In contrast the growth rate in terms of imports has shown significant rise for quite a few countries in the post-liberalization period except Belgium-Luxembourg and Denmark. In fact imports from Finland, Greece, Ireland, Italy, Spain and the UK have risen sharply thus contributing to an unfavourable balance of trade for India.

Comparing the intra-industry trade indices between pre-liberalization and post-liberalization we see the IIT of some of the nations like Austria, Belgium-Luxemburg, Finland, and France are declined. But rests of the nations (i.e Denmark, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, and the UK) IIT indices are gradually increased during post-liberalisation period.

The fluctuations in intra-industry trade indices are quite low signifying the fact that the process of trade liberalization and the EU becoming a single largest entity must be responsible for an enhancement in the trade between India and EU.

5.5: Evidence of Intra-Industry Trade in India

The study by Havrylyshyn and Civan (1985) shows that IIT of India with the world, using Grubel Lloyd index, was 37.41 percent in 1978 [Havrylyshyn and Civan (1985)]. Havrylyshyn and Civan (1983), in a cross-country regression analysis, have shown that IIT levels across countries are strongly correlated with level of per-capita GNP, and product diversity of an IIT with the developed countries and newly industrialized countries. Their calculation was based on U.N. trade data.

Empirical estimates of IIT for the individual less developed countries are relatively scarce. However, some work at the country group level focused on developed countries IIT with LDCs [see Balassa (1985), Balassa and Bauwens (1987), Culem and Lundberg (1986), Dixon and Menon (1995), Havrylyshyn and Civan (1983,1985), Tharakan (1984, 1989), Loertscher and Wolter (1980), Ocampo (1986), Bergstrand (1983)]. According to Havrylyshyn and Civan (1985), India's IIT with the newly industrializing Economies was 15.1 percent in 1978 as compared to 17.0 percent in 1968. Thus the importance of IIT in India's trade is evident. Table 5.12 presents the IIT indices (as calculated by Havrylyshyn and Civan, (1985)] by country for 1978. It is evident from the table that like other developing countries, there have been changes in India's trade pattern during 1968-1978.

Table 5.12: Intra-Industry Trade Indices by Country in 1978.

| (Percentage of Total Trade) | |
|-----------------------------|------------------------------|
| Developing Countries | Intra-Industry Trade indices |
| Chile | 10 |
| Colombia | 20 |
| Kenya | 13.9 |
| Malawi | 6.6 |
| Malaysia | 3.4 |
| Pakistan | 14.8 |
| Peru | 10.3 |
| Philippines | 15 |
| Developed Countries | Intra-Industry Trade indices |
| Thailand | 14.3 |
| Yugoslavia | 50.7 |
| Tunisia | 17.4 |
| Turkey | 7.9 |
| Portugal | 32.8 |
| Argentina | 42.3 |
| Brazil | 37.8 |
| Greece | 21.1 |
| Hongkong | 40.8 |
| Korean Rep. | 24.9 |
| India | 37.4 |
| Israel | 61.9 |
| Mexico | 31.9 |
| Singapore | 66.9 |
| Australia | 5.3 |
| Austria | 74.1 |
| Canada | 66.9 |
| France | 80.3 |
| Germany | 0.7 |
| Italy | 59 |
| Japan | 26 |
| New Zealand | 25.9 |
| Sweden | 68.3 |
| Switzerland | 59.5 |
| U.K. | 81 |
| U.S.A. | 59.4 |

Source: Havrylyshyn and Civan (1985) Journal of Development Economics, Volume 18

The share in the increase of IIT can be accounted for by giving a closer look at India's export performance. According to Nayyar (1988 pp. 217-252), "the share of primary commodities in total exports declined from 47 percent in 1970-71 to 41 percent in 1977-78, it stayed at this level until 1980-81 but returned to its earlier level of 47 percent in 1984-85 as the share of fuels rose to 15 percent. The share of manufactured product in total exports registered a corresponding increase from 53 percent in 1970-71 to 59 percent in 1977-78, thus sustaining the repaid growth of exports during this period; it stayed at his level until 1980-81, but dropped to 53 percent again in 1984-85". A steady increase in the share of manufacturers in non-fuel exports was observed. Nayyar (1988)

also identified exports. According to him the share of resource based manufactured remained at the same level of 40 percent India's principal exports in this category are jute manufactures, cotton textiles, leather and leather manufactures, metal manufactures, iron and steel and gems and jewellery. As against this, the share of miscellaneous manufactured articles in export registered a gradually increasing share from 5 percent in 1970-71 to more than 12 percent in 1984-85. The share of manufactured articles in India's non-fuel exports was recorded in his study at 14.7 percent in 1984-85.

According to Veeramani (Working Paper No. 313, March 2001), "The IIT a phenomenon being observed largely in the context of advanced industrialized countries, is also found to be significant in India's international trade". He also argued that, the growth of IIT in impose to economic liberalization is often seen as a manifestation of the process of resource reallocation taking place within the industry as opposed t between the industries.

Table 5.13: Intensity of IIT Across Sections in Multilateral Trade

| Section | GL 1995 | Growth of Exports (in US \$) 1998-99 | Share of Exports in total in percentage | |
|--------------------------------|--------------|---|--|-------|
| | | | 1998 | 1999 |
| Group A | | | | |
| 1. Live Animals | 1.12 (1.67) | 12.09 | 5.21 | 4.27 |
| 2. Vegetable Products | 25.02 (1.68) | 7.25 | 16.67 | 9.71 |
| 3. Fats & Oil | 14.69 (1.40) | 29.62 | 0.28 | 0.50 |
| 4. Beverage & Tobacco | 6.45 (1.42) | 15.60 | 3.98 | 4.38 |
| 5. Mineral Products | 13.88 (1.38) | 1.40 | 9.13 | 3.44 |
| 8. Hides, Skin & Leather | 10.96 (1.69) | 6.73 | 5.18 | 3.88 |
| 9. Wooden Cork | 9.28 (1.47) | 12.60 | 0.16 | 0.01 |
| 11. Textiles. | 7.06 (1.38) | 13.01 | 23.74 | 26.85 |
| 12. Footwear, Umbrellas | 7.19 (2.02) | 6.73 | 2.52 | 1.59 |
| 6. Chemical | 27.82 (0.78) | 17.87 | 3.95 | 9.44 |
| 7. Plastics & Rubber | 32.45 (0.83) | 25.73 | 0.85 | 2.08 |
| 10. Paper | 21.68(0.82) | 20.94 | 0.21 | 0.33 |
| 13. Stone & Cement | 21.48(0.83) | 27.29 | 0.29 | 0.94 |
| 14. Gems and Jewellery | 47.98(1.30) | 10.08 | 16.78 | 15.31 |
| 15. Base Metals | 32.69(0.85) | 22.96 | 1.96 | 6.31 |
| 16. Machinery | 37.66(0.66) | 12.74 | 4.74 | 5.82 |
| 17. Transport Equipments | 21.43(1.35) | 18.78 | 1.56 | 2.66 |
| 18. Instruments & Apparatus | 21.33(1.19) | 6.97 | 0.55 | 0.45 |
| 20. Mis Manufactures | 32.29(0.86) | 19.12 | 0.31 | 0.49 |

Source: Veenamani C, Working paper No. 313, March 2001.

Table 5.13 shows that the coefficients of variations are substantially less compared to the former. Regarding export, the growths in most of the sections during 1988-99 are above the average (10.61). The higher growth is also reflected in the shares

which have improved significantly in most of the commodity sections, the combined share having increased from 31.2 percent to 43.8 percent.

Table 5.14 shows that there is in general an upward trend in the level of multilateral IIT during the period 1988, 1995 and 1999. Regarding the overall level of IIT the GL index increased by more than 11 percent point in 1995 over 1988 and about 6.5 percentage point in 1999 over 1995. This trend is observed in most of the individual commodity sections with the notable exception of gems and jewellery and instruments and apparatus.

Table 5.14: Levels of Multilateral IIT across Sections

| Sections | 1988 | 1995 | 1999 |
|-------------------------------|--------------|--------------|--------------|
| 6. Chemical | 24.30 | 32.45 | 32.90 |
| 7. Plastics & Rubber | 13.95 | 21.68 | 25.73 |
| 10. Paper | 8.42 | 21.48 | 20.61 |
| 13. Stone and Cement | 19.16 | 47.98 | 26.69 |
| 14. Gems & Jewellery | 86.88 | 32.69 | 50.95 |
| 15. Base Metals | 15.15 | 37.66 | 39.43 |
| 16. Machinery | 28.80 | 21.43 | 41.40 |
| 17. Transport Equipments | 30.22 | 21.23 | 37.99 |
| 18. Instruments and Apparatus | 30.11 | 32.23 | 22.99 |
| 20. Mis Manufactured | 23.69 | 32.29 | 44.97 |
| Total | 23.61 | 35.02 | 41.53 |

Source: Veeramani C, Working Paper No. 313 March, 2001

A.R. Kemal (2000) pointed out that, intra-industry trade plays an important role in bolstering economic and trade restrictions with in the SAARC region. This is because intra-industry trade can take place even in situations where the trade and production structure of the trading partners lack strong complementarities, as observed in the case of South Asian countries. The low intensity of intra-trade in region (see table 5.15) indicates the potential for widening the scope of this type of trade is largely driven by product differentiation and increasing returns to scale. Therefore, an increased level of intra-industry trade in the region can only be achieved if the regional countries are able to develop the technological capacity to produce different product varieties at selling average cost.

Table 5.15: Average Bilateral GL Indices Matrix of Intra-Industry Trade: 1995

| Countries | Bangladesh | India | Nepal | Pakistan | Sri Lanka |
|------------|------------|-------|-------|----------|-----------|
| Bangladesh | - | 0.010 | 0.000 | 0.008 | .001 |
| India | - | - | 0.140 | 0.083 | 0.017 |
| Nepal | - | - | - | 0.000 | 0.017 |
| Pakistan | - | - | - | - | 0.393 |
| Sri Lanka | - | - | - | - | 0.068 |

Source: A. R. Kemal, 2000

5.6: Measuring India's Overall IIT

This section deals with measuring the sensitivity of our IIT index for 1975-2003 with the 2-digit level of disaggregation. For our purpose, we have used GNP and GDP figures for various years at 1980-81 prices (in crore of Rs) GNP and GDP have been taken at factor cost as they represent aggregate income of the residents as opposed to expenditure approach. The GNP/GDP figures are converted to \$US by dividing the average exchange rate (rupee per unit of \$US) of base year 1980-81 which is 7.91.

Per capita GNP (PCGNP) be the ratio of GNP figures (in million US dollar) and population (in million).

The share of exports of manufacture products in 2-digit as a percentage of total exports in all commodities is calculated by dividing the sum of exports with the world by total exports of all commodities. This gives the share of manufactured exports (SME) as a proportion of overall exports.

The share of manufactured goods trade (SMT) as a proportion of total trade is obtained by dividing the sum of exports and imports in 2-digit with world by total trade (i.e. exports plus imports) in all commodities.

The trade concentration ratio (TCONC) as a proxy of trade orientation is measured as the ratio of sum of exports and imports of all commodities (Sum of total trade in all commodities) to GDP. This is a measure of trade policy in intervention.

In the time series regression analysis, the variables SME, TCONG, GNP, and PCGNP are the explanatory variables and the dependent variable is India's intra-industry trade in total trade with the world (IW) calculated at 2-digit ITC level.

Here we first measure, using Grubel Lloyd IIT index, India's IIT share with the world as a whole (IW) in value terms. Table 5.16 presents our calculation of overall IIT for India with the world over 1975-2003. As per table 5.16 the lowest value of the index, recorded in 1982-83, is 0.31 and the highest value recorded in 2001-02, is 0.67, rise of

about 116.12 percent over 1982-83 value. This increase, however, has been achieved with fluctuations with one major downturn in 1979-80 (-20.45 percent).

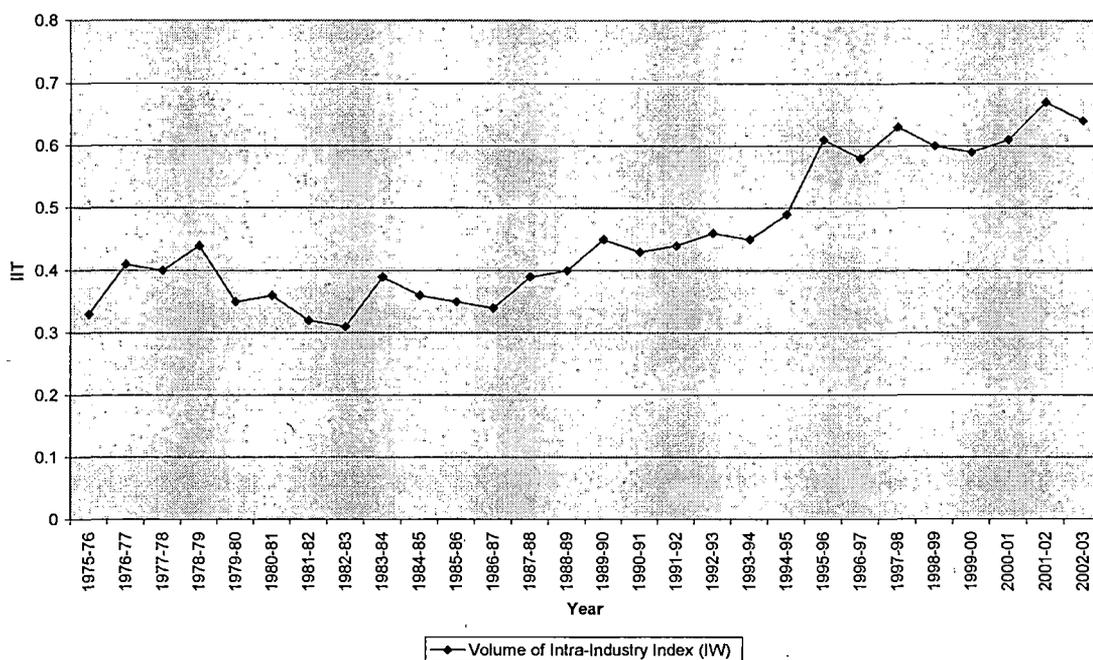
In fact, the value has increased in the terminal years by 4.48 percent. Taking the initial year and terminal year, the value has grown by 93.94 percent.

Table 5.16 India's Intra-Industry Trade (1975-2003) at 2-digit Classification

| Year | Volume of Intra-Industry Index (IW) | Percentage change over Previous Years |
|---------|--|--|
| 1975-76 | 0.33 | - |
| 1976-77 | 0.41 | (+24.24) |
| 1977-78 | 0.40 | (-2.44) |
| 1978-79 | 0.44 | (+10.00) |
| 1979-80 | 0.35 | (-20.45) |
| 1980-81 | 0.36 | (2.80) |
| 1981-82 | 0.32 | (-11.11) |
| 1982-83 | 0.31 | (-3.12) |
| 1983-84 | 0.39 | (+25.81) |
| 1984-85 | 0.36 | (-7.70) |
| 1985-86 | 0.35 | (-2.78) |
| 1986-87 | 0.34 | (-2.85) |
| 1987-88 | 0.39 | (+14.76) |
| 1988-89 | 0.40 | (+2.56) |
| 1989-90 | 0.45 | (+12.5) |
| 1990-91 | 0.43 | (+12.5) |
| 1991-92 | 0.44 | (-4.44) |
| 1992-93 | 0.46 | (+2.33) |
| 1993-94 | 0.45 | (+4.55) |
| 1994-95 | 0.49 | (-2.17) |
| 1995-96 | 0.61 | (+12.86) |
| 1996-97 | 0.58 | (+4.91) |
| 1997-98 | 0.63 | (+7.94) |
| 1998-99 | 0.60 | (+5.00) |
| 1999-00 | 0.59 | (-1.67) |
| 2000-01 | 0.61 | (+3.27) |
| 2001-02 | 0.67 | (+9.84) |
| 2002-03 | 0.64 | (+4.48) |

Source: Calculated from International Trade Statistics Year Book, U.N. (various years).

Figure 5.2: India's Intra-Industry Trade at 2-Digit Classification



The trend of IIT of has been increasing. It is important to note that the value of index might be highly responsive to the level of aggregation used for classification of industries. We have chosen 2-digit levels of SITC (Standard of International Trade Classification). At a more disaggregated level, the “imperfect” close substitutes might be categorized in separate product groups or firms without any clear trend of pattern.

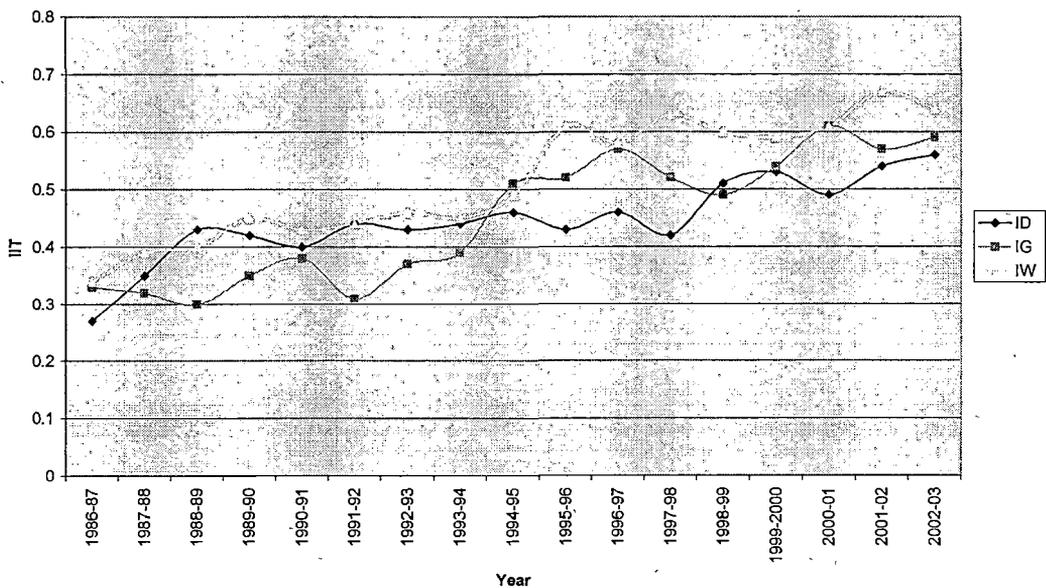
From table 5.17, it is evident that from 1986-87 to 2002-2003 the value of index (IW) has increased from 0.34 to 0.64. This is a consistent rise except for the year 1990-91 (-4.44 percent), 1994-95 (-2.17 percent) for developed countries (ID), developing countries (IG) and world (IW) at 2- digit level of SITC over the period 1986-2003.

Table 5.17: India's Intra-Industry Trade with Different Country Groups (1986-2003)

| Year | ID | IG | IW |
|-----------|------|------|------|
| 1986-87 | 0.27 | 0.33 | 0.34 |
| 1987-88 | 0.35 | 0.32 | 0.39 |
| 1988-89 | 0.43 | 0.30 | 0.40 |
| 1989-90 | 0.42 | 0.35 | 0.45 |
| 1990-91 | 0.40 | 0.38 | 0.43 |
| 1991-92 | 0.44 | 0.31 | 0.44 |
| 1992-93 | 0.43 | 0.37 | 0.46 |
| 1993-94 | 0.44 | 0.39 | 0.45 |
| 1994-95 | 0.46 | 0.51 | 0.49 |
| 1995-96 | 0.43 | 0.52 | 0.61 |
| 1996-97 | 0.46 | 0.57 | 0.58 |
| 1997-98 | 0.42 | 0.52 | 0.63 |
| 1998-99 | 0.51 | 0.49 | 0.60 |
| 1999-2000 | 0.53 | 0.54 | 0.59 |
| 2000-01 | 0.49 | 0.61 | 0.61 |
| 2001-02 | 0.54 | 0.57 | 0.67 |
| 2002-03 | 0.56 | 0.59 | 0.64 |

Source: U.N. Commodity Trade Statistics, Statistical Paper, Series D. Vol. 1 (Various Issues)

Figure 5.3: India's Intra-Industry Trade with Different Country Groups



Using 2-digit SITC, IW has registered an increase of 88.24 percent over the period 1986-2003. ID has registered an increase of 107.41 percent from initial year 1986 to 1992 for 2 digit levels whereas for IG, it is 78.79 percent.

The analysis suggests growing importance of intra-industry trade flows in total trade in India. The annual compound growth rate of intra-industry trade of India with world (calculated at 2-digit level) is around 3.4 percent and the annual average growth rate is approximately 4 percent.

The share of manufactured exports has increased over the years from 50 percent in 1975 to 91 percent in 2003 for Standard Industrial Trade Classification 2-digit and the share of manufactured trade as a percent of total trade in all commodities has also increased from 48 percent to 73 percent. This is represented in table 5.18.

Table 5.18: Share of Trade in Total Trade (SMT) and Share of Export in Total Export (SME) of India (1975-2003)
(In percent)

| Year | SMT | SME |
|------|-----|-----|
| 1975 | 48 | 50 |
| 1976 | 49 | 57 |
| 1977 | 52 | 58 |
| 1978 | 57 | 62 |
| 1979 | 54 | 59 |
| 1980 | 48 | 80 |
| 1981 | 48 | 50 |
| 1982 | 49 | 51 |
| 1983 | 51 | 53 |
| 1984 | 52 | 59 |
| 1985 | 58 | 63 |
| 1986 | 67 | 67 |
| 1987 | 61 | 71 |
| 1988 | 64 | 71 |
| 1989 | 66 | 71 |
| 1990 | 61 | 73 |
| 1991 | 62 | 74 |
| 1992 | 62 | 75 |
| 1993 | 63 | 76 |
| 1994 | 68 | 72 |
| 1995 | 72 | 71 |
| 1996 | 70 | 84 |
| 1997 | 71 | 83 |
| 1998 | 74 | 89 |
| 1999 | 68 | 90 |
| 2000 | 69 | 89 |
| 2001 | 70 | 89 |
| 2002 | 71 | 88 |
| 2003 | 72 | 91 |

Source: Calculated from International Trade Statistics Year Book Vol. 1 and 2, U.N. Publication, (various issues) and U.N. Commodity Trade Statistics, Statistical Papers, Series, D, Vol. XL (various issues)

Upward trend in intra-industry trade might be attributable to higher level of per capita GNP. Intertemporally, India's GNP and per capita GNP have grown by around 3.5 to 4 percent per annum (Economic Survey of India). This has a positive influence on demand for variety and can be analyzed in the light of India's experience of industrialization.

The Present section has specifically been devoted to study the following aspects:

(i) The growth of average levels of IIT will be directly related to the growth of per capita GNP (PCGNP) [Dixit and Norman (1980)]. (ii) The share of IIT in total trade is a positive function of market size (proxied by GNP/GDP) [Linder(1961), Lancaster(1980)].(iii)The impact of Trade Concentration Variable (TCONC) will be directly related to the level of IIT [Dollar(1992)].

The present study is based on the secondary data. The pattern of IIT indices with world and basic indicators for India over 1975-2003 are presented in Appendix-I

The Posited relationship is

$$IW_t = f [GNP_t, (\text{Market Size}), PCGNP_t, SME_t, TCONC_t]$$

Where t denotes time horizon. IW_t is value of IIT index over t where t = 1975-2003.

5.7: Estimation and Empirical Results

Using Ordinary Least Square (OLS) estimation method, the simple regression model takes the following form:

$$IW_t = \beta_{1t} + \beta_{2t} GNP_t + \beta_{3t} SME_t + \beta_{4t} TCONC_t + U_t$$

Where β_{1t} is the constant term, $\beta_{2t}, \beta_{3t}, \beta_{4t}$ are all parameters coefficient to be estimated.

The result of the estimation is presented below in table 5.19. Overall fit is 65 percent and these are no serial correlation in the OLS estimation.

Table 5.19: Regression Result with OLS Estimation (Dependent Variable, IW_t)

| Variable | Coefficient | t. Statistics | Two-Tail Significance |
|---------------------------|-------------|---------------|-----------------------|
| Constant (β_{1t}) | -0.4862 | -1.3396 | 0.203 |
| PCGNP _t | 0.005126 | 2.2623 | 0.072 |
| GNP _t | -3.5E 0.8 | -1.9235 | 0.135 |
| SME _t | 0.3492 | 1.8062 | 1.253 |
| TCPMC _t | -0.4983 | -0.5962 | 0.792 |
| D.W. Statistics | 2.251 | | |
| R ² | 0.652 | | |

The result shows that GNP and TCONC have negative coefficients and other variables PCGNP and SME have expected positive sign. The coefficient being very small,

the negative effect is very negligible. Since the values of GNP, PCGNP are very high as compared to values of IW, as shown in table 5.20, the variables become highly significant if expressed in logarithmic terms, which compress the outline and reduce the variability of them which is quite large compared to the variability of IW_t . The coefficient of determination has also increased to 0.69.

Table 5.20: Regression Result with Logarithmic Transformation of Variables (Dependent Variable, IW_t)

| Variable | Coefficient | t-statistics | Two-Tail Significance |
|---------------------------|-------------|--------------|-----------------------|
| Constant (β_{1t}) | 0.7932 | 0.6978 | 0.520 |
| Log (PCGNP _t) | 1.5846 | 2.8102 | 0.063 |
| Log (GNP _t) | -0.7241 | -25761 | 0.061 |
| SME _t | 0.3642 | 1.7203 | 0.189 |
| TCONC _t | -0.3946 | -0.4827 | 0.892 |
| D.W. Statistics | 2.842 | | |
| R ² | 0.69 | | |

From our findings, PCGNP has a strong positive impact on IW confirming Linder's hypothesis (1961). PCGNP, as a proxy for development, implies higher stage or level of development with higher values and as such increases the value of IW through demand pull factor. In our analysis, GNP is not significant with negative small country effect on IIT. This is explained in terms of vertical specialization of intra-industry trade (IIT).

Another variable TCONC (ratio of total trade to GDP) has an adverse impact on IW. Although the coefficients are negative, it is not statistically significant in explaining the upward trend of IW. If the coefficient of TCONC will be high this indicates that India has been adopting an export promotion policy.

5.8: Indo-US Trade

USA is world's third largest country by size after Russia and Canada and by population after China and India. It has emerged as one of the most important industrial power of the world and has substantial influence on world economy. On the other hand, India is the seventh largest and second most populous country in the world. The huge market, continuous enhanced economic growth and large pool of human resources have led the country to emerge as one of the most important country among the developing world. USA and India are the largest democracy of the world. Both have struggled for freedom from the British rule. Peace, justice and equality are the inherent philosophy of

both the countries. Of late, Indo-American relationship has taken a new turn. Regular interaction and enhanced mutual understanding have given a new direction to this relationship.

5.8.1 Significance of Indian Economy

Traditional village farming, modern industries and a multitude of support services (The World Fact Book, 2001) characterize Indian economy. The sector wise contributions to GDP include agriculture 25 percent, industry 24 percent and service 51 percent. Since the introduction of the economic reforms in the year 1991, the economy has been growing at the rate of 5-6 percent annually. Indian economic reforms have led to stronger economic growth, higher investment, flows and substantial growth in trade. The changing economic scenario would help India to emerge as one of the important destinations of the world market. The continuous economic reforms, stable growth, growing income have made the country as one of the largest and fastest growing market in the world.

India's main exports to US are precious stones, metals (worked diamonds & gold jewellery), woven apparel, knit apparel, miscellaneous textile article, fish and sea food (frozen shrimp), textile floor coverings, iron/steel products, organic chemicals and machinery (taps, valves, transmission shafts, gears, pistons, etc). USA is the single largest market for Indian products followed by the UK, Germany, Japan and Belgium for the year 2004-2005. On the import side, India imports sophisticated machinery (computers and components, gas turbines, telecom, etc), electrical machinery (recording/sound media), medical and surgical equipment/instruments, aircraft, spacecraft (small aircraft), precious stones, metals (diamonds, not mounted or set), jewellery, organic chemicals, plastic, cotton and cotton waste pulp, etc. USA has been the largest import source for India till 1998-99. The share of UK has been slightly higher for the year 2003-2004, followed by US, Belgium, Japan and Germany.

The major features of Indian economy are: (i) continuous economic reforms since 1991 (ii) stable enhanced economic growth (iii) focus on deregulation and stimulation of foreign investment (iv) large diversified economy (v) strong legal system (vi) free and vibrant press (vii) skilled managerial and technical manpower (viii) important emerging markets in the world (ix) growing middle class population (x) huge market & (xi) adequate production base.

The Indian government requires exploiting the strengths of the economy and creating favourable environment for enhancing trade and investment. US, being a major trade partner may play an important role in this direction.

5.8.2 Significance of USA Economy

USA has emerged as a leading industrial power of the world. The country possesses highly diversified and technologically advanced petroleum, steel, motor vehicles, aerospace, telecommunication chemicals, electronics, food processing, consumer goods, lumber, mining etc. (The World Fact Book, 2001). It is considered as one of the most powerful country of the world. Steady growth, low unemployment and rapid advances in technology characterize the economy. It is the largest and most technologically powerful economy in the world with a per capita GDP of \$ 36,200. During the year 1994-2004, the country witnessed substantial increase in real output, low inflation rate and a in unemployment to below. 5 percent. The sector wise contributions to GDP include agriculture 2 percent, industry 18 percent and services 80 percent.

The major features of USA economy are: (i) continuous technological innovations (ii) strong rate of productivity growth (iii) dynamic organization changes (iv) conducive public policy (v) faster in come growth (vi) low level of inflation (vii) disappearance of federal budget deficits.

These features have made USA a very dynamic and vibrant economy in the world economy.

5.8.3 India's Trade with USA

USA is a very significant trading partner of India. If India has decided that increased trade and investment is the day for economic growth, then the significance of Indo-US trade cannot be over emphasized (Mukherjee 2000). It requires proper strategy to boost the trade and investment flows. India's export to USA has been increasing substantially. The export has increased from \$ 3192.5 million in the year 1991 to \$ 14021.6 million in the year 2005, (see table5.21).

Table 5.21: India's Trade with USA**(US million \$)**

| Year | Export | Import | Balance | Total Trade |
|------|---------|--------|---------|-------------|
| 1991 | 3192.5 | 1999.3 | 1193.2 | 5191.8 |
| 1992 | 3779.8 | 1917.1 | 1862.7 | 5696.9 |
| 1993 | 4553.7 | 2778.1 | 1775.6 | 7331.8 |
| 1994 | 5309.5 | 2294.0 | 3015.5 | 7603.5 |
| 1995 | 5726.2 | 3295.8 | 2430.4 | 9022.0 |
| 1996 | 6169.5 | 3328.3 | 2841.2 | 9497.8 |
| 1997 | 7322.4 | 3607.6 | 3714.8 | 10930.0 |
| 1998 | 8237.2 | 3564.4 | 4672.8 | 11801.6 |
| 1999 | 9070.8 | 3687.8 | 5383.0 | 12758.6 |
| 2000 | 10686.6 | 3667.2 | 7019.4 | 14353.8 |
| 2001 | 11463.8 | 3942.5 | 7521.3 | 15406.3 |
| 2002 | 12092.5 | 4131.7 | 7960.8 | 16224.2 |
| 2003 | 12742.6 | 4762.2 | 7980.4 | 17504.8 |
| 2004 | 13121.3 | 5021.3 | 8100.0 | 18142.6 |
| 2005 | 13721.6 | 5692.8 | 8028.0 | 19414.4 |

Source: US Census Bureau, Foreign Trade Division, Washington D.C. 20233

The export has witnessed 330 percent increase during the period of 15 years. In 2005, the Government of India declared new Foreign Trade Policy (FTP) and new scheme to accelerate growth of exports called "Target Plus". As far as import is concerned, there has been a slow growth in import. The import has increased from \$ 1999.3 million in the year 1991 to \$ 5692.8 million in the year 2005. The import has increased by 110 percent during last 15 years. As a result of rapid growth in export and comparatively slow growth in import, India is having favourable trade balance with USA. The trade balance has increased from \$ 1193.2 million in the year 1991 to \$ 8028 million in the year 2005. It has increased 572 percent during the above period. The share of India's export to USA to total India's export has been increasing. It has increased from 18.1 percent in the year 1991 to 23.9 percent in the year 2005. The following data are presented in table 5.22.

Table 5.22: Share of India's exports to US to Total India's Export*(US million \$)*

| Year | India's total export | India's export to USA | Share of India's export to US to total India's export |
|------|----------------------|-----------------------|---|
| 1991 | 17664 | 3193 | 18.1 |
| 1992 | 19563 | 3780 | 19.3 |
| 1993 | 21553 | 4554 | 21.1 |
| 1994 | 25022 | 5310 | 21.2 |
| 1995 | 30630 | 5726 | 18.7 |
| 1996 | 33105 | 6170 | 18.6 |
| 1997 | 35008 | 7322 | 20.9 |
| 1998 | 33437 | 8237 | 24.6 |
| 1999 | 36316 | 9071 | 25.0 |
| 2000 | 42295 | 10687 | 25.3 |
| 2001 | 47329 | 11464 | 24.2 |
| 2002 | 50213 | 12093 | 24.1 |
| 2003 | 51129 | 12743 | 24.9 |
| 2004 | 54113 | 13121 | 24.3 |
| 2005 | 57207 | 13721 | 23.9 |

Source: *W.T.O. International Trade Statistics, 2006*

It is glaring that USA is a very important and strategic market for India because about ¼ the of India's total export. The analysis of USA import shows that India is an insignificant trade partner for USA. India contributes only 0.6 percent of total import of USA in the year 1991. The share has gone up to 0.8 percent in the year 2005. (See table 5.23). This shows that India's share in total import of USA is very insignificant. Even China's share in total USA import is about 8%. Therefore, India requires aggressive marketing and product strategy to enhance the share in the total import of USA.

Table 5.23: Share of India's Import to Total Import of USA*(US million \$)*

| Year | Total import of USA | Import from India | Percentage of India's import to total USA import |
|------|------------------------|-------------------|---|
| 1991 | 508363 | 3193 | 0.6 |
| 1992 | 553923 | 3780 | 0.7 |
| 1993 | 603438 | 4554 | 0.8 |
| 1994 | 689215 | 5310 | 0.8 |
| 1995 | 770852 | 5726 | 0.7 |
| 1996 | 822025 | 6170 | 0.8 |
| 1997 | 899020 | 7322 | 0.8 |
| 1998 | 944353 | 8237 | 0.9 |
| 1999 | 1059435 | 9071 | 0.9 |
| 2000 | 1257636 | 10687 | 0.8 |
| 2001 | 1304211 | 11464 | 0.8 |
| 2002 | 1396121 | 12093 | 0.8 |
| 2003 | 1487210 | 12743 | 0.8 |
| 2004 | 1503212 | 13121 | 0.9 |
| 2005 | 1781293 | 13722 | 0.8 |

Source: WTO, International Trade Statistics, 2006 (The data relating to India's export to USA has been taken from US Census Bureau of Foreign Trade)

5.8.4 IIT between India and USA

The concept of Intra-Industry Trade (IIT) is gaining importance in recent years. Trade liberalization increases the contestability of the market performance and progress of IIT should be periodically evaluated for the improvement in the functioning and operation process. A limited number of research works have been undertaken to study the potential, progress of India-USA overall intra-industry trade indices. It is presented in table 5.24.

Table 5.24: IIT index Between India and USA

| Year | IIT |
|------|------|
| 1991 | 0.77 |
| 1992 | 0.67 |
| 1993 | 0.76 |
| 1994 | 0.61 |
| 1995 | 0.73 |
| 1996 | 0.70 |
| 1997 | 0.66 |
| 1998 | 0.60 |
| 1999 | 0.57 |
| 2000 | 0.49 |
| 2001 | 0.52 |
| 2002 | 0.50 |
| 2003 | 0.54 |
| 2004 | 0.55 |
| 2005 | 0.58 |

Source: Calculated from Table 1

Figure 5.4: IIT Trend Between India-USA

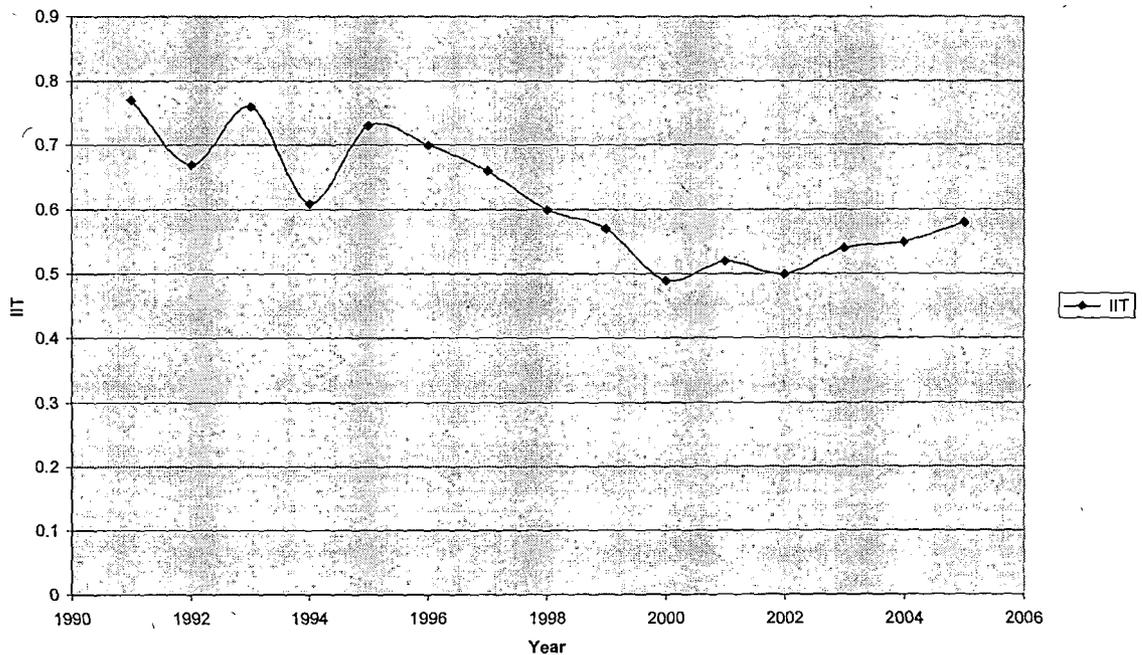


Table 5.24 indicates that the height GL intra-industry index 0.77 in the year 1991. In this year some important trade policy reforms have been introduced. These are follows: (i) a large part of administrated licensing of imports was replaced by import entitlements linked to export earnings. These import entitlements, renamed Exam-scripts, were freely tradable and attracted a premium in the market. (ii) the Advance Licensing System (ALS) for exports was simplified so as to improve exporter's access to imported inputs at duty-free rates. (iii) the scope of canalization for both exports and imports was narrowed.

This calculation clearly shows that India and USA are intra-industry oriented.

5.8.5 Methodology for Measurement of IIT

To assess the importance of intra-industry trade on trends in India-US trade, data for India exports to and imports from U.S have been employed for the study period 9 years (1996-97 to 2004-05). Both import and export data are classified and published according to the Harmonized Commodity Description and Coding System (H.S). In the H.S, commodities are classified by what they are made of and not according to their stage of fabrication, their use, or origin. The basic system uses a six-digit number to identify commodities. But our trade data is calculated at a two-digit level H.S, divided into 98 chapters and then aggregated and presented in 21 sections. All trade (exports/ imports) flows are measured on a value basis, in thousands of U.S. dollars. Aggregation of trade data is an issue of importance. The choice of particular level of aggregation of all classification system may lead to a distorted value of calculations. A higher level of aggregation is likely to give a higher level of specialization in intra-industry trade. Thus, it would be preferable to carry out the analysis for quite narrowly defined commodity groups. Since our calculations are done at a two-digit level, our estimates will probably be too high because of the aggregation problem that arises from the fact that the classified groups consist of heterogeneous products. This implies that non-perfect substitutes can be counted as intra-industry trade. The H.S classification also causes some asymmetry among the chapters since some are more disaggregated than others. For example, computer/machinery (chapter 84) and electrical equipment (chapter 85) are wide concepts, while wool (chapter-51) and cotton (chapter 52) are more narrowly defined. To overcome the possible incorrectness of H.S at the 2-digit level, we have disaggregated our trade data into country-specific data, which gives cross-sectional comparisons (see Appendix-II).

Using the formula of intra-industry index explained in methodology part. We have calculated IIT index of Indian-USA trade for years 1996-97 to 2004-2005. To show the comparison with different aggregation of data, first we have calculated index for the total amount of each industry and then each commodity groups within these industries. These are presented in the following tables 5.25, 5.26, 5.27, 5.28 and 5.29.

Table 5.25: Intra-Industry Trade Index for Resource Based Commodities

| Commodity | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
|--------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Resource Based | 0.561 | 0.873 | 0.696 | 0.452 | 0.408 | 0.635 | 0.276 | 0.347 | 0.617 |
| Live Animals (01-05) | 0.027 | 0.023 | 0.028 | 0.022 | 0.024 | 0.022 | 0.023 | 0.019 | 0.014 |
| Vegetable Products (06-14) | 0.283 | 0.834 | 0.228 | 0.225 | 0.280 | 0.232 | 0.191 | 0.249 | 0.364 |
| Fats and Oils (15) | 0.953 | 0.983 | 0.518 | 0.708 | 0.918 | 0.953 | 0.986 | 0.924 | 0.912 |
| Prepared Foodstuffs (16-24) | 0.884 | 0.538 | 0.378 | 0.727 | 0.899 | 0.994 | 0.812 | 0.847 | 0.532 |
| Mineral Products (25-27) | 0.364 | 0.483 | 0.348 | 0.534 | 0.992 | 0.939 | 0.521 | 0.826 | 0.733 |
| Wood and Wood articles (44-46) | 0.832 | 0.916 | 0.794 | 0.895 | 0.684 | 0.384 | 0.397 | 0.396 | 0.259 |

Source: Calculated from DGCIS&S data (various year)

Table 5.26: Intra-Industry Trade Index for Labour -Intensive Commodities

| Commodity | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Labour-intensive | 0.124 | 0.108 | 0.104 | 0.109 | 0.089 | 0.137 | 0.124 | 0.163 | 0.175 |
| Hides and Leather (41-43) | 0.163 | 0.099 | 0.154 | 0.126 | 0.083 | 0.073 | 0.113 | 0.077 | 0.062 |
| Textiles and apparel (50-63) | 0.047 | 0.036 | 0.342 | 0.052 | 0.039 | 0.136 | 0.082 | 0.118 | 0.070 |
| Foot Wear (64-67) | 0.368 | 0.019 | 0.010 | 0.026 | 0.045 | 0.320 | 0.287 | 0.059 | 0.020 |
| Gems (71) | 0.177 | 0.179 | 0.173 | 0.153 | 0.119 | 0.137 | 0.124 | 0.172 | 0.187 |
| Arms (93) | 0.361 | 0.137 | 1.00 | .000 | .000 | 0.432 | 0.364 | 0.250 | 0.588 |
| Miscellaneous Manufactured articles (94-96) | 0.417 | 0.670 | 0.628 | 0.462 | 0.437 | 0.438 | 0.422 | 0.399 | 0.369 |
| Other (99) | 0.381 | 0.083 | 0.127 | 0.133 | 0.203 | 0.167 | 0.357 | 0.933 | 0.624 |

Source: Same as for Table 5.25

Table 5.27: Intra-Industry Index for Scale Intensive Commodities

| Commodity | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
|---------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Scale Intensive | 0.869 | 0.933 | 0.863 | 0.860 | 0.846 | 0.889 | 0.900 | 0.980 | 0.989 |
| Chemicals (28-38) | 0.742 | 0.589 | 0.538 | 0.482 | 0.989 | 0.964 | 0.913 | 0.995 | 0.997 |
| Plastics (39-40) | 0.827 | 0.908 | 0.937 | 0.853 | 0.840 | 0.978 | 0.956 | 0.628 | 0.728 |
| Pulp and paper (47-49) | 0.288 | 0.139 | 0.158 | 0.203 | 0.306 | 0.286 | 0.395 | 0.334 | 0.394 |
| Stone/Cement/Ceramics (68-70) | 0.431 | 0.701 | 0.453 | 0.414 | 0.348 | 0.272 | 0.164 | 0.208 | 0.235 |
| Base metal and Articles (72-83) | 0.742 | 0.507 | 0.548 | 0.429 | 0.408 | 0.575 | 0.863 | 0.501 | 0.554 |
| Vehicles (86-89) | 0.478 | 0.641 | 0.719 | 0.642 | 0.784 | 0.995 | 0.912 | 0.902 | 0.960 |

Source: Same as for Table 5.25

Table 5.28: Intra-Industry Trade Index for Differentiated Commodities

| Commodity | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Differentiated | 0.612 | 0.540 | 0.573 | 0.569 | 0.627 | 0.504 | 0.507 | 0.549 | 0.511 |
| Mach. & Electrical (84-85) | 0.462 | 0.561 | 0.437 | 0.512 | 0.524 | 0.503 | 0.463 | 0.496 | 0.460 |
| Optical, Musical inst (90-92) | 0.334 | 0.396 | 0.416 | 0.412 | 0.312 | 0.404 | 0.484 | 0.392 | 0.401 |
| Antiques and works of art (97-98) | 0.881 | 0.729 | 0.672 | 0.749 | 0.712 | 0.707 | 0.569 | 0.621 | 0.712 |

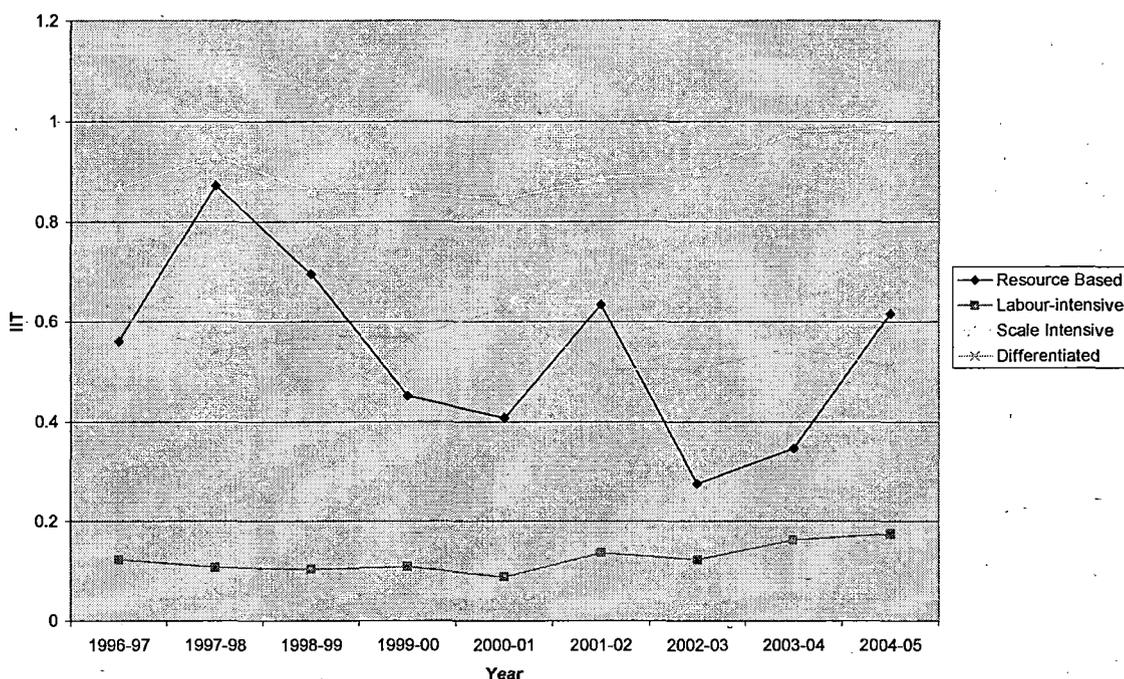
Source: Same as for Table 5.25

Table 5.29: Intra-Industry Trade Index for 2-digit Commodities

| Commodity | 1996-97 | 1997-98 | 1998-99 | 1999-00 | 2000-01 | 2001-02 | 2002-03 | 2003-04 | 2004-05 |
|------------------|---------|---------|---------|---------|---------|---------|---------|---------|--------------|
| Resource Based | 0.561 | 0.873 | 0.696 | 0.452 | 0.408 | 0.635 | 0.276 | 0.347 | 0.617 |
| Labour-intensive | 0.124 | 0.108 | 0.104 | 0.109 | 0.089 | 0.137 | 0.124 | 0.163 | 0.175 |
| Scale Intensive | 0.869 | 0.933 | 0.863 | 0.860 | 0.846 | 0.889 | 0.900 | 0.980 | 0.989 |
| Differentiated | 0.612 | 0.540 | 0.573 | 0.569 | 0.627 | 0.504 | 0.507 | 0.549 | 0.511 |

Source: Same as for Table 5.25

Figure 5.5: Intra-Industry Trend as Share of India-USA Trade



As seen in table 5.29, the GL index reveals difference between the four commodity groups. The scale-intensive commodities exhibit the highest growth in intra-industry trade. Chemicals have the highest IIT which is 0.997 in the 2004-05 (see table 5.27). We see an upward trend of this commodity because the EXIM policy (1993) provide a greater thrust to exports from agriculture and scale-intensive sectors in which the country had a strong comparative advantage. A new export promoting capital goods scheme permitting import of capital goods at a concessional 15 percent duty rate was introduced for the service sector. In this year, a significant amount of foreign direct investment in the manufacturing sector led to increased trade in scale-intensive commodities. Over the last three years foreign investment had grown at an average of 100 percent per year. From US\$ 20 million in 1993-94, foreign direct investment become more than doubled in 1994-1995 (i, e. US \$1.31 billion).

Between the other three commodity groups smaller difference in GL indices are revealed, with values well below scale-intensive commodities and the GL average. For the resource based commodity group the values lie between 0.276 in 2002-03 and 0.873 in 1997-98 (see table 5.25). Fats and Oils are the highly intra-industry oriented goods between India and the USA. Figure 5.2 reveals the differentiated commodity groups exhibiting a downward trend in GL indices, whereas an upward trend can be

distinguished for both scale- intensive and labour-intensive IIT. But there has been more fluctuations of the resource - based commodity over the the study period.

The indices thus calculated show that Indo-US trade is mostly intra-industry oriented.

References

Aggaral, N. (2004): "Corporate Travel to India Takes off", The Straits Times, Singapore, February.

ASEAN Secretariat (1995): Report of the ASEAN –India Experts Group on Trade and Investment Cooperation, Jakarta, ASEAN Secretariat, February.

ASEAN Secretariat.(2003): Website of the ASEAN Secretariat, <http://www.aseansec.org>.

ASEAN Secretariat (2003): ASEAN FDI Statistics Database.

Asher, M G, R Sen and S Srivastava.(2003): *ASEAN-India: Emerging Economic Opportunities' in Beyond the Rhetoric: The Economics of India's Look-East Policy* edited by F Gare and A Mattoo, Manohar Publications, New Delhi, India, pp 45-79.

Bhattacharya, B and M Ariff.(2002): *Study on AFTA-India Linkages for the Enhancement of Trade and Investment*, a report submitted to the government of India and the ASEAN Secretariat, May.

Asian Development Outlook.(2002):*The Asian Development Bank, Philippines. EIU, 2001*. USA Country Report, New York.

Das, R U.(2004): "Economic Philosophy of SAFTA", The Financial Express, February 2.

Datt, P T J.(2004): "Global Bodies Endorse Indian Companies", Business Line (India), April 8.

Balassa, B. (1985): "Intra-Industry Specialization: A Cross Country Analysis", European Economic Review, 30, No. 1-3, pp. 27-42.

Balassa, B. and Lue Bauwens.(1987): "Intra-Industry Specialization in a Multi-Country and Multi-Industry Framework", The Economic Journal, Vol. 97, No. 388. pp. 923-939.

Bergstrand, J.H. (1983): "Measurement and Determinants of Intra-International Trade", in P.K.M. Tharakan (ed) *Intra-Industry Trade: Empirical and Methodological Aspects*. Amsterdam: North-Holland, pp. 281-300.

Culem, C. and L. Lundberg.(1986): "The products Pattern of Intra-Industry Trade: Stability Among Countries and Over Time", Review of World Economics, Weltwirtschaftliches Archiv, Band 122, pp. 113-130.

Dixit, A.K. and V. Norman (1980): *Theory of International Trade*, Cambridge University, Press.

Dixon, P.B. and J. Menon.(1995): "Measures of Intra-industry trade as Indicators of Factor Market Disruption." Economic Record, Vol.73. pp. 233-237.

Dollar, D. (1992): "Outward-Oriented Developing Economic Do Grow More Rapidly: Evidence from 95 LDCs, 1976-85". *Economic Development and Cultural Changes*, 40 (3), pp. 523-44.

Das, Gouranga Gopal.(2005):"Growth and Pattern of Intra-Industry Trade in Manufactures in India's overall Trade: A Quantitative Analysis" Vol.4, No.4,pp.161-184

Greenaway, D. (1983): "Intra-Industry Trade and Inter-Industry Trade in Switzerland", New York.

Financial times (2004): "*India Awakes*", Special Report on India Released at the World Economic Forum at Davos, Switzerland, January.

Review of World Economics (Weltwirtschaftliches Archiv),Band 199, Heft 1, pp. 109-119.

Greenaway D. and C. Milner (1986): *The Economic of Intra-Industry Trade*, Blackwell, Oxford.

Greenaway D. and C. Milner (1986): (1983):"The Imbalance and the Measurement of Intra-Industry Trade", Review of World Economic ,Weltwirtschaftliches Archiv, Band 117, Heft 4, pp. 109-119.

Grubel, H.G. and P.J. Lloyd (1975): *Intra-Industry Trade: The Theory and Measurements of International Trade in Differentiated Products*. John Wiley & Sons, London.

Gujarati, D.N. (1988): *Basic Econometrics*, 2nd Edition, McGraw Hill.

Gartner, Research (2002): "Comparison: Indian and Chinese Software Services Markets" Gartner Research, M-16-1762, May.

Goodman, P S.(2004):"China Boosts Regional Trade: Dependence on Export Leaves Southeast Asia Vulnerable", The Asian Wall Street Journal, February 6-8.

Gaur, S (2004):"ASEAN-India Ties Entering a New Phase", Business Times, Singapore, October 8.

Goswami, O.(2001):"India 2003-2010: Economic and Political Scenarios", Confederation of Indian Industry' (CII), April.

Goodman, P S.(2004): "China Boosts Regional Trade: Dependence on Export Leaves Southeast Asia Vulnerable", The Asian Wall Street Journal, February 6-8.

Gaur, S (2004):"ASEAN-India Ties Entering a New Phase", Business Times, Singapore, October 8.

Goswami, O.(2001):"India 2003-2010: Economic and Political Scenarios", Confederation of Indian Industry' (CII), April.

Hanink, D.M. (1990): "Linder, Again. Review of World Economic", (Weltwirtschaftliches Archiv), Band 126, Heft 2, pp. 257-267.

Helpman, E. and P. Krugman (1985): *Market Structure and Foreign Trade*. Cambridge, MA: MIT Press.

Havrylyshyn, O. and E. Civan. (1985): "Intra-Industry Trade among Developing Countries", *Journal of Development Economics*, Vol. 18, Nos. 2-3, pp. 253-271.

Husted Steven and Melvin Michael (1999): *International Economic: Theory and Policy*, Addison Wesley Publications, Fourth Edition.

Lancaster, K. (1980): "Intra-Industry Trade under Perfect Monopolistic Competition". *Journal of International Economic*, Vol. 10, pp. 151-170.

Linder, S. B. (1961): *An Essay on Trade and Transformation*. New York: John Wiley & Sons.

Loertscher, R. and Wolter, F. (1980): "Determinants of Intra-Industry Trade among countries and Across industries", *Review of World Economics*, *Weltwirtschaftliches Archiv*, 116, pp. 281-293.

International Monetary Fund . (2001): *International Financial Statistics Yearbook*.

International Monetary Fund (IMF) (2001): *International Financial Statistics Yearbook*.
Financial times (2004): "India Awakes", Special Report on India Released at the World Economic Forum at Davos, Switzerland, January.

Mansingh. (2002): *Indo-US ties strong and robust*, The Times of India, April 5. : <http://timesofindia.indiatimes.com>

Mukherji Rahul. (2000): *The potential for trade and economic cooperation between South Asia and USA*, background paper for the sub-conference on America's role in South Asia, Dhaka, March 27-29.

Milner, C. and D. Greenaway (1987): "Intra-Industry Trade: Current Perspectives and Unresolved Issues", *Review of World Economics*, *Weltwirtschaftliches Archiv*, Band 123, Heft 1, pp. 109-119.

Nayyar, D. (1988): "India's Export Performances: 1970-85", in R.E.B. Lucas and G.F. Papanek (eds.): *The Indian Economy: Recent Developments and Future Prospects*, Oxford University Press, 1988, pp. 217-252.

Ocampo, J.A. (1986): "New Developments in Trade Theory and LDCs", *Journal of Development Economics*, Vol. 22, No. 1, June, pp. 129-170.

Omar Abdullah. (2000): *Indo-US trade can be US \$20 billion soon*, CII News Press Releases, March.

Panagariya, A. (2004): "India in the 1980s and 1990s: A Triumph of Reforms", IMF Working Paper No.43

Pomfret, R. (1985): "Categorical Aggregation and International Trade: A Comment", The Economic Journal, 95, June, pp. 483-485.

Rajan, R.S. (1996): "Singapore's Bilateral Merchandise Trade Linkages with Japan and the United States: Trends, Patterns and comparison", Asian Economic Journal, 10 (2), pp. 133-163.

Rajan, R.S. and R. Sen.(2004): "The New Wave of Free Agreements in Asia: With Particular Reference to ASEAN, China and India", in ADB Volume on Asian Economic Cooperation and Integration,

Sarma, A. and P.K Mehta.(2002): *Exploring Indo-ASEAN Economic Partnership in Globalizing World*, New Delhi: Bookwell.

Sen, R., Asher, M. G and R. Rajan.(2004):"ASEAN-India Economic Relations: Current Trends and Future Prospects", Economic and Political Weekly, Vol. XXXIX no. 29, pp. 3297-3309.

Srivastava, S.(2003): "What is the True Level of FDI Flows to India?",Economic and Political Weekly, 38, February 15, 2003, pp. 608-611.

Stibora, J. J and De Vaal, A. (1995): *Services and Services trade: A Theoretical Inquiry*, Tinbergen Institute Research series; 97, Thesis publishers, Amsterdam, 273 p.

Tharakan, P.K.M. (1984):"Intra-Industry Trade between the Industrial Countries and the Developing World", European Economic Review, 26, (2), pp. 213-226.

Vollrath, L.T. (1991):"A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage", Review of World Economic (Weltwirtschaftliches Archiv), Band 130, Heft 4, pp. 265-279.

Vona, S. (1991):"On the Measurement of Intra-Industry Trade: Some Further Thoughts", Review of World Economics, Weltwirtschaftliches Archiv ,Band 127, Heft 4, pp. 678-700.

Veeramani, C (1998):"Intra-Industry Trade under Economic Liberalization: The Case Indian Capital Goods Industries", Journal of Indian School of Political Economy, Vol. 11; No. 3.

World Bank (1997): *World Development Report*, New Oxford University Press.

Yarbrough, Beth V and Yarbrough, Robert M (1994): *The World Economy: Trade and Finance*, Th Dryden Press/Harcourt Brace College Publishers, Fort World TX, Third Edition.

Chapter-VI

Summary, Conclusions and Recommendations

- **Short Summary**
- **Conclusions and Recommendations**

Chapter-VI

Summary, Conclusions and Recommendations

6.1: Short Summary

Mercantilism, the famous idea, that prevailed in Europe during 1500-1800 lay stress on promoting foreign-trade sector for nation-building through the achievement and maintenance of favourable balance of trade i.e. a surplus of exports over imports. But the mercantilists were severely attacked due to their static view of world resources i.e. a country's gain from trade would only come at the expense of the other country participated in the international trade. The first assault on mercantilism came from David Hume's (1752) famous price-specie-flow mechanism which stated that mercantilists policies could at best only provide short-run economic advantages. Naturally, mercantilists, according to Hume, failed to provide a comprehensive economic analysis of nation building in the long-run perspective. Second attack on mercantilism came from Adam Smith (1776). Mercantilists' idea about world's economic pie was challenged by him who categorically stated that world's economic pie is not a fixed quantity. According to his theory of absolute advantage international trade permits countries involved in trade to take advantage of division of labour and specialization. Adam Smith's dynamic view of trade suggests that all the trading countries could simultaneously achieve higher levels of production and consumption with the absence of trade restriction. Many other economists had also made valuable contributions to the theory of international trade; notable among them were Robert Torrens (1808), David Ricardo (1819) and John Stuart Mill (1844). David Ricardo was indeed able to make essential contributions to the pure theory of international trade who stressed on the role of comparative advantage in explaining structure of foreign trade. According to David Ricardo, countries often develop comparative advantages resulting from natural advantages and acquired advantages.

Adam Smith's main contribution to international trade theory can be found, as mentioned earlier, in his dynamic approach to extent of the market. Smith combines, as Aykut Kibritcioglu explained, the concept of learning by doing with economies of scale through the idea of division of labour, which in turn can only be improved by extending the market. In the early 20th century Eli F.Heckscher and Bertil Ohlin (1919, 1933) gave an explanation of comparative advantage arguing that a country would be able to produce

at lower cost those products whose production required relatively large amounts of the factors of production with which that country was relatively well endowed. All the modern trade theories developed especially since 1960s onwards are based on economies of scale and imperfect competition. Relaxing the assumptions of constant returns to scale and perfect competition can lead to new trade theory. Almost half of the trade in manufactured goods among advanced industrialized countries is based on product differentiation and economies of scale. It is not easy to explain this phenomenon of trade with the help of comparative advantage and Heckscher-Ohlin model. Many new trade theories were developed during 1960s, 1970s and even during 1980s to clearly understand and explain world trade pattern. The trade theories which can vividly describe the current pattern of commodity trade, among others, are imitation lag hypothesis (Michael V. Posner, 1961), theory of overlapping demands (Staffan Linder, 1961) and product cycle theory (Raymond Vernon, 1966). The study of intra-industry trade (Verdoorn, 1960; Kojima, 1964; Grubel, 1967; Balassa, 1966) is looked upon as the continuation of the concern with the pattern of trade where products in the same industrial category are both imported and exported.

The characterization of intra-industry trade is simultaneous imports and exports of essentially the same kind of goods. The most frequent intra-industry trade takes place in the developed part of the world, between countries that have a similar economic and social structure. The theories of comparative advantage developed until then, based on Ricardian technology differences or Heckscher-Ohlin factor abundance, cannot explain this type of trade. During the 1980s, new trade theory models were developed to explain high level of intra-industry trade (IIT) and the large proportion of world trade between very similar countries. Intra-industry trade (IIT) is also dubbed "two-way trade". IIT is prevalent in regions and industries where increasing returns to scale in production, monopolistic competition and product differentiation play an important role, although endowments do not differ significantly between them. Theories of trade specialization can be divided into two schools: neo-classical theory and new trade theory. The economic literature identifies six techniques to measure the inter-industry specialization. These techniques are: (i) Hine and Greenaway Method (ii) Sapir Method, (iii) Aquino-Balassa Index, (iv) Gini Index. (v) Normalized Balance and (vi) Donges and Riedel Index.

India's share in global exports had declined steadily from 2.4 percent in 1948 to 0.7 percent in 1980 and again to 0.4 percent in 1996 and was hovering at around 0.6

percent in 2002-2003. During the post independence period India has gradually transformed from a predominantly primary product exporting country to an exporter of manufactured products. Before liberalization, the share of agriculture and allied products was 27.70 percent in 1985-86. This went down to 19.41 percent of its share during post liberalization period. At present, India's exports by major commodity groups are: manufactures which include engineering goods, chemicals and allied products, cotton yarn, fabric etc., jute manufactures, leather and its manufactures, readymade garments, gems and jewellery. In 1990-91, agricultural and allied goods exported were valued at Rs. 6317 crore but there was a tremendous fall in their share to 19.40 percent. As compared to 1960-61, it can be stated that during a span of 30 years, share of agricultural and allied goods exported by India suffered a major setback. From a large share of 44.24 per cent in 1960-61, its share came down to only 19.40 percent. On the import front largest partners of India from which India imports a larger amount in value terms are EU, OPEC, some Asian developing countries and North America. The exports grew at an average annual rate of 61.10 percent during post-reformed period whereas imports grew at an average rate of 46.59 percent. The performance of Indian exports can be seen from another angle by measuring the contribution of foreign trade to the gross domestic product (GDP) during the reformed period. Both exports and imports have increased during the pre and post liberalization periods. The rate of growth in imports as compared to exports during the post-liberalization period remained higher which led to higher trade deficit during the post-reform period. The annual average of India's share in world's export during 1980s was 0.49 percent whereas during 1990s the share of India's exports to world exports was 0.58 percent.

Since the formation of SAARC India has become the major player in trade in the SAARC member countries. India controls the trade of the whole region along with Sri Lanka and Pakistan. Among the SAARC countries India and Bangladesh are the two major countries having historical, cultural and social commonness. In terms of trade India is the second largest partner of Bangladesh, just after the USA (2003). India's position is at the top in terms of its total imports from the world (IMF, 2004). The trade share of both countries was 56.23 percent of the intra-SAARC trade in 1990. Bangladesh's import intensity indices with India are quite high than export intensity indices. India's share in Bangladesh's global import increased to 15.5 percent in 2003 from 4.7 percent in 1990. India's contribution to Bangladesh's export to SAARC countries increased to 53.5

percent in 2003 from 36.6 percent in 1990. India alone provided 94.1 percent of Bangladesh's imports from SAARC countries in 2003. India's share to Bangladesh's total trade with the SAARC countries was 91.7 percent, and Bangladesh's share to India's total trade with the SAARC countries was 40.91 percent in 2003. Therefore India's largest export market is Bangladesh in the whole SAARC region.

Economic liberalization was started in India in the mid-1980s and got intensified in the early 1990s. India's overall merchandise trade with East Asia more than doubled from about US \$ 13 billion in 1997-98 to about US \$ 17 billion in 2003-04 registering a compound annual growth rate of 13 percent. India's merchandise exports to ASEAN have more than tripled from about US \$ 1.0 billion in 1991-92 (3.7 percent of its exports) to US \$ 3.4 billion in 2001-02 (7.7 percent of its world exports). East Asia's share (except that of Japan) in India's exports has been increasing particularly since 2000-2001, with that of India's import also exhibiting similar trends. In particular, China's share in India's exports and imports expanded from 19 percent and 3.4 percent to 4.7 percent and 6.4 percent respectively, which that of ASEAN-6 increased from 6.4 percent and 7.7 percent to 9 percent respectively for both flows. The India-ASEAN Free Trade Agreement is going to be operational very soon with an "Early Harvest" scheme involving 105 products. This is likely to be expanded to include other areas in due course. Concomitantly, the Comprehensive Economic Cooperative Agreement (CECA) pact between India and Singapore is reportedly progressing towards the concluding stage.

India is traditionally the exporter of textiles, agricultural and marine products, gems and jewellery, leather and engineering and electronic products. Sectors like chemicals, carpets, granites and electronics have exhibited the fastest growth in the last five years. Indian exports from Europe on the other hand, comprise mainly gems and jewellery, engineering goods, chemicals and minerals. . The intra-industry index was 0.99 and the percentage in the IIT level was 3.13 percent with respect to previous year 1997. Indian exports are mainly dominated by textiles and clothing (32.5 percent), agricultural and marine products (8.57 percent), gems and jewelry (12.24 percent) and leather and leather goods (10.03 percent) which together account for more than 60 percent of total exports. India's exports to EU comprised textiles and clothing (30.87 percent), gems and jewellery (12.01 percent), leather and leather goods (11.67 percent), engineering goods (10.93 percent), chemical and allied product (8.74 percent) and agricultural and allied products (7.38 percent). The annual compound growth rate of intra-industry trade of India

with world (calculated at 2-digit level) is around 3.4 percent and the annual average growth rate is approximately 4 percent.

USA is world's third largest country by size after Russia and Canada and by population after China and India. The USA is a very important and strategic market for India because about ¼ the of India's total export that India is an insignificant trade partner for USA. India contributes only 0.6 percent of total import of USA in the year 1991. Indo-US trade is mostly intra-industry oriented.

6.2: Conclusions and Recommendations

Most of the world trade today is directed to the rise of intra-industry trade and the emergence of exports of manufactures from the developing to the developed world. The availability of technology and of capital, lower transportation cost and growing speed of communication, unilateral liberalizing measures by developing countries etc. are some of the reasons for the changed circumstances of the direction and pattern of world trade. In India the service sector has been flourishing very fastly mainly because of improvement in the demand for domestic services. There has also been an outstanding expansion of export-oriented IT and BPO sectors due mainly to growing international demand for skilled Indian workers. The industrial sector has also been growing phenomenally maintaining a growth rate of more than 10 percent annually with a strong performance of the manufacturing sector accounting for more than 4/5th of industrial output. Ending of the agreement on Textiles and Clothing provides India the maximum benefit in terms of exports of textiles and clothing to the USA and the European Union (Asian development Outlook, 2006).

It is noticed that trade liberalization has improved static efficiency in production and consumption and it is calculated that total annual gains from all the sources are more than 5 percent of total GDP (Chadha & Others, 1998). Trade liberalization has helped to maintain a sustaining average growth rate of over 7 percent. One important drawbacks is that trade liberalization has in fact failed to improve the status of labour-intensive industries in a substantial degree. What improvement has been made is the growth of exports of industries which are highly capital-intensive in nature. Our agriculture sector is facing several challenges. One important problem that the Indian farmers facing are: (i) stagnation in the production of principal food crops, (ii) stagnation in agricultural education, and (iii) stiff competition in the trade in agricultural commodities. Agricultural practice is becoming technologically challenging and thus trade in agricultural

commodities has become complex. It is in dire need to reorient agricultural education essentially to meet these new challenges. Of late, policy makers have realized that these issues can be addressed through a paradigm shift in human resource development, research, technology generation and dissemination. For this purpose both India and the US have signed a joint declaration in March 2006. The declaration is based on the US-India Knowledge Initiative on Agricultural Education, Research, Service and Commercial Linkages known as Agricultural Knowledge Initiative. The sole objective of this initiative is to revive the two countries' historical ties in agriculture, in the context of contemporary challenges. An important element of this initiative is public-private partnership where private industry can be involved in all spheres of activity from education and research to commercialization of new technologies. This ultimately will help to expand our total exports through more export of agro-based products.

India, along with many developing countries, has been adopting anti-dumping measures (GATT provision) to specify domestic vested interests in favour of protection at the rate akin to those in emerging market economies outside Asia and the major industrially advanced countries. Many studies confirm that too much foreign direct investment may affect IIT intensity of a country. India especially for last 15 years has been inviting FDI which may affect its IIT intensity. A major portion of FDI is destined for manufacturing real-estate development and service-related industries. This type of foreign direct investment not only will affect our inter-industry trade but also our intra-industry trade will be impacted intra-industry trade. It is high time to think over it accordingly our government should invite FDI that will not harm our trade. In this context we must learn lesson from China. China has received a huge amount (largest in the whole of Asia) of FDI since its adoption of new economic policy in 1979. But it is interesting to note that FDI does not affect China's IIT intensity in a significant way.

During the post-reformed period India's foreign trade has been expanding astoundingly. Both exports and imports cover a wide range of items. Exports in rupee terms have shown a remarkable improvement over the last few years. The export items which show rapid expansion in quantity are agriculture and allied products, ores and minerals, gems and jewellery, chemical and allied products, engineering goods and petroleum products and the bulk import goods are fertilizers, cereals, edible oils, newsprint, petroleum products, semi-precious stones for export production and capital goods, raw materials, consumables and intermediates for further production and

technological upgradation. For the promotion of exports India is the first country in the whole of Asia which first recognized the effectiveness of the Export Processing Zones (EPZ) in 1965 with the setting up of its first EPZ in Kandla. In April 2000, the EPZ model was reframed into Special Economic Zone (SEZ). Special Economic Zone Act 2005 has come into effect in 10 February 2006. At present 927 units are operational in the SEZs. These are not only promoting our exports but also are providing huge direct employment to both men and women.

Our SSI sector has been significantly contributing to industrial production, export and GDP. This sector needs to fully exploit the benefits of its product process capabilities on a sustainable manner. In the post-WTO regime it has become clear that to remain in business the SSIs have to be cost competitive and produce high quantity goods. For uplift of the SSIs what we require most are the establishment of branches of commercial banks in rural and semi-urban areas, setting up of regional rural banks as low cost outfits for the welfare of marginal, small, and medium farmers and share croppers, and strengthening of cooperative banks. The growth of this sector is essential for generating employment and eradicating poverty. Apart from small scale industries, artisans, farmers, handloom weavers and cottage industries should be encouraged through more decentralized planning, proper allocation of resources and increasing credit facilities and training.

Appendix -I

Intra-Industry Trade Index of India with World (1975-76 to 2002-03)

| Year | IW | GNP (million \$) | GDP (million \$) | SMT | SME | PCGNP | TCONC |
|---------|------|------------------|------------------|------|------|--------|-------|
| 1975-76 | 0.33 | 132313.53 | 132702.91 | 0.48 | 0.50 | 217.44 | 0.08 |
| 1976-77 | 0.41 | 134002.53 | 134361.75 | 0.49 | 0.57 | 215.99 | 0.08 |
| 1977-78 | 0.40 | 143998.74 | 144398.23 | 0.52 | 0.58 | 227.95 | 0.09 |
| 1978-79 | 0.44 | 152088.5 | 152343.87 | 0.57 | 0.62 | 236.2 | 0.09 |
| 1979-80 | 0.35 | 144600.51 | 144419.72 | 0.54 | 0.59 | 219.36 | 0.11 |
| 1980-81 | 0.36 | 155211.13 | 154774.97 | 0.48 | 0.59 | 224.91 | 0.14 |
| 1981-82 | 0.32 | 164257.9 | 164208.6 | 0.48 | 0.60 | 232.92 | 0.14 |
| 1982-83 | 0.31 | 168519.6 | 169298.36 | 0.49 | 0.50 | 233.93 | 0.15 |
| 1983-84 | 0.39 | 181872.31 | 183141.59 | 0.51 | 0.51 | 247.24 | 0.14 |
| 1984-85 | 0.36 | 188692.79 | 190180.78 | 0.52 | 0.53 | 251.29 | 0.13 |
| 1985-86 | 0.35 | 196415.93 | 197934.26 | 0.58 | 0.59 | 256.38 | 0.13 |
| 1986-87 | 0.34 | 204016.18 | 206410.87 | 0.67 | 0.53 | 261.35 | 0.12 |
| 1987-88 | 0.39 | 212542.35 | 215324.91 | 0.61 | 0.67 | 266.98 | 0.14 |
| 1988-89 | 0.40 | 234231.35 | 238257.90 | 0.64 | 0.71 | 288.53 | 0.14 |
| 1989-90 | 0.45 | 250419.72 | 254681.42 | 0.66 | 0.71 | 302.66 | 0.15 |
| 1990-91 | 0.43 | 262311.00 | 267079.65 | 0.61 | 0.71 | 309.95 | 0.16 |
| 1991-92 | 0.44 | 263781.29 | 270025.28 | 0.62 | 0.73 | 235.83 | 0.14 |
| 1992-93 | 0.46 | 275091.02 | 280769.91 | 0.62 | 0.74 | 313.1 | 0.16 |
| 1993-94 | 0.45 | 286215.50 | 275621.51 | 0.63 | 0.76 | 376.5 | 0.17 |
| 1994-95 | 0.49 | 291121.00 | 285102.61 | 0.68 | 0.72 | 386.4 | 0.16 |
| 1995-96 | 0.61 | 305613.79 | 298862.53 | 0.72 | 0.71 | 370.6 | 0.16 |
| 1996-97 | 0.58 | 314263.07 | 305123.62 | 0.70 | 0.84 | 391.0 | 0.16 |
| 1997-98 | 0.63 | 320413.72 | 311173.51 | 0.71 | 0.83 | 397.3 | 0.18 |
| 1998-99 | 0.60 | 381142.63 | 325371.63 | 0.74 | 0.89 | 402.1 | 0.19 |
| 1999-00 | 0.59 | 405161.00 | 361021.00 | 0.68 | 0.90 | 399.7 | 0.17 |
| 2000-01 | 0.61 | 479962.51 | 384721.00 | 0.69 | 0.89 | 412.6 | 0.16 |
| 2001-02 | 0.67 | 576137.27 | 412315.77 | 0.71 | 0.88 | 408.3 | 0.17 |
| 2002-03 | 0.64 | 589216.31 | 401731.69 | 0.72 | 0.91 | 417.2 | 0.18 |

Source: (i) *Economic Survey, Government of India, Various Issues*, (ii) *International Financial Statistics, IMF Publication, 1992-93 & 1993-94* (iii) *U.N. Commodity Trade Statistics. Statistical Papers, Series D, Various Volumes* (iv) *International Trade Statistics Yearbook, U.N. Publications, Different Volumes.*

Appendix -II

Classification key, chapter – section

| Section | Chapter |
|-----------------------------------|-----------------------------------|
| <i>Resource-based commodities</i> | <i>Resource-based commodities</i> |
| 01-05 Live Animals | 01 Live Animals |
| | 02 Meat & Edible Meat Offal |
| | 03 Fish |
| | 04 Dairy Produce |
| 06-14 Vegetable Products | 05 Other Animal Products |
| | 06 Live Trees |
| | 07 Edible Vegetables |
| | 08 Edible Fruit & Nuts |
| | 09 Coffee, Tea, Spices |
| | 10 Cereals |
| | 11 Malt & Wheat Gluten |
| | 12 Seeds |
| | 13 Lac, Gums & Resins |
| 15 Fats and Oils | 14 Other Vegetables Products |
| 16-24 Prepared Foodstuffs | 15 Fats & Oils |
| | 16 Preparations Meat/Fish |
| | 17 Sugars |
| | 18 Cocoa |
| | 19 Prep. Cereals/Flour/Milk |
| | 20 Prep. Vegetables/Fruit/Nuts |
| | 21 Misc. Edible Products |
| | 22 Beverages |
| | 23 Waste from Food Industry |
| 25-27 Mineral Products | 24 Tobacco |
| | 25 Salt/Sulphur/Lime/Cement |
| | 26 Ores |
| | 27 Lubricants/Fuels/Oil |
| 44-46 Wood and Wood articles | 44 Wood |

Labour-intensive commodities

41-43 Hides and Leather

50-63 Textiles and apparel

64-67 Footwear

71 Gems

93 Arms

94-96 Miscellaneous Manufactured articles

99 Others

Scale-intensive commodities

28-38 Chemicals

45 Cork

46 Straw

Labour-intensive commodities

41 Raw Hides & Skins

42 Articles of Leather

43 Fur skins

50 Silk

51 Wood

52 Cotton

53 Paper Yarn

54 Man-made Filaments

55 Man-made Staple Fibres

56 Wadding

57 Carpets

58 Special Woven Fabrics

59 Laminated Textile Fabrics

60 Knitted Fabrics

61 Apparel, Knitted

62 Apparel, not Knitted

63 Other Textile Articles

64 Footwear

65 Headgear

66 Umbrellas, Walking Sticks

67 Prepared Feathers

71 Jewellery

93 Arms & Ammunition

94 Furniture

95 Toys

96 Misc. Manufactured Articles

99 Other

Scale-intensive commodities

28 Inorganic Chemicals

29 Organic Chemicals

39-40 Plastics

68-70 Stone/Cement/Ceramics

72-83 Base metal and Metal articles

- 30 Pharmaceutical Products
- 31 Fertilizers
- 32 Tanning/Dyeing Extracts/Ink
- 33 Cosmetics
- 34 Soap, Waxes, Pastes
- 35 Glues
- 36 Explosives
- 37 Photographic Goods
- 38 Misc. Chemical Products
- 39 Plastics
- 40 Rubber
- 47 Wood Pulp
- 48 Paper & Paper Board
- 49 Books, Newspapers
- 68 Stone/Plaster/Cement
- 69 Ceramic Products
- 70 Glass and Glassware
- 72 Iron and Steel
- 73 Articles of Iron or Steel
- 74 Copper
- 75 Nickel
- 76 Aluminium
- 78 Lead
- 79 Zinc
- 80 Tin
- 81 Other Base Metals
- 82 Tools
- 83 Miscellaneous Base Metals
- 86 Railway
- 87 Cars, Trucks, Autos
- 88 Aircraft, Spacecraft
- 89 Ships, Boats

Differentiated commodities

84-85 Machinery and Electrical Appliances

90-92 Optical, precision & musical Instruments

97-98 Antiques and works of art

Differentiated commodities

84 Computer/Machinery

85 Electrical Equipment

90 Optical/Medical Instruments

91 Clocks

92 Musical Instruments

97 Works of Art

98 Postal Packages & Special
Transactions

BIBLIOGRAPHY

Abd-el-Rahman,K.(1991):“Firms Competitive and national comparative advantages as joint determinants of trade compositions”. *Weltwirtschaftliches Archiv*, 127. pp. 83-97.

Abraham, Joseph. (2002): “*Development Dimensions of Multilateral Trade: The Role of WTO*” Yajona, 19-24, December.

Adiseshiah Malcom, S.(1987):“The Economic Rationale of SAARC” *South Asian Journal*,Vol. 1 No. 1 Jun-Sep.

Adiseshiah Malcom, S.(1987):“The Economic Rationale of SAARC” *South Asian Journal*, Vol. 1, No. 1, Jun-Sep.

Aggaral, N. (2004):“Corporate Travel to India Takes off”, *The Straits Times*, Singapore, February.

Ahhewalia, Montek S. (1988): “*India’s Economic Performance Policies and Prospects*”, in *The Indian Economy*, ed. by E.B Lucas and Gustav F. Papanlik, Oxford University Press (Delhi).

Alfered, Maizeles (1968): “*Exports and Economic Growth of Developing counties*”, Cambridge University Press, Cambridge.

Algiri,B.&Ankkuriniemi,Salla. & Zampieri, Laura.(2001):“Inter-industry Specialisation versus Intra-industry Trade : A Regional approach”, *Economica Internazionale International Economics*, Vol. LIV, No. 3, August, PP. 299-223.

Annicchiarico, Barbara and Quintieri, Beniamino (2000) :“Aggregated Measures of Intra-Industry Trade: A Critical Comparison”. *Mimeo*, CEIS- University of Rome Tor Vergata.

Annicchiarico, Barbara and Quintieri, Beniamino.(2000):“Aggregated Measures of Intra-Industry Trade: A Critical Comparison”. *Mimeo*, CEIS- University of Rome Tor Vergata.

Aquino, A. (1978): “Intra-Industry Trade and Inter-Industry Specialization as current sources of International Trade in manufactures”. *Weltwirtschaftliches Archiv*, 114. pp. 275-296.

Aquino, Antonio. (1978): "Intra-Industry Trade and Intra-Industry Specialization as Concurrent Sources of International Trade in Manufactures". *Weltwirtschaftliches Archiv*, Vol. 114, pp. 275-295.

ASEAN FDI Statistics Database, 2003

ASEAN Secretariat.(1995): Report of the ASEAN –India Experts Group on Trade and Investment Cooperation, Jakarta, ASEAN Secretariat, February.

Asher, M G, R Sen and S Srivastava.(2003): *ASEAN-India: Emerging Economic Opportunities' in Beyond the Rhetoric: The Economics of India's Look-East Policy* edited by F Gare and A Mattoo, Manohar Publications, New Delhi, India, pp 45-79.

Asian Development Outlook.(2002):*The Asian Development Bank, Philippines. EIU, 2001*. USA Country Report, New York.

Avadhuta,A.K.(1997): " Globalisation of the Economy. A Disaster For India and Other Developing Countries" People's News Agency (PNA), Platanvej 30, 1810 Frederiksberg C, Denmark.

Azhar, Abdul K., Elliott, Robert J.R. (2001):"*A Note on the Measurement of Trade-Induced Adjustment*". *Mimeo*, University of Manchester

Azhar, Abdul K., Elliott, Robert J.R. and Milner, Chris. (1998): "Static and Dynamic Measurement of IIT and Adjustment: A Geometric Reappraisal" *Weltwirtschaftliches Archiv*, Vol. 134, pp. 404-422.

Azhar, Abdul K., Elliott, Robert J.R. and Milner, Chris.(1998):"Static and Dynamic Measurement of IIT and Adjustment: A Geometric Reappraisal" *Weltwirtschaftliches Archiv*, Vol. 134, pp. 404-422.

Balassa, B and L. Bauwens. (1988): *Changing trade patterns in manufactured goods: An economic approach*, Elsevier New York.

Balassa, B. (1985):"Intra-Industry Specialization: A Cross Country Analysis", *European Economic Review*, 30, No. 1-3, pp. 27-42.

Balassa, B. and Lue Bauwens (1987):"Intra-Industry Specialization in a Multi-Country and Multi-Industry Framework", *The Economic Journal*, Vol. 97, No. 388. pp. 923-939.

Balassa, Bela (1965): "Trade Liberalization and Revealed Comparative Advantage" *The Machester School of Economic and Social Studies*" Vol. 33.

Balassa, Bela (1978), "Exports and Economic Growth Futher Evidence", *Journal of Development Economics*, Vol. 5, 181-189.

Balassa, Bela (1985) "Intra-Industry Specialization". *European Economic Review*, vol. 30, pp. 27-42.

Balassa, Bela nad Bauwens, Lue (1987) "Intra-Industry Specialization in a Multi-Country and Multi-Industry Framework". *Economic Journal*, vol. 97, pp. 923-939.

Balassa, Bela.(1985): "Intra-Industry Specialization". *European Economic Review*, Vol. 30, pp. 27-42.

Balassa, Bela.(1986):"The determinants of Intra-industry Specialization in United States trade", *Oxford Economic paper*, Vol. 38, No.2, pp. 220-232.

Basu, Kaushik (2001): "*Globalization and the Indian Economy*", *Vaanijya*, First issue, 6-10, July-Sept.

Bergstrand, J.H. (1983):"Measurement and Determinants of Intra-International Trade", in P.K.M. Tharakan (ed) *Intra-Industry Trade: Empirical and Methodological Aspects*. Amsterdam: North-Holland, pp. 281-300.

Bergstrand, J.H.(1990):"The Hecksher-Ohline-Samuels on Model, The Linder Hypothesis and the determinants of bilateral intra-industry trade". *Economic Journal*, Vol. 100. pp. 1216-1229.

Bernhofen, Daniel M. (1998):"Intra-industry trade and Strategic interaction: Theory and evidence", *Journal of International Economics*, 45, pp. 77-96.

Bewa, R.S. (2001-02): "*Challenges and Opportunities of globalization-implications for India*" *The Indian Economic Journal*, Vol. 49, No. 3, January-March.

Bhaduri, A.(2005): *Development with Dignity : A Case for Full Employment*, National Book Trust, India , New Delhi- 110016.

Bhagwati, J.N. (1964): "The pure theory of international Trade: A Survey", *Economic Journal*, Vol.25 , pp. 1-84.

Bhatia, Sitiesh (2004): "*Globalisation and India: Trade in services*", *Chartered Secretary*, January, 54-56.

Bhatt, P.R. (2003): "*Second Generation Reforms: Some issues*", *Asian Economic Review*, Vol. 45, No. 3, Dec.

Bhattacharjee, Subhomoy (2005): "Stimulus for Economy" *Yojana*, Vol. 49, March, 7-9.

Bhattacharjee. B. (1999): "Export Stagnation: Causes and Corrective Action", *Yojana*, 55-58, January.

Bhattacharya, B and M Ariff.(2002): *Study on AFTA-India Linkages for the Enhancement of Trade and Investment*, a report submitted to the government of India and the ASEAN Secretariat, May.

Bhattacharya, B. and Pal, P (1998): "Trade Related Joint Ventures between India and Bangladesh" Indian Institute of Foreign Trade, New Delhi-110016.

Bhattacharyya R. (2002): "Vertical and Horizontal Intra-Industry Trade in some Asian and Latin American Less Developed countries", *Journal of Economic Integration*. Vol. 17. No. 2.

Bhattacharyya, Ranjoy. (2001): "Bilateral Intra-Industry Trade in a Developing Country", *Journal of Quantitative Economics*, Vol. 17, No. 1, January, PP. 142-160.

Bhaimali,A and Satrajit Dutta.(2006): *Foreign Trade of Under WTO Rgime*" Abhijeet Publications, New Delhi-110094.

Bo. Sodersten (1970): *International Economics*, New York: Harper and Row.

Boylan, T.A & M.P.Cuddy.(1988): "Multinational Companies ad Economic Development : Aspects of the Irish Experience", *IBAR – Irish Business and Administrative Research*. 9. pp. 76-86.

Briihart, Marius (1999):"Marginal Intra-Industry Trade and Trade-Induced Adjustment: A Survey". In: Briilhart, M. and Hine, R.C., *Intra-Industry Trade and Adjustment: The European Experience*. Macmillan, London.

Briilhart, Marius (1994): "Marginal Intra-Industry Trade: Measurement and Relevance for the Pattern of Industrial Adjustment". *Weltwirtschaftliches Archiv*, vol. 130, pp. 600-613.

Briilhart, Marius (2000):"Dynamics of Intra-industry Trade and Labor-Market Adjustment". *Review of International Economic*, vol. 8, pp. 420-435.

Briilhart, Marius and Elliott, Robert (1998) "Adjustment to the European Single Market: Inferences from Intra-Industry Trade Patterns". *Journal of Economic Studies*, Vol. 25., pp. 225-247.

Briilhart, Marius and Hine, Robert C. (1998) *Intra-Industry Trade and Adjustment: The European Experience*. Macmillan, London.

Briilhart, Marius.(1994):"Marginal Intra-Industry Trade: Measurement and Relevance for the Pattern of Industrial Adjustment". *Weltwirtschaftliches Archiv*, Vol. 130, pp. 600-613.

Brühlhart, Marius.(2000):“Dynamics of Intra-industry Trade and Labor-Market Adjustment”. Review of International Economic, Vol. 8, pp. 420-435.

Brühlhart, M. (1994): “Marginal intra-industry trade: measurement and relevance for the pattern of industrial adjustment”, Weltwirtschaftliches Archive, Band. 130. pp. 600-613.

Caves, Richard E. (1981): “Intra-Industry Trade and market Structure in the Industrial Countries”, Oxford Economic Paper, Vol. 33, No. July, PP 203-223.

Celestine, Avinash (2004): “*The Pattern that in India*”, Business World, 36-37, Jan. 5.

Chakraborty, S. (1988): “Development Experience in South Asia” Asian Development Review, Vol. 6. No. 1.

Chipman, John (1991): “Intra-Industry Trade in a Log linear Model”, mimeo, University of Minnesota.

Chipman, John. (1988): “Intra-Industry Trade in the Heckscher-Ohlin-Lerner-Samuelson Model” mimeo, University of Minnesota.

Chipman, John. S. (1985): Intra-Industry trade, factor Proportions, and aggregation, Mimeo.

Chirstodoulou, Maria. (1992): “Intra-Industry Trade in Agrofood Sectors: The Case of the EEC Meat Market”. *Applied Economics*, vol. 24, pp. 875-884.

Chirstodoulou, Maria. (1992): “Intra-Industry Trade in Agrofood Sectors: The Case of the EEC Meat Market”. *Applied Economics*, vol. 24, pp. 875-884.

Choudhury A.K. (2000): “Compliance with accounting standard in India: Why and how”, University of Western Sydney, Macarthur, Australia, Management Accountant, 177-181, March.

Copeland B.R. and Kotwal A. (1996): “Product Quality and The Theory of comparative Advantage” *European Economic Review*. Dec. pp. 1745-1760.

CPR. (1995): “Indo Bangladesh Dialogue-Economic and Trade Cooperation” Report, Prepared by Centre for Policy Research (CPR), New Delhi and Centre for Policy Dialogue (CPD), Dhaka.

CPR. (1995):“Indo Bangladesh Dialogue-Economic and Trade Cooperation” Report, Prepared by Centre for Policy Research (CPR), New Delhi and Centre for Policy Dialogue (CPD), Dhaka

Culem Claudy and Lundberg Lars. (1983): "The Product Pattern of Intra-Industry Trade: Stability among countries and over Time" *Journal of International Economic*, Vol.6 pp 312-314.

Culem, C. and L. Lundberg(1986):"The products Pattern of Intra-Industry Trade: Stability Among Countries and Over Time", *Review of World Economics (Weltwirtschaftliches Archiv)*, Band 122, pp. 113-130.

Culem, Clandy and Lundberg, Lars.(1988): "The product Pattern on Intra-Industry Trade : Stability among countries and over time", *Weltwirtschaftliches Archiv Review of World Economics*, Band. 124 Heft. 2, PP. 113-130.

D.H. Robertson,(1951): "The Terms of Trade", *International social science Bulletin*, Spring, pp. 29.

Dagli, Valilal.(1973): "*India's Foreign Trade*" Vora and Company Publication Private Limited.

Dalum, B. and J. Fagerbeg. (1986): *The Nordic Countries and Structural changes in the OECD – Area*. In K. Peterson (ed.) *utmaning for Norden*. Stockholm. (In Danish).

Das Gupta, A.K. (1977): "The Problem of International Economic order", *International Studies*, April June, Vol. 16.

Das, Gouranga Gopal.(2005):"Growth and Pattern of Intra-Industry Trade in Manufactures in India's overall Trade: A Quantitative Analysis" Vol.4, No.4,pp.161-184

Das, R U. (2004): "Economic Philosophy of SAFTA", *The Financial Express*, February 2.

Dasgupta, B. (2000): "International Institutions for Global Trade: The Case for South Asian Free Trade Association". In Dutta, D. (ed.) *Economic Liberalization and Institutional Reform in South Asia: Recent Experiences and Future Prospect*. Atlantic Publisher.

Datt, P T J.(2004): "Global Bodies Endorse Indian Companies", *Business Line (India)*, April 8.

Davis, Donald R. (1995): "Intra-industry trade: A Hecksher-Ohlin-Rieardo approach", *Journal of International Economics*, 39, PP. 201-226.

Deo Raj Singh (1995): "*Export Performance Need for Quantum Jump*" *Industrial Researcher*, Vol. XXII, No. 1, April-June

Despande, G.P.(1981): "Long Shadow over South Asia" *Economic and Political weekly*, No. 21.

Dixit, A.K. and J. Stiglitz (1997): "Monopolistic Competition and optimum product diversity". *American Economic Review*. 67. pp. 297-308.

Dixit, A.K. and V. Norman (1980): *Theory of International Trade*, Cambridge University, Press.

Dixit, Avinash K. and V. Norman.(1980) : *The Theory of international trade*, Cambridge University press, Cambridge.

Dixit, Avinash. (1993) : "In Honor of Paul krugman : Winner of the John Bates Clark Medal", *Journal of Economic Perspectives*, Vol. 7, No. 2, Spring, PP. 173-188.

Dixon, P.B. and J. Menon.(1995): "Measures of Intra-industry trade as Indicators of Factor Market Disruption." *Economic Record*. Vol.73. pp. 233-237.

Dixon, Peter B and Menon, Jayant.(1997): "Measures of Intra-industry Trade as Indicators of Factor Market Disruption", *The Economic Record*, Vol. 73, No. 2, September, PP. 233-247.

Dixon, Peter B. and Menon, Jayant (1995) "Measures of Intra-Industry Trade as Indicators of Factor Market Disruption". *Economic Record*, vol. 73, pp. 233-237.

Dixon, Peter B. and Menon, Jayant. (1995): "Measures of Intra-Industry Trade as Indicators of Factor Market Disruption". *Economic Record*, vol. 73, pp. 233-237.

Dollar, D. (1992): "Outward-Oriented Developing Economic Do Grow More Rapidly: Evidence from 95 LDCs, 1976-85". *Economic Development and Cultural Changes*, 40 (3), pp. 523-44.

Dominick, Salvatore (1975): *International Economics*, New York: Mc Graw-Hill

Donges, J.B. (1977): "The Third World Demand for a New International Economic Order" *Kykios*, Vol. 30.

Drabek, Zdenek and Greenaway, David.(1984): "Economic Integration and Intra-Industry Trade : The EEC and CMEA compared", *Kyklos*, Vol. 37 Fase 3, PP. 444-469.

Dreze, Jacques (1961): "Les exportations intra-C.E.E. en 1958 et la position Belge". *Recherches Economiques de Louvain*, vol. 27, pp. 717-738.

Dreze, Jacques. (1961): "Les exportations intra-C.E.E. en 1958 et la position Belge". *Recherches Economiques de Louvain*, vol. 27, pp. 717-738.

Dunning, J.H and J. Cantwell.(1987): *IRM – Directory of statistics of International Investments and Production*. George Allen and urwin.

Eaton, J and H. Kierzkowski. (1984): Oligopolistic Competition, Product Variety, and international trade. In H. Kierzkowski (ed.). *Monopolistic Competition and International Trade*. London. Claredon.

Economic Intelligence Services (2001): *Foreign trade & balance of payments*, July 2001. Mumbai: CMIE Pvt. Ltd.

Edelman, J.A. (1977): “Aid and Income Distribution” in J.N. Bhagwati (ed.), *The New International Economic Order*, MIT, Harvard University Press.

Elliot, Robert J.R.; Greenway, David and Hine, Robert C. (2000) “Tests for Factor Homogeneity and Industry Classification”. *Weltwirtschaftliches Archiv*,

Ethier W.J. (1979): “Internationally Decreasing costs and world Trade” *Journal of International Economics*. Vol. 9 pp. 1-24.

Ethier W.J. (1982): “National and International Returns to scale in the modern theory of International Trade” *American Economic Review*. Vol. 72.

Ethier, Wilfred (1982): “National and International Returns to Scale in the Modern Theory of International Trade”. *American Economic Review*, vol. 72, pp. 388-405.

Eusufazi, Zaki. (2000): “Liberalization in the Shadow of a Large Neighbor: A Case of Bangladesh-India Economic Relations” Centre for Policy Dialogue, The University Press Limited, Dhaka, Bangladesh.

F.W. Taussing (1927): *International Trade*, New York, Macmillan.

Fagerberg, J.(1987): Diffusion of Technology, Structural Change and Intra-Industry Trade : The case of the Nordic Countries 1961-1983. In J.O. Andersen (ed.), *Nordic Studies on Intra-Industry Trade*. Abo Academy Press.

Falvey, R.E. (1981): “Commercial Policy and intra-industry Trade”. *Journal of International Economics*. Vol. 11. pp. 495-511.

Falvey, R.E. and H. Kierzkowski. (1987): Product quality, intra-industry trade and (im) perfect competition in : H. Kierzkowski, ed., *Protection and competition in international Trade*, Basil Blackwell, New York, pp. 143-161.

Farrell, D (2004): "*Offshoring is the Way to Go*", International Herald Tribune, February 7-8.

Field, Appleyard (1997): Introduction economics: trade Theory and Policy, (3rd Revised Edition).

Financial times (2004): "*India Awakes*", Special Report on India Released at the World Economic Forum at Davos, Switzerland, January.

Finger, J.M. (1975): "Trade overlap and Intra-Industry Trade", Economic Inquiry, vol. 13, no.4, pp. 581-589.

Fischer, Ronald D and Serra, Pablo.(1996) : 'Income Inequality and choice of Free Trade in a Model of Intra-industry Trade', Quarterly Journal of Economics, Vol. CXI, Issue 1, Feb, PP. 41-63.

Frank Andre Curdar. (1980): "Development Crisis and Crisis of Development-Living in the Real World", Economic and Political Weekly, Vol. XV, 5,6 and 7 Feb.

Frank Andre Curdar.(1980): "Development Crisis and Crisis of Development-Living in the Real World", Economic and Political Weekly, Vol. XV, 5,6 and 7 Feb.

Frankel, Jeffrey and Romer, David (1999): "Does Trade Cause Growth?" American Economic Review. Vol. 89 No. 3, pp. 379-399.

Fung K.C. (1991): "Collusive Intra-Industry Trade" Canadian Journal of Economics vol. 24 No. 2.

Gabszewicz J.J. ad Thisse J.F.(1982) : "Product Differentiation with income Disparities : An Illustrative Model". The journal of Industrial Economics. Vol. 31 No. ½ pp. 115-129.

Gabszewicz J.J. and Thisse J.F. (1980): "Entry (and Exit) in a Differentiated Industry". Journal of Economic Theory. Vol. 22, pp. 327-338.

Gabszewicz J.J. and Thissee, J.F. (1979): "Price Competition. Quality and income Disparities". Journal of Economic Theory. Vol. 20, pp. 340-359.

Gabszewicz, J Jaskold, Shaked, Avner, Sutton, John and Thissee, J.F. (1981): "International Trade in Differentiated Products", International Economic Review, Vol. 22, Nò. 3, October, PP. 527-534.

Gartner, Research (2002): "Comparison: Indian and Chinese Software Services Markets"
Gartner Research, M-16-1762, May.

Gaur, S (2004): "ASEAN-India Ties Entering a New Phase", Business Times, Singapore, October 8.

General Agreement on Trade and Tariffs (GATT) 1991, International Trade: 1989-1990, vols 1 and 2, GATT, Geneva.

George Skorov. (1978): "Developing Nations in the Struggle for Economic Equality", Social Sciences, Vol. 9 No. 3.

Gerber (2001): *International Economic*, (2nd edition) Prentice Hall, Pearson.

Ghosh Pradip K.(1989) :*International Trade and Third World Development*, Cambridge University Press, USA.

Gilligan Michael J. (1997): "Lobbying as a private Good with Intra-Industry Trade" International Studies Quarterly, Vol. 41, No. 3, Sept.

Glober man, S and Dean, J.W. (1990): "Recent Trends in Intra-Industry Trade and Their Implications for future Trade Liberatisation," *weltwirtschaftliches Archiv*, vol. 126, pp. 25-49.

Goodman, P S.(2004): "China Boosts Regional Trade: Dependence on Export Leaves Southeast Asia Vulnerable", The Asian Wall Street Journal, February 6-8.

Goswami, O.(2001): "India 2003-2010: Economic and Political Scenarios", Confederation of Indian Industry' (CII), April.

Gottfried, Harberler (1986): "Terms of Trade and Economic Development" in Theberge James. D. (ed) *Economics of Trade and Development*, New York : John Wiley.

Government of India, Ministry of Finance, Economic Division, Economic Survey various issues. New Delhi: Government of India, Ministry of Finance.

Government of India.(2007) : *India 2007, A Reference Annual* , publication Division Ministry of Information and Broadcasting ,GOI.

Govt. of India: Economic Survey, 2002-2003,

Govt. of India: Economic Survey, 2003-2004.

Govt. of India: Economic Survey, 2004-2005.

Gray, H, Peter. (1988): "Intra-industry Trade: An untidy phenomenon", *Weltwirtschaftliches Archiv Review of World Economics*, Band. 124, Heft. 3, PP. 211-229.

Greenaway D. and C. Milner (1986): (1983): "The Imbalance and the Measurement of Intra-Industry Trade", *Review of World Economic (Weltwirtschaftliches Archiv)*, Band 117, Heft 4, pp. 109-119.

Greenaway D. and C. Milner (1986): *The Economic of Intra-Industry Trade Blackwell, Oxford.*

Greenaway, David and Hine, Robert C. (1991) "Intra-Industry Specialization, Trade Expansion and Adjustment in the European Economic Space". *Journal of Common Market Studies*, vol. 24, pp. 603-622.

Greenaway, David and Milner, Chris (1986): *The Economic of Intra-Industry Trade*. Oxford, Basil Blackwell.

Greenaway, David and Milner, Chris. (1981): "Trade Imbalance Effect in the Measurement of Intra-industry Trade", *Weltwirtschaftliches Archiv Review of World Economics*, Band. 117, Heft. 4, PP. 756-766.

Greenaway, David and Milner, Chris. (1986): *The Economic of Intra-Industry Trade*, Oxford, Basil Blackwell.

Greenaway, David and Milner, Chris. (1987): "Intra-industry Trade : Current Perspectives and Unresolved Issues", *Weltwirtschaftliches Archiv, Review of World Economics*, Band. 123, Heft. 1, PP. 39-56.

Greenaway, David and Milner, Chris. (1981): "Trade Imbalance Effects in the Measurement of Intra-Industry Trade". *Weltwirtschaftliches Archiv, Review of World Economics*, Band. 117. Heft. 4.

Greenaway, David. (1983): "Intra-industry and Inter-Industry Trade in Switzerland", *Weltwirtschaftliches Archiv, Review of World Economics*, Band. 119, Heft. 1, PP. 109-120.

Greenaway, David; Hine Robert C.; Milner, Chris and Elliot, Robert .(1994): "Adjustment and the Measurement of Marginal Intra-Industry Trade". *Weltwirtschaftliches Archiv*, vol. 130, pp. 418-427.

Greenaway, David; Lloyd, Peter and Milner, Chris (1998) : "Intra-Industry FDI and Trade Flows: New Measures of Globalization of Production", *GLM Research Paper*, No. 98/5, Centre for Research on Globalization and Labour Markets, University of Nottingham.

Greenaway, David and Nam Chong, Hyun. (1988): "Industrialisation and Macroeconomic Performance in Developing Countries under Alternative Trade Strategies", *Kyklos*, Vol. 41, Fase 3, PP. 419-435.

Greenway, D. (1982): "Identifying the Gains from pure Intra-Industry Exchange," *Journal of Economic studies*, vol. 9 pp. 40-54.

Grubel, H.G. and P.J. Lloyd (1975): *Intra-Industry Trade: The Theory and Measurements of International Trade in Differentiated Products*. John Wiley & Sons, London.

Gujarati, D.N. (1988): *Basic Econometrics*, 2nd Edition, McGraw Hill.

Gupta, Sisir. (1964): *Regional Integration in South Asia Asia*, Publishing House, New Delhi.

Halder, A. (1976): *India's Export Pattern Analysis on Potential Diversification*, Minerva Association Pvt. Ltd, Calcutta.

Hamilton, Clive and Kniest, Paul (1991): "Trade Liberalization, Structural Adjustment and Intra-Industry Trade: A Note". *Weltwirtschaftliches Archiv*, vol. 12, pp. 356-367.

Hanink, D.M. (1990): "Linder Again Review of World Economic", *Weltwirtschaftliches Archiv*, Band 126, Heft 2, pp. 257-267.

Hansen, K.M. (1988): *Intra-Industrial Handel and Intra-Industry Trade*, (In Danish). Nit Nordisk Forlag Arlong Busck.

Haq. M.U. (1980): "Beyond the Slogan of South-South Co-operation", *World Development*, Vol. 8.

Hariharan, S.V. (1998): "Growth of India's Export in Asian Region", *Indian Economic Panorama*, Vol. 8. No. 1.

Harrison, Anne (1996): "Openers and Growth a Time Series, cross country Analysis for Developing Countries", *Journal of Development Economic*, vol.48 No. 2, pp. 419-447.

Hassan, M.K. (2001): "Is SAARC a viable Economic Block? Evidence from Gravity Model", *Journal of Asian Economics*, Vol. 12, No. 2 North-Holland.

Hassan, M.K. (2002): "Trade with India and Trade Policies of Bangladesh" in Cook son, Forrest and Alam A.K.M.S. 2002 (ed.) *Towards Greater Sub-regional Economic Cooperation*, chapter 10.

Havrylyshyn, O. and Civan, E. (1983): 'Intra-Industry Trade and the stage of development : a regression analysis of industrial and developing countries'. In *Intra-Industry Trade* (ed. P. Therakan), Amsterdam: North Holland, pp. 111-140.

Havrylyshyn, O. and E. Civan.(1985):"Intra-Industry Trade among Developing Countries", *Journal of Development Economics*, Vol. 18, Nos. 2-3, pp. 253-271.

Haynes, Michelle; Upward, Richard and Wright, Peter (2000):"Smooth and Sticky Adjustment: A Comparative Analysis of the US and UK". *Review of International Economic*, vol. 8, pp. 517-532.

Head,Keith and Ries,John.(2001): "Increasing Returns versus National Product Differentiation as an Explanation for the Pattern of U.S.– Canada Trade", *The American Economic Review*, Vol. 91, No. 4, Sept., PP. 858-875.

Hellvin, Lisbeth.(1994), "Intra-Industry Trade in Asia" *International Economic Journal*, Vol. 8 No. 4 P. 27-40, winter.

Helpman, E. and P. Krugman (1985): *Market Structure and Foreign Trade*, Cambridge. MA: MIT Press'.

Helpman, Elhanan. (1999) : "The Structure of Foreign Trade", *Journal of Economic Perspectives*, Vol. 13, No. 2, Spring, PP. 121-144.

Husted Steven and Melvin Michael (1999): *International Economic: Theory and Policy*, Addison Wesley Publications, Fourth Edition.

Industry Commission (1992): *Annual Report, 1991-1992*, Australian Government Publishing Service, Canberra.

International Monetary Fund (IMF) (2001): *International Financial Statistics Yearbook*.

International Monetary Fund (IMF) (2001): *International Financial Statistics Yearbook*.

Jacob, Viner. (1937): *Studies in the Theory of International Trade*, New York : Harper and Row.

Jagdish, N. Bhagwati. (1972) ed, "Economic and World Order" New Delhi.

Jager Henk, Jepma, catrinus and Kamphuis, Ms Elise (2004): *Introduction to International Economics* (2nd edition), Prentice Hall, Pearson.

Jha, L.K. (1982): "North South Debate", Chanakya Publications, New Delhi IMF, Various Years. Direction of Trade Statistics Year Book. Washington.

Jha, L.K. (1982): *North South Debate*, Chanakya Publications, New Delhi.

IMF, Various Years. Direction of Trade Statistics Year Book. Washington.

Jitender Kumar Bhanwal and Maneet Kumar. (1995): "Profile of India's Trade Relation with Asian Countries: Commercial Relation and Trade Agreements", Economic Affairs, 40, Qr. 4 December.

Jones, R. and Schienkman, J. (1977): "The Relevance of the Two-sector Production model in Trade Theory," Journal of Political Economy, vol. 85, pp. 909-935.

Kalbari, Hassan. (1995): "Modelling and Pattern of Intra-Industry Trade" Working paper, University of Isfahan, Iran.

Kol, Jacob and Mennès, L.B.M. (1989): "Corrections for Trade Imbalance: A Survey". *Weltwirtschaftliches Archiv*, vol. 125, pp. 703-717.

Kelegama, J.B. (1994): "Will the SAARC Preferential Trading Arrangement Expand Mutual Trade in South Asia", Economic Review, May-June.

Kemal, A. (2002): "A plan to strength on Regional Trade Cooperation in South Asia" in T.N. Srinivasan (ed), Trade Finance and Investment in South Asia, Social Science Press, New Delhi.

Kemal, A. (2002): "A plan to strength on Regional Trade Cooperation in South Asia" in T.N. Srinivasan (ed), Trade Finance and Investment in South Asia, Social Science Press, New Delhi.

Kibrititioglu, A. (2002): "On the Smithian Origins of "New" Trade and Growth Theories". *Economic Bulletin*, Vol.2, No.1, pp.1-15.

Kojima, K. (1964): "The Pattern of International Trade among Advanced Countries" *Histosubashi, Journal of Economic*. Vol.5 No.1 June.

Kojima, K. (1964): "The Pattern of International Trade among Advanced Countries" *Histosubashi, Journal of Economic*. Vol.5 No.1 June.

Kol, Jacob and Mennes, L.B.M. (1989): "Corrections for Trade Imbalance: A Survey". *Weltwirtschaftliches Archiv*, vol. 125, pp. 703-717.

Krueger, A. (1998): "Why trade liberalization is good for growth." *Economic Journal* Vol. 108 No. 450, September, pp. 1513-1522.

Krugman, P. (1981): "Intra-Industry Specialisation and the Gains from Trade". *Journal of Political Economy*, vol. 89, pp. 959-973.

Krugman, P.R.(1979): "Increasing returns, monopolistic competition, and international trade". *Journal of International Economics*, 9, pp. 169-179.

Krugman, P.R.(1980): "Scale economics, Product differentiation and the Pattern of trade". *American Economic Review*. 70, pp. 950-959.

Krugman, Paul (1981) "Intra-Industry Specialization and the Gains from Trade". *Journal of Political Economy*, vol. 89, pp. 959-973.

Krugman, Paul R. (1987): "Is Free Trade Passé?" *Economic Perspectives*, Vol. 1, No. 2, PP. 131-144.

Krugman, P.R. (1981): "Intra-Industry Specialization and the Gain from Trade" *Journal of Political Economy* Vol. 89. No. 5.

Krugman, P.R.(1981):"Intra-Industry Specialization and the Gain from Trade" *Journal of Political Economy* Vol. 89. No. 5.

Kulkarni, Kishore G and Ishizaki, Maiko. (2001):"Testing the Intra-industry Trade hypothesis : A case of Japanese Trade in Manufacturing", *The Asian Economic Review*, Vol. 41, No. 3, Dec., PP 438-447.

Kumar Rajiv. (1988): "Co-operation of Economic Policies" *South Journal*, Vol. 1 No. 3, Jan-March.

Kumeresan Govindan.(1994):"Regionalism in South Asia: Extent of Agricultural Trade", *Foreign Trade Review*, Vol. XXXIX, No. 1, April-June

Lambertini, Luca.(1997):"Intra industry Trade under Vertical Product Differentiation", *Keio Economic Studies*, Vol. 34, No. 2, PP. 51-69.

Lama, Mahendra P.(2000). "SAARC: Shallow Regionalism Political Abstinance and Economic Advocacy" *BISS*, Vol. 21. No. 1.

Lancaster, K. (1980): "Intra-Industry Trade under Perfect Monopolistic Competition," *Journal of International Economics*, Vol. 10, pp. 151-175.

Lawler, K and Seddighi, H (2001): *International Economics*. Prentice Hall, Pearson.

Linder, S. B. (1961): *An Essay on Trade and Transformation*. New York: John Wiley & Sons.

Lipsey, R.E. (1976): "Review" of 'Grubel, H.G and Lloyd, P.J. 1975, Intra-Industry Trade", *Journal of International Economics*, vol. 6, pp. 312-314.

Little, I.M.D, Scitovsky, Tibor and Scott, Morris (1970): *Industry and Trade in some Developing Countries*, Oxford, Oxford University Press.

Little, Jane Sneddon (1996): "U.S. Regional Trade with Canada during the Transition to Free Trade". *New England Economic Review*, January 1996, pp. 3-22.

Lloyd, Peter J. (1998): "Globalization, International Factor Movements and Market Adjustments". CREDIT Research Paper, No. 98/7, University of Nottingham.

Loertscher, Rudolf and Woltr, Frank.(1980):"Determinants of Intra-industry Trade: Among Countries and Cross Industries", *Weltwirtschaftliches Archiv Review of World Economics*, Band. 116, Heft. 2, PP. 280-291.

Lovely, Mary and Nelson, Doug.(2000):"On the Economic Relationship Between Marginal Intra-Industry Trade and Labour Adjustment in a Division of Labour Model". *Review of International Economic*, vol. 8, pp. 436-447.

Lundberg, Lars. (1983): "Intra-industry Trade: The Case of Sweden", *Weltwirtschaftliches Archiv Review of World Economics*, Band. 119, Heft. 4, PP 32-316.

Maddan, D.K. (1996): *Indo-Bangladesh Economic Relations and SAARC*, Deep and Deep Publications. New Delhi – 110059'.

Mannur, H.G (1998): *International Economics*, Vikas Publishing House Pvt. Ltd. (Second Revised Edition).

Mansingh. (2002): *Indo-US ties strong and robust*, The Times of India, April 5. : <http://timesofindia.indiatimes.com>

Markusen, James R and Venables, Anthony J. (2000): "The Theory of Endowment, Intra-industry and Multi-national Trade", *Journal of International Economics*, 52, PP. 209-234.

Markusen, James R. (1995): "The Boundaries of Multinational Enterprises and the Theory of International Trade", *Journal of Economic Perspectives*, Vol. 9, No. 2, Spring, PP 169-189.

Marvel, Howard P and Ray, Edward John. (1975): "Intra-industry Trade: Sources and Effects on Protection", *Journal of Economic Perspectives*, Vol. 9, No. 2, Spring, PP 169-189.

Mathur, Somesh K. (1999-2000): "Pattern of International Trade, New Trade Theories and Evidence from Gravity Equation Analysis", Vol. 47, No. 4, April-June, PP. 68-88.

Mathur. R (2002): *International Economics*, Eastern Book House.

Mayer, Jorg & Wood. A. (2001): "South Asia's Export Structure in a Comparative Perspective" *Oxford Development Studies*, Vol. 29, No. 1.

Mc Aleese, D, (1979): " Intra-Industry Trade, level of Development ad Market Size", In H. Giersch (ed.), on the *Economic of Intra-Industry Trade*. Tübingen.

Menon, Jayant and Dixon, Peter B. (1997) "Intra-Industry versus Inter-Industry Trade: Relevance for Adjustment Costs". *Weltwirtschaftliches Archiv*, vol. 133, pp. 164-169.

Milner, C. and D. Greenaway (1987): "Intra-Industry Trade: Current Perspectives and Unresolved Issues", *Review of World Economics Weltwirtschaftliches Archiv*, Band 123, Heft 1, pp. 109-119.

Minhas, Bagicha.(1962): "The homony Palloc Production. function, factor intensity reversals, and the Hecksher-onlin theorem, *Journal of Political Economy*, vol. 70, No. 2 pp. 138-15.

Mittal, A.C (2001): *International Economics: Issues and Policies*, Eastern Book House.

Motta, M. (1993): "Endogenous Quality Choice: Price vs. Quantity Competition", *The Journal of Industrial Economic*, vol. XLI pp. 113-131.

Mukherji Rahul. (2000): *The potential for trade and economic cooperation between South Asia and USA*, background paper for the sub-conference on America's role in South Asia, Dhaka, March 27-29.

Munsi, S.D. (1979): "India's Beneficial Bilateralism in South Asia" *India Quarterly*, Oct-Dec.

Nayyar, D. (1988): "India's Export Performances: 1970-85", in R.E.B. Lucas and G.F. Papanek (eds.), *The Indian Economy: Recent Developments and Future Prospects*, Oxford University Press, 1988, pp. 217-252.

Nilmore, Larry. (1979): "The Industrial Economics of Intra-Industry Trade and specialization". In: Hesbert Giersch (Ed.), *On the Economics of Intra-Industry Trade*. Symposium 1978. Tübingen 1979, pp. 185-205.

Niroomand, Farhang. (1988): "Inter-versus Intra-industry Trade: A Note on U.S. Trends, 1963-1980", *Weltwirtschaftliches Archiv*, Review of World Economics, Band. 124, Heft. 2, PP. 337-340.

Norman, George and Dunning, John H. (1984): "Intra-industry Foreign Direct Investment: Its Rationale and Trade Effects", *Weltwirtschaftliches Archiv*, Review of World Economics, Band. 120 Heft. 3, PP. 522-539.

Ocampo, J.A. (1986): "New Developments in Trade Theory and LDCs", *Journal of Development Economics*, Vol. 22, No. 1, June, pp. 129-170.

OECD (1994): *The OECD Jobs Study* (Part I: Labour Market Trends and Underlying Forces of Change). Paris.

Oliveras, Joaquín and Terra, Ines (1997): "Marginal Intra-Industry Trade Index: The Period and Aggregation Choice". *Weltwirtschaftliches Archiv*, vol. 133, pp. 170-179.

Oliveras, Joaquín and Terra, Ines (1997): "Marginal Intra-Industry Trade Index: The Period and Aggregation Choice". *Weltwirtschaftliches Archiv*, vol. 133., pp. 170-179.

Omar Abdullah. (2000): *Indo-US trade can be US \$20 billion soon*, CII News Press Releases, March.

Pagoulators, E. and Sorensen, R. (1975): "Two-way international Trade: an economics analysis", *welwirtschaftliches Archiv*, vol. 111, No. 3, pp. 454-465.

Panagariya, A. (2004): "India in the 1980s and 1990s: A Triumph of Reforms", IMF Working Paper No.43.

Patibandla, Murali. (1994): "New Theories of International Trade: A Survey of Literature" *The Indian Economic Journal*, Vol. 41, No. 3, Jan to March, PP. 62-77.

Petersson, L. (1987): "Growth and Determinants of Intra-Industry Trade in Sweden 1971-1980", In J.O. Andersen (ed.), *Nordic Studies on Intra-Industry Trade*, Abo Academy Press.

Pohit, S and Taneja, N (2003): "India's Informal Trade with Bangladesh: A Qualitative Assessment", *The World Economy*, Vol. 26, No. 8. Blackwell Publishing.

Pomfret, R. (1985): "Categorical Aggregation and International Trade: A Comment", *The Economic Journal*, 95, June, pp. 483-485.

Pomfret, Richard.(1996):"The effects of Trade Preference for Developing Countries",*Southern Economic Journal*, Vol. 1, PP. 18-25.

Rader, T. (1979) : "Factor price equalization with more industries than factor", in Jerry Green and Jose Scheinkman eds. *General equalization, growth and trade : Essays in honor of Lionel Mc kenzie* (Academic Press, New York) pp. 347-354.

Raghavan, M. (2004): "Terms of Trade between Agriculture and Non-agriculture in India", *1950-51 to 2000-01* ", *Social Scientist*, Vol. 32, No. 3-4, 16-29, March-April.

Rahaman M. (1998): "Intra-Regional Trade in South Asia: Current Status, Emerging Opportunities and Future Challenges", in Sadrel A.L. Reza (ed.) *Export led Growth Strategy for South Asia: Prospects and Challenges*, Asian and Pacific Development Centre.

Rahaman, M (2000): "Bangladesh – India Bilateral Trade: An Investigation into Trade in Service", Draft Report, Prepared under South Asia Network of Economic Research Institutes (SANEI) Study Programme, CPD, Dhaka.

Rahaman, M. (1998):"Bangladesh-India Bilateral Trade: Current Trends, New Perspectives, New Challenges" *BIISS journal*, Vol. 19, No.1.

Raipuria, Kalyan M. (1999):"Exports in New Millennium", *Economic and Political Weekly*, 3270-3271, Nov. 20.

Rajan, R.S. (1996): "Singapore's Bilateral Merchandise Trade Linkages with Japan and the United States: Trends, Patterns and comparison", *Asian Economic Journal*, 10 (2), pp. 133-163.

Rajan, R.S. and R. Sen.(2004):"The New Wave of Free Agreements in Asia: With Particular Reference to ASEAN, China and India", in ADB Volume on Asian Economic Cooperation and Integration, forthcoming.

Rayment, Paul B.W. (1976): "The Homogeneity of Manufacturing Industries with respect to factor Intensities: The case of the U.K.," Oxford Bulletin of Economic and Statistics, vol. 38 pp. 203-209.

Reganati, Filippo. (2002): "Intra-industry Trade and International Production in The Italian Manufacturing Sector: A Case for Testing the Theory", *Economica Internazionale International Economics*, Vol. LV, No. 2, May, PP. 229-257.

Reserve Bank of India. 1999, Report on currency and finance 1998-99, Mumbai

Reserve Bank of India. 2002, Report on currency and finance 2001-02. Mumbai

Ruffin, Roy J. (1988): "The missing link: The Ricardian approach to the factor endowments theory of trade". *American Economic Review*, vol. 78, No. 4 pp. 759-772.

Salvatore, Schiavo Campo. (1978): *International Economics*, Cambridge, Mass Winthrop, Publisher.

Samuelson, P.A. (1948): "International trade and equalization once again", *Economic Journal*, Vol. LIX. No. 234 pp. 163-184.

Samuelson, P.A. (1953): "Prices of factors and goods in general equilibrium", *Review of Economic Studies*, vol. 21 No. 2 pp. 1-20.

Sarma, A. and P.K Mehta.(2002): *Exploring Indo-ASEAN Economic Partnership in Globalizing World*, New Delhi: Bookwell.

Satish C. Jha, (1996-97): "Changing Pattern of Intra Regional Trade in Asia", *Indian Economic Journal*, Vol. 44. Jan-Mar, No. pp. 45-59.

Satrete Aiyar and Tanni Popal (2001): "WTO and Regional Trade Agreements", WTO monthly Digest.

Savas, E S.(2001): *Privatisation and Public- Private Partnerships*. Affiliated East-West Press Pvt. Ltd, New Delhi.

Sawyer, W. Charles and Sprinkle, L. Richard. (2003): *International Economic*, Prentice Hall, Pearson.

Schmitt, Nicolas. (1995): "Product imitation, Product Differentiation and International Trade", *International Economic Review*, Vol. 36, No. 3, August, PP. 583-608.

Sen, A.(2005): *The Argumentative Indian* . Allen Lane, an imprint of Penguin Books.

Sen, R., Asher, M. G and R. Rajan.(2004):"ASEAN-India Economic Relations: Current Trends and Future Prospects", *Economic and Political Weekly*, Vol. XXXIX no. 29, pp. 3297-3309.

Severn, Alan K.(1968): "Exports and Economic Growth-Comment" *Kyklos*, Vol. 21, 546-548.

Shaked A. and Sutton J.(1989): "Natural oligopolies and International Trade in H. Kierzkowski (Ed). *Monopolistic competition and International Trade*, Oxford University Press. Oxford.

Sharma, A and P.K. Mehata (1997): "Indian Exports to the Europeans Union in the Emerging Economic Environment" *Asia-Pacific Development Journal*, Vol. 4, No. 1.

Sharma, D.C.(2007): "Preparing for New Challenge". SPAN, March/ April.

Shelburne, Robert L. (1993) "Changing Trade Patterns and the Intra-Industry Trade Index: A Note". *Weltwirtschaftliches Archiv*, vol. 129, pp. 829-833.

Shobha Ahuja and Rina Bhattacharya, "Trade Complementarities and Progress for Regional Import Substitution among SAARC ASEAN Countries" , *Foreign Trade Review*, vol. 23, No. 2, July-Sept. 1998.

Shone,R .(1972) : *The Pure Theory of International Trade*, pp. 54-55, Macmillan, Bombay, India

Singh, Deo Raj.(1985):*Pattern of Foreign Trade and Planning in India*, Criterion Publication, New Delhi.

Srinivasan, T.N. (2000): *Eight Lectures on India's Economic Reforms*, New Delhi: Oxford University Press.

Srivastava, S.(2003):"What is the True Level of FDI Flows to India?" *Economic and Political Weekly*, 38, February 15, 2003, pp. 608-611.

Steveri, Husted and Michael, Melvin. (2001): *International Economics*. Fifth Edition, Prentice Hall, Pearson.

Stibora, J. J and De Vaal, A. (1995): *Services and Services trade: A Theoretical Inquiry*, Tinbergen Institute Research series; 97, Thesis publishers, Amsterdam, pp.273.

Stokey N.L. (1991): "The Volume and Composition of trade between Rich and Poor Countries," *Review of Economics Studies*. Vol. 58 pp. 63-88.

Stutz F.P. and Antrony R. de Souza. (1998): *The World Economy ,Rezones ,Location, Trade and Development*. Prentice-Hall.

Summers R. and Heston A, (1981): "The Penn world Table (Marks): An Expanded set of International Comparisons (1950-1988)". *Quarterly Journal of Economic*, pp. 327-368.

Taneja, Nisha (2004): "Informal Trade in the SAARC Region", *Economic and Political Weekly*, 5367-5371, Dec. 18.

Tharakan, P.K. Mathew.(1980): "The Intra-industry Trade of Benelux with the Developing World", *Weltwirtschaftliches Archiv Review of World Economics*, Band. 116, Heft. 2, PP. 131-149.

Tharakan, P.K.M. (1984): "Intra-industry trade between the industrial countries and the developing world". *European Economic Review*. Vol. 26, pp. 213-227.

Tharakan, P.K.M. (1985), "Empirical analysis of the commodity composition of trade" in D. Greenaway ed. *Current Issues in International Trade: Theory and policy*, London: Macmillan.

Tharakan, P.K.M. (1989b, ed): "*Intra-industry trade*." North-Holland, New York.

Tharakan, P.K.M. and Kerstens, B (1997): "Does North-South Horizontal Intra-Industry Trade Really Exist? An Analysis of The Toy Industry" *weltwirtschaftliches Archiv*, 131, pp. 86-105.

Thom, Rodney and McDowell, Moore (1999) "Measuring Marginal Intra-Industry Trade". *Weltwirtschaftliches Archiv*, vol. 135, pp. 48-61.

Tirole, J. (1987): *The Theory of Industrial organization*, The MIT Press.

Massachusetts. Tiwari, R. S. (2003): "Intra-SAARC Trade: Challenges and Possibilities" *Indian Journal of Economics*, No. 332, Vol. LXXXIV, PP. 207-229.

Toh, Kiertisak.(1983): "A Cross-Section Analysis of Intra-industry Trade in U.S. Manufacturing Industries", *Weltwirtschaftliches Archiv Review of World Economics*, Band 119, Heft 3, PP 281-301.

Torstensson, Johan. (1996): "Determinants of Intra-Industry Trade: A Sensitivity Analysis", *Oxford Bulletin Economics and Statistics*, Vol. 58, No. 3, PP. 507-524.

UNDP Report -2002

United Nations: Statistical year book for Asia and the pacific (various years).

Veeramani C. (2002): "Intra-Industry Trade: Trends and Country-specific Factors," Working Paper, No. 138, pp. 509-533.

Veeramani, C (1998): "Intra-Industry Trade under Economic Liberalization: The Case Indian Capital Goods Industries", *Journal of Indian School of Political Economy*, Vol. 11, No. 3.

Veisbrot. Mark and Baker, Dean(2002): "The relative impact of liberalization on developing countries", Centre for economic and policy research paper. June 12, 2002. Washington D.C.

Venkatasubbuler, T.(1996): *India's Trade with SAARC Countries*, Discovery Publishing House. New Delhi. 110002.

Verdoorn, P. J. (1960) "The Intra-Block Trade of Benelux" In: Robinson, E.A.G. (ed.) *Economic Consequences of the Size of Nations*, Macmillan, London.

Virmani, A (2001) : "India's BOP Crisis and External Reforms" : Myths and Paradoxes paper Presented on September 3, 2001, Indian Council for Research on International Economic Relations.

Virmani, Arvind (2003): "India's External Reforms-Modest Globalisation Significant Gains", *Economics and Political weekly*, 3373-3390, August, 9.

Vollrath, L.T. (1991): "A Theoretical Evaluation of Alternative Trade Intensity Measures of Revealed Comparative Advantage", *Review of World Economic, Weltwirtschaftliches Archiv*, Band 130, Heft 4, pp. 265-279.

Vona, S. (1991): "On the Measurement of Intra-Industry Trade: Some Further Thoughts", *Review of World Economics, Weltwirtschaftliches Archiv*, Band 127, Heft 4, pp. 678-700.

Wadhva, Charan D. (2003): "*Economic Reforms in India in Retrospect and Prospect*" *Man and Development*, 17-62, September.

World Bank (1997): *World Development Report.*, New Oxford University Press.

World Bank (2001): *World Development Indication*, Washington D.C.

World Bank.(2003): *World development indicators 2003*. Washington D.C. World Bank.

World Bank: *World Development Report (Various Years)*, Oxford University Press.

Wright, Peter, Haynes, Michelle and Upward, Richard.(2001):“Estimating the Wage Costs of Inter-and Intra-Sectoral Adjustment”. CEPR Discussion Paper, No. 2710.

Yarbrough, Beth V and Yarbrough, Robert M (1994): *The World Economy: Trade and Finance*, Dryden Press/Harcourt Brace College Publishers, Fort World TX, Third Edition.

Yeats, Alexander J. (1998):“Just How Big Global Production Sharing” World Bank Policy Research Working Paper 1817, The World Bank, Washington, D.C.

Young, A. (1991): “Learning by doing and the dynamic effects of international trade,” *Quarterly Journal of Economics*. Vol. 106, No. 2, pp. 369-405.

Young, Allyn A.(1928): “Increasing Returns and Economic Progress”. *The Economic Journal*, Vol. 38, pp. 527-542.

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